

REPORT ON ELECTRIC LIGHTING INSTALLATION.

22 FEB 1935
No. 1252

Port of Lyttelton. Date of First Survey Dec. 1st. Date of Last Survey Dec. 30th No. of Visits 6.
 No. in Reg. Book 82664. on the ~~Iron~~ Steel M.V. "PAKURA" Port belonging to Napier, N.Z.
 Built at Vlaardingen. By whom N.V. Scheep v.d. Vindt. When built 1922.
 Owners Richardson & Co. Ltd. Owners' Address Port Ahuriri, Hawkes Bay, N.Z.
 Yard No. Electric Light Installation extended by C.G. Schumacher. When fitted Dec. 1934.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Capacity of Dynamo 1-25 27.5 KW 110 Driven from Main Engine Shaft (New).
1-41 110 " " Steam Engine (Original).
1-104. 110 " " Volts, whether continuous or alternating current Continuous.
 are 110 " " Diesel Engine. (New).
 Where ~~is~~ Dynamo fixed Engine Room. Whether single or double wire system is used Double.

Position of Main Switch Board Engine Room having switches to groups 8 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each as originally installed.

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 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 additional lights provided for _____ arranged in the following groups:—

A	2	lights each of	32	candle power requiring a total current of	$\frac{3}{4}$	Amperes
B	1	lights each of	16	candle power requiring a total current of	$\frac{1}{5}$ th	Amperes
C	2	lights each of	32	candle power requiring a total current of	$\frac{3}{4}$	Amperes
D	4	lights each of	32	candle power requiring a total current of	$1\frac{1}{2}$	Amperes
E	4 Motors	lights each of	2HP	candle power requiring <u>taking</u>	50	Amperes
	1 Motor		$\frac{1}{2}$ HP		6	
	Mast head light with	lamps each of		candle power requiring a total current of		Amperes
	Side light with	lamps each of		candle power requiring a total current of		Amperes
	Cargo lights of			candle power, whether incandescent or arc lights		

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

Where are the switches controlling the masthead and side lights placed as originally installed.

DESCRIPTION OF CABLES.

Main cable carrying 104 Amperes, comprised of 19 wires, each .083 L.S.G. diameter, .1 square inches total sectional area
 Branch cables carrying 20 Amperes, comprised of 7 wires, each .036 L.S.G. diameter, .007 square inches total sectional area
 Branch cables carrying _____ Amperes, comprised of _____ wires, each _____ L.S.G. diameter, _____ square inches total sectional area
 Leads to lamps carrying _____ Amperes, comprised of _____ wires, each _____ L.S.G. diameter, _____ square inches total sectional area
 Cargo light cables carrying _____ Amperes, comprised of _____ wires, each _____ L.S.G. diameter, _____ square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Johnson & Phillips "Victorito" Tough Rubber, taped and braided run in Galvanised Steel Conduits and water Pipes.

Joints in cables, how made, insulated, and protected watertight cast Iron Junction boxes, soldered rubber and black taped.

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 No.

How are the cables led through the ship, and how protected Galvanised Steel Conduits and Water Pipes.



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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 Galv. Iron Water Pipes.

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

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

What special protection has been provided for the cables in engine room Galvanised Steel Conduits.

How are cables carried through beams nil through bulkheads, &c water Pipes with watertight glands.

How are cables carried through decks nil.

Are any cables run through coal bunkers or cargo spaces or spaces which may be used for carrying cargo, stores, or baggage enclosed Bridge Deck.

If so, how are they protected Galvanised Conduits and water Pipe.

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

If so, how are the lamp fittings and cable terminals specially protected Bulkhead fittings.

Where are the main switches and cut outs for these lights fitted Saloon Distribution Board.

If in the spaces, how are they specially protected

Are any switches or cut outs fitted in bunkers

Cargo light cables, whether portable or permanently fixed How fixed

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

The installation is supplied with 3 voltmeters and 3 amperemeters, fixed Main Switchboard

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 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 1250 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.

(Signed) C.G. Schumacher.

Electrical Engineers

Date 29th Decr. 1934.

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:—

A cable carrying Amperes feet from standard compass feet from steering compass

A cable carrying Amperes feet from standard compass feet from steering compass

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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.

No. new wiring has been carried out near Compasses.

J.H.
Builder's Signature. Date

GENERAL REMARKS. Evershed 500 V. Megger Insulation Tests to Earth.

Total Insulation (Old and new) 1.1 Megohms. Diesel Driven Generator 3 Megohms.

Steam driven Generator (original) 1.4 Megohms Oil Transfer Pump Motor 1.6. megohms.

E. General Service Pump Motor 3.5 megohms. Fuel Oil Purifier Motors & Lub. Oil Purifier Motor

1.6. All plant has been run under working conditions & the workmanship is good.

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

Committee's Minute See other Rpt

Lyb. 1252
TUE. 20 MAR 1935



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