

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2496

Port of Rohu Date of First Survey 26 Feb Date of Last Survey 20 Mar 19 No. of Visits 7  
 Name of Ship S. S. San Francisco Meri Port belonging to Rohu  
 Built at Rohu By whom The Rawasari Dry Dock Co When built 1919  
 Owners The Rawasari Dry Dock Co Owners' Address  
 No. 438 Electric Light Installation fitted by The Rawasari Dry Dock Co When fitted 1919

### DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two sets of compound dynamo coupled directly to the single cylinder automatic cutoff vertical enclosed engine with forced lubrication.  
 " dia. 6" stroke 450 R.P.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 2 in the engine room, 4 on the shelter deck, 1 on the lower bridge and 1 on the after main having one main switch on each board.  
 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.  
 Are all circuits on the vessel 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-oxidisable 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 163 arranged in the following groups:—  

116 incandescent lights each of	16	candle power requiring a total current of	52.0	Amperes
13 " lights each of	5	candle power requiring a total current of	2.5	Amperes
32 " lights each of	32	candle power requiring a total current of	36.0	Amperes
2 arc lights each of	1,200	candle power requiring a total current of	9.0	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 incandescent and 2 arc Cargo lights of	128 and 1,200	candle power, whether incandescent or arc lights	incandescent and arc lights	

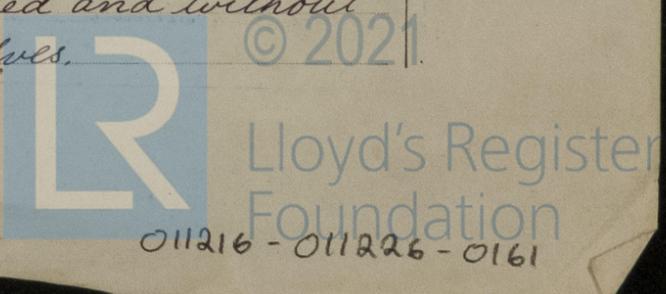
 For arc lights, what protection is provided against fire, sparks, &c. Adequate fuses are inserted and arc is protected with inner and outer globes.  
 Where are the switches controlling the masthead and side lights placed In the chart room.

### DESCRIPTION OF CABLES.

1 cable carrying	170.0 Amperes, comprised of	37 wires, each No. 14 S.W.G. diameter,	0.1860 square inches total sectional area
1 cable carrying	27.0 Amperes, comprised of	6 wires, each No. 16 S.W.G. diameter,	0.0192 square inch total sectional area
1 cable carrying	18.5 Amperes, comprised of	6 wires, each No. 16 S.W.G. diameter,	0.0192 square inches total sectional area
1 cable carrying	14.0 Amperes, comprised of	2 wires, each No. 16 S.W.G. diameter,	0.0064 square inch total sectional area
1 cable carrying	15.5 Amperes, comprised of	2 wires, each No. 16 S.W.G. diameter,	0.0064 square inches total sectional area
1 cable carrying	24.5 Amperes, comprised of	7 wires, each No. 16 S.W.G. diameter,	0.0224 square inch total sectional area
1 cable carrying	0.5 Amperes, comprised of	1 wires, each No. 18 S.W.G. diameter,	0.0018 square inches total sectional area
1 cable carrying	4.5 Amperes, comprised of	293 wires, each No. 38 S.W.G. diameter,	0.0080 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 or lead covering according to the requirements.  
 How are the 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 protections beside those on the 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 protections beside those on the 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 pipes.*  
 How are cables carried through beams *Pierced through wood lined through bulkheads, &c. provided with U.T. 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 *With lead covering and steel armoring on the 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 *None*  
 Cargo light cables, whether portable or permanently fixed *portable* How fixed *In the U.T. 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 a 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. Tada* Electrical Engineers Date *20th 5, 19*

COMPASSES.

Distance between dynamo or electric motors and standard compass *Dynamo to standard compass 115 feet. Motor " " 110 feet.*  
 Distance between dynamo or electric motors and steering compass *Dynamo " steering " 105 feet. Motor " " 100 feet.*

The nearest cables to the compasses are as follows:—

A cable carrying	5.6	Amperes	6	feet from standard compass	15	feet from steering compass
A cable carrying	13.5	Amperes	17	feet from standard compass	13	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 *Shallayama* Builder's Signature. Date \_\_\_\_\_  
 Secretary.

GENERAL REMARKS.

*The installation has been fitted in accordance with the Rule requirements & worked satisfactorily on trial*

*It is submitted that this vessel is eligible for THE RECORD. See light 8-7-19*

*A. L. Jones & Adatt*  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 11 JUL. 1919*

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THE MARGIN.

Im. 5. 11.—Transfer.

