

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

No. 12924

Date of writing Report 19 When handed in at Local Office 16.5.1927 Port of Middlesbrough
 No. in Survey held at Wallsend-on-Tyne Date, First Survey 31.3.27 Last Survey 11.4.1927
 Reg. Book. on the steamer "WINDSOLITE" (Number of Visits 3)
 Built at Haverton Hill By whom built Furness S.B.C. Yard No. 115 When built 1924
 Owners Imperial Oil Limited Toronto Port belonging to Windsor Ontario
 Electric Light Installation fitted by Furness Shipbuilding Co. Ltd Contract No. 115 When fitted 1927

System of Distribution

Pressure of supply for Lighting 110 ✓ volts, Heating 110 ✓ volts, Power 110 ✓ 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. level ✓, 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, clearly marked, and furnished with sockets yes ✓, are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched yes ✓

Position of Generators Starboard side of Engine Room 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 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 Starboard side of Engine Room, Aft side of Engineer's Store

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 micaite 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 ✓

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches. Triple pole circuit

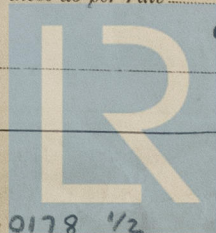
Breaker for each Generator, Double pole Switch & fuses for each outgoing circuit

As on main switchboard 2 ammeters 2 voltmeters voltmeter synchronising device for paralleling purposes.

In Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system 2 to watt lamps in series across bus bars middle point earthed

Shipwatches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules yes ✓

Point Boxes Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule yes ✓



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17 MAY 1927

Cables: Single, twin, concentric, or multicore. Single & Twin are the cables insulated and protected as per Tables IV or V of the Rules. IV

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 0.04 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. Main cables are run in galv iron tubing

Support and Protection of Cables, state how the cables are supported and protected. Lead covered and armoured cables are supported by means of galv iron clips. Lead covered cables supported by brass clips

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

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. Porcelain connections in Watertight Boxes

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 war-moured cables pass through beams and non-watertight partitions, are the holes efficiently bushed yes

Earthing Connections, state what earthing connections are fitted and their respective sectional areas. Generators .04
Switchboard .04

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 yes

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 stored in close proximity to them; if so, how are they protected yes

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

In pump rooms special gas light fittings fitted in heavy gauge galvanized piping

where are the controlling switches situated Outside pump rooms

Searchlight Lamps, No. of 1, whether fixed or portable yes, are their fittings as per Rule yes

Are Lamps, other than searchlight lamps, No. of 1, are their line 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 yes

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 gear for 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 carried, 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	91	500	Sunderland Benz Engine		
AUXILIARY	1	5	110	45.5	550			
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.				
ENG 32279 DYN 32483	MAIN GENERATOR	2	.1000	19	.083	Total Amps 79.70	45	V. I. R	Lead lined Arm. Head
	EQUALISER CONNECTIONS	1	.0600	19	.064		30	"	Lead lined Arm. Head
	AUXILIARY GENERATOR	2	.0400	19	.052		30	"	Lead lined Arm. Head
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	2	.0100	7	.044	15.7	40	V. I. R	Lead lined Arm. Head
	BOILER ROOM								
	ACCOMMODATION	2	.0100	7	.044	13.4	70	"	Lead lined Arm. Head
	FWP & MIDSHIPS	2	.0400	19	.052	14.4	300	"	Lead lined Arm. Head
	NAVIGATION	2	.0100	7	.044	2.63	350	"	Lead lined Arm. Head
	TELEPHONES	4	.0020	3	.029		400	"	Lead lined Arm. Head
	HELM INDICATOR	2	.0030	3	.029		520	"	Lead lined Arm. Head
	WIRELESS MAINS ONLY SUPPLIED	2	.01046	7	.044		340	"	Lead lined Arm. Head
	SEARCHLIGHT	2	.00194	3	.029	.9	35	"	Lead lined Arm. Head
	MASTHEAD LIGHT	2	.00194	3	.029	1.09	840	"	Lead lined Arm. Head
	SIDE LIGHTS	2	.00194	3	.029	1.8	80	"	Lead lined Arm. Head
	COMPASS LIGHTS	2	.00194	3	.029	.18	40	"	Lead lined Arm. Head
	DECK LIGHTS	2	.00194	3	.029	.9	40	"	Lead lined Arm. Head
	CARGO LIGHTS	2	.00194	3	.029	8.7	100	"	Lead lined Arm. Head
	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								
1361	Refrigerating Machine	1	.0100	7	.044	8.0	180	V. I. R	Lead lined Arm. Head
	Whistle, Etc	1	.0030	3	.036	12.0	450	"	Lead lined Arm. Head

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 FURNESS SHIPBUILDING Co. LIMITED

P. S. Glover

Electrical Engineer.

Date 12th May 1927

COMPASSES.

Distance between electric generators or motors and standard compass 160'

Distance between electric generators or motors and steering compass 155'

The nearest cables to the compasses are as follows:—

A cable carrying 100 Ampères 3 feet from standard compass 3 feet from steering compass.

A cable carrying Ampères feet from standard compass feet from steering compass.

A cable carrying Ampères 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 all course in the case of the standard compass, and nil degrees on all course in the case of the steering compass.

For FURNESS SHIPBUILDING Co. LIMITED.

W. T. Badger

Builder's Signature.

Date 12th May 1927

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.)

The materials and workmanship are good
This electric installation has been fitted aboard under
special survey in accordance with the Rules and tested
with satisfactory results and is, in our opinion, suitable
for a classed vessel.

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

W. T. Badger
18/5/27

Total Capacity of Generators 15 Kilowatts.

The amount of Fee ... £ 15-0-0
When applied for, 1924
Applied for at Newcastle
When received, 10/6/27

Travelling Expenses (if any) £

W. T. Badger

W. T. Badger

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Elec. light

Im. 128. Transfer.
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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