

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 5 NOV 1924

Date of writing Report 20.10.1924 When handed in at Local Office 3.11.24 Port of GLASGOW.

No. in Survey held at PAISLEY. Date, First Survey 26-9-24 Last Survey 14-10-1924
Reg. Book.

88985. on the S.S. "GRONANTROEK." Tons { Gross 1110 1110.33
Net 639 639.16

Built at PAISLEY. By whom built MESSRS J. FULLERTON & CO. Yard No. 272. When built 1924.

Owners MESSRS R. HUGHES & CO. Port belonging to LIVERPOOL.

Electric Light Installation fitted by MR JAS. ESPER. Contract No. 272 When fitted 1924

System of Distribution Double wire System ✓

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 —

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 overload 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 single Generator, is an adjustable regulating resistance fitted in series with each shunt field Yes.

Are all terminals accessible and clearly marked Yes, are they so spaced or shielded that they cannot be accidentally earthed, or short circuited Yes

Position of Generators Engine Room S.S. Middle Platform. Are the lubricating arrangements of the generators as per Rule Yes

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 none and —, are the generators protected from mechanical injury and damage from water, steam or oil Yes

are their axis 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 Rm, close to dynamo.

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 in same compartment

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 none and —

are they constructed wholly of durable, incombustible non-absorbent materials None, is all insulation of high dielectric strength and of permanently high insulation resistance Yes

if semi-insulating material is used, are all conducting parts connected to one pole insulated from the slab with mica or micanite and the slab similarly insulated from its framework Yes, and is the frame effectively earthed Yes

Are the following fittings as per Rule, viz.: — spacing or shielding of live parts Yes, accessibility of all parts Yes, absence of fuses on back of board None, proportion of omnibus bars copper 3/4 x 1/2, 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

D.P. Main switch & fuses. S.P. branch switches & D.P. fuses.

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

Two earth testing lamps.

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

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



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Insulation of Cables, state type of cables, single or twin single are the cables insulated and protected as per Tables III or IV of the Rules yes

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 4 1/2 volts

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.007 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 none, all paper insulated

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 where passing through hold, or up Mast enclosed in screened tubing, in accommodation lead covered

If cables are run in wood casings, are the casings and caps secured by screws none, 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 as per Table VI yes

Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements none

Joints in Cables, state if any, and how made, insulated, and protected No joints in cable, run direct from Switch Board to Fuse Boxes and looped from light to light

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 Positions, 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 metal clips on all ships, Squares connected to seating by holding down bolts, & connected to Engine & Copper Steam & Exhaust Piping

are their connections made as per Rule -

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule none

Emergency Supply, state position and method of control of the emergency supply and how the generator is driven none

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, are separate screens provided for the use of oil and electric side lights yes

are separate oil lanterns provided for the mast head lights and side lights 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 none

how are the cables led -

where are the controlling switches situated -

Searchlight Lamps, No. of none, whether fixed or portable -, are their fittings as per Rule -

Arc Lamps, other than searchlight lamps, No. of none, are their live parts insulated from the frame or case -, are their fittings as per Rule -

Motors, are their working parts readily accessible none, 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 axis 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 as per Rule yes

Lightning Conductors, where lightning conductors are required, are these fitted as per Rule none

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 none

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	ONE	2.9	110	27	420	5 1/2 x 5" Rotary Engine		
AUXILIARY								
EMERGENCY								
ROTARY TRANSFORMER								

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	two	.0140	7	.036	27	4 feet	V.I.P.	Braided straps
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	two	.002	3	.029	1.5	20 1/2	V.I.P.	tubing (steel)
	BOILER ROOM	two	.002	3	.029	1.5	46 1/2	V.I.P.	tubing "
	WIRELESS								
	SEARCHLIGHT								
	MASTHEAD LIGHT	two	.002	3	.029	.5	70 1/2	V.I.P.	tubing
	SIDE LIGHTS	two	.002	3	.029	.5	10 1/2	V.I.P.	lead covered
	COMPASS LIGHTS	two	.002	3	.029	.37	4 1/2	V.I.P.	" "
	POOP LIGHTS								
	CARGO LIGHTS	two	.0020	70	.0076	2.	25 1/2	V.I.P.	Cat type sheath
	ARC LAMPS								
	HEATERS								

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								
	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.

James Epic

Electrical Engineers.

Date *22nd Oct. 1924*

COMPASSES.

Distance between electric generators or motors and standard compass *25 ft*
 Distance between electric generators or motors and steering compass *100 ft*
 The nearest cables to the compasses are as follows:—
 A cable carrying *27* Amperes *5* feet from standard compass *100* feet from steering compass.
 A cable carrying *27* Amperes *100* feet from standard compass *1* feet from steering compass.
 A cable carrying *6* Amperes *25* feet from standard compass *5* 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.

John Fullerton

Builder's Signature.

Date *27 Oct 1924.*

Is this installation a duplicate of a previous case *Yes.* If so, state name of vessel *Sarg Rose.*

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.*)

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

J.W.D.
7/11/24

Total Capacity of Generators *3.* Kilowatts

The amount of Fee ... £ *5.0.0.* : *17.10.24* When applied for,
 Travelling Expenses (if any) £ : *31.10.24* When received,
M.A.

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

Committee's Minute *GLASGOW* - 4 NOV 1924

Assigned *Elec light*

1m. 9. 22.—Transfer.
(The Surveys are requested not to write on or below the space for Committee's Minute.)

a.b.
3/11/24.



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