

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... 6...)

42881 on the S.S. "Wainui" Tons { Gross Net

Built at Newcastle By whom built Hawthorn Leslie & 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 & 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

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 c.o.

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches Double Pole Switch & Fuses for Generator Mains. Outgoing circuits fitted with Double Pole switches & 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 & 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 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 Yes

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
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 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
how are the cables led On upper Deck in locked box, switches are double pole.

Disconnecting links are fitted on main switchboard (for this crew) 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 Refrigerator 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 and 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	1	0.00701	4	.036	14	24	40	V.P.R. Lead Covered & Braided	
AUXILIARY SWITCHBOARDS									
Engine Room Emergency Lighting	1	0.00299	3	.036	3	12	40	"	"
Shore Connection	1	0.06000	19	.064	-	83	80	"	"
Navigation Lighting	1	0.00455	4	.029	1.8	18.2	280	"	"
Tween Deck	1	0.01046	4	.064	10.2	31	135	"	"
ACCOMMODATION Amidships	1	0.02214	4	.064	16.8	46.0	140	V.P.R. Lead Covered & Braided	
Crew 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	.064	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										
LOTHE 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 4 1/2 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 *Elect*

Im. 1228.—Transfer.
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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