

Rpt 13.

No. 10458

## REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

12 SEP 1930

Received at London Office

Date of writing Report

19

When handed in at Local Office

11-9-30

Port of Belfast

No. in

Survey held at

Belfast

Date, First Survey

20 July

Last Survey

27 Sept 1930

(Number of Visits.....9.....)

Reg. Book.

on the M.V. Silverteak

Tons

Gross

Net

Built at

Belfast

By whom built

Harland &amp; Wolff

Yard No. 884

When built 1930

Owners

Stanley &amp; John Thompson

Port belonging to

London

Electric Light Installation fitted by

Harland &amp; Wolff

Contract No. 884

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 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 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 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

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Cables: Single, twin, 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 clipped to perforated plating; lead covered armoured and braided cables protected by sheet metal covers in hulls*

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 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 KW. 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 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

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

where are the controlling switches situated

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

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 *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 AN INTERNAL COMBUSTION ENGINE	
		Kilowatts	Volts	Amps.	R.P.M.		Fuel Used	Flash Point of Fuel
MAIN	4	100	220	455	300	Diesel Engine	Fuel Oil	
AUXILIARY	1	6	220	27.5	1000	Paraffin Engine	Paraffin	
EMERGENCY								
ROTARY TRANSFORMER								

## GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION	No. of Poles	CONDUCTORS		COMPOSITION OF STRAND		TOTAL MAXIMUM CURRENT AMPERES		Approximate Length (Lead and Return) Feet	Insulated with	HOW PROTECTED
		Total Effective Area per Pole Sq. Ins.	No.	Diameter	In Circuit	Rate				
MAIN GENERATOR	1	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"	27.5	31	60'		RUBBER	DO
EMERGENCY GENERATOR										
ROTARY TRANSFORMER										
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 WIND R.M. PANEL	1	0.25	37	0.093"	411	814 1/2	1100		DO	DO
WIND	1	0.15	37	0.072"	274	273 1/2	200		DO	DO
WINDLASS	1	0.15	37	0.072"	274	546	600		DO	DO
WINDLASS	1	0.25	37	0.093"	228	814	460		DO	DO
REFRIG. M.CY. PANEL	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"	55	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 ARMOURD & BRAIDED
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
		Total Effective Area per Pole Sq. Ins.	No.	Diameter	In Circuit	Rate				
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		0.10								
SANITARY PUMP										
CIRC. SEA WATER PUMPS	2	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 1/2	100		VARNISHED CAMBRIC	LEAD COVERED ARMOURD & BRAIDED
WINCHES, FORWARD	6	0.075	19	0.072"	137	162	150		DO	DO
WINCHES, AFT	5	0.075	19	0.072"	137	162	90		DO	DO
WINCHES, AMIDSHIPS	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

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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



Electrical Engineers.

Date 10-9-30

#### 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.

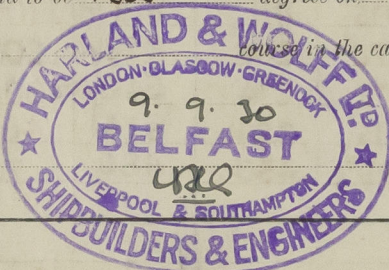
A cable carrying 5.45 Ampères 15 feet from standard compass 13 feet from steering compass.

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 9-9-30

Is this installation a duplicate of a previous case Yes If so, state name of vessel m.s. "Silvercypress" "SILVER WALNUT"

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 full 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.

10/9/30

Total Capacity of Generators 406 Kilowatts.

The amount of Fee ... £ 41 : 10 : 11-9-30

Travelling Expenses (if any) £ : : 25-9-30

R. Lee Ames.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Elec. Lt.



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