

Rpt. 13.

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

No. 93495

Date of writing Report

19

When handed in at Local Office

23 MAR. 1928

Port of

Received at London Office

24 MAR 1928

No. in Survey held at

Birkenhead

Reg. Book.

41008 on the 55 "Greystoke Castle"

Date, First Survey

3rd Jan '27

Last Survey

12th Mar 1928.

(Number of Visits 10)

Built at Birkenhead

By whom built Cammell Laird & Co Ltd

Yard No. 928

Tons

Gross 6,500.

Net 3,622.

When built 1928

Owners Lancashire Shipping Co Ltd

Port belonging to

Liverpool

Electric Light Installation fitted by Sunderland Forge & Eng^g Co Ltd

Contract No. ✓

When fitted 1928

System of Distribution

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

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

Bottom Platform of Engine Room, Port = Stbd ✓

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 ✓

their respective generators in metallic contact

Yes ✓

are the prime movers and

Main Switch Boards, where placed Fore End of Engine Room on Switchboard 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

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 T.P.O.L. Time Lag & R.C.

Circuit Breaker for each Generator (3rd pole acting as Equaliser), D.P.O.L. Time Lag
Circuit Breakers for each Winch circuit Auto control Contactor cabinet for Air
Compressor, D.P. Switches & Fuses for each of the remaining outgoing circuits.

Instruments on main switchboard

4

ammeters

4

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

Switch & Fuse on each pole ✓

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 ✓

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Lloyd's Register
Foundation

007997-003005-0001

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. *Lighting 4.8, Power 8.2*

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. *Mains - Varnished Cambric, L.C.A.-B. Cables run in iron troughing with cover plates. Mch^l spaces - L.C.A.-B. cables secured with G.I. clips. Accom^l - L.C.A.-B. cables secured with brass clips.*

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*

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. *—*

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. *6 lights in Engine Room supplied from 12 Volt Battery.*

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 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. *—*

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. *—*

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. *—*

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. *—*

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office. *—*

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	2	65	220	296	300	Diesel Engine		Diesel Oil	
AUXILIARY	2	100		455					
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. Amps.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR... 65kw	2	1964	37	.083	296	176	Varn ^l Camb.	L.C.A.-B.
	EQUALISER CONNECTIONS/00	1	1964	37	.083	227	88	-do-	-do-
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM } Part	2	.00299	3	.036	2.73	20	V.I.R	-do-
	BOILER ROOM } Stbd.	2	.00299	3	.036	2.73	20	-do-	-do-
	ACCOMMODATION } Port Ring Main	2	.0396	19	.052	72.2	225	Varn ^l Camb.	-do-
	" " " " " Stbd "	2	.0396	19	.052	72.2	180	-do-	-do-
	WIRELESS	2	.00299	3	.036	7	72	V.I.R	L.C.-B.
	SEARCHLIGHT								
	MASTHEAD LIGHT...	2	.00194	3	.029	.45	640	-do-	L.C.A.-B.
	SIDE LIGHTS...	2	.00194	3	.029	.45	102	-do-	L.C.-B.
	COMPASS LIGHTS...	2	.00194	3	.029	.1	32	-do-	-do-
	POOP LIGHTS	2	.00299	3	.036	2.3	63	-do-	-do-
	CARGO LIGHTS	2	.00299	3	.036	1.63	48	-do-	L.C.A.-B.
	ARC LAMPS								
	HEATERS	2	.0396	19	.052	95.3	468	Varn ^l Camb	-do-

MOTOR CONDUCTORS.									
Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amps.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP	1	.1009	19	.083	116	63	V.I.R	L.C.A.-B.
	MAIN BILGE LINE PUMPS								
	GENERAL SERVICE PUMP	1	.0396	19	.052	52	54	-do-	-do-
	EMERGENCY BILGE PUMP								
	SANITARY PUMP								
	CIRC. SEA WATER PUMPS	1	.1009	19	.083	116	63	-do-	-do-
	CIRC. FRESH WATER PUMPS								
	AIR COMPRESSOR	1	.10376	127	.103	740	40	Varn ^l Camb	Braided.
	FRESH WATER PUMP								
	ENGINE TURNING GEAR	2	.01462	7	.052	32	240	V.I.R	L.C.A.-B.
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS								
	OIL FUEL TRANSFER PUMP	1	.01046	7	.044	26	54	-do-	-do-
	WINDLASS	1	.1478	37	.072	250	55	Varn ^l Camb	-do-
	WINCHES, FORWARD	4	.1478	37	.072	228	60	-do-	-do-
	WINCHES, AFT	1	.1478	37	.072	228	60	-do-	-do-
	STEERING GEAR	1	.1478	37	.072	228	60	Varn ^l Camb	-do-
	(a) MOTOR GENERATOR								
	(b) MAIN MOTOR	1	.1009	19	.083	88	595	-do-	-do-
	WORKSHOP MOTOR	1	.00701	7	.036	21	105	-do-	-do-
	VENTILATING FANS								
	Oil Purifiers N ^o 1-2	2	.00299	3	.036	10	50	-do-	-do-
	-do- N ^o 3	1	.00299	3	.036	10	30	-do-	-do-
	Aux. Lub. Oil Pump	1	.0396	19	.052	52	72	-do-	-do-
	Refrig. Machine	1	.00701	7	.036	21	221	-do-	-do-
	Blower	1	.00299	3	.036	12	30	-do-	-do-
	Warping Winch	1	.1009	19	.083	92	72	-do-	-do-

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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.

P.P. The Sunderland Forge & Eng^g Co^{ltd}
Hwy 21

Electrical Engineers.

Date 2.3.28

COMPASSES.

Distance between electric generators or motors and standard compass

152 ft

Distance between electric generators or motors and steering compass

152 ft

The nearest cables to the compasses are as follows:—

A cable carrying 4.55 Ampères 30 feet from standard compass 32 feet from steering compass.

A cable carrying .1 Ampères 12 feet from standard compass led into feet from steering compass.

A cable carrying .1 Ampères led into feet from standard compass 10 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 1° E degrees on all courses W.N.W.-N.N.W. course in the case of the standard

compass, and 1° W degrees on S.W. by S.-S.W. by W. course in the case of the steering compass.

1° W
1° E

GAMMELL LAIRD AND COMPANY LIMITED.

Builder's Signature.

Date

MANAGER.

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.)

This installation has been

fitted under Special Survey and in accordance with Rule requirements. The material and workmanship are good. The installation was tried under working conditions and found satisfactory. In our opinion the vessel is eligible for record of 'Elec. light' in Register Book.

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

Elec Light

3-4.28

Total Capacity of Generators 330 Kilowatts.

The amount of Fee ... £ 25 : 11 :

When applied for,
13/3/28.

Travelling Expenses (if any) £ :

When received,
24.4.28.

W. S. Shields & J. B. Milton.
Surveyors to Lloyd's Register of Shipping.

Committee's Minute

LIVERPOOL

23 MAR. 1928

Assigned

Electric Light



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