

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 20-9-30 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 + Wolff Yard No. 885 When built 1930

Owners Stanley & John Thompson SILVER LINE, LD. Port belonging to London

Electric Light Installation fitted by Harland & 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 & 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



Cables: Single, twin, ~~conductor~~, 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 & braided cables protected by sheet metal covers in holds.
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 ships 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 6K.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 storerooms 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 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

how are the cables led Yes

where are the controlling switches situated Yes

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 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 — 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 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.	Engine	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	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	1	0.03	19	0.044"	56	106	1200'	RUBBER	LEAD COVERED ARMOURED & BRAIDED
LIGHTING R.M. PANELS	1	0.075	19	0.072"	157	282	830'	VARNISHED CAMBRIC	Do
HEATING R.M. PANELS	1	0.25	37	0.093"	411	814 1/2	1100'	Do	Do
FOR WINCH R.M. PANEL	1	0.15	37	0.072"	274	273 1/2	200'	Do	Do
MIDSHIP	1	0.15	37	0.072"	274	546 RATE	600'	Do	Do
AFT WINDLASS ACCOMMODATION	1	0.25	37	0.093"	228	814	460'	Do	Do
REFRIG. MCV. 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"	53	64	75'	Do	Do
MASTHEAD LIGHT	1	0.002	3	0.029"	0.18	6.8	624'	Do	LEAD COVERED ARMOURED & 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 ARMOURED & BRAIDED
CARGO LIGHTS	1	0.002	3	0.029"	2.27	6.8	80'	Do	LEAD COVERED ARMOURED & 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	2		0.10	19	0.083"	102	118	210	Do	Do
CIRC. FRESH WATER PUMPS	1		0.75	91	0.103"	560	664	240	VARNISHED CAMBRIC	Do
AIR COMPRESSOR	1									
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 ARMOURED & 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"	9.4	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 installation? 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.

[Signature]
 20/9/30

Total Capacity of Generators 406 Kilowatts.

The amount of Fee ... £ 41 : 13 : 22nd Sept. 19 30
 Travelling Expenses (if any) £ : : 4. 19. 30

[Signature]
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 3 OCT 1930

Assigned Elec. Light

Im. 11. 29. - Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)

