

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

TUE APR. 22 1924

Received at London Office

Date of writing Report 10. 3 1924 When handed in at Local Office 10. 3 1924 Port of Sydney, N.S.W.

No. in Survey held at Sydney, N.S.W. Date, First Survey 7. 8. 23 Last Survey 27. 2 1924
Reg. Book. (Number of Visits 15)

39006 on the T. S. S. "Fordsdale" Tons { Gross 9673.54
Net 5661.36

Built at Sydney N.S.W. By whom built Cockatoo Island Dock Yard No. 47. When built 1924

Owners Australian Commonwealth Line Port belonging to Melbourne, Victoria.

Electric Light Installation fitted by Cockatoo Island Dockyard Contract No. ✓ When fitted 1924.

System of Distribution Two-wire insulated system ✓
Pressure of supply for Lighting 100 ✓ volts, Heating 100 volts, Power 100 volts.
Direct or Alternating Current, Lighting Direct Current ✓ Power Direct Current Steam Driven

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 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

Position of Generators On Platform at Starboard side of main Engine Room, Are the lubricating arrangements of the generators as per Rule 4? 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 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. Direct coupled on common bedplate.

Main Switch Boards, where placed On Platform close to main Generating Sets.

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

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.

insulated from the slab with mica or micamite and the slab similarly insulated from its framework Yes (on both poles), 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 600 amps per sq. inch individual fuses to voltmeter, pilot or earth lamp Yes 3 amp.

connections of switches Flat copper strip

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches each Generator is controlled by a Double Pole Circuit Breaker and Double Pole Switch, one Equalizer

Switch is fitted which is interlocked with the Circuit Breaker. — each outgoing circuit has a Double Pole Switch and fuses.

Instruments on main switchboard 2 ammeters 2 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 Lamp system

2 lamps connected in series with centre connection earthed

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 8 Yes.

Single & Twin
Insulation of Cables, state type of cables, single or twin *Yes* 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 *5 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 *(not fitted)*.
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 *when not on Bulkheads or Deckheads the cables are supported on metal trays with sheet metal protection where necessary.*
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 *no joints in cables.*
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 *Main Generators - 156 sq. ins. Galley and Workshop motors - 0.01, San Motor - 0.145 Sq. ins.*
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 *not fitted.*
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 *no fittings in Hold spaces.*
are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected —.
how are the cables led —.
where are the controlling switches situated —.
Searchlight Lamps, No. of *one*, whether fixed or portable *Portable*, are their fittings as per Rule *Yes*.
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 motors *not*.
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 *12" from motor end, horizontally and 2" vertically above motor.*
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.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN	2	60	105	570	450	Steam 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	1 sq. inch	127	103"	625	24' 0"	Rubber	Lead covered.
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM Section Box	2	0.1009	19	0.85	94	74	Rubber	Lead covered
	BOILER ROOM Distribution Box	2	0.01046	7	0.44	24	114	"	"
	Longue Km. Distribution Box	2	0.01046	7	0.44	23	152	"	"
	Refrigerating Machine, DB	2	0.02214	7	0.64	12	286	"	"
	Steering Compartment DB	2	0.02214	7	0.64	9.3	456	"	"
	Accommodation Section Box	2	0.1009	19	0.83	57	68	"	"
	" Distribution Box	2	0.0396	19	0.52	17.6	196	"	"
	" " "	2	0.0396	19	0.52	15.0	256	"	"
	" " "	3	0.02214	7	0.44	11.0	96	"	"
	" " "	4	0.02214	7	0.44	13.2	12	"	"
	Navigation Aft. Board	2	0.02214	7	0.64	10	386	"	"
	Crews Distribution Box	2	0.0396	19	0.52	16	610	"	"
	Deck Light Des. Box	2	0.07592	19	0.72	48	390	"	"
	" " "	2	0.0396	19	0.52	20	222	"	"
	WIRELESS	2	0.02214	7	0.64	23	150	"	"
	SEARCHLIGHT	2	0.07592	19	0.72	56	752	"	"
	MASTHEAD LIGHT	2	0.02214	3	0.36	1	530	"	" and Armoured.
	SIDE LIGHTS	2	0.00192	3	0.24	1	83	"	" and Armoured.
	COMPASS LIGHTS	2	0.00192	3	0.24	2	30	"	"
	STEER LIGHTS	2	0.00299	3	0.36	1	760	"	" and Armoured.
	CARGO LIGHTS Section Box	2	0.07592	19	0.72	68	82	"	"
	DECK LAMPS Section Box	2	0.07592	19	0.72	70	78	"	"
	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 Galley	1	0.01046	7	0.44	15	190	Rubber	Lead covered
	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	1	0.0396	19	0.52	40	192	Rubber	Lead covered
	VENTILATING FANS for Fruit Chambers	2	0.07592	19	0.72	60	410	"	"

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.

The Australian Commonwealth Shipping Board Electrical Engineers. Date 10.3.24.
R. Farquhar Director

COMPASSES.

Distance between electric generators or motors and standard compass 50 feet in direct line
 Distance between electric generators or motors and steering compass 40
 The nearest cables to the compasses are as follows :—
 A cable carrying 4 Ampères 10 feet from standard compass 1.2 feet from steering compass.
 A cable carrying 2 Ampères 6 feet from standard compass 4 feet from steering compass.
 A cable carrying 10 Ampères 8 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* courses in the case of the standard compass, and *nil* degrees on *all* courses in the case of the steering compass.

The Australian Commonwealth Shipping Board.
R. Farquhar Builder's Signature. Date 10.3.24.
 Director

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 Electric Light Installation has been fitted in accordance with the Rules tested and found satisfactory, and should be recorded in my opinion to be recorded ELEC LIGHT in Register Book.

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

JWD
 24/4/24

Two Generators fitted each of 60 K.W. and each capable of carrying full load of ship.

Total Capacity of Generators 120 Kilowatts

The amount of Fee	£ 41: 5 :d	When applied for, 10.3.1924
Travelling Expenses (if any) £	✓ : ✓ :	When received, 19.....

A. C. Heron
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE APR 29 1924

Assigned

Im. 27. — Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)