

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report 29.7.24 When handed in at Local Office 9.8.24 Port of GLASGOW

No. in Survey held at GLASGOW Date, First Survey 12.6.24 Last Survey 9.7.24
Reg. Book. (Number of Visits.....)

24432, on the "S.S. TAKIWA" Tons { Gross 3000
Net 3800

Built at GLASGOW By whom built Messrs BARKLEY CURRIE Yard No. 601 When built 1924

Owners THE BRITISH INDIA STEAM NAVIGATION CO LTD Port belonging to LONDON

Electric Light Installation fitted by Messrs A. WATSON & CO Contract No. 601 When fitted 1924

System of Distribution Double Wire Distribution System

Pressure of supply for Lighting 110 volts, Heating 110 volts, Power 110 volts.

Direct or Alternating Current, Lighting Direct Current Power Direct Current

If alternating current system, state frequency of periods per second

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off Yes.

Generators, do they comply with the requirements regarding overload Yes., are they compound wound Yes.

are they over compounded 5 per cent. Yes, if not compound wound state distance between each generator

Where more than one generator is fitted are they arranged to run in parallel No., is an adjustable regulating resistance fitted in series with each shunt field Yes.

Are all terminals accessible and clearly marked Yes., are they so spaced or shielded that they cannot be accidentally earthed, or short circuited Yes

Are the lubricating arrangements of the generators as per Rule Yes.

Position of Generators Fore end of engine Room.

is the ventilation in way of the generators satisfactory Yes., are they clear of all inflammable material Yes.

if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators

and Yes., are the generators protected from mechanical injury and damage from water, steam or oil

are their axis of rotation fore and aft Yes.

Earthing, are the bedplates and frames of the generating plant efficiently earthed Yes. are the prime movers and their respective generators in metallic contact Yes. metallic coupling.

Main Switch Boards, where placed Adjacent to Dynamoes.

If the generators and main switchboard are not placed in the same compartment, is each generator provided with a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes Yes.

are they protected from mechanical injury and damage from water, steam or oil Yes., if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards

are they constructed wholly of durable, incombustible non-absorbent materials Yes., is all insulation of high dielectric strength and of permanently high insulation resistance Yes.

if semi-insulating material is used, are all conducting parts connected to one pole insulated from the slab with mica or micanite and the slab similarly insulated from its framework one pole insulated, and is the frame effectively earthed Yes.

Are the following fittings as per Rule, viz.:— spacing or shielding of live parts Yes.

accessibility of all parts Yes., absence of fuses on back of board Yes., proportion of omnibus bars Yes.

individual fuses to voltmeter, pilot or earth lamp Yes., connections of switches Yes.

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches D.P. circuit breaker with no-volt & overload release, for each dynamo. D.P. switch & D.P. fuses for each outgoing circuit.

Instruments on main switchboard 2 ammeters 2 voltmeters — synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system earth lamps with switches & fuses on each pole.

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules Yes.

Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule Yes.



PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY.	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	70.	110.	636	450	Induced Engines.	-	
AUXILIARY	-	-	-	-	-	-	-	
EMERGENCY	1	16	110.	146	1000.	4 Cyl Vertical Engine	Paraffin.	
ROTARY TRANSFORMER	-	-	-	-	-	-	-	

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current Amps.	Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	2	1.25	-	-	636	30.	VIR	LCRB.
	AUXILIARY GENERATOR	-	-	-	-	-	-	-	-
	EMERGENCY GENERATOR	2	1.50	37	.072	125	30.	VR	LCRB.
	ROTARY TRANSFORMER	-	-	-	-	-	-	-	-
	AUXILIARY SWITCHBOARDS	-	-	-	-	-	-	-	-
	ENGINE ROOM	1	.0070	7	.036	14	150.	VIR	LCRB.
	BOILER ROOM	1	.0070	7	.036	26	65.	-	-
	Heaters	2	.2000	38	.083	228	130.	-	-
	1st Cyl Lighting	1	.0750	19	.072	61	130.	-	-
	2nd Cyl Lighting	1	.0225	7	.064	35	130.	-	-
	Cow & Cargo	2	1.200	37	.064	107	130.	-	-
	Emergency Switch	1	1.500	37	.072	125	260	-	-
	WIRELESS	2	.0070	7	.036	15	320.	VIR	LC
	SEARCHLIGHT	2	.0020	3	.029	9	300.	VIR	LC
	MASTHEAD LIGHT	2	.0020	3	.029	9	30.	-	-
	SIDE LIGHTS	2	.0020	3	.029	9	38.	-	-
	COMPASS LIGHTS	2	.0020	3	.029	9	38.	-	-
	POOP LIGHTS	2	.0020	3	.029	9	60.	-	-
	CARGO LIGHTS	2	.0020	3	.029	9	65.	-	-
	ARC LAMPS	2	.0020	3	.029	9	30.	-	-
	HEATERS	2	.0020	3	.029	9	30.	-	-

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current Amps.	Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP	-	-	-	-	-	-	-	-
	MAIN BILGE LINE PUMPS	-	-	-	-	-	-	-	-
	GENERAL SERVICE PUMP	-	-	-	-	-	-	-	-
	EMERGENCY BILGE PUMP	1	-	19	.072	95	260.	VIR	LCRB.
	SANITARY PUMP	-	-	-	-	-	-	-	-
	CIRC. SEA WATER PUMPS	-	-	-	-	-	-	-	-
	CIRC. FRESH WATER PUMPS	-	-	-	-	-	-	-	-
	AIR COMPRESSOR	-	-	-	-	-	-	-	-
	FRESH WATER PUMP	-	-	-	-	-	-	-	-
	ENGINE TURNING GEAR	-	-	-	-	-	-	-	-
	ENGINE REVERSING GEAR	-	-	-	-	-	-	-	-
	LUBRICATING OIL PUMPS	-	-	-	-	-	-	-	-
	OIL FUEL TRANSFER PUMP	-	-	-	-	-	-	-	-
	WINDLASS	-	-	-	-	-	-	-	-
	WINCHES, FORWARD	-	-	-	-	-	-	-	-
	WINCHES, AFT	-	-	-	-	-	-	-	-
	STEERING GEAR	-	-	-	-	-	-	-	-
	WORKSHOP MOTOR	1	-	7	.064	34	220.	VIR	LCRB.
	VENTILATING FANS	6	-	19	.083	95	130.	-	-
	Boiler Pumps	1	-	7	.036	15	36.	-	-

Insulation of Cables, state type of cables, single or twin single are the cables insulated and protected as per Tables III or IV of the Rules Yes

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 50 lbs

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.007 square inch and above provided with soldering sockets Yes

Paper Insulated Cables. If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound Yes

Cable Runs, are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage Yes

Support and Protection of Cables, state how the cables are supported and protected LCRB cables clipped to decks with heavy G.I. clips lead covered cables clipped to wood grounds with brass clips

If cables are run in wood casings, are the casings and caps secured by screws Yes, are the cap screws of brass Yes, are the cables run in separate grooves Yes. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VI Yes

Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements Yes

Joints in Cables, state if any, and how made, insulated, and protected No joints

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands Yes

Bushes in Beams and Non-watertight Positions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed Yes state the material of which the bushes are made Fibre

Earthing Connections, state what earthing connections are fitted and their respective sectional areas Yes

are their connections made as per Rule Yes

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule Yes

Emergency Supply, state position and method of control of the emergency supply and how the generator is driven Petrol paraffin not situated in Dunny funnel. Emergency switch board has change over switch to (1) main and (2) emergency bit.

Navigation Lamps, are these separately wired Yes, controlled by separate switch and separate fuses Yes, are the fuses double pole Yes, are the switches and fuses grouped in a position accessible only to the officers on watch Yes, has each navigation lamp an automatic indicator as per Rule Yes, are separate screens provided for the use of oil and electric side lights Yes, are separate oil lanterns provided for the mast head lights and side lights Yes

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight Yes, are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected in stokehold with D.R. or Cargo fittings in these spaces are cast iron with heavy C.I. guard., are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected No, how are the cables led Yes

where are the controlling switches situated in stokehold

Searchlight Lamps, No. of 2, whether fixed or portable portable, are their fittings as per Rule Yes

Arc Lamps, other than searchlight lamps, No. of 2, are their live parts insulated from the frame or case Yes, are their fittings as per Rule Yes

Motors, are their working parts readily accessible Yes, are the coils self-contained and readily removable for replacement Yes, are the brushes, brush holders, terminals and lubricating arrangements as per Rule Yes, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material Yes, are they protected from mechanical injury and damage from water, steam or oil Yes are their axis of rotation fore and aft Yes, if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type Yes, if not of this type, state distance of the combustible material horizontally or vertically above the motors Yes

Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed as per Rule Yes

Lightning Conductors, where lightning conductors are required, are these fitted as per Rule Yes

Ships carrying Oil having a Flash Point less than 150° F. Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings Yes

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office Yes

All Conductors are of annealed copper conforming to British Standard Specification No. 7.
 The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.
 The foregoing is a correct description.

FOR ARCHD. WATSON & CO., LTD.,

D. Dundas
J.M.'s DIRECTOR

Electrical Engineers.

Date 4-8-24.

COMPASSES.

Distance between electric generators or motors and standard compass 110 feet from Boat Winch motor.

Distance between electric generators or motors and steering compass 104 feet from Boat Winch motor

The nearest cables to the compasses are as follows:—

A cable carrying 12 Ampères 17 feet from standard compass 16 feet from steering compass.

A cable carrying 6 Ampères 2 feet from standard compass 2 feet from steering compass.

A cable carrying 3 Ampères in 25 feet from standard compass in feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power 40.

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted 40

The maximum deviation due to electric currents was found to be nil degrees on any course in the case of the standard compass, and nil degrees on any course in the case of the steering compass.

FOR BARCLAY, CURLE & CO., LTD.

J. Fenley

SECRETARY Builder's Signature.

Date 6/8/24

Is this installation a duplicate of a previous case 40. If so, state name of vessel S.S. Paica

General Remarks (State quality of workmanship, opinions as to class, &c.) This installation

has been fitted on board under special survey. Tested under full working conditions and found satisfactory. The workmanship was found to be good and sound.

It is submitted that this vessel is eligible for Elec. Light.

14/8/24

Total Capacity of Generators 156 Kilowatts

The amount of Fee ... £34-6-0

When applied for, 23/7/24

Travelling Expenses (if any) £ : : See debit book.

When received, See debit book.

J.S. Rankin
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW, 12 AUG. 1924

Assigned Elec. Light.

Im. 22.—Transfer. (The Surveyors are requested not to write on or below this space for Committee's Minute.)

A.C.
11/8/24



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