

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 14 DEC 1927

Date of writing Report 16. 11. 1927. When handed in at Local Office 5. 12. 1927 Port of GLASGOW.

No. in Survey held at RENFREW. Date, First Survey 11. 8. 27 Last Survey 14. 11. 1927  
Reg. Book. (Number of Visits 7)

Alloc. on the DREDGER "LADY COMBE" Tons { Gross 509  
Net 211

Built at RENFREW By whom built MESSRS LOBNITZ & CO Yard No. 929 When built 1927

Owners CROWN AGENTS FOR THE COLONIES. Port belonging to LAGOS.

Electric Light Installation fitted by MESSRS J. CHARTERS & CO. Contract No. 929. When fitted 1927.

System of Distribution Double wire, looping-in system without jointing!

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

Direct or Alternating Current, Lighting Direct current, Power

If alternating current system, state frequency of periods per second D.C.

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

Generators, does it 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 Yes, is an adjustable regulating resistance fitted in series with 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 Engine Room Forward 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 generator

> 12" and > 48" is the generator 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 Engine Room Forward Starboard side.

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 Yes

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 12" and 48"

are they constructed wholly of durable, non-ignitable non-absorbent materials Enamelled Slate, 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 Yes

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

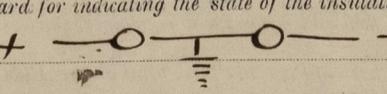
bars Yes, individual fuses to voltmeter, pilot or earth lamp Yes, connections of switches Yes

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches One double pole

switch and 2 S.P. fuses for dynamo & 6 S.P. switches & 12 S.P. fuses for circuits

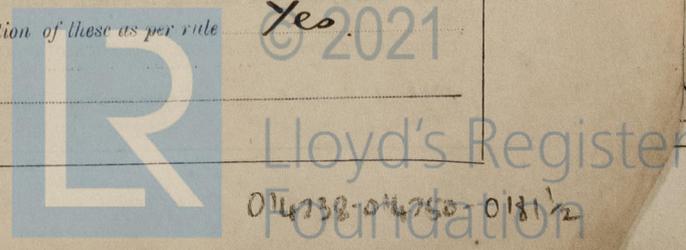
Instruments on main switchboard 1 ammeter, 1 voltmeter, synchronising device for paralleling purposes.

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

lamps with switches & fuses + 

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



Cables: Single, twin, concentric, or multicore. Single 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 not more than 2 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: Carried on perforated steel cable trays and clipped direct to the steel work & wood work.

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 VIII 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. 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 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 ✓

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, in stores

Guarded.

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 ✓

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 ✓, are the coils self-contained and readily removable for replacement ✓

are the brushes, brush holders, terminals and lubricating arrangements as per Rule ✓, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material ✓

are they protected from mechanical injury and damage from water, steam or oil ✓, are their axes of rotation fore and aft ✓

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 ✓

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 ✓

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.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	1	7.5	110	68.2	500	Single cylinder Steam Engine	✓	✓
AUXILIARY	✓							
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. Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	1	0.94	✓ 19	14 SWG	68.3	20	P.V.I.R.	Lead covered.
	EQUALISER CONNECTIONS	✓							
	AUXILIARY GENERATOR	✓							
	EMERGENCY GENERATOR	✓							
	ROTARY TRANSFORMER	✓							
	AUXILIARY SWITCHBOARDS	✓							
	ENGINE ROOM	1	0.0532	✓ 3	18 SWG	13.28	16	do	do
	BOILER ROOM								
	ACCOMMODATION	✓							
	OFFICERS' QUARTERS	1	0.0532	✓ 3	18 SWG	10.27	65	do	do
	CREWS' QUARTERS	1	0.0532	✓ 3	18 SWG	5.0	120	do	do
	NAVIGATION	1	0.0532	✓ 3	18 SWG	3.63	200	do	do
	DECK LANTERNS	1	0.025	✓ 87	18 SWG	18.2	16	do	do
	SPARE	✓							
	WIRELESS	✓							
	SEARCHLIGHT	✓							
	MASTHEAD LIGHT	1	0.0246	✓ 1	17 SWG	.91	300	do	do
	SIDE LIGHTS EACH	1	0.0246	✓ 1	17 SWG	2.73	220	do	do
	COMPASS LIGHT	1	0.0246	✓ 1	17 SWG	2.73	10	do	do
	POOP LIGHTS	✓							
	CARGO LIGHTS	✓							
	ARC LAMPS	✓							
	HEATERS	✓							

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	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								
	LUBRICATING OIL PUMPS								
	OIL FUEL TRANSFER PUMP								
	WINDLASS								
	WINCHES, FORWARD								
	WINCHES, AFT								
	STEERING GEAR								
	(a) MOTOR GENERATOR								
	(b) MAIN MOTOR								
	WORKSHOP MOTOR								
	VENTILATING FANS								

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.

*J. Charters* Electrical Engineers. Date *17th Nov 1927*

**COMPASSES.**

Distance between electric generator ~~or motors~~ and standard compass *60 feet*  
 Distance between electric generators or motors and steering compass   
 The nearest cables to the compasses are as follows:—  
 A cable carrying *3.63* Ampères *5* feet from standard compass  feet from steering compass.  
 A cable carrying *5* Ampères *35* feet from standard compass  feet from steering compass.  
 A cable carrying *273* Ampères *in* feet from standard compass  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 *any* course in the case of the standard compass, and *Nil* degrees on *any* course in the case of the steering compass.

FOR LOBNITZ & Co. LIMITED

*J. Smittees* Builder's Signature. Date \_\_\_\_\_  
 Director

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 workmanship was found to be good and sound and the materials satisfactory.*

*a.b.*  
*3/12/27*

It is submitted that this vessel is fit for service for Elec. light

*JDD*  
*16/12/27*

Total Capacity of Generators *4.5* Kilowatts.

The amount of Fee ... £ *4.10.0* : *13/12/27* When applied for,

Travelling Expenses (if any) £ : : *21.12.27* When received,

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

Committee's Minute **GLASGOW 13 DEC 1927** **TUES. 13 MAR 1898**

Assigned *Elec. Lights* *J.B.*

Im. 1.27.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)