

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 5 NOV 1925

Date of writing Report 19 When handed in at Local Office 23/11/1925 Port of LIVERPOOL

No. in Survey held at Lytham Date, First Survey 14 Sept Last Survey 12 Oct 1925
Reg. Book. (Number of Visits 3)

38857 on the S.S. 'Elmfield' Tons { Gross 449
Net 175

Built at Lytham By whom built Lytham S.B. & Eng Co. Yard No. 674 When built 1925

Owners Zillah Shpg. & Carrying Co. Ltd. Port belonging to Liverpool

Electric Light Installation fitted by Jas. Scott. Contract No. When fitted 1925

System of Distribution Double wire ✓

Pressure of supply for Lighting 100 volts, Heating none ✓ volts, Power none ✓ volts.

Direct or Alternating Current, Lighting Direct ✓ Power —

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 overload 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 one only fitted ✓, is an adjustable regulating resistance fitted in series with each shunt field no

Are all terminals accessible and clearly marked Yes ✓, are they so spaced or shielded that they cannot be accidentally earthed, or short circuited Yes ✓

Position of Generators On Platform starboard side of Engine Room ✓, Are the lubricating arrangements of the generators as per Rule Yes ✓

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 axis 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, incombustible 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 connected to one pole insulated from the slab with mica or micanite and the slab similarly insulated from its framework Yes ✓, and is the frame effectively earthed Yes ✓

Are the following fittings as per Rule, viz.: — 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

Main generator :- Double pole quick break switches and double pole fuses

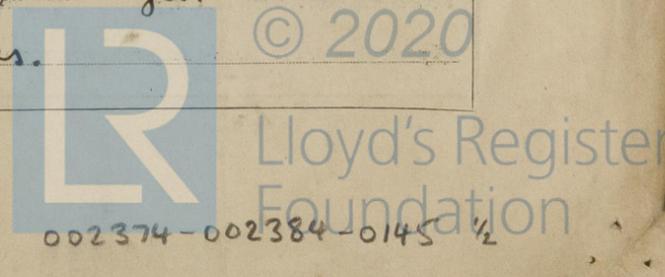
Circuits :- Single pole ditto, and ditto

Instruments on main switchboard 1 - 0/40 ammeters 1 - 0/120 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", two lamps connected in series across bus bars, and centre loop earthed.

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules Yes ✓

Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule Yes ✓. Porcelain bridge type fuses, fitting on to porcelain bases.



Insulation of Cables, state type of cables, single or twin Single are the cables insulated and protected as per Tables III or IV of the Rules yes

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 2 7/8

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.007 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 In galv. piping where liable to mechanical damage, in Engine Room lead covered and armoured cable used

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 VI yes

Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements No Refrig. Chamber.

Joints in Cables, state if any, and how made, insulated, and protected No joints 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 Positions, 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 Hard Fibre

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 —

Emergency Supply, state position and method of control of the emergency supply and how the generator is driven No emergency supply

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, are separate screens provided for the use of oil and electric side lights yes

are separate oil lanterns provided for the mast head lights and side lights 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 No

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected No

how are the cables led —

where are the controlling switches situated —

Searchlight Lamps, No. of None, whether fixed or portable —, are their fittings as per Rule —

Arc Lamps, other than searchlight lamps, No. of None, are their live parts insulated from the frame or case —, are their fittings as per Rule —

Motors, are their working parts readily accessible None, are the coils self-contained and readily removable for replacement —

are the brushes, brush holders, terminals and lubricating arrangements as per Rule —, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material —

are they protected from mechanical injury and damage from water, steam or oil — are their axis of rotation fore and aft —

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 as per Rule —

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.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN ...	1	3	100	30	750	Enclosed 3 1/2 x 3'	—	—
AUXILIARY ...						Self lubricating		
EMERGENCY ...						direct coupled		
ROTARY TRANSFORMER						Steam engine		

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR...	2	.0225	7	.064	30	12 ft	V.I.R.	Steel piping
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS...	2	.0945	7	.029	12	75 ft	V.I.R.	Steel piping
	ENGINE ROOM ...	2	.0045	7	.029	10	16 ft	"	Steel Cov. & Armoured
	BOILER ROOM ...	1	.0045	7	.029	8	80 ft	"	
	WIRELESS ...								
	SEARCHLIGHT ...								
	MASTHEAD LIGHT...	2	.002	3	.029	1	160 ft	V.I.R.	Steel piping
	SIDE LIGHTS ...	2	.002	3	.029	1	40 ft	V.I.R.	L.C. & Arm.
	COMPASS LIGHTS ...	2	.002	3	.029	.5	30 ft	V.I.R.	L.C. & Brass pipe.
	POOP LIGHTS ...								
	CARGO LIGHTS ...	2	.0045	7	.029	7.5	270 ft	V.I.R.	Steel piping
	ARC LAMPS ...								
	HEATERS ...								

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	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 ...								
	WORKSHOP MOTOR ...								
	VENTILATING FANS ...								

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.

JAMES SCOTT & Co.
ELECTRICAL ENGINEERS & WELDERS.

Booth Liverpool Electrical Engineers.

Date _____

COMPASSES.

Distance between electric generators or motors and standard compass *45 ft*
Distance between electric generators or motors and steering compass *20 ft*

The nearest cables to the compasses are as follows:—

A cable carrying *6* Ampères *10* feet from standard compass *20* feet from steering compass. *All double wire*
A cable carrying *10* Ampères *12* feet from standard compass *22* feet from steering compass.
A cable carrying *5* Ampères *2* feet from standard compass *12* 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 *Practically nil* degrees on *all* courses in the case of the standard compass, and *50* degrees on *50* course in the case of the steering compass.

THE LYTHAM SHIPBUILDING AND
ENGINEERING COMPANY, LIMITED.
W. L. ... Director's Signature. Date *Nov. 9/25*

Is this installation a duplicate of a previous case *Yes* If so, state name of vessel *S.S. 'Heatherfield'*

General Remarks (State quality of workmanship, opinions as to class, &c. *The electric light installation of this vessel has been fitted on board in an efficient manner, & the vessel is now eligible for record of 'Electric Light.'*

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

J.W.D.
27/11/25

Total Capacity of Generators *3* Kilowatts

The amount of Fee ... £ *5* : : { When applied for, *20.10.25*
Travelling Expenses (if any) £ : : { When received, *16.12.25*

S. Yonend.
Surveyor to Lloyd's Register of Shipping.

Committee's Minute *LIVERPOOL 24 NOV 1925*

Assigned *Electric Light.*

Im. 9.22.—Transfer.
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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