

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 18 MAR 1926

Date of writing Report *4th MAR 1926* When handed in at Local Office *16/3/1926* Port of *NEWCASTLE-ON-TYNE*

No. in Survey held at *Newcastle* Date, First Survey *28/12/25* Last Survey *25/2/1926*
Reg. Book. *Supp* (Number of Visits *13*)

37986 on the *Athelking* Tons { Gross
Net

Built at *Newcastle* By whom built *Swan Hunter & W. R. Co. Ltd* Yard No. *1285* When built *1926*

Owners *British Molasses Co. Ltd* Port belonging to *Liverpool*

Electric Light Installation fitted by *Swan Hunter & Wigham Richardson Co. Ltd* Contract No. *1285* When fitted *1926*

System of Distribution *Double wire system* ✓

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

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 aft end on workshop flat* ✓, 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 aft end on workshop flat* ✓

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 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 *Double pole change over switch + separate S.P. fuses for generators. Double pole switches + fuses for each outgoing circuit*

Instruments on main switchboard *2* ✓ ammeters *1* ✓ 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 coupled 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* ✓

Cast iron fuse boxes fitted with enclosed cartridge fuses



Cables: Single, twin, concentric, or multicore single twin 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 4.7 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 Main cables are carried along fore and aft gangway in galvanised iron pipe

Support and Protection of Cables, state how the cables are supported and protected Lead covered & braided cables for main run
Lead covered & varnished cables in engine room, lead covered cable in accommodation

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 lead

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

are their connections made as per Rule —

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 in wheelhouse, 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 stowholds 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 in stores midships

Fittings of the standard pattern with guard —

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected in pump rooms

heavy A.P. magazine type fittings, how are the cables led in galvanised iron pipe

where are the controlling switches situated at distribution box in accommodation

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 —, 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 —

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 none

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.		Fuel Used.	Flash Point of Fuel.
MAIN	1	20	110	182	440	Steam engine		
AUXILIARY	1	10	110	91	500	Steam engine		
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	.1964	37	.083	182	90	V.I.R	Lead covered
	EQUALISER CONNECTIONS								
	AUXILIARY GENERATOR	2	.07592	19	.072	91	150	50	50
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM								
	BOILER ROOM	2	.0396	19	.032	60	50	50	50
	ACCOMMODATION								
	<u>Midships forward</u>	2	.06	19	.064	44	600	50	Lead covered & braided
	<u>Engs aft</u>	2	.02214	7	.064	33	740	50	Lead covered & varn.
	WIRELESS	2	.02214	7	.064	4.5	700	50	Lead covered & braided
	SEARCHLIGHT	2	.0326	19	.052	50	1040	50	50
	MASTHEAD LIGHT	2	.00194	3	.029	.5	360	50	50
	SIDE LIGHTS	2	.00194	3	.029	.5	40	50	50
	COMPASS LIGHTS	2	.00194	3	.029	.25	20	50	Lead covered
	<u>Star</u> LIGHTS	2	.00194	3	.029	.5	750	50	Lead covered & braided
	CARGO LIGHTS	2	.01462	7	.052	.5	165	50	Lead covered & varn.
	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								
	WINDLASS								
	WINCHES, FORWARD								
	WINCHES, AFT								
	STEERING GEAR								
	(a) MOTOR GENERATOR								
	(b) MAIN MOTOR								
	WORKSHOP MOTOR								
	VENTILATING FANS								
	<u>Oil Purifiers</u>	2	.00455	7	.029	20	100	V.I.R	Lead covered & varn.

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.

W. H. G. S. Electrical Engineers.

Date 16th March 1926.

COMPASSES.

Distance between electric generators or motors and standard compass 260 feet. ✓

Distance between electric generators or motors and steering compass 260 feet. ✓

The nearest cables to the compasses are as follows:—

A cable carrying 19 Ampères 25 feet from standard compass 20 feet from steering compass.

A cable carrying .5 Ampères on the ~~foot from~~ standard compass 10 feet from steering compass.

A cable carrying .5 Ampères 10 feet from standard compass on the ~~foot 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^s in the case of the standard

compass, and nil ✓ degrees on all course^s in the case of the steering compass.

FOR SWAN, HUNTER, & WIGHAM RICHARDSON, LTD.

T. Cunningham Builder's Signature.

Date 16th Mar 1926.

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 light wireless

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

H.
19/3/26.

Total Capacity of Generators 30 Kilowatts.

The amount of Fee ... £ 22 : 10 : { When applied for, 16/3/26

Travelling Expenses (if any) £ : : { When received, 19.3.26

W.T. Budget

Surveyor to Lloyd's Register of Shipping.

Committee's Minute _____

Assigned *Elec light*

Im. 1.26.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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