

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

27 DEC 1928

Date of writing Report 19 When handed in at Local Office 24/12/28 Port of Newcastle-on-Tyne

No. in Survey held at Newcastle. Date, First Survey 2:00. Last Survey 3:00 1928
Reg. Book, Suth. (Number of Visits... 13...)

91576 on the M. V. "Port Alma"

Tons { Gross
Net

Built at Newcastle. By whom built Swan Hunter & Wigham Richardson Ltd. No. 1341 When built 1928

Owners Commonwealth & Dominion Line Ltd. Port belonging to London

Electric Light Installation fitted by Swan Hunter & Wigham Richardson Ltd. Contract No. 1341 When fitted 1928.

System of Distribution Double wire system

Pressure of supply for Lighting 220 volts, Heating 220 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 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 Engine room port + starboard 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 — 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 Forward engine room fixed to bulkhead on special platform

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 Yes

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.

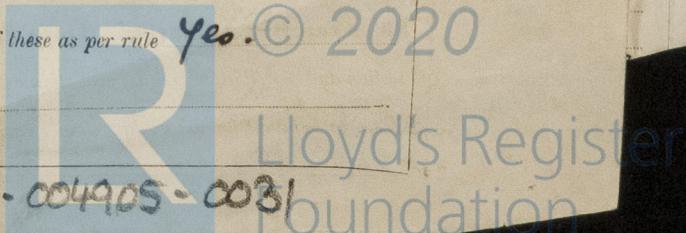
Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches 3 pole circuit breaker on generators, one pole acting as equaliser switch. Outgoing circuits having double pole breakers or double pole switch + fuse acc^t to capacity of circuits

Instruments on main switchboard 4 ammeters 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 Switches slamps coupled to earth through switches + fuses.

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 *single* 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 *4 Volts on power, 4 Volts on lighting*

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 *Lead covered & braided cables clipped to heavy tray plating & protected by tray plating in tween decks. Lead covered, arm & braided in engine room*

If cables are run in wood casings, are the casings and caps secured by screws *Yes*, are the cap screws of brass *Yes*, are the cables run in separate grooves *Yes*. 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 *Yes*

Joints in Cables, state if any, and how made, insulated, and protected *None made.*

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 *Yes*

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 *Fitted in dynamo room on lower deck forward of engine room. Circuits controlled by D.P. switches & fuses. Generator driven by Diesel Engine.*

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 *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 *Yes*

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*

how are the cables led *Yes*

where are the controlling switches situated *Yes*

Searchlight Lamps, No. of *Lamp not fitted* whether fixed or portable *Yes*, are their fittings as per Rule *Yes*

Arc Lamps, other than searchlight lamps, No. of *Yes*, 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*

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*

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	3	257	220	1168	250	Diesel Oil Engine		
AUXILIARY								
EMERGENCY	1	25	220	114	375	Do		
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. Amps.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR, 3 pole	4	.4064	61	.093	1168	182	V. Cambria	Lead cov. arm & braided
	EQUALISER CONNECTIONS	1	.4064	61	.093	584	91	Do	Do
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR	2	.07592	19	.072	114	40	V. I. R.	Do
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM								
	BOILER ROOM	2	.00455	7	.029	8	190	Do	Do
	ACCOMMODATION								
	Lighting lamp chain	4	.07592	19	.072	95	2280	Do	Do
	Forward hatch	4	.4985	61	.103	1088	1860	V. Cambria	Do
	Aft	4	.4985	61	.103	944	1380	Do	Do
	Refrig. machinery	4	.4064	61	.093	1206	300	Do	Do
	Forward Heats	2	.1964	37	.083	167	300	Rubber	Do
	After	2	.1478	37	.072	129	130	Do	Do
	Galley circuit	2	.1168	37	.064	108	80	Do	Do
	Galley seat	2	.02214	7	.064	46	60	Do	Lead cov. & braided
	Gyro Compass	2	.00455	7	.029	15	220	Do	Lead cov. arm & braided
	WIRELESS	2	.01046	7	.044	30	170	Do	Lead cov. & braided
	SEARCHLIGHT cables only	2	.06	19	.064	55	480	Do	Lead cov. arm & braided
	MASTHEAD LIGHT	2	.00194	3	.029	.5	350	Do	Do
	SIDE LIGHTS	2	.00194	3	.029	.5	54	Do	Lead cov. & braided
	COMPASS LIGHTS	2	.00194	3	.029	.25	40	Do	Do
	POOP LIGHTS	2	.00194	3	.029	.5	450	Do	Lead cov. arm & braided
	CARGO LIGHTS	2	.00194	3	.029	2.5	60	Do	Do
	ARC LAMPS								
	HEATERS 600/1000 wts	2	.00194	3	.029	3.0	74	Do	Lead cov. & braided
	above 1000 wts	2	.00299	3	.036	5.0	26	Do	Do

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amps.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP	1	.1964	37	.083	167	180	V. I. R.	Lead cov. arm & braided
	MAIN BILGE LINE PUMPS	1	.0396	19	.052	52	120	Do	Do
	GENERAL SERVICE PUMP	1	.07592	19	.072	88	160	Do	Do
	San. SANITARY PUMP	1	.01462	7	.052	28	15	Do	Do
	SANITARY PUMP	1	.0396	19	.052	52	180	Do	Do
	CIRC. SEA WATER PUMPS	1	.1964	37	.083	167	180	Do	Do
	CIRC. FRESH WATER PUMPS	1	.1964	37	.083	167	180	Do	Do
	AIR COMPRESSOR	2	.1478	37	.072	278	250	V. Cambria	Do
	FRESH WATER PUMP	1	.01462	7	.052	28	15	Rubber	Do
	ENGINE TURNING GEAR	2	.06	19	.064	69	80	Do	Do
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS	2	.07592	19	.072	93	90	Do	Do
	OIL FUEL TRANSFER PUMP	2	.01046	7	.044	28	60	Do	Do
	WINDLASS	1	.2465	37	.093	210	40	Do	Do
	WINCHES, FORWARD	8	.2465	37	.093	212	70	Do	Do
	WINCHES, AFT	6	.2465	37	.093	212	70	Do	Do
	STEERING GEAR								
	(a) MOTOR GENERATOR								
	(b) MAIN MOTOR	2	.1478	37	.072	135	650	Do	Do
	WORKSHOP MOTOR	1	.01046	7	.044	25	136	Do	Lead cov. & braided
	VENTILATING FANS	5	.00455	7	.029	11.5	81	Do	Do
	Captains	2	.1964	37	.083	154	40	Do	Lead cov. arm & braided
	Refrig. Motors	2	.3024	37	.103	440 X	100	V. Cambria	Lead cov. & braided
	Bine pumps	3	.0396	19	.052	51	90	V. I. R.	Do
	Bine pumps	1	.00455	7	.029	12	70	Do	Do
	Cooler Fans	2	.01046	7	.044	20.5	460	Do	Do
	Refrig. Circ. pump	1	.1964	37	.083	16.7	170	Do	Lead cov. arm & braided
	Oil Purifiers	4	.00299	3	.036	11.5	60	Do	Do
	Grane	1	.00455	7	.029	14.5	100	Do	Do
	Oil fuel pump	1	.1009	19	.083	96.0	45	Do	Do
	Air fuel blower	1	.00299	3	.036	8.0	130	Do	Do
	Workshop motor Eng. Rm	1	.00299	3	.036	8.0	60	Do	Do
	Refrig. Cond. Tank	1	.00299	3	.036	8.0	40	Do	Do
	Oil fuel heat. (500 wts)	1	.00194	3	.029	3.0	60	Do	Lead cov. & 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.

For
 SWAN, HUNTER, & WIGHAM RICHARDSON, LTD
 Electrical Engineers. Date *17th Dec 28*

COMPASSES.

Distance between electric generators or motors and standard compass *120 feet.*
 Distance between electric generators or motors and steering compass *115 feet.*
 The nearest cables to the compasses are as follows:—
 A cable carrying *.25* Ampères *on the* feet from standard compass *10* feet from steering compass.
 A cable carrying *.26* Ampères *10* feet from standard compass *on the* feet from steering compass.
 A cable carrying *.5* Ampères *15* feet from standard compass *8* 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.

FOR
 SWAN, HUNTER, & WIGHAM RICHARDSON, LTD

T. Cunningham Builder's Signature. Date *17. Dec 1928.*

Is this installation a duplicate of a previous case *Yes.* If so, state name of vessel *M.V. "Port Fairy"*

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 dec light wireless

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

Dec. Light
W.T. Badger
28/12/28.

Total Capacity of Generators *796.* Kilowatts.

The amount of Fee ... £ *51 : 8* : *7/12/28.*

Travelling Expenses (if any) £ : : *27-12-28*

Committee's Minute

Assigned

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

1m.228.—Transfer.
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

