

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 11 AUG 1926

Date of writing Report 9.7.1926 When handed in at Local Office 9.8.1926 Port of GLASGOW.

No. in Survey held at GLASGOW. Date, First Survey 19.3.26. Last Survey 22.4.26 19
Reg. Book. (Number of Visits 11)

41012 on the M. Y. "STORSTEN" Tons { Gross 5240
Net

Built at GLASGOW. By whom built MESSRS BARCLAY CURLEY Yard No. 613 When built 1926.

Owners TONSBERG REDERI. Port belonging to TONSBERG.

Electric Light Installation fitted by MESSRS ALEX. ANDERSON LTD. Contract No. 613 When fitted 1926.

System of Distribution 2 WIRE SYSTEM ✓
Pressure of supply for Lighting 110 ✓ volts, Heating NONE volts, Power 220 ✓ 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

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 YES ✓, 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 Are the lubricating arrangements of the generators as per Rule

Position of Generators ENGINE ROOM PORT 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 generators No WOOD WORK NEAR 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 ON ONE BED-PLATE

Main Switch Boards, where placed 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 No WOODWORK NEAR

are they constructed wholly of durable, incombustible 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 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 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 EACH GENERATOR. ONE D.P. OVERLOAD, REVERSE-CURRENT CIRCUIT BREAKER INTERLOCKED WITH EQUALIZING SWITCH

EACH OUTGOING CIRCUIT. ONE D.P. KNIFE SWITCH AND D.P. FUSES

Instruments on main switchboard 4 ammeters 3 voltmeters SWITCH & METERS 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 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



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 8 VOLTS Planned

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

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 PERFORATED TRAYS IN PROTECTED POSITIONS AND SHEET IRON PLATING

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 VI 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 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 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 _____, 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 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 stowholds 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 GAS TIGHT

DOUBLE WELL GLASS _____, how are the cables led IN CONDUITS, where are the controlling switches situated OUTSIDE COMPARTMENT

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 axis 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 ENCLOSED, 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 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, 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				DRIVEN BY.	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN ...	2	21	270	97	300	Single Cyl. Diesel Eng.	Air	over 150° F.
AUXILIARY ...	1	12.5	220	64	500	Steam Eng. etc.	Steam	✓
EMERGENCY ...								
ROTARY TRANSFORMER	1	12	220/110	64	500	Motor/Generator		

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR...	19/072	0750	19	072	97	45	VIR	LC & A
	AUXILIARY GENERATOR	19/052	0400	19	052	64	45	VIR	LC & A
	EMERGENCY GENERATOR	19/052	0400	19	052	64	45	VIR	LC & A
	ROTARY TRANSFORMER...	19/072	0750	19	072	97	60	VIR	LC & A
	AUXILIARY SWITCHBOARDS	7/052	0145	7	052	37	180	VIR	LC & A
	ENGINE ROOM	7/044	0100	7	044	31	30	VIR	LC & A
	BOILER ROOM	7/044	0100	7	044	31	30	VIR	LC & A
	WIRELESS	7/036	0070	7	036	18	570	VIR	LC & A
	SEARCHLIGHT	1/044	0015	1	004	1	570	VIR	LC & A
	MASTHEAD LIGHT...	1/044	0015	1	004	1	30	VIR	LC & A
	SIDE LIGHTS...	1/044	0015	1	004	1	45	VIR	LC & A
	COMPASS LIGHTS	3/036	0030	3	036	5	360	VIR	LC & A
	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. Amperes.	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	7/064	0225	7	064	40	180	VIR	LC & A
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS	3/036	0030	3	036	10	210	VIR	LC & A
	OIL FUEL TRANSFER PUMP								
	WINDLASS								
	WINCHES, FORWARD								
	WINCHES, AFT								
	STEERING GEAR	19/044	0724	19	044	50	270	VIR	LC & A
	WORKSHOP MOTOR	7/029	0045	7	029	16	285	VIR	LC & A
	VENTILATING FANS	7/044	0100	7	044	20	255	VIR	LC & A

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.

for ALEXANDER ANDERSON, LTD. *J. W. Weston, Secy.* Electrical Engineers. Date 12th July 1926
NOTE GENERATORS & MOTORS ALL SUPPLIED & FITTED BY B.C. & CO.

COMPASSES.

Distance between electric generators or motors and standard compass 58 FEET REFRIG MOTOR NEAREST
 Distance between electric generators or motors and steering compass 30 FEET REFRIG MOTOR NEAREST
 The nearest cables to the compasses are as follows:—
 A cable carrying 4 Ampères 3 feet from standard compass 3 feet from steering compass. = LIGHTS FOR 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
 Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted
 The maximum deviation due to electric currents was found to be degrees on course in the case of the standard compass, and degrees on course in the case of the steering compass.

FOR FARLAY, CORLE, & CO., LTD.
H. Sweeney SECRETARY Builder's Signature. Date 12th July '26

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 & found satisfactory. The workmanship was found to be good and sound.

It is submitted that this vessel is suitable for THE BOARD. Elec. Light
J.A.
12/5/26.

Total Capacity of Generators 56 kW.
~~33.5~~ - Kilowatts

The amount of Fee ... £ 23:7:6 : When applied for, 10/7/1926
 Travelling Expenses (if any) £ : : When received, 22/7/1926 p.m.s.d.

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

Committee's Minute GLASGOW 10 AUG 1926
 Assigned Elec. Light.

A. G.
12/27/26.

Im. 924. - I. - Absfct. (The Surveyors are requested not to write on or below the space for Committee's Minute.)