

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 19 AUG 1925

Date of writing Report

19

When handed in at Local Office

19

Port of

SUNDERLAND

No. in Survey held at
Reg. Book.

Sunderland

Date, First Survey

July 3rd.

Last Survey

July 13th 1925

(Number of Visits 4)

on the M.V. SILVERAY

Tons Gross 4570

Net 2630

Built at SUNDERLAND

By whom built

JOSEPH L. THOMPSON & SONS LTD

Yard No. 554

When built 1925

Owners Way Shipping Co. Ltd. Stanley. John

Port belonging to

London

Electric Light Installation fitted by SUNDERLAND FORGE & ENGINEERING CO LTD.

Contract No.

When fitted 1925

System of Distribution DOUBLE WIRED ✓

Pressure of supply for Lighting

220

volts, Heating

220

volts, Power

220

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. YES.

, 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 PORT SIDE. FORWARD END OF 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

—

, 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 STARBOARD SIDE. AFTER END OF 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.

, 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. DOUBLE POLE OVERLOAD & REVERSE CURRENT CIRCUIT BREAKER & TRIPLE POLE EQUALISER SWITCH FOR EACH MAIN GENERATOR. DP CIRCUIT BREAKER FOR EACH STEERING GEAR MOTOR. DP SWITCHES & FUSES FOR ALL OTHER LIGHTING, HEATING & POWER CIRCUITS.

AUXILIARY BOARD:- DP CIRCUIT BREAKER FOR AUXILIARY GENERATOR. DP CHANGE-OVER SWITCH & FUSES FOR LIGHTING CIRCUIT.

Instruments on main switchboard

5

ammeters

3

voltmeters

—

synchronising device for paralleling purposes.

" " AUXY " "

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Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system

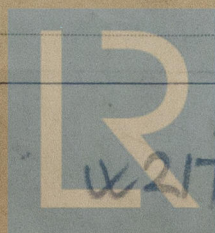
EARTH LAMPS

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

YES

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

YES.



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Insulation of Cables, state type of cables, single or twin SINGLE & TW are the cables insulated and protected as per Tables III or IV of the Rules YES.

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 4.5 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 NONE USED.

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 ARMoured & BRAIDED CABLES RUN IN COVERED IRON TROUGHS SECURED TO DECK FOR MAINS. LEAD COVERED & BRAIDED CABLES IN MACHINERY SPACES. LEAD COVERED IN ACCOMM SPACES.
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 NONE FITTED.

Joints in Cables, state if any, and how made, insulated, and protected NONE MADE.

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 — YE BUS BAR EARTHED TO SHIPS. FRAME WITH 3-2x15 COPPER STRIPS.
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 —.

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 NONE FITTED, 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 —, whether fixed or portable —, are their fittings as per Rule —.

Are 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 YES, are the coils self-contained and readily removable for replacement —, 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 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 —, 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 as per Rule YES.

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.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN ...	3	65	220	295		OIL ENGINE			
AUXILIARY ...	1	5/6	220	234/272.		OIL ENGINE.			
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 GENERATORS. EACH...	3	19600	37	.083	225	220	YARN ² CAMB ² .	LEAD COVERED & BRAIDED.
	AUXILIARY GENERATOR ...	1	01046	7	.044	27.2	40	V.I.R.	LEAD COVERED & BRAIDED.
	EMERGENCY GENERATOR ...	—							
	ROTARY TRANSFORMER...	—							
	AUXILIARY SWITCHBOARDS...	—							
	ENGINE ROOM ...								
	BOILER ROOM ...								
	ACCOMMODATION PORT & MAIN	2	03260	12	.052	31.8	80	V.I.R.	LEAD COVERED
	LIGHTING ETC. STAR & MAIN	2	03260	12	.052	31.8	110	V.I.R.	ARMoured & BRAIDED
	WIRELESS ...	2	00701	7	.036	15	26	V.I.R.	LEAD COVERED.
	SEARCHLIGHT ...	—							
	MASTHEAD LIGHT. MAIN ...	2	00322	1	.064	45	420	V.I.R.	LEAD COVERED & BRAIDED.
	SIDE LIGHTS ...	2	00124	3	.029	45	80	V.I.R.	LEAD COVERED.
	COMPASS LIGHTS ...	2	00124	3	.029	1	30	V.I.R.	LEAD COVERED.
	POOP LIGHTS ...								
	CARGO LIGHTS ...								
	ARC LAMPS ...								
	HEATERS ...	2	10020	12	.083	139.6	100	YARN ² CAMB ² .	LEAD COVERED & BRAIDED.

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 ...	1	2 IN PARALLEL	12	.064	152	135	V.I.R.	LEAD COVERED & BRAIDED.
	MAIN BILGE LINE PUMPS ...								
	GENERAL SERVICE PUMP ...	1	01046	7	.044	26	100	V.I.R.	LEAD COVERED & BRAIDED.
	EMERGENCY BILGE PUMP ...	1	01046	7	.044	26	50	V.I.R.	BRAIDED.
	SANITARY PUMP ...								
	CIRC. SEA WATER PUMPS ...								
	CIRC. FRESH WATER PUMPS ...								
	AIR COMPRESSOR ...	1	2 IN PARALLEL	12	.083	226	152	V.I.R.	LEAD COVERED
	SEA WATER PUMP ...	1	10020	12	.083	116	144	V.I.R.	& BRAIDED.
	ENGINE TURNING GEAR ...	1	06000	12	.064	72	128	V.I.R.	
	ENGINE REVERSING GEAR ...								
	LUBRICATING OIL PUMPS ...	1	00455	7	.029	14	120	V.I.R.	LEAD COVERED & BRAIDED.
	OIL FUEL TRANSFER PUMP ...	1	00455	7	.029	8	88	V.I.R.	BRAIDED.
	WINDLASS ...	1	19640	37	.083	240	24	YARN ² CAMB ² .	LEAD COVERED & BRAIDED
	WINCHES, FORWARD ...	4	4x10020	12	.083	400	530	YARN ² CAMB ² .	LEAD COVERED & BRAIDED
	WINCHES, AFT ...	2	2 IN PARALLEL	12	.083	200	100	YARN ² CAMB ² .	LEAD COVERED & BRAIDED
	STEERING GEAR ...	2	03260	12	.052	60 (EACH MOTOR)	350 (EACH)	V.I.R.	LEAD COVERED & BRAIDED
	WORKSHOP MOTOR ...	1	00455	7	.029	8	26	V.I.R.	LEAD COVERED & BRAIDED.
	VENTILATING FANS ...								
	NINCH. WARPING ...	1	10020	12	.083	136	224	YARN ² CAMB ² .	LEAD COVERED & BRAIDED.
	NINCHES. AMIDSHIP ...	4	4x10020	12	.083	400	260	YARN CAMB ² .	LEAD COVERED & BRAIDED.
	PORTABLE PUMP ...	1	06000	12	.064	72	20	V.I.R.	
	AUXILIARY FUEL PUMP ...	1	06000	12	.064	72	120	V.I.R.	
	COOLING WATER PUMP ...	1	02214	7	.064	44	76	V.I.R.	LEAD COVERED
	CRANE MOTOR ...	1	00455	7	.029	12	70	V.I.R.	
	SHARPLES MACHINES ...	2	00455	7	.029	10 (EACH MOTOR)	45 (EACH)	V.I.R.	BRAIDED.
	AUXILIARY CIRCUL. PUMP ...	1	00455	7	.029	8	72	V.I.R.	
	6.62 MACHINES ...	1	02214	7	.064	44	20	V.I.R.	
	CLEAN OIL PUMP ...	1	00455	7	.029	6	30	V.I.R.	

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.

F. P. THE SUNDERLAND FORGE & ENGINEERING CO. LTD.

J. Thompson

Electrical Engineers.

Date 28 JUL '25

COMPASSES.

Distance between electric generators or motors and standard compass 138 FEET.

Distance between electric generators or motors and steering compass 128 FEET

The nearest cables to the compasses are as follows:—

A cable carrying 3.25 Ampères 15 feet from standard compass 15 feet from steering compass.

A cable carrying .1 Ampères 10 feet from standard compass LED INTO feet from steering compass.

A cable carrying .1 Ampères LED INTO feet from standard compass 10 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.

JOSEPH L. THOMPSON & SONS, LIMITED.

R. Thompson

Builder's Signature.

Date 6th Aug. 1925.

Managing Director

Is this installation a duplicate of a previous case — 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 Societies Rules. The vessel is eligible in my opinion for notation as light, wireless

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

J. W. D.
4/10/25.

Total Capacity of Generators 201 Kilowatts

The amount of Fee ... £ 35 : 2 : 13-7 1925

Balance of fee 1 : 8 : 6

Travelling Expenses (if any) £ : : 17-7 1925

When received,
6. 11. 25 £ 1. 8. 6

W. T. Baquer
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Im. 8. 25.—Transfer.
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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