

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL) Received at London Office 27 DEC 1929

Date of writing Report 14.11.1929 When handed in at Local Office 23.12.1929 Port of GRASSOW.

No. in Survey held at GRANGEMOUTH. Date, First Survey 18.10.29 Last Survey 22.11.1929 (Number of Visits 5)

Reg. Book. 24235. on the S. S. ISLANDER. Tons Gross 1619 Net

Built at GRANGEMOUTH. By whom built GRANGEMOUTH DRY DOCK LTD. Yard No. 416 When built 1929.

Owners. CHRISTMAS ISLAND PHOSPHATE CO. LTD. Port belonging to

Electric Light Installation fitted by MESSRS TELFORD GRIER & MCKAY Contract No. 416 When fitted 1929.

System of Distribution Two Wire Pressure of supply for Lighting 110 volts, Heating 110 volts, Power

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 no, 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

Position of Generators near Starting platform Main Engine Room, are they clear of all inflammable material 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 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, are the prime movers and

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 on Bulkhead near Generator

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, if situated near unprotected

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 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 Main Swbd.

Generator DP Switch + Fuses Circuits DP Change over Switch + Fuses

Auxiliary Switchboard Generator DP Change over Switch + Fuses Circuits DP Sw. + Fuses

Instruments on main switchboard one ammeter one voltmeter 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 Switch fuse & lamp in series between each bus bar & Earth

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

Cables: Single, twin, concentric, or multicore Twin 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 5 volts

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 none

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 supported on underside of decks & protected with Armour & white braiding

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 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 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 —, 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 on Main Deck

Emergency stop controls Police, Wireless, Navigation & Boat Deck lights and can be fed either by Main Dynamo or by Emergency Dynamo but can be completely isolated from Main Dynamo & Main Switchboard.

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 none

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

Watertight Bulkhead with Strong protecting Guard.

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 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 —, 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 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 —

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office —

PARTICULARS OF GENERATING PLANT.

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	12	110	109	500	Steam Engine		
AUXILIARY								
EMERGENCY	one	10	110	90	700	Crude Oil Engine	Heavy Oil	
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, Amperes.	Approximate Length (Lead and Return), Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	one	.1	19	.083	109	88	0.9R	Lead covered
	EQUALISER CONNECTIONS								
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR	one	.1	19	.083	90	30	0.9R	Lead covered
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM								
	BOILER ROOM								
	ACCOMMODATION								
	2nd Class Officers	one	.01	4	.044	20	172	0.9R	Armd & Braid.
	Main Deck Ford	one	.004	4	.036	12	280	---	---
	Main Deck aft	one	.004	4	.036	15	90	---	L.C.A. & B.
	Cargo	one	.004	4	.036	17	84	---	---
	Saloon	one	.004	4	.036	16	200	---	Armd & Braid
	Machinery Space	one	.004	4	.036	22	24	---	L.C.A. & B.
	First Class	one	.01	4	.044	22	86	---	Armd & Braid
	Police	one	.0045	4	.029	9	64	---	---
	Navigation	one	.0045	4	.029	6	170	---	---
	Boat Deck Lt	one	.0045	4	.029	11	120	---	---
	WIRELESS	one	.0045	4	.029	5	150	---	---
	SEARCHLIGHT								
	MASTHEAD LIGHT								
	SIDE LIGHTS								
	COMPASS LIGHTS								
	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								
	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								
	Refrigerator	one	.1	19	.083	101	108	0.9R.	L.C.A. & B.
	Workshop	one	.0225	4	.064	34	88	0.9R.	L.C.A. & B.
	Pump	one	.004	4	.036	21	80	0.9R.	L.C.A. & B.

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.

TELFORD, GRIER & MACKAY, LTD.

Electrical Engineers.

Date **18-12-29.**

COMPASSES.

Distance between electric generators or motors and standard compass **40 ft Main 40 ft Auxiliary**
 Distance between electric generators or motors and steering compass **42 ft Main 40 ft Auxiliary**

The nearest cables to the compasses are as follows:—

A cable carrying **6** Amperes **8** feet from standard compass **14** feet from steering compass.

A cable carrying **1/2** Amperes **one** feet from standard compass **one** feet from steering compass.

A cable carrying _____ Amperes _____ 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 **any** course in the case of the steering compass.

THE GRANGEMOUTH DOCKYARD COY., LTD.

W. Burns Director

Builder's Signature.

Date **20th Dec 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 fitted on board under special survey. Tested under full working conditions and found satisfactory. The materials and workmanship were found to be good and sound.**

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

(Signature)
3/1/30.

A.S.
24/12/29.

Total Capacity of Generators **22** Kilowatts.

The amount of Fee £ **18.10.0** : **5** When applied for, **DEC 1929**

Travelling Expenses (if any) £ **14.6** : **7** When received, **DEC 1929**

Committee's Minute **GLASGOW 24 DEC 1929**

Assigned **Elec. Light**

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

Im. 238.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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