

Rpt. 13.

No. 85338

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

26 FEB 1930

Received at London Office

Date of writing Report

19

When handed in at Local Office

25/2/30

Port of

Newcastle-on-Tyne

No. in Survey held at

Newcastle

Date, First Survey

24 Oct/29

Last Survey

12 Feb

1930

Reg. Book. Supp

(Number of Visits...)

42881 on the

S.S. "Wainui"

Tons

Gross

Net

Built at

Newcastle

By whom built

Hawthorn Leslie &amp; Co Ltd

Yard No. 569

When built 1930

Owners

Union S. Co of New Zealand

Port belonging to

Wellington N.Z.

Electric Light Installation fitted by Messrs Hawthorn Leslie &amp; Co Ltd

Contract No. 569

When fitted 1930

Is the Vessel fitted for carrying Petroleum in bulk

No.

## System of Distribution

Double Wire System

Pressure of supply for Lighting

110

volts, Heating

-

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 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

-

, 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 (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

Engine Room (Starboard Side)

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 micanite 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

, 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

c.o.

## Main Switchgear

description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches

Fuses for Generator Mains. On shore supply Outgoing circuits fitted with Double Pole switches &amp; Double Pole Fuses

Instruments on main switchboard

1

ammeter

1

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

Earth Lamps,

coupled to earth, through switches &amp; 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



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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 2.4 volt 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, secured by brass clips, in accommodation, Machinery spaces etc & in Galvanised iron pipes in Decks  
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 fitted  
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 None fitted  
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 Emergency supply from 85 Amp Hour Battery (110 volts)  
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 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 Yes Tween Deck & Hold light fittings, heavy gas tight pattern in galvanised solid drawn conduit  
where are the controlling switches situated On upper Deck in locked box, switches are double pole  
Disconnecting links are fitted on Main Switchboard (for this circuit) Yes  
Searchlight Lamps, No. of 1, whether fixed or portable Yes, are their fittings as per Rule Yes  
Arc Lamps, other than searchlight lamps, No. of 1, 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 Refuge motor is abaft ships  
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.	Amperes.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN ...	1	10	110	90	300	Single cylinder, steam engine By Sunderland Forge & Engineering Co Ltd	-	-	
AUXILIARY ...									
EMERGENCY ...									
ROTARY TRANSFORMER									

GENERATOR, LIGHTING AND HEATING CONDUCTORS.									
DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR ...	1	0.11680	37	.064	90.0	130	30	V.P.R. Lead Covered & Braided	
EQUALISER CONNECTIONS ...									
AUXILIARY GENERATOR ...									
EMERGENCY GENERATOR ...									
ROTARY TRANSFORMER } MOTOR GENERATOR...									
ENGINE ROOM... } BOILER ROOM... } AUXILIARY SWITCHBOARDS ...	1	0.00701	4	.036	14	24	40	V.P.R. Lead Covered & Braided	
Engine Room Emergency Lighting	1	0.00299	3	.036	3	12	40	"	"
Shore Connection	1	0.04000	19	.064	-	83	80	"	"
Navigation Lighting	1	0.00455	4	.029	1.8	18.2	280	"	"
Tween Deck	1	0.01046	4	.044	10.2	31	135	"	"
ACCOMMODATION Amidships	1	0.02214	4	.064	16.8	46.0	140	V.P.R. Lead Covered & Braided	
Fore Forward	1	0.00701	4	.036	3.3	24.0	420	"	"
Aft	1	0.00701	4	.036	6.0	24.0	300	"	"
Cargo Compartment 1/2 watt lamps	1	0.02214	4	.064	18.2	46.0	80	"	"
Refrigerator motor	1	0.01046	4	.044	8.0	31.0	45	"	"
WIRELESS ...	1	0.00701	4	.036	9.0	24.0	240	"	"
SEARCHLIGHT ...									
MASTHEAD LIGHT ...	1	0.00194	3	.029	.4	7.8	400	"	"
SIDE LIGHTS ...	1	0.00194	3	.029	.4	7.8	90	"	"
COMPASS LIGHTS ...	1	0.00194	3	.029	.4	7.8	15	"	"
STEERING LIGHTS ...	1	0.00194	3	.029	.4	7.8	500	"	"
CARGO LIGHTS ...	1	0.00299	3	.036	1.0	12.0	80	"	"
ARC LAMPS ...									
HEATERS ...									

MOTOR CONDUCTORS.										
DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
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 ...										
WINDLASS MOTOR ...	1	1	0.00299	3	.036	6	12	20	V.P.R. Lead Covered & Braided.	
VENTILATING FANS ...										



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 R. & W. HAWTHORN, LESLIE & CO. LIMITED.

*Mr. J. M. Smith*

Electrical Engineers.

Date 22nd February 1930

#### COMPASSES.

Distance between electric generators or motors and standard compass

80 feet

Distance between electric generators or motors and steering compass

74 feet

The nearest cables to the compasses are as follows:—

A cable carrying .25 Ampères on the feet from standard compass 6 feet from steering compass.

A cable carrying .25 Ampères 6 feet from standard compass on the feet from steering compass.

A cable carrying 1.75 Ampères 10 feet from standard compass 6 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 R. & W. HAWTHORN, LESLIE & CO. LIMITED.

*Mr. J. M. Smith*

Builder's Signature.

Date 22nd February 1930

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. ....)

*The above installation is in accordance with the Society's Rules. The vessel is eligible in my opinion for notation elec light. wireless.*

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

(B)  
16/4/30.

Total Capacity of Generators 10 Kilowatts.

The amount of Fee ... £ 10:— : { When applied for, 17.2.1930  
Travelling Expenses (if any) £ : : { When received, 20.2.1930

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

Committee's Minute

Assigned

*Elec Lt*



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