

Rpt. 13.

No. 50356

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

21 MAY 1930

Received at London Office

Date of writing Report 15.4.1930 When handed in at Local Office 15.5.1930 Port of GLASGOW.

No. in Survey held at GLASGOW. Date, First Survey 21.1.30 Last Survey 30.4.1930
Reg. Book. (Number of Visits 17)39801 on the S.S. CITY OF BARCELONA. Tons { Gross 5698
Net

Built at GLASGOW By whom built BARCLAY CURLE & CO Yard No. 636 When built 1930

Owners MESSRS ELLERMAN LINES LTD Port belonging to LIVERPOOL.

Electric Light Installation fitted by W^m M. GOODFELLOW & CO Contract No. 636 When fitted 1930

Is the Vessel fitted for carrying Petroleum in bulk No.

System of Distribution TWO WIRE

Pressure of supply for Lighting 110 VOLTS volts, Heating - volts, Power 110 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 rating 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 - , is an adjustable regulating resistance fitted in series with each shunt field YES.

Are all terminals accessible, clearly marked, and furnished with sockets YES, are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched YES Are the lubricating arrangements of the generators as per Rule YES.

Position of Generators AFT ENGINE ROOM STARBOARD SIDE.

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 axes 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 IN SAME COMPARTMENT AS GENERATOR DIRECTLY AFT.

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, non-ignitable 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 insulated from the slab

with mica or micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework - and is the frame effectively earthed YES Are the fittings as per Rule regarding:— 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 -

GENERATOR 150 AMP D.P. SWITCH & D.P. FUSES ✓

EACH OUTGOING CIRCUIT 1 S.P. SWITCH & A FUSE ON EACH POLE ✓

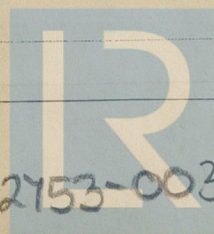
Instruments on main switchboard 1 ammeter 1 voltmeter - synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system

EARTH LAMP, SWITCH AND FUSE IN EACH POLE.

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

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



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Lloyd's Register
Foundation

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Cables: Single, twin, concentric, or multicore Steel are the cables insulated and protected as per Tables IV or V of the Rules YES

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 5 Volts.

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.04 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 -

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 By GALVANISED IRON SADDLES FIXED BY

IRON SCREWS

LEAD COVERED STEEL ARMORED

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 VIII 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 ALL JOINTS MADE IN CAST IRON BOXES WITH PORCELAIN TERMINAL BASES.

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 Partitions, 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 -

, are their connections made as per Rule -

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

Secondary Batteries, are they constructed and fitted as per Rule 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 BY HEAVY CAST IRON

COVERS.

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 axes of rotation fore and aft WHERE POSSIBLE,

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 and fitted 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 YES.

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.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN ...	1	12.5	110	114	300	SINGLE CYLINDER STEAM ENGINE		
AUXILIARY ...								
EMERGENCY ...								
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR ...	1	1	19	.083	114	118	60	ROBBEE	L.C. A+B
EQUALISER CONNECTIONS ...	-	-	-	-	-	-	-	-	-
AUXILIARY GENERATOR ...	-	-	-	-	-	-	-	-	-
EMERGENCY GENERATOR ...	-	-	-	-	-	-	-	-	-
ROTARY TRANSFORMER	-	-	-	-	-	-	-	-	-
ENGINE ROOM ...	1	.0365	7	.029	13	18.2	50	ROBBEE	L.C. A+B
BOILER ROOM ...	1	.0048	7	.029	13	18.2	50	ROBBEE	L.C. A+B
AUXILIARY SWITCHBOARDS ...	-	-	-	-	-	-	-	-	-
ACCOMMODATION SECTION BOX.									
MIDSHIPS ACCOMM. A.	1	.0146	7	.052	30	37	135	ROBBEE	L.C. A+B
OFFICERS ACCOMM. A.	1	.007	7	.036	11.5	24	210	ROBBEE	L.C. A+B
CREW ACCOMM. A.	1	.007	7	.036	7.2	24	330	ROBBEE	L.C. A+B
TWEEN DECKS	1	.0045	7	.029	11.2	18.2	90	ROBBEE	L.C. A+B
WIRELESS ...	1	.007	7	.036	11	24	200	ROBBEE	L.C. A+B
SEARCHLIGHT ...	-	-	-	-	-	-	-	-	-
MASTHEAD LIGHT ...	1	.002	3	.029	1.5	7.8	280	ROBBEE	L.C. A+B
SIDE LIGHTS ...	1	.002	3	.029	.5	7.8	90	ROBBEE	L.C. A+B
COMPASS LIGHTS ...	1	.002	3	.029	.35	7.8	35	ROBBEE	L.C. A+B
POOP LIGHTS ...	-	-	-	-	-	-	-	-	-
CARGO LIGHTS S.B.	1	.022	7	.064	10	46	135	ROBBEE	L.C. A+B
ARC LAMPS ...	-	-	-	-	-	-	-	-	-
HEATERS ...	-	-	-	-	-	-	-	-	-

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP ...	-	-	-	-	-	-	-	-	-	-
MAIN BILGE LINE PUMPS ...	-	-	-	-	-	-	-	-	-	-
GENERAL SERVICE PUMP ...	-	-	-	-	-	-	-	-	-	-
EMERGENCY BILGE PUMP ...	-	-	-	-	-	-	-	-	-	-
SANITARY PUMP ...	-	-	-	-	-	-	-	-	-	-
CIRC. SEA WATER PUMPS ...	-	-	-	-	-	-	-	-	-	-
CIRC. FRESH WATER PUMPS ...	-	-	-	-	-	-	-	-	-	-
AIR COMPRESSOR ...	-	-	-	-	-	-	-	-	-	-
FRESH WATER PUMP ...	-	-	-	-	-	-	-	-	-	-
ENGINE TURNING GEAR ...	-	-	-	-	-	-	-	-	-	-
ENGINE REVERSING GEAR ...	-	-	-	-	-	-	-	-	-	-
PURIFIER	1	1	.0045	7	.029	8	18.2	80	ROBBEE	L.C. A+B
LUBRICATING OIL PUMPS ...	-	-	-	-	-	-	-	-	-	-
OIL FUEL TRANSFER PUMP ...	-	-	-	-	-	-	-	-	-	-
WINDLASS ...	-	-	-	-	-	-	-	-	-	-
WINCHES, FORWARD ...	-	-	-	-	-	-	-	-	-	-
WINCHES, AFT ...	-	-	-	-	-	-	-	-	-	-
STEERING GEAR—										
(a) MOTOR GENERATOR ...	-	-	-	-	-	-	-	-	-	-
(b) MAIN MOTOR ...	-	-	-	-	-	-	-	-	-	-
WORKSHOP MOTOR ...	-	-	-	-	-	-	-	-	-	-
VENTILATING FANS ...	-	-	-	-	-	-	-	-	-	-
REFRIGERATING	1	1	.0104	7	.044	24	31	120	ROBBEE	L.C. A+B
MAINLY MOTOR	-	-	-	-	-	-	-	-	-	-
FIELD EXCITATION	1	1	.01	7	.044	8	31	48"	Var. Len.	L.C. A+B
TURBO GEN. TO MOTOR	1	2	.2	127	.103	1770	1690	56'	Var. Len.	L.C. A+B
12 H.P. FAN MOTOR	1	.04	.04	19	.1052	25	64	30'	Robbed.	L.C. A+B

TURBO-GENERATOR CONDUCTORS.

FIELD EXCITATION	1	1	.01	7	.044	8	31	48"	Var. Len.	L.C. A+B
TURBO GEN. TO MOTOR	1	2	.2	127	.103	1770	1690	56'	Var. Len.	L.C. A+B
12 H.P. FAN MOTOR	1	.04	.04	19	.1052	25	64	30'	Robbed.	L.C. A+B

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 W. Mun Goodfellow & Co. Ltd.

W. Mun Goodfellow

Electrical Engineers.

Date 10/5/30

COMPASSES.

Distance between electric generators or motors and standard compass 117'

Distance between electric generators or motors and steering compass 110'

The nearest cables to the compasses are as follows:—

A cable carrying 3 Ampères 6 feet from standard compass 4 feet from steering compass.

A cable carrying 35 Ampères 6 feet from standard compass Lead/no feet from steering compass.

A cable carrying 35 Ampères Lead/no 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

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

The maximum deviation due to electric currents 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.

H. Henley

Builder's Signature.

Date 13/5/30

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 and found satisfactory. The materials and workmanship were found to be good and sound.

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

A.B.
15/5/30

13/6/30

Total Capacity of Generators 12.5 Kilowatts.

The amount of Fee ... £12.10.0 : When applied for, 40.5.19.30
Travelling Expenses (if any) £ : : When received, 40.5.19.30

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

Committee's Minute GLASGOW 20 MAY 1930

Assigned Elec Light



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