

Sld. no. 30092.

Rpt. 18.

No. 17648

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL) -4 SEP 1929
Received at London Office 22 AUG 1929

Date of writing Report 21 August 1929 When handed in at Local Office 21 August 1929 Port of Leith

No. in Survey held at Burntisland Date, First Survey 19 June Last Survey 29 July 1929
Reg. Book. 42235 on the S.S. "SARASTONE" (Number of Visits 3 at Leith 2 at Burntisland) Gross 2473 Tons Net 1490

Built at Burntisland By whom built Burntisland S.B. Co Yard No. 154 When built 1929

Owners S & R Steamships L^{td} Port belonging to Llanelly

Electric Light Installation fitted by The Burntisland ABC L^{td} Contract No. ✓ When fitted 1929

System of Distribution 2 wire
Pressure of supply for Lighting 110 volts, Heating ✓ volts, Power ✓ 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 ✓, is an adjustable regulating resistance fitted in series with each shunt field ✓

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 Starboard 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 ✓, are their axes of rotation fore and aft yes

Earthing, are the bedplates and frames of the generating plant efficiently earthed bolted direct to earth are the prime movers and their respective generators in metallic contact yes

Main Switch Boards, where placed Aft Starboard side 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 micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework yes, and is the frame effectively earthed bolted direct to earth. 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. 100 amp D.P. main switch and fuses and S.P. switch and D.P. fuses for outgoing circuits

Instruments on main switchboard one 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 lamp arranged on either 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, ~~and other~~ 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 **3%**

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 **with gal clips and brass saddles fixed with screws. Cables lead covered and wire armoured when necessary.**

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 **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 **Dynamo and frame of main switchboard bolted direct to earth.**

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**

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 **none**

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**

where are the controlling switches situated **yes**

Searchlight Lamps, No. of **1**, whether fixed or portable **fixed**, are their fittings as per Rule **yes**

Arc Lamps, other than searchlight lamps, No. of **1**, are their live parts insulated from the frame or case **yes**, are their fittings as per Rule **yes**

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 **yes** and **no**

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 **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 **yes**

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No of	RATED AT			DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amps.		Revs. per Min.	Fuel Used.
MAIN	one	6	110	55	450	Open type 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	2	0.0400	19	0.052	37	18 feet	Rubber	Lead wire armoured
	EQUALISER CONNECTIONS								
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	2	0.0045	7	0.029	7	10 feet	Rubber	Lead wire armoured
	BOILER ROOM								
	ACCOMMODATION	2	0.0030	3	0.036	3	340 "	"	Wire armoured
	" Saloon	2	0.0045	7	0.029	7	180 "	"	"
	" Engineers	2	0.0045	7	0.029	7	72 "	"	"
	Navigation	2	0.0030	3	0.036	3	180 "	"	"
	WIRELESS	2	0.0070	7	0.036	9	180 feet	Rubber	Wire armoured
	SEARCHLIGHT								
	MASTHEAD LIGHT	2	0.0020	3	0.029	36	220 "	"	"
	SIDE LIGHTS	2	0.0020	3	0.029	36	60 "	"	Lead covered
	COMPASS LIGHTS	2	0.0020	3	0.029	18	40 "	"	"
	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.

W. T. Badger Electrical Engineers. Date *Aug 20th 1929*

COMPASSES.

Distance between electric generators or motors and standard compass *58'*

Distance between electric generators or motors and steering compass *56'*

The nearest cables to the compasses are as follows:—

A cable carrying *18* Ampères *7"* feet from standard compass *7"* feet from steering compass.

A cable carrying _____ Ampères _____ feet from standard compass _____ 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 _____ course in the case of the standard compass, and *nil* degrees on *all* course in the case of the steering compass.

W. T. Badger Builder's Signature. Date *Aug 20th 1929*

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 efficiently fitted on board in accordance with the Rules. The Materials & Workmanship are good the vessel is eligible in my opinion for notation as light wireless*

It is submitted that this vessel is eligible for THE RECORD. *Elec. Light*
W. T. Badger
18/9/29

Total Capacity of Generators *6* Kilowatts.

The amount of Fee ... £ *6.0.0* *25/7* 19 *29*
 Travelling Expenses (if any) £ *✓* : : *7/8* 19 *29*

W. T. Badger
Ern Edwards for John Hanton & self
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute
 Assigned *Elec Light*

Im. 228.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)