

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office - 4 MAR 1926

Date of writing Report 10 When handed in at Local Office 3/31 1926 Port of Newcastle

No. in Survey held at Newcastle Date, First Survey 13 Nov 1925 Last Survey 8 Feb 1926
Reg. Book. Supt. 38496 on the "City of Lyons" (Number of Visits 17)

Built at Newcastle By whom built Swan Hunter & W. R. Ltd. Yard No. 1284 When built 1925
Owners The Ellerman Lines Ltd Port belonging to Liverpool

Electric Light Installation fitted by Swan Hunter & W. R. Ltd. Contract No. 1284 When fitted 1925

System of Distribution Double wire system

Pressure of supply for Lighting 220 volts, Heating — 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 Engine room starboard side

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 micaite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework Yes, and is the frame effectually 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

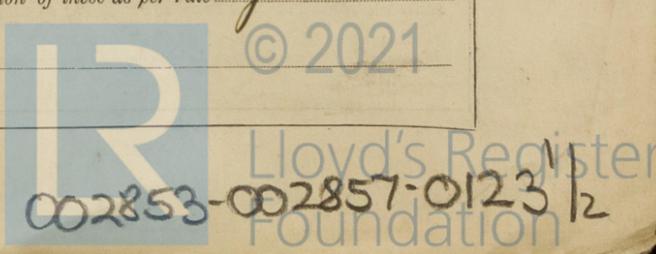
Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches 700 Amp T.P. circuit breaker for each generator, 200 Amp D.P. C.B. for steering gear air pump, D.P. switches & fuses on each of the outgoing circuits

Instruments on main switchboard 2 ammeters 2 voltmeters — 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 through switches & fuses to earth

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, concentric, or multicore single 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 4.4 volts

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.01 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 arm + braided cables clipped to structure in machinery space + tween decks

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 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 rubber

Earthing Connections, state what earthing connections are fitted and their respective sectional areas none made

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 none fitted

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 ---

Fittings, are all fittings on weather decks, in storerooms and engine rooms and where 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 Lead covered arm + braided

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected none

how are the cables led ---

where are the controlling switches situated ---

Searchlight Lamps, No. of ---, whether fixed or portable ---, are their fittings as per Rule ---

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 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				Revs. per Min.	DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amperes.	Fuel Used.			Flash Point of Fuel.	
MAIN	2	150	220	680	300	Turbine engine Comp'd with acting steam engine			
AUXILIARY	1	15	220	68	320	Steam engine Comp'd			
EMERGENCY									
ROTARY TRANSFORMER									

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	2	1.2	127	.111	680	50	rubber	Lead cov + braided
	EQUALISER CONNECTIONS	2	.6062	91	.093	340	50	do	do
	AUXILIARY GENERATOR	2	.06	19	.064	68	50	do	do
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	2	.00455	7	.029	5	60	do	Lead cov, arm + braided
	BOILER ROOM								
	ACCOMMODATION								
	Navigation	2	.00455	7	.029	2.5	540	do	do
	Eng'rs officers Acc	2	.01046	7	.044	36	180	do	do
	Crews qts	2	.00455	7	.029	4.0	500	do	do
	WIRELESS	2	.02214	7	.064	13.6	360	do	do
	SEARCHLIGHT								
	MASTHEAD LIGHT	2	.00299	3	.036	.46	460	do	Lead cov + braided
	SIDE LIGHTS	2	.00299	3	.036	.46	48	do	do
	COMPASS LIGHTS	2	.00299	3	.036	.23	26	do	do
	STERN LIGHTS	2	.00299	3	.036	.46	590	do	do
	CARGO LIGHTS	2	.00455	7	.029	10	120	do	Lead cov + braided
	ARC LAMPS								
	HEATERS								

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	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	2	.00701	7	.036	21	30	V.I.R.	Lead cov + braided
	WINDLASS								
	WINCHES, FORWARD								
	WINCHES, AFT								
	STEERING GEAR								
	(a) MOTOR GENERATOR								
	(b) MAIN MOTOR	2	.06	19	.064	180	750	do	do
	WORKSHOP MOTOR								
	VENTILATING FANS								
	Oil fuel pump	2	.00455	7	.029	9	30	do	do
	Coal Hoist	1	.00455	7	.029	14	360	do	do
	Evap feed pump	1	.00299	3	.036	5	240	do	do
	Lub Oil Purifier	1	.00299	3	.036	5	30	do	do
	Lub Oil Pumps	3	.00701	7	.036	20	150	do	do
	Pne Heater EL Motors	2	.00701	7	.036	18	120	do	do
	Main Circ Pump	1	.3024	37	.103	210	180	do	do
	Pne Heater Hot Fans	2	.0396	19	.052	48	300	do	do
	Pne Heater Cold Fan	1	.06	19	.064	77	120	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.

For SWAN, HUNTER, & WIGHAM RICHARDSON, LTD. Electrical Engineers.

Date 2nd March 26.

COMPASSES.

Distance between electric generators or motors and standard compass

120 feet ✓

Distance between electric generators or motors and steering compass

120 feet ✓

The nearest cables to the compasses are as follows:—

A cable carrying 2.5 Amperes 7 feet from standard compass 5 feet from steering compass. ✓

A cable carrying 2.3 Amperes on the ~~same~~ standard compass 10 feet from steering compass. ✓

A cable carrying 2.3 Amperes 10 feet from standard compass on the 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.

FOR SWAN, HUNTER, & WIGHAM RICHARDSON, LTD

T. Cunningham

Builder's Signature.

Date 2/3/26.

Is this installation a duplicate of a previous case. No If so, state name of vessel

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

The above installation is in accordance with the Society's Rules. The vessel is eligible in my opinion for notation elec lights, wireless

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

Elec lights

5/3/26

Total Capacity of Generators 315 Kilowatts.

The amount of Fee ... £ 39 : 7 : 6 When applied for, 5/2/26

Travelling Expenses (if any) £ : : 12/2/26

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

Committee's Minute

Assigned

Im. 1. 26.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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