

Rpt. 13.

No. 10468

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

27 SEP 1930

Received at London Office

Date of writing Report

19

When handed in at Local Office

20 - 9

10 30

Port of

Belfast

No. in Survey held at

Belfast

Date, First Survey

4 Aug

Last Survey

9 Sept

1930

Reg. Book.

(Number of Visits.....8.....)

84460 on the

M. V. Silversandal

Tons

Gross

Net

Built at

Belfast

By whom built

Harland &amp; Wolff

Yard No. 885

When built 1930

Owners

Stanley &amp; John Thompson

and Port belonging to

London

Electric Light Installation fitted by

Harland &amp; Wolff

Contract No. 885

When fitted 1930

Is the Vessel fitted for carrying Petroleum in bulk

No

System of Distribution

Two wire direct current, ring mains for heating, lighting &amp; Power

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 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

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

Are the lubricating arrangements of the generators as per Rule

Yes

Position of Generators

Main motor room Port and Starboard

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

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

on platform at aft. end of motor 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, 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

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

D.P. overload and reverse current circuit breaker and triple pole switch with equalizer blade arranged to close first and open last

Instruments on main switchboard

7

ammeters

5

voltmeters arranged 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

connected to bus-bars by double pole switch and 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

002477-002484-0073

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73



**Cables:** Single, twin, ~~cable~~, or multicore Yes 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 6.5 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  
**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 and braided cables covers in, held, clipped to perforated plating, lead covered armoured & braided cables protected by sheet metal  
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  
**Joints in Cables,** state if any, and how made, insulated, and protected All joints are made in properly constructed junction 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 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 All metal portable fittings fitted to steelwork of ship are earthed with connection equivalent to working conductor  
all armoured cables earthed by bonding glands & clips, 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 one 6 K.W. 220 Volt D.C. generator driven by paraffin engine, and fitted in Engineers store at end of switch board platform.  
**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 stockholds 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  
are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected  
how are the cables led  
**Searchlight Lamps, No. of** 1, whether fixed or portable Portable, are their fittings as per Rule Yes  
**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 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 — and —  
**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  
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 INTERNAL COMBUSTION ENGINE.		
		Kilowatts.	Volts.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN ...	4	100	220	455	300	Diesel Engine	Fuel Oil		
AUXILIARY ...	1	6	220	275	1000	Paraffin Engine	Paraffin		
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 PER POLE	0.5	61	0.103"	455	486	100'	VARNISHED CAMBRIC	LEAD COVERED
EQUALISER CONNECTIONS	1	0.5	61	0.103"	-	486	50'		Do
AUXILIARY GENERATOR ...	1	0.01	7	0.044"	275	31	60'	RUBBER	Do
EMERGENCY GENERATOR									
ROTARY TRANSFORMER	MOTOR-GENERATOR								
ENGINE ROOM ...									
BOILER ROOM ...									
AUXILIARY SWITCHBOARDS									
LIGHTING R.M. PANELS	1	0.03	19	0.044"	56	106	1200'	RUBBER	LEAD COVERED ARMOURD & BRAIDED
HEATING R.M. PANELS	1	0.075	19	0.072"	157	282	830'	VARNISHED CAMBRIC	Do
FOR WINCH R.M. PANEL	1	0.25	37	0.093"	411	814 1/2	1100'	Do	Do
MIDSHIP "	1	0.15	37	0.072"	274	273 1/2	200'	Do	Do
AFT WINDLASS ACCOMMODATION	1	0.15	37	0.072"	274	546 RATE	600'	Do	Do
REFRIG. MCV. PANEL	1	0.25	37	0.093"	228	814	460'	Do	Do
	1	0.5	61	0.103"	430	486	70'	Do	LEAD COVERED
WIRELESS	1	0.007	7	0.036"	15	24	100'	RUBBER	LEAD COVERED
SEARCHLIGHT	1	0.04	19	0.052"	53	64	75'	Do	Do
MASTHEAD LIGHT	1	0.002	3	0.029"	0.18	6.8	624'	Do	LEAD COVERED ARMOURD & BRAIDED
SIDE LIGHTS	1	0.002	3	0.029"	0.18	6.8	75'	Do	Do
COMPASS LIGHTS	1	0.002	3	0.029"	0.14	6.8	60'	Do	LEAD COVERED
POOP LIGHTS	1	0.002	3	0.029"	2.3	6.8	150'	Do	LEAD COVERED ARMOURD & BRAIDED
CARGO LIGHTS	1	0.002	3	0.029"	2.27	6.8	80'	Do	LEAD COVERED ARMOURD & BRAIDED
ARC LAMPS									
HEATERS	1	0.003	3	0.036"	5.45	12	60'	RUBBER	LEAD COVERED

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	1		0.15	37	0.072"	144	152	220	RUBBER	LEAD COVERED
MAIN BILGE LINE PUMPS	1		0.04	19	0.052"	53	64	120	Do	Do
GENERAL SERVICE PUMP	1		0.0145	7	0.052"	33	37	350	Do	Do
EMERGENCY BILGE PUMP	-		-	-	-	-	-	-	-	-
SANITARY PUMP	-		-	-	-	-	-	-	-	-
CIRC. SEA WATER PUMPS	-		0.10	19	0.083"	102	118	210	Do	Do
CIRC. FRESH WATER PUMPS	-		-	-	-	-	-	-	-	-
AIR COMPRESSOR	1		0.75	91	0.103"	560	664	240	VARNISHED CAMBRIC	Do
FRESH WATER PUMP	-		-	-	-	-	-	-	-	-
ENGINE TURNING GEAR	2		0.0225	7	0.064"	42	46	70	RUBBER	Do
ENGINE REVERSING GEAR	-		-	-	-	-	-	-	-	-
LUBRICATING OIL PUMPS	2		0.15	37	0.072"	134	152	90	Do	Do
OIL FUEL TRANSFER PUMP	1		0.0145	7	0.052"	35	37	300	Do	Do
WINDLASS	1		0.15	37	0.072"	248	273	100	VARNISHED CAMBRIC	LEAD COVERED ARMOURD & BRAIDED
WINCHES, FORWARD	6		0.075	19	0.072"	137	162 1/2	150	Do	Do
WINCHES, AFT	5		0.075	19	0.072"	137	162 RATE	90	Do	Do
WINCHES, AMIDSHIP	2		0.075	19	0.072"	137	162	120	Do	Do
STEERING GEAR—										
(a) MOTOR GENERATOR	-		-	-	-	-	-	-	-	-
(b) MAIN MOTOR	2		0.075	19	0.072"	89	97	660	RUBBER	Do
WORKSHOP MOTOR	-		-	-	-	-	-	-	-	-
VENTILATING FANS	2		0.003	3	0.036"	11	12	180	Do	LEAD COVERED
LATHE	1		0.002	3	0.029"	5.4	6.8	40	Do	Do
DRILL	1		0.003	3	0.036"	8.4	12	60	Do	Do
GRINDSTONE	1		0.003	3	0.036"	9	12	60	Do	Do



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 of the installation.



Electrical Engineers.

Date 20-9-30

#### COMPASSES.

Distance between electric generators or motors and standard compass 132 FEET

Distance between electric generators or motors and steering compass 130 "

The nearest cables to the compasses are as follows:—

A cable carrying 3.65 Ampères 7 feet from standard compass 7 feet from steering compass.

A cable carrying 5.45 Ampères 15 feet from standard compass 13 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.



Builder's Signature.

Date 20.9.30

Is this installation a duplicate of a previous one? Yes If so, state name of vessel M V Silvercypress

"SILVER WALNUT" "SILVERTERK"

Plans with Silvercypress

General Remarks (State quality of workmanship, opinions as to class, &c.)

This installation has been fitted under special survey and in accordance with the rules. The materials and workmanship are sound and good. Satisfactory trials under working conditions were made. In my opinion, the vessel is eligible for notation "Electric light".

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

20/9/30

Total Capacity of Generators 406 Kilowatts.

The amount of Fee ... £ 41 : 13 : 22-30

Travelling Expenses (if any) £ : : 4.19.30

R. Lee Ames

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 3 OCT 1930

Assigned

Elec. Light



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