

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 12<sup>th</sup> Sept 22 When handed in at Local Office 18<sup>th</sup> Sept 22 Port of Barrow in - FurnessNo. in Survey held at Barrow in - Furness Date, First Survey 8<sup>th</sup> Feb 22 Last Survey 4<sup>th</sup> Sept 1922  
Reg. Book.19902 on the T.S.S. "Jervis Bay" Tons { Gross 13838.74  
Net 8442.52

Built at Barrow in - Furness By whom built Vickers Ltd Yard No. 575 When built 1922

Owners The Rt Hon Wm Morris Hughes PC MP Port belonging to Sydney N.S.W.

Electric Light Installation fitted by Vickers Ltd. Contract No. 575 When fitted 1922.

**System of Distribution** Two Wire System

**Pressure of supply for Lighting** 110 volts, **Heating** 110 volts, **Power** 110 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 overload Yes ✓, are they compound wound Yes ✓  
are they over compounded 5 per cent. level compounded 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 Yes ✓

**Position of Generators** On dynamo platform in main engine room  
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 ✓

**Main Switch Boards**, where placed Between generators on dynamo platform in main 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 ✓ and ✓  
are they constructed wholly of durable, incombustible non-absorbent materials Yes, enamelled slate, 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 For each generator - 1 Double pole circuit breaker with overload & reverse current trips, interlocked with equalizer switch. For each branch circuit - Double pole switches & fuses

**Instruments on main switchboard** 3 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 One 110 volt lamp with fuse & switch between each pole and earth ✓

**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 ✓



© 2020

Lloyd's Register  
Foundation

W985-0013 1/2



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

Fail of Pressure, state maximum between bus bars and any point of the installation under maximum load Lighting 4.2 Volts, Power 6.5 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 No paper insulated cables

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 by galvanised iron & brass clips; protected by lead sheathing or by lead sheathing & steel wire armour  
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

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

Insulated system

, 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 Gardner Petrol. Paraffin engine in Emergency Dynamo Room 'A' deck, with a distribution switchboard for Emergency circuits and a Main/Emergency change over 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, 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 Yes. Fittings in these spaces are of cast iron. Lamps are removed & fittings sealed when not required, 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 fitted

, 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 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 axis of rotation fore and aft Not all but as many as were practicable  
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 protected, if not of this type, state distance of the combustible material horizontally or vertically above the motors 1'-6" hor<sup>l</sup> 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 required

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 ✓



© 2020

Lloyd's Register  
Foundation



# PARTICULARS OF GENERATING PLANT.

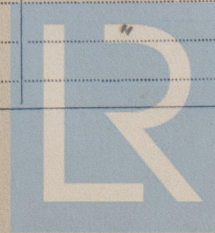
DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY.	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN ...	2	125	110	1140	400	Recip <sup>s</sup> steam engine		
AUXILIARY ...								
EMERGENCY ...	1	35	110	318	500	"Gardner" Oil Engine	Petrol-Paraffin	Commercial Quality
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...	6	1.0	127	.103	570 each	48	V.I.R.	I.C. + Armour
	AUXILIARY GENERATOR	2	.5	61	.103	318	50	"	"
	EMERGENCY GENERATOR	2	.75	91	.103	300	25.8	"	"
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS	2	.12	34	.064	96	14.1	"	"
	ENGINE ROOM	2	.075	19	.072	24	68.2	"	"
	BOILER ROOM	2	.04	19	.052	23	38.7	"	"
A	Permanent Accom.	2	.04	19	.052	39	300	"	"
B	Portable	2	.06	19	.064	52	4.2	"	"
C	Officers & Crew	2	.075	19	.072	45	10.2	"	I.C.
D	Machinery Spaces	2	.075	19	.072	38	360	"	"
E. S3	Engineers' Quarters	2	.075	19	.072	63	25.8	"	I.C. + Armour
E. S2	Emergency Upstairs	2	.1	19	.083	59	61.2	"	"
E. S4	" Aft	2							
E. S5	" Fore	2							
E. S1	WIRELESS	2	.04	19	.052	39	40.8	V.I.R.	I.C. + Armour
	SEARCHLIGHT	2	.04	19	.052	60	87.3	"	"
	MASTHEAD LIGHT...	2	.002	3	.029	1	31.5	"	"
	SIDE LIGHTS	2	.002	3	.029	1	4.8	"	I.C.
	COMPASS LIGHTS	2	.002	3	.029	1	30	"	"
	POOP LIGHTS								
	CARGO LIGHTS								
	ARC LAMPS								
R	HEATERS	2	.075	19	.072	90	320	V.I.R.	I.C.

## 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	1	.4	61	.093	240	339	V.I.R.	I.C. + Armour
	SANITARY PUMP								
	CIRC. SEA WATER PUMPS								
	CIRC. FRESH WATER PUMPS								
	AIR COMPRESSOR Galley	1	.0145	7	.052	32.5	66	V.I.R.	I.C.
	FRESH WATER PUMP	2	.1	19	.083	120	129	V.I.R.	I.C. + Armour
	ENGINE TURNING GEAR								
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS								
	OIL FUEL TRANSFER PUMP								
	WINDLASS								
	WINCHES, FORWARD								
	WINCHES, AFT								
	STEERING GEAR	2	.3	34	.103	234	414	V.I.R.	I.C.
	WORKSHOP MOTOR	1	.0225	7	.064	42	4.8	"	I.C. + Armour
	VENTILATING FANS	4	.04	19	.052	60	480	"	"
	Air Comp. Fore Galley	1	.01	7	.064	8	64.5	"	"
	Forced Draught Fans	4	.25	34	.093	213	228	"	I.C.
	Dough Mixer	1	.01	7	.064	24	10.8	"	"
	Dish Washer	2	.0045	7	.029	15	150	"	"
	Potato Peeler	1	.0045	7	.029	5.5	50	"	"
	Engine Room Fans	4	.0225	7	.064	30	80	"	"
	Laundry Motor	1	.04	19	.052	50	4.5	"	"
	Cooler Motor	1	.0045	7	.029	14.5	36	"	"
	Deck Cranes	2	.3	34	.103	234	450	"	I.C. + Armour



Lloyd's Register Foundation

W985-0013 2/2



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 VICKERS LIMITED.

*For Electrical Engineers.*

Date *18<sup>th</sup> Sept 1922*

#### COMPASSES.

Distance between ~~electric generators or~~ motors and standard compass *27 feet*

Distance between ~~electric generators or~~ motors and steering compass *23 feet*

The nearest cables to the compasses are as follows:—

A cable carrying *5* Amperes *10* feet from standard compass *11* feet from steering compass.

A cable carrying *1* Amperes *2.6* feet from standard compass *4* 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 *any* course in the case of the standard

compass, and *nil* degrees on *any* course in the case of the steering compass.

FOR VICKERS LIMITED.

*For Builder's Signature.*

Builder's Signature.

Date *18<sup>th</sup> Sept 1922*

Is this installation a duplicate of a previous case *yes* If so, state name of vessel

T.S.S. "Moleton Bay"

T.S.S. "Hobsons Bay"

General Remarks (State quality of workmanship, opinions as to class, &c.)

*This installation has been efficiently fitted on board, & the materials and workmanship expended on same are sound and good. On completion of fitting out, full power trials were carried out on all generators, & when the automatic governors were tested, by suddenly cutting out the whole load, they were found to be effective. All motors were tried, & were found to be satisfactory. The steering gear, the emergency bilge pumps & emergency lighting were tried on the Emergency Generator, & were found satisfactory.*

*In my opinion the electrical installation of this vessel is such as to merit the notation "Electric Light" in the Register Book.*

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

*A.H.V.*

*20/9/22*

Total Capacity of Generators *285* Kilowatts

The amount of Fee ... £ *38-12-6* When applied for, *8<sup>th</sup> Sept 1922*

Travelling Expenses (if any) £ : : When received, *13<sup>th</sup> Sept 1922*

Committee's Minute

Assigned

*John Houston*  
Surveyor to Lloyd's Register of Shipping.

1m. 3.22.—Transfer.  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



© 2020

Lloyd's Register  
Foundation