

Rpt. 13.

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Old No. 29697

Date of writing Report 19... When handed in at Local Office 7/5/28 Port of Newcastle-on-Tyne

Received at London Office

10 MAY 1928  
SUNDERLAND

No. in Survey held at Sunderland Date, First Survey 9 Sept 1927 Last Survey 3 April 1928  
Reg. Book. Supp  
(Number of Visits... 12)

40020 on the M.V. BRITISH RENOWN.

Tons { Gross 6995  
Net 4165

Built at SUNDERLAND By whom built SIR J LAING & SONS LTD. Yard No. 700 When built 1928.

Owners BRITISH TANKER CO LTD. Port belonging to LONDON.

Electric Light Installation fitted by MESSRS THE SUNDERLAND FORGE & ENG CO LTD. Contract No. 700 When fitted 1928

System of Distribution DOUBLE WIRE ✓

Pressure of supply for Lighting 110 ✓ volts, Heating — volts, Power 110 ✓ 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 YES, 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 IN 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 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, 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 micaite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework BOTH POLES INSULATED WITH MICAITE, 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 1. STANDARD GENERATOR WITH C/O SWITCH & DP FUSES. 2 MAIN GENERATORS EACH WITH TRIPLE POLE CIRCUIT BREAKER FITTED, OVERLOADS ON 2 POLES, REVERSE CURRENT & TIME LAG. 3<sup>RD</sup> POLE ACTS AS SR. OUTGOING CIRCUITS EACH FITTED WITH DP SWITCH & DP FUSES.

Instruments on main switchboard 4 (1 FOR STEERING GEAR) 3 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 LAMP, SWITCH & FUSE ON 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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Cables: Single, twin, concentric, or multicore SINGLE are the cables insulated and protected as per Tables IV or V of the Rules JES.

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 4.15 VOLTS LIGHTING, 6.3 VOLTS POWER.

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 JES.

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 JES.

Support and Protection of Cables, state how the cables are supported and protected IN ACCORDANCE LEAD COVERED & BRAIDED WITH BRASS CLIPS.

UNDER FORECAST GANGWAYS LEAD COVERED & BRAIDED IN GALV. N.I. PIPE. IN ENGINE ROOM LEAD COVERED ARMOURED & BRAIDED WITH GALV. IRON CLIPS.

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 JES.

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 NO JOINTS.

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands JES.

Bushes in Beams and Non-watertight Partitions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed JES state the material of which the bushes are made RED FIBRE.

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 JES.

Emergency Supply, state position and method of control of the emergency supply and how the generator is driven NO EMERGENCY LIGHTING SUPPLY.

Navigation Lamps, are these separately wired JES, controlled by separate switch and separate fuses JES, are the fuses double pole JES, are the switches and fuses grouped in a position accessible only to the officers on watch JES.

has each navigation lamp an automatic indicator as per Rule JES.

Secondary Batteries, are they constructed and fitted as per Rule \_\_\_\_\_.

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and where or exposed to drip or condensed moisture, watertight JES, 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 JES WITH SOLID CI FITTINGS & HEAVY GLASS BOWL FITTED OUTSIDE COMPARTMENT.

\_\_\_\_\_ how are the cables led OUTSIDE COMPARTMENT.

where are the controlling switches situated OUTSIDE COMPARTMENT.

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

Are 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 JES, are the coils self-contained and readily removable for replacement JES, are the brushes, brush holders, terminals and lubricating arrangements as per Rule JES, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material JES.

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

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 JES.

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office NO PORTABLES.

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No of	RATED AT			DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.		Fuel Used.	Flash Point of Fuel.
MAIN	2	60	110	545.	300	DIESEL ENGINE.	
AUXILIARY	1	10	110	91.	340	STEAM ENGINE.	
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. Am. éres.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	4	.19640	37	.083	545.1	140	VARNISHED CAMBRC.	LEAD COVERED & BRAIDED
	EQUALISER CONNECTIONS	1	.19640	37	.083	272.5	70	"	LEAD COVERED & BRAIDED
	AUXILIARY GENERATOR	2	.10090	19	.083	91.	60	V.I.R.	LEAD COVERED & BRAIDED
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	2	.01046	7	.044	23.7	60	V.I.R.	LEAD COVERED & BRAIDED.
	BOILER ROOM								
	BARACCO ACCOMMODATION & NAVIGATION.	2	.06000	19	.064	33.5	480	V.I.R.	LEAD COVERED & BRAIDED.
	AFT ACCOMMODATION.	2	.01046	7	.044	12.8	260	V.I.R.	LEAD COVERED & BRAIDED
	WIRELESS	2	.02214	7	.064	25	550	V.I.R.	LEAD COVERED & BRAIDED.
	SEARCHLIGHT								
	MASTHEAD LIGHT	2	.00194	3	.029	.9	384	V.I.R.	LEAD COVERED & BRAIDED.
	SIDE LIGHTS	2	.00194	3	.029	.9	80	V.I.R.	LEAD COVERED & BRAIDED
	COMPASS LIGHTS	2	.00194	3	.029	.8	30	V.I.R.	LEAD COVERED & BRAIDED
	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. Am. éres.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP								
	MAIN BILGE LINE PUMPS	1	.06000	19	.064	80	165	V.I.R.	LEAD COVERED & BRAIDED
	GENERAL SERVICE PUMP								
	EMERGENCY BILGE PUMP								
	SANITARY PUMP	1	.06000	19	.064	80	160	V.I.R.	LEAD COVERED & BRAIDED.
	CIRC. SEA WATER PUMPS	1	.30240	37	.103	240.	128	V.I.R.	LEAD COVERED & BRAIDED.
	CIRC. FRESH WATER PUMPS								
	AIR COMPRESSOR	1	.40640	61	.093	288	45	V.I.R.	LEAD COVERED & BRAIDED.
	FRESH WATER PUMP								
	ENGINE TURNING GEAR								
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS	1	.01046	7	.044	28	145	V.I.R.	LEAD COVERED & BRAIDED.
	OIL FUEL TRANSFER PUMP								
	WINDLASS								
	WINCHES, FORWARD								
	WINCHES, AFT								
	STEERING GEAR								
	(a) MOTOR GENERATOR								
	(b) MAIN MOTOR	1	.19640	37	.083	176	300	V.I.R.	LEAD COVERED & BRAIDED.
	WORKSHOP MOTOR	1	.02214	7	.064	40	70	V.I.R.	LEAD COVERED & BRAIDED.
	VENTILATING FANS								
	FORCED DRAUGHT FAN.	1	.02214	7	.064	40	60	V.I.R.	LEAD COVERED & BRAIDED.
	CRANE.	1	.00701	7	.036	16	65	V.I.R.	LEAD COVERED & BRAIDED.
	REFRIG. MOTORS	1	.06000	19	.064	64	220	V.I.R.	LEAD COVERED & BRAIDED.
	JACKET WATER COOLING PUMP	1	.11680	37	.064	120	128	V.I.R.	LEAD COVERED & BRAIDED.
	OIL PURIFIERS.	2	.00701	7	.036	20	50	V.I.R.	LEAD COVERED & BRAIDED.
	CLEAN OIL PUMP.	1	.00701	7	.036	8	30	V.I.R.	LEAD COVERED & BRAIDED.

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.

p. pro. THE SUNDERLAND FORGE & ENGINEERING CO. LTD.

Electrical Engineers.

Date 20th April 1928.

*K. Stappes*

COMPASSES.

Distance between electric generators or motors and standard compass 200 FEET

Distance between electric generators or motors and steering compass 120 FEET

The nearest cables to the compasses are as follows:—

A cable carrying 6.4 Ampères 10 feet from standard compass 15 feet from steering compass.

A cable carrying 0.18 Ampères 10 feet from standard compass LED INTO feet from steering compass.

A cable carrying 0.18 Ampères LED INTO feet from standard compass 10 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.

**SIR JAMES LAING & SONS, LIMITED.**

*James Laing*

Builder's Signature.

Date 23rd April 1928.

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. \_\_\_\_\_)

*The above installation is in accordance with the Society's Rules. The vessel is eligible in my opinion for notation electric light wireless*

*It is submitted that this vessel is eligible for THE RECORD. Elec. light-*

*W.T. Badger*  
10/5/28

Total Capacity of Generators 130 Kilowatts.

The amount of Fee ... £ 33 : : When applied for, 5 April 1928

Travelling Expenses (if any) £ : : When received, 12 April 1928 *huras*

*W.T. Badger*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute \_\_\_\_\_

Assigned *Electric light*

Im. 1.28.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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