

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

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Date of writing Report 28/5/23 10 When handed in at Local Office 11. 6. 23 Port of GLASGOW.

No. in Survey held at CLYDEBANK. Date, First Survey 8. 2. 23 Last Survey 29. 5. 1923

Reg. Book. 49028 on the SS FRANGONIA (Number of Visits 9)

Tons { Gross 20158 Net

Built at CLYDEBANK. By whom built J. BROWN & CO LTD Yard No. 492. When built 1923.

Owners GUNARD, SS CO LTD Port belonging to LIVERPOOL.

Electric Light Installation fitted by J. BROWN & CO LTD Contract No. 492 When fitted 1923.

System of Distribution THREE WIRE DIRECT CURRENT

Pressure of supply for Lighting 110 VOLTS volts, Heating 220 VOLTS volts, Power 220 VOLTS 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 No, are they over compounded 5 per cent. if not compound wound state distance between each generator about 50'

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 Are the lubricating arrangements of the generators as per Rule YES

Position of Generators AFT 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, 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 ON SPECIAL PLATFORM AT AFT END OF ENGINE ROOM.

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 micanite and the slab similarly insulated from its framework 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 EACH GEN^E HAS 1-D.P. SWITCH FOR + OUTER & ≠ DYNAMO WIRE ALSO S.P. SWITCH FOR - OUTER DYNAMO WIRE EACH MAIN OUT GOING CIRCUIT HAS CIRCUIT BREAKER WITH OVERLOAD SAFETY DEVICE

Instruments on main switchboard 19 ammeters { 1 of 260-0-260 VOLTS 1 " 150-250 " 1 " 0-150 VOLTS 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 AMMETER FITTED ON EARTHING WIRE CIRCUIT INDICATING CURRENT LEAKAGE ON EITHER OF OUTER WIRES

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

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 4.8 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 RUBBER INSULATED

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 MAIN CABLES RUN ON INSULATORS, CABLES IN 3RD CL

Accommodating & Working Spaces in Conduits, MAIN MACH^Y SPACES ARM^D CABLE, CABIN ACCOM^D WIRING IN CASING

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 NONE

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 EARTHING CONNECTIONS
FITTED AT MAIN & EMERGENCY SWITCHBOARDS, ON EACH NEUTRAL WIRE
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 ONE PARAFFIN DRIVEN
36 K.W. EMERGENCY GENERATOR SITUATED ON BOAT DECK

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 NONE
how are the cables led YES

where are the controlling switches situated YES

Searchlight Lamps, No. of NONE, whether fixed or portable YES, are their fittings as per Rule YES

Arc Lamps, other than searchlight lamps, No. of YES, 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 GENERALLY
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		Fuel Used	Flash Point of Fuel
MAIN	2	375	220	1400	1000	GEARED TURBINE	-
EMERGENCY	1	36	225	116	750	PARAFFIN MOTOR	PARAFFIN 82° to 108° cen.
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	4	44350	91	.103"	1700	24		4 cables in //
	AUXILIARY GENERATOR	-	-	-	-	-	-		
	EMERGENCY GENERATOR	1	19640	37	.083"	176	20		
	ROTARY TRANSFORMER	-	-	-	-	-	-		
	AUXILIARY SWITCHBOARDS A	2	60620	91	.093"	400	440	RUBBER LEAD	HEMP BRAID 2 in //
	BOILER ROOM DITTO B	1	44350	91	.103"	400	600		
	DITTO C	1	40640	61	.093"	250	330	COVERED	
	DITTO D	2	44350	91	.103"	800	240		do.
	DITTO P	1	103460	124	.103"	545	420		
	WIRELESS	1	23960	19	.052"	60	40		
	SEARCHLIGHT	1	-	-	-	-	-		
	MASTHEAD LIGHT	1	20701	4	.036"	6	900		
	SIDE LIGHTS	1	20709	3	.036"	6	100	RUBBER	HEMP BRAID
	COMPASS LIGHTS	1	20709	3	.036"	6	40		
	POOP LIGHTS	1	20709	3	.036"	6	900		
	CARGO LIGHTS	1	20701	4	.036"	1.8	300		
	ARC LAMPS	-	-	-	-	-	-		
	HEATERS	1	20701	4	.036"	2.0	60		

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	14480	37	.083"	120	100		LEAD
	MAIN BILGE LINE PUMPS	-	-	-	-	-	-		
	GENERAL SERVICE PUMP	-	-	-	-	-	-		
	EMERGENCY BILGE PUMP	1	10600	10	.064"	60	250	RUBBER	COVERED
	SANITARY PUMP	1	14480	37	.072"	150	100		ARMOURD
	CIRC. SEA WATER PUMPS	-	-	-	-	-	-		
	CIRC. FRESH WATER PUMPS	-	-	-	-	-	-		& BRAIDED
	AIR COMPRESSOR	-	-	-	-	-	-		
	FRESH WATER PUMP	-	-	-	-	-	-		
	ENGINE TURNING GEAR	2	1000	10	.083"	80	80		
	ENGINE REVERSING GEAR	-	-	-	-	-	-		
	LUBRICATING OIL PUMPS	-	-	-	-	-	-		
	OIL FUEL TRANSFER PUMP	1	20701	7	.036"	2.4	400		
	WINDLASS & FOR ^D WINDLASS	1	44350	91	.103"	* 560	280		
	AFT CAPSTAN	1	12640	37	.083"	* 220	400		
	WINCHES	9	11680	37	.064"	120	220		
	STEERING GEAR	2	30240	37	.103"	160	540	RUBBER	HEMP BRAID
	WORKSHOP MOTOR	1	22214	7	.064"	14	60		
	VENTILATING FANS 3/4 H.P.	2	20701	7	.036"	3	100		
	" 1/2 "	4	20701	7	.036"	6	"		
	" 2/2 "	8	10466	7	.044"	10	"		
	" 3 "	10	10466	7	.052"	12	"		
	" 4 1/2 "	10	22214	7	.064"	18	"		
	" 5 1/2 "	2	22214	7	.064"	22	"		
	" 6 1/2 "	4	23260	10	.052"	26	"		
	" 8 "	6	23260	10	.052"	36	"		
	" 10 H.P.	1	20701	7	.036"	4	"		

* INTERMITTENT RATING

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.

John Brown & Company, Limited.

J. Henderson
 Clydebank Secretary

Electrical Engineers. Date _____

COMPASSES.

Distance between electric generators or motors and standard compass 26 FEET

Distance between electric generators or motors and steering compass 28 "

The nearest cables to the compasses are as follows:—

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

A cable carrying 7.5 Ampères 23 feet from standard compass 20 feet from steering compass.

A cable carrying 18 Ampères 11 feet from standard compass 12 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 1/4 degrees on _____ course in the case of the standard compass, and 1/4 degrees on _____ course in the case of the steering compass.

John Brown & Company, Limited.

J. Henderson
 Clydebank Secretary

Builder's Signature. Date 6/6/23.

Is this installation a duplicate of a previous case. No. If so, state name of vessel ✓

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 & found satisfactory except that the steering gear requires adjustments. This is to be done at Liverpool. The Liverpool surveyors have been notified to this effect. The workmanship, in my opinion is good and sound.

Note. Steering gear overhauled & adjusted in Liverpool.

It is submitted that this vessel is eligible for THE RECORD. Elec light. And now satisfactory J. Rankin

Total Capacity of Generators 486 Kilowatts

The amount of Fee ... £ 51 3 0

Travelling Expenses (if any) £ 9 6 25

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

Committee's Minute GLASGOW 12 JUN 1923

Assigned Elec Light. *J. Rankin*

Im. 921—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)

11-6-23