

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

SEP - 7 1938

Date of writing Report 13th Aug, 1938 When handed in at Local Office 25th Aug, 1938 Port of West Hartlepool
 No. in Survey held at West Hartlepool Date, First Survey 9th May, Last Survey 18th August, 1938
 Reg. Book. on the S.S. "CORINTHIAN" (Number of Visits 2)

Built at West Hartlepool By whom built W. Gray & Co. Ltd. Yard No. 1083 Tons { Gross 3121.59
 Net 1431.33
 Owners Ellerman Lines, Ltd. Port belonging to Liverpool When built 1938
 Electric Light Installation fitted by The Sunderland Eng. & Ing. Co. Ltd. Contract No. 1083 When fitted 1938
 Is the Vessel fitted for carrying Petroleum in bulk No

System of Distribution Double wirePressure of supply for Lighting 110 volts, Heating — volts, Power 110 volts.Direct or Alternating Current, Lighting Direct Power DirectIf 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 YesGenerators, do they comply with the requirements regarding temperature rise 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 Only one fitted, is an adjustable regulating resistance fitted in series with each shunt field YesHave certificates of test results for machines under 100 kw. been submitted and approved Yes, Cert. furnished Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing None fittedHave certificates for generators under 100 kw. been supplied and approved Manufacturers' test cert. only suppliedAre 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 YesAre the lubricating arrangements of the generators as per Rule YesPosition of Generators Engine room starboard sidein way of the generators satisfactory Yes are they clear of all inflammable material Yes if situated near unprotectedwoodwork 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 YesEarthing, are the bedplates and frames of the generating plant efficiently earthed Yes are the prime movers and their respective generatorsin metallic contact Yes Main Switch Boards, where placed Engine room starboard side neargenerator 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 Yesif 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 —is it of an approved type —, 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 Yesis the non-hygroscopic insulating material of an approved type Yes, and is the frame effectively earthed Yes Are the fittings as per Rule regarding: — spacing or shielding of live partsYes, accessibility of all parts Yes, absence of fuses on back of board Yes, temperature rise ofomnibus bars Yes, individual fuses to voltmeter, pilot or earth lamp Yes, are moving parts of switches alive in the"off" position No are all screws and nuts securing connections effectively locked Yes are any fuses fitted on the live side ofswitches No Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switchesD.P. sw. & D.P. fuse on generator mains; D.P. sw. & D.P. fuses on outgoing circuitsAre turbine driven generators fitted with emergency trip switch as per rule — Are cupboards or compartments containing switchboards composed of fire-resisting material or lined with approved material —Instruments on main switchboard One ammeters One
 voltmeter — synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connection —

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

E lamps coupled to E through switches of fuses Switches, Circuit Breakers and Fusible Cut-outsdo these comply with the requirements of the Rules Yes are the fusible cutouts of an approved type Yes have the reversed

current protection devices been tested under working conditions — are all fuses labelled as per rule *Yes*

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

Cables: Single, twin, concentric, or multicore. *Single* are the cables insulated and protected as per Tables IV, V, X, XI, XII or XIII of the Rules *Yes*

If the cables are insulated otherwise than as per Rule — **Fall of Pressure,** state maximum between bus bars and any point of the installation under maximum load *Less than 5.3 volts*

Cable Sockets, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets *Yes*

Paper Insulated and Varnished Cambric Insulated Cables.

If conductors are paper or varnished cambric insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound —, or waterproof insulating tape *Yes*

Cable Runs, are the cables sized 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* are cables laid under machines or floorplates *Yes* if so, are they adequately protected —

Are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit *Yes*

Support and Protection of Cables, state how the cables are supported and protected *L.C.B. cables run in galv. pipework along hatch coamings; L.C.A. cables in mahogany; L.C.B. cables slipped up in access.*

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, are the cables and fittings in accordance with the special requirements *Yes*

Joints in Cables, state if any, and how made, insulated, and protected *Home 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 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 and fibre*

Earthing Connections, state what earthing connections are fitted and their respective sectional areas —, 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* **Secondary Batteries,** are they constructed and fitted as per Rule —

are they ventilated as per Rule —

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 —

are all fittings suitably ventilated *Yes*, are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials *Yes*

Heating and Cooking Appliances, are they constructed and fitted as per Rule —, are air heaters constructed and fitted as per Rule —

Searchlight Lamps, No. of *Home fitted* whether fixed or portable —, 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 —

—, if not of this type, state distance of the combustible material horizontally or vertically above the motors — and —

have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing *Home fitted* have certificates for all motors for essential services been supplied and approved *Yes, Cert. issued*

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 —

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 — are all fuses of the filled cartridge type — are they of an approved type —

If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed flameproof type approved for use in dangerous spaces —

Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule *Yes* are they suitably stored in dry situations *Yes*

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	1	18	110	166.5	450	Single cylinder steam engine			
AUXILIARY									
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 Nominal Area per Pole Sq. Ins.	No.	Diameter.	Circuit.	Rule.			
MAIN GENERATOR	1	.1	19	.083	164	172	66	V.C.	L.C.A.B.
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER } MOTOR GENERATOR									
ENGINE ROOM									
BOILER ROOM	1	.007	7	.036	20	24	25	V.I.R.	L.C.A.B.
AUXILIARY SWITCHBOARDS									
Accom. A.B. feed:-	1	.06	19	.064	27.6	122	135	V.C.	L.C.A.B.
supply:- Port. Aft. O.B.	1	.0225	7	.064	9.9	46	240	V.I.R.	L.C.A.B.
Port. Aft. O.B.	1	.007	7	.036	4.5	24	350	V.I.R.	L.C.A.B.
Aft. Aft. O.B.	1	.0225	7	.064	7.7	46	240	V.I.R.	L.C.A.B.
Aft. Aft. O.B.	1	.007	7	.036	5.5	24	350	V.I.R.	L.C.A.B.
ACCOMMODATION Aft. O.B.	1	.0225	7	.064	8	46	450	V.I.R.	L.C.A.B. & L.C.A.B.
Cargo A.B. feed:-	1	.0225	19	.064	72	83	135	V.I.R.	L.C.A.B.
supply:- Forw. Cargo O.B.	1	.01	7	.044	23	31	99	V.I.R.	L.C.A.B.
Mid. Cargo O.B.	1	.01	7	.044	22	31	89	V.I.R.	L.C.A.B.
Aft. Cargo O.B.	1	.01	7	.044	27	31	62	V.I.R.	L.C.A.B.
Navigation Htg. O.B.	1	.007	7	.036	5.5	24	300	V.I.R.	L.C.A.B. & L.C.A.B.
WIRELESS	1	.007	7	.036	15	24	285	V.I.R.	L.C.A.B. & L.C.A.B.
SEARCHLIGHT									
MASTHEAD LIGHT	1	.002	3	.029	36	7.8	330	V.I.R.	L.C.A.B. & L.C.A.B.
SIDE LIGHTS	1	.002	3	.029	36	7.8	40	V.I.R.	L.C.A.B.
COMPASS LIGHTS	1	.002	3	.029	14	7.8	33	V.I.R.	L.C.A.B.
STEERING LIGHTS	1	.002	3	.029	36	7.8	320	V.I.R.	L.C.A.B. & L.C.A.B.
CARGO LIGHTS	1	.0017	40	.0076	2.9	5.0	80	V.I.R.	C.T.S.
Incandescent	1	.007	7	.036	5	24	70	V.I.R.	L.C.A.B.

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 Nominal Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
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										
Hold Vent. Fans Forw.	2+4	1	.0225	7	.064	14+28	46	350+200	V.I.R.	L.C.A.B. & L.C.A.B.
Hold Vent. Fans Aft	4	1	.0225	7	.064	28	46	280	V.I.R.	L.C.A.B. & L.C.A.B.
Oil Separator	1	1	.0045	7	.029	15	18.2	50	V.I.R.	L.C.A.B.
Refiq. Machinery	1	1	.0225	7	.064	40	46	370	V.I.R.	L.C.A.B.

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The foregoing is a correct description.

Date 14. 8. 1938

COMPASSES.

The nearest cables to the compasses are as follows:—

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

compass, and 410 degrees on any course in the case of the steering compass.

Date 24th Aug

Is this installation a duplicate of a previous case Yes If so, state name of vessel U.S. "Malvern"

General Remarks (State quality of workmanship, opinions as to class, &c. *The electrical equipment of*

This vessel has been fitted out under special survey. The materials used and the workmanship are good. On completion the equipment was run under working conditions and found satisfactory. This equipment can, in my opinion, be considered suitable for a classed vessel.

An echo-sounding device and direction finding equipment are fitted.

Total Capacity of Generators 18 *Kilowatts.*

The amount of Fee £ 16 : 10 : 19

Travelling Expenses (if any) £ : : 11/10 38

Santinson

Surveyor to Lloyd's Register of Shipping.

Wash. Wash. Falls Road. 34 mi. 1.0225 7 06 mi 1 mi + 28 46 350+200 V.L.R. L.C.A.B. L.L.A.

Committee's Minute	4	1	0235	7	0000	28	0000	280	0.1.1.1	0.1.1.1	0.1.1.1	0.1.1.1
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Assigned SEP 13 1938

See F. E. Rpt.