

Rpt. 13.

No. 90095

# REPORT ON ELECTRIC FITTINGS

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

1 MAY 1926

Date of writing Report

19

When handed in at Local Office

19

Port of

Liverpool

No. in Survey held at

Saltney, Birkenhead

Date, First Survey

12<sup>th</sup> April

Last Survey

19<sup>th</sup> April 1926

Reg. Book.

39709

on the

S/S "Kalang"

(Number of Visits.....)

Tons

Gross 530

Net 245

Built at Saltney Shipyard, Chester

By whom built

J. Crichton &amp; Co. Ltd.

Yard No. 413

When built

1926

Owners

Messrs Sydney Ferris Limited

Port belonging to

Sydney N.S.W.

Electric Light Installation fitted by

J. Crichton &amp; Co., Ltd.

Contract No.

When fitted 1926.

System of Distribution

2 Wire

Pressure of supply for Lighting

110

volts, Heating

volts, Power

volts.

Direct or Alternating Current, Lighting

Direct

Power

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

series with each shunt field

Yes

Are all terminals accessible, clearly marked, and furnished with sockets

Yes

short circuited, or touched

Yes

Are the lubricating arrangements of the generators as per Rule

Yes

Position of Generators

In Engine Room, Bottom Platform

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

✓

✓

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

2 In Engine Room, Top 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

Yes

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

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

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-hygrosopic 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

2 D. P. Switch & 2 Single Pole Fuses to control Generator. Outgoing circuits protected by 1 D. P. Switch & 2 S. P. Fuses, Slate Base & Mica Bushes.

Instruments on main switchboard

One

ammeters

One

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

Earth Lamps

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

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Lloyd's Register

Foundation



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 .5 Volts  
Cable Sockets and other connections, are the ends of all cables having a sectional area of .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 ✓  
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 V.I.R. in Galvanneal Iron Conduit  
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 ✓  
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 ✓  
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 ✓  
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 ✓  
Secondary Batteries, are they constructed and fitted as per Rule ✓  
Fittings, are all fittings on weather decks, in stokeholds and engine rooms and where exposed to drip or condensed moisture, watertight Yes  
are any fittings placed in spaces in which goods are liable to be stashed in close proximity to them; if so, how are they protected No  
are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected No  
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 ✓, are their live parts insulated from the frame or case ✓, are their fittings as per Rule ✓  
Motors, are their working parts readily accessible ✓, are the coils self-contained and readily removable for replacement ✓  
are the brushes, brush holders, terminals and lubricating arrangements as per Rule ✓, are the motors, laced in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material ✓  
are they protected from mechanical injury and damage from water, steam or oil ✓ are their axes of rotation fore and aft ✓  
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 ✓  
Lightning Conductors, where lightning conductors are required, are these fitted as per Rule ✓  
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.	Amperes.	R.p.m.		Fuel Used.	Flash Point of Fuel.	
MAIN	1	7 1/2	110	70	350	Open Front Single Cylinder 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. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR...	2	.0070	✓	7	.036	12	40	V.I.R. Lead covered
	EQUALISER CONNECTIONS	✓							
	AUXILIARY GENERATOR	✓							
	EMERGENCY GENERATOR	✓							
	ROTARY TRANSFORMER...	✓							
	AUXILIARY SWITCHBOARDS	✓							
	ENGINE ROOM	✓							
	BOILER ROOM	✓							
	ACCOMMODATION	✓							
	WIRELESS	✓							
	SEARCHLIGHT	✓							
	MASTHEAD LIGHT...	4	.0030	✓	3	.036	4	100	V.I.R. Lead covered
	SIDE LIGHTS	8	.0030	✓	3	.036	2	80	do do
	COMPASS LIGHTS	3	.0030	✓	3	.026	2	60	do do
	POOP LIGHTS	✓							
	CARGO LIGHTS	3	.0030	✓	3	.036	1.5	60	V.I.R. Lead covered
	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								



All Conductors are of annealed copper conforming to British Standard Specification No. 7.

Yes

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

Yes

The foregoing is a correct description.

Yes

J. Crichton & Co., Ltd.,

Electrical Engineers.

Date 15<sup>th</sup> April 1926

#### COMPASSES.

Distance between electric generators or motors and standard compass

60 feet

Distance between electric generators or motors and steering compass

20 feet

The nearest cables to the compasses are as follows:—

A cable carrying 1.5 Amperes 10 feet from standard compass 8 feet from steering compass.

A cable carrying ✓ Amperes ✓ feet from standard compass ✓ 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 None degrees on ✓ course in the case of the standard compass, and ✓ degrees on ✓ course in the case of the steering compass.

For J. CRICHTON & CO. LTD.

Quintin Bell

MANAGING DIRECTOR

Builder's Signature.

Date 15<sup>th</sup> April 1926

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 under Special Survey and is in accordance with the Rules. The Materials and Workmanship are of good quality. When tried under full working conditions the Installation was found satisfactory in every respect. In my opinion it is eligible for record in the Register Book—  
"Electric Light"

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

CMDR W.D.  
3/5/26

Total Capacity of Generators 7½ Kilowatts.

The amount of Fee ...

£

7 : 10 :

When applied for

30 APR. 1926

When received,

16-6-26

Travelling Expenses (if any) £

:

:

B. G. Oxford

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

LIVERPOOL

30 APR. 1926

Assigned

Electric Light.



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Foundation