

REPORT ON ELECTRICAL EQUIPMENT.

No. 96584

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 19... When handed in at Local Office 17/8/38 Port of NEWCASTLE-ON-TYNE Received at London Office AUG 23 1938

No. in Survey held at Newcastle Date, First Survey 9 June Last Survey 3 Aug 1938
Reg. Book. Supt 88902 on the S.S. "La Carriere" (Number of Visits... 6)

Built at Newcastle By whom built Swan Hunter & Wigham R & Co Ltd Yard No. 1555 When built 1938
Owners Trinidad Leaseholds Ltd. Port belonging to London
Electric Light Installation fitted by Swan Hunter & Wigham R & Co Ltd Contract No. 1555 When fitted 1938
Is the Vessel fitted for carrying Petroleum in bulk Yes.

Tons { Gross 5685
Net 3231

System of Distribution Double wire

Pressure of supply for Lighting 110 volts, Heating 110 volts, Power 110 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 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 No, is an adjustable regulating resistance fitted in series with each shunt field Yes

Have certificates of test results for machines under 100 kw. been submitted and approved Yes Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing

Have certificates for generators under 100 kw. been supplied and approved 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 Engine room 45KW Starboard, 25KW Port, 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 Engine room starboard side

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

, is 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 parts Yes, accessibility of all parts Yes

absence of fuses on back of board Yes, temperature rise of omnibus 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 of switches No

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches D.P.S + DP fuses for each generator. D.P.C.O.S + DP fuses on each outgoing circuit.

Are 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

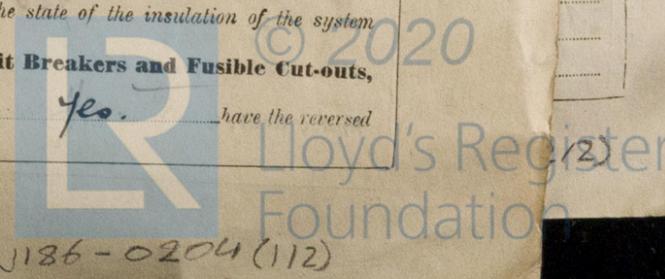
Instruments on main switchboard 2 ammeters 2

voltmeters 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 & fuses

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules Yes, are the fusible cutouts of an approved type Yes, have the reversed

Generator Test Certificate



current protection devices been tested under working conditions Yes 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, are they of an approved type Yes **Fall of Pressure**, state maximum between bus bars and any point of the installation under maximum load 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 Yes, or waterproof insulating tape Yes

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 are cables laid under machines or floorplates No if so, are they adequately protected Yes

Support and Protection of Cables, state how the cables are supported and protected Main cables LC + A clipped along fore to aft gangway; tin machinery spaces. LC + B in all clipped in

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

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 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 Yes 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 Yes

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 are they ventilated 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 heavy well glasses protected by metal guards are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected Gas tight fittings protected by heavy prismatic well glasses & strong guards where are the controlling switches situated In midship painting 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 Yes are air heaters constructed and fitted as per Rule Yes

Searchlight Lamps, No. of one whether fixed or portable portable 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 Yes have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing Yes have certificates for all motors for essential services been supplied and approved Yes

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 are all fuses of the fitted cartridge type Yes are they of an approved type Yes 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 Yes **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.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN	1	45	110	410	688	Diesel Engine			
AUXILIARY	1	25	110	228		Steam			
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	.75	91	.103	410	461	40	YIR	LC + A
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR	1	.3	37	.103	228	240	60	50	50
EMERGENCY GENERATOR									
ROTARY TRANSFORMER MOTOR GENERATOR	1	.01	7	.044	19	31	150	50	50
ENGINE ROOM	1	.01	7	.044	19	31	160	50	50
BOILER ROOM									
AUXILIARY SWITCHBOARDS									
Navigation	1	.01	7	.044	7	31	834	50	50
Shore Supply	1	.1	19	.083	100	118	290	50	50
Galley Elec Oven	1	.12	37	.064	134	130	150	50	50
transport Vent Fans	1	.06	19	.064	72	83	120	50	50
ACCOMMODATION									
Aft Acc ⁿ Stbd	1	.02	7	.064	30	46	180	50	50
" " Port	1	.01	7	.044	24	31	220	50	50
Capt + mid ship port	1	.074	19	.052	28	64	765	50	50
midship Stbd + foremast	1	.06	19	.064	46	83	765	50	50
(main) Refrig + workshop motor	1	.06	19	.064	78	83	80	50	50
WIRELESS	1	.0225	7	.064	20	46	810	50	50
SEARCHLIGHT	1	.002	3	.029	2.0	7.8	100	50	50
MASTHEAD LIGHT	1	.002	3	.029	.5	7.8	834	50	50
SIDE LIGHTS	1	.002	3	.029	.5	7.8	100	50	LC + B
COMPASS LIGHTS	1	.002	3	.029	.3	7.8	50	50	50
DECK LIGHTS	1	.002	3	.029	.5	7.8	900	50	LC + A
CARGO LIGHTS									
HEATERS									

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	1	1	.0145	7	.052	32	37	60	YIR	LC + A
VENTILATING FANS 2.75HP	2	1	.007	7	.036	22	24	60	50	50
50 1.5HP	1	1	.007	7	.036	22	24	60	50	50
Refrig circ pump	1	1	.003	3	.036	6	12	70	50	50
Refrig motor 5.H.P.	1	1	.0225	7	.064	40	46	60	50	50
Galley Blower	1	1	.0045	7	.029	16	18	30	50	50

The Electrical Equipment is installed in accordance with the approved plans.

All Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

FOR SWAN, HUNTER, & WIGHAM RICHARDSON, LTD

[Handwritten signature]

Electrical Engineers.

Date August 13th 1938

COMPASSES.

Minimum distance between electric generators or motors and standard compass 400 feet

Minimum distance between electric generators or motors and steering compass 408 feet.

The nearest cables to the compasses are as follows:—

A cable carrying .3 Ampères on the feet from standard compass 12 feet from steering compass.

A cable carrying .3 Ampères 12 feet from standard compass on the 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. *So he filled in after adjustment of compasses.*

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

FOR SWAN, HUNTER, & WIGHAM RICHARDSON, LTD.

[Handwritten signature]

Builder's Signature.

Date Aug. 13th 1938.

Is this installation a duplicate of a previous case *Asst. Chief Draughtsman.* no If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. *The above instⁿ has been fitted out under special survey. The materials used & workmanship are good. The instⁿ has been tested throughout under working conditions & found satisfactory. The insulation resistance is good. This vessel is eligible in my opinion for notation. D.F., E.S.D.*)

Mid L.H. 30/8/38

Total Capacity of Generators 70 Kilowatts.

The amount of Fee ... £ 29 : 10 : When applied for, 19.

Travelling Expenses (if any) £ : : When received. 1/9 1938

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

Committee's Minute FRI 2 SEP 1938

Assigned *See F.C. Rpt.*

The Surveyors are requested not to write on or below the space for Committee's Minute.



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