

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

4 JUN 1929

Date of writing Report 19 _____ When handed in at Local Office 3rd June 1929 Port of Belfast

No. in Survey held at Belfast Date, First Survey 20th Feb. Last Survey 29th May 1929
 Reg. Book. _____ (Number of Visits..... 2.....)

on the Steel twin sc. SURINAM Tons { Gross _____ Net _____

Built at Belfast By whom built Harland & Wolff Ltd. Yard No. 863 When built 1929.

Owners Ley Shipping Co. Ltd. (A. New & Co. Mgrs.) Port belonging to London

Electric Light Installation fitted by Harland & Wolff Ltd. Contract No. 863 When fitted 1929.

System of Distribution Two wire direct current to distribution boxes. ✓

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

Direct or Alternating Current, Lighting Direct Power

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? No, is an adjustable regulating resistance fitted in series with each shunt field? No.

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 In Engine Room Aft. ✓

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 engine room on aft bulk head.

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.

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? —

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 generator is connected to separate sets of bus-bars, with double pole switches & fuses & each out-going circuit has double pole change over switch & double pole fuses.

Instruments on main switchboard two ammeters one 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. Earth indicator lamps with change over switch to each set of bus-bars.

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? —

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 50 lbs.

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 Yes

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 Cables are lead covered & passed through steel piping along deck

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 are made in properly constructed junction boxes

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 All portable fittings, sockets etc. fitted other than to the steel work of the ship are provided with an earthing connection equivalent to working conductor, 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 Yes

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 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 Yes

Special gas-light fitting, how are the cables led The main cables in this space - Branch circuits in lead covered steel armoured & braided clipped to steel work of ship; where are the controlling switches situated Passage in fore accommodation

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 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 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 Yes

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT			Revs. per Min.	DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.			Fuel Used.	Flash Point of Fuel.
MAIN ...	2	7	110	63.5	620/600	Enclosed type vertical steam engine 6"x4" cylinders	-	-
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...	2	0.04	19	.032"	63.5	30	Rubber	Lead Covered
	EQUALISER CONNECTIONS	-	-	-	-	-	-	-	-
	AUXILIARY GENERATOR	-	-	-	-	-	-	-	-
	EMERGENCY GENERATOR	-	-	-	-	-	-	-	-
	ROTARY TRANSFORMER...	-	-	-	-	-	-	-	-
	AUXILIARY SWITCHBOARDS	-	-	-	-	-	-	-	-
	ENGINE ROOM ...	2	0.003	3	.036"	12.0	78	Rubber	Lead Covered
	BOILER ROOM ...	-	-	-	-	-	-	-	-
	ACCOMMODATION PART... GALLEY BLOWERS	2	0.007	7	.036"	24.5	104	"	" "
	NAVIGATION & WIRELESS	2	0.007	7	.036"	9.07	540	"	" "
	FORD ACCOMMODATION & PUMP ROOM	2	0.01	7	.044"	13.3	525	"	" "
	WIRELESS ...	2	0.007	7	.036"	2.27	536	Rubber	Lead Covered
	SEARCHLIGHT ...	-	-	-	-	-	-	-	-
	MASTHEAD LIGHT...	2	0.003	3	.036"	0.9	240	Rubber	Lead covered armoured & braided
	SIDE LIGHTS ...	2	0.003	3	.036"	0.9	96	"	"
	COMPASS LIGHTS ...	2	0.003	3	.036"	0.36	56	"	Lead Covered
	POOP LIGHTS ...	-	-	-	-	-	-	-	-
	CARGO LIGHTS ...	3	0.0048	110	.0076"	1.36	200	Rubber	C.T.S.
	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 ...	-	-	-	-	-	-	-	-
	BLOWER MOTORS FOR GALLEY RANGE	2	0.003	3	.036"	5.6	75	Rubber	Lead Covered
	CO2 MACHINE	1	0.007	7	.036"	22	72	"	" "
	BRINE PUMP	1	0.003	3	.036"	5.15	58	"	" "

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 of the installation.



Electrical Engineers.

Date June 6th / 29

COMPASSES.

Distance between electric generators or motors and standard compass 228 feet.

Distance between electric generators or motors and steering compass 223 feet.

The nearest cables to the compasses are as follows:—

A cable carrying 9 Ampères 10 feet from standard compass 5 feet from steering compass.

A cable carrying 14 Ampères 22 feet from standard compass 14 feet from steering compass.

A cable carrying — Ampères — 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 all course in the case of the standard compass, and nil degrees on all course in the case of the steering compass.



Builder's Signature.

Date June 6/29

Is this installation a duplicate of a previous case? No. If so, state name of vessel "Jamaica" "Ule"

General Remarks (State quality of workmanship, opinions as to class, &c.)

This installation has been made under special survey. The materials and workmanship are good. It was tried out during the official trials with satisfactory results. In my opinion the vessel is now eligible for notation "Electric Light"

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

R. Lee
4.6.29

Total Capacity of Generators 14 Kilowatts.

The amount of Fee ... £ 14 : — : { When applied for, 3-6-19-29

Travelling Expenses (if any) £ : : { When received, 9-7-29

R. Lee
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned *Elec. Light*

Im. 127.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)