

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

DEC 1924

Date of writing Report 9.12.24 When handed in at Local Office 15.12.24 Port of Glasgow

No. in Survey held at GOVAN Date, First Survey 24.10.24 Last Survey 6.12.1924
Reg. Book. (Number of Visits 2)

88253 on the M.V. "COMLIEBANK" Tons { Gross 5149
Net

Built at GOVAN By whom built MESSRS HARLAND & WOLFF Yard No. 663g When built 1924.

Owners MESSRS ANDREW WEIR & CO Port belonging to GLASGOW.

Electric Light Installation fitted by MESSRS HARLAND & WOLFF LTD Contract No. 663g When fitted 1924

System of Distribution Two Wire

Pressure of supply for Lighting 220 volts, Heating 220 volts, Power 220 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 2 Diesel Driven in Parallel, 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 Port Side 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 Aft of Engine Room over Thrust Recess

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 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, & D.P. Change-over Switches & 2 S.P. 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



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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 5.5 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 woodwork bulkheads & run in Sheet Iron Droughing along decks, where exposed to heat LSAB & fireproof VIR in porc clamps, L.C. Elsewhere.

If cables are run in wood casings, are the casings and caps secured by screws -, are the cap screws of brass -, are the cables run in separate grooves -. 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 -

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 Lead

Earthing Connections, state what earthing connections are fitted and their respective sectional areas All Radiators are earthed with 3/36 wire, also cabin portables, All metal fittings & the lamp holder 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 -

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 -, are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected -, how are the cables led -, where are the controlling switches situated -

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

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

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 - and -

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 -

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 -

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

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	65	220	295	300	Diesel Engine	British Mex	Flash Point of Fuel. 176° F
AUXILIARY	1	65	220	295	300	Steam Engine		Open 190° F
EMERGENCY								
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 No. 2 & 3	1 p. pole	.5	61	.103	295	250 (3 leads)	VIR	Fireproofed
	AUXILIARY GENERATOR No. 1	-	.5	61	.103	295	188 (2 leads)	VIR	"
	EMERGENCY GENERATOR	-							
	ROTARY TRANSFORMER	-							
	AUXILIARY SWITCHBOARDS	-							
	ENGINE ROOM	1 p. pole	.007	7	.036	13.6	30	Rubber	LSAB.
	BOILER ROOM	-							
	WIRELESS	1 p. pole	.007	7	.036	10.0	132	Rubber	LSAB
	SEARCHLIGHT	-							
	MASTHEAD LIGHT	1 p. pole	.003	3	.036	.6	66.0	Rubber	LSAB & L.C.
	SIDE LIGHTS	-	.003	3	.036	.6	90	"	"
	COMPASS LIGHTS	-	.003	3	.036	.15	42	"	LC
	POOP LIGHTS	-	.003	3	.036	.15	52	"	"
	CARGO LIGHTS	-	.003	3	.036	3.6	570	"	LSAB
	ARC LAMPS	-							
	HEATERS	1 p. pole	.003	3	.036	7.8	66	Rubber	LC.

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	.075	19	.072	8.7	180	Rubber	LSAB.
	MAIN BILGE LINE PUMPS	1	.0225	7	.064	22	120	"	"
	GENERAL SERVICE PUMP	-							
	EMERGENCY BILGE PUMP	-							
	SANITARY PUMP	1	.04	19	.052	60	190	Rubber	LSAB.
	CIRC. SEA WATER PUMPS	1	.04	19	.052	60	190	"	"
	CIRC. FRESH WATER PUMPS	2	.0225	7	.064	22	120	"	"
	AIR COMPRESSOR	1	.6	91	.098	347	132	VIR.	Fireproofed
	FRESH WATER PUMP	-							
	ENGINE TURNING GEAR	2	.06	19	.064	40	78	Rubber	LSAB
	ENGINE REVERSING GEAR	-							
	LUBRICATING OIL PUMPS	3	.04	19	.052	31.5	68	Rubber	LSAB
	OIL FUEL TRANSFER PUMP	1	.04	19	.052	17	72	"	"
	WINDLASS	-							
	WINCHES, FORWARD	-							
	WINCHES, AFT	-							
	STEERING GEAR	1	.075	19	.072	76	570	Rubber	LSAB.
	WORKSHOP MOTOR	-							
	VENTILATING FANS	1	.007	7	.036	13	108	Rubber	LSAB.
	HOT SALT WATER PUMP	1	.003	3	.036	8.9	228	"	"
	OIL purifier	1	.003	3	.036	8.9	96	"	"
	LATHE	1	.003	3	.036	6.5	82	"	"
	DRILL	1	.003	3	.036	6.5	86	"	"

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.

By **HARLAND AND WOLFF, LIMITED.**

John Dickison
 Director.

Electrical Engineers.

Date 13th Dec 1924

COMPASSES.

Distance between electric generators or motors and standard compass 90 feet

Distance between electric generators or motors and steering compass 88 feet

The nearest cables to the compasses are as follows:—

A cable carrying 5 Amperes 12 feet from standard compass 6 feet from steering compass.

A cable carrying 3.4 Amperes 18 feet from standard compass 12 feet from steering compass.

A cable carrying 1.5 Amperes 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.

By **HARLAND AND WOLFF, LIMITED.**

John Dickison
 Director.

Builder's Signature.

Date 13th Dec 1924

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

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
of a high standard

Elec Light.
17/12/24

Total Capacity of Generators 196. Kilowatts

The amount of Fee ... £ 36.5.0 : { When applied for, 9.12.1924

Travelling Expenses (if any) £ : { When received, See debit book.

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

Committee's Minute GLASGOW 16 DEC 1924

Assigned Elec. Light

u.c.
15/12/24

Im. 3.22.—Transfer.
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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