

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office **12 MAR 1924**

Date of writing Report **15-2-1924** When handed in at Local Office **10.3.24** Port of **Glasgow**

No. in Survey held at **Glasgow** Date, First Survey **9.11.23** Last Survey **13.2.1924**
Reg. Book. (Number of Visits...**10**.....) **4150**

39695 on the **M.V. Kathiawar** Tons { Gross **4328**
Net **2430**

Built at **Govan** By whom built **Messrs Harland & Wolff** Yard No. **611G** When built **1924**

Owners **Messrs Andrew Weir & Co (Bankers)** Port belonging to **Glasgow**

Electric Light Installation fitted by **Messrs Harland & Wolff Ltd** Contract No. **611G** When fitted **1924**

System of Distribution **Two wire** ✓

Pressure of supply for Lighting **220V.** ✓ volts, Heating **220V.** ✓ volts, Power **220V.** ✓ volts.

Direct or Alternating Current, Lighting **Direct** ✓ Power **Direct** ✓

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 **Yes** ✓, 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** ✓

Position of Generators **Main:- Port side of Engine Room. Emergency:- Upper Deck Midships,** ✓
Are the lubricating arrangements of the generators as per Rule **Yes** ✓

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 _____, are the generators protected from mechanical injury and damage from water, steam or oil **Yes** ✓

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** ✓

Main Switch Boards, where placed **Port side of Engine Room on gallery above dynamos.** ✓

_____ 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 _____ and _____

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 micamite and the slab similarly insulated from its framework **Yes** ✓, 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 **Triple pole switches & D.P. Circuit Breakers for Generators and D.P. switches with two single pole fuses for each outgoing circuit**

Instruments on main switchboard **3** 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 **Two lamps & two linked S.P. Switches across mains. Mid point of lamps earthed** ✓

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** ✓

Handwritten notes:
M.V. Kathiawar
39695

RETAIN

Insulation of Cables, state type of cables, single or twin both 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 4.2 Volts

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 none used

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 Clipped direct to bulkheads. Run in sheet iron troughing along decks where exposed to heat, moisture etc. L.S.A.B. Cables used, L.C. elsewhere.

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 In a special joint box.

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 Yes

Earthing Connections, state what earthing connections are fitted and their respective sectional areas All radiators & bracket fans are earthed with 3/036 wire, also cabin portables. All metal fittings and the lampholder when a fitting comes on a wood block, 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 Upper Deck, Midships Driven by a Gardner Oil Engine. A change over switch fitted on the Emer. Switchboard giving a supply from either main or emergency dynamos.

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 Yes

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected Special A.P. magazine fitting in the bunker for galley coals, how are the cables led in tube

where are the controlling switches situated above in galley

Searchlight Lamps, No. of 1, whether fixed or portable 1, are their fittings as per Rule Yes

Arc Lamps, other than searchlight lamps, No. of 1, 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 majority are 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 and 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

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	3	65	220	295	300	Diesel Engines	Scotch Fuel oil	Closed 178° F
AUXILIARY	1	-	-	-	-	Paraffin Engine	Paraffin	Open 198° F
EMERGENCY	1	11	220	50	1000	Paraffin 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, Amperes	Approximate Length, (Lead and Return), Feet	Insulated with	HOW PROTECTED
				No.	Diameter				
	MAIN GENERATOR	1 per pole	.05	61	.103	295	83 (3 leads)	V.I.R. & Fireproofed	
	AUXILIARY GENERATOR	1 per pole	.06	19	.064	50	45	Rubber	L.S.A.B.
	EMERGENCY GENERATOR	1 per pole	.06	19	.064	50	45	Rubber	L.S.A.B.
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS	2 per pole	.03	37	.103	429	457 (4 leads)	V.I.R. & Fireproofed	
	ENGINE ROOM	1 per pole	.007	4	.036	7 1/2	30	Rubber	L.S.A.B.
	BOILER ROOM								
	WIRELESS	1 per pole	.007	4	.036	8.0	192	Rubber	L.S.A.B. & L.C.
	SEARCHLIGHT	1	.06	19	.064	80.0	876	1	L.S.A.B.
	MASTHEAD LIGHT	1	.003	3	.036	.6	580	1	L.S.A.B. & L.C.
	SIDE LIGHTS	1	.003	3	.036	.6	90	1	1
	COMPASS LIGHTS	1	.003	3	.036	.18	41	1	L.C.
	POOP LIGHTS	1	.003	3	.036	.15	48	1	L.S.A.B.
	CARGO LIGHTS	1	.007	4	.036	2.0	320	1	1
	ARC LAMPS								
	HEATERS	1	.003	3	.036	2.2	70	1	L.C.

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION	No. of Motors	Effective Area of each Conductor, Sq. Ins.	COMPOSITION OF STRAND		Total Maximum Current, Amperes	Approximate Length, (Lead and Return), Feet	Insulated with	HOW PROTECTED
				No.	Diameter				
	BALLAST PUMP	1	.06	19	.064	68	66	Rubber	LSAB
	MAIN BILGE LINE PUMPS	1	.014	4	.052	34	60	"	"
	GENERAL SERVICE PUMP								
	EMERGENCY BILGE PUMP	1	.014	4	.052	32.05	480	Rubber	LSAB
	SANITARY PUMP	1	.04	19	.052	60	96	1	"
	CIRC. SEA WATER PUMPS	1	.04	19	.052	60	96	1	"
	CIRC. FRESH WATER PUMPS	2	.007	4	.036	15	60	1	"
	AIR COMPRESSOR	1	.6	91	.093	340	61	V.I.R. & Fireproofed	
	FRESH WATER PUMP								
	ENGINE TURNING GEAR	1	.0225	4	.064	41	120	Rubber	LSAB
	ENGINE REVERSING GEAR		.0145						
	LUBRICATING OIL PUMPS	2	.0145	4	.052	32	78	Rubber	LSAB
	OIL FUEL TRANSFER PUMP	1	.007	4	.036	17	84	"	"
	WINDLASS	1	.2	2-37	.083	360	140	"	"
	WINCHES, FORWARD	6	.2	2-37	.083	558	900	"	"
	WINCHES, AFT	5	.2	2-37	.083	481	300	"	"
	STEERING GEAR	1	.04	19	.052	47	528	"	"
	WORKSHOP MOTOR								
	VENTILATING FANS	1	.007	4	.036	13	60	Rubber	LSAB
		1	.003	5	.036	8	25	"	"
		1	.003	5	.036	9	120	"	"
		1	.003	5	.036	6	100	"	"
		1	.003	5	.036	8	40	"	"
		1	.007	4	.036	24	240	"	"

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.

Electrical Engineers.

Date 31 March 1924

FOR HARLAND & WOLFF, LTD.

John Dickenson,
 Managing Director

COMPASSES.

Distance between electric generators or motors and standard compass 50 ft.

Distance between electric generators or motors and steering compass 48 ft.

The nearest cables to the compasses are as follows:—

A cable carrying 24 Ampères 12 feet from standard compass 6 feet from steering compass.

A cable carrying 6½ Ampères 12 feet from standard compass 6 feet from steering compass.

A cable carrying 1 Ampères 12 feet from standard compass 6 feet from steering compass.

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

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

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

Builder's Signature.

Date 31 March 24

FOR HARLAND & WOLFF, LTD.

John Dickenson,
 Managing Director

Is this installation a duplicate of a previous case Yes. If so, state name of vessel M.V. Gujarat

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
 THE RECORD.

Elec Light
YMA

13/3/24

Total Capacity of Generators 206 Kilowatts

The amount of Fee £ 36 : 13 : 0 20/2/24

Travelling Expenses (if any) £ : : to debit
book

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

Committee's Minute GLASGOW 11 MAR. 1924

Assigned Elec Light YMA

Im. 3. 22.—Transfer.
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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