

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

25 MAR 1933

Date of writing Report

19

When handed in at Local Office

22 MAR 1933

Port of

LIVERPOOL

No. in Survey held at

Birkenhead

Date, First Survey

23rd Jan'y

Last Survey

23rd Feby 1933Reg. Book. *Suph*

(Number of Visits.....)

91113. on the *Bidston*

Tons

Gross

487

Net

179

Built at

Birkenhead

By whom built

Cammell Laird & Co. Ltd.

Yard No.

988

When built

1933

Owners

Birkenhead Corporation Ferries

Port belonging to

Liverpool

Electric Light Installation fitted by

The Sunderland Forge Eng. Co. Ltd.

Contract No.

988

When fitted

1933

Is the Vessel fitted for carrying Petroleum in bulk

System of Distribution

Double wire distribution Box.

Pressure of supply for Lighting

110

volts, Heating

volts, Power

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 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

One only.

, 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

Main Engine Room

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

Main Engine Room

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

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.

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.**yes.*

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches

*Double pole**Switch & fuses for main generator, Single pole switches & double pole fuses for each outgoing circuit.*

Instruments on main switchboard

one

ammeters

one

voltmeters

synchronising device for paralleling purposes.

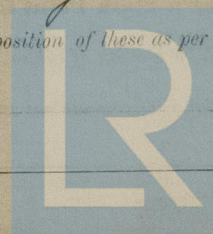
Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system

*Earth lamp**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.

Lloyd's Register
Foundation

005080-006095-0152 1/2

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 4.6.

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 Lead covered 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 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 —.

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 —.

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 no.

Secondary Batteries, are they constructed and fitted as per Rule —.

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 —, 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 axes 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 and fitted 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 ladders 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.	Amperes.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN ...	1	12 1/2	110	109	340	Steam S.C. Cylinder Engine.		
AUXILIARY ...								
EMERGENCY ...								
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR ...	1	100	10	0.083	100	118	28	V.I.R.	LEAD COVERED.
EQUALISER CONNECTIONS ...									
AUXILIARY GENERATOR ...									
EMERGENCY GENERATOR ...									
ROTARY TRANSFORMER MOTOR GENERATOR ...									
ENGINE ROOM ...	1	0.00701	7	0.036	14 1/2	24	20	V.I.R.	LEAD COVERED.
BOILER ROOM ...									
AUXILIARY SWITCHBOARDS ...									
ACCOMMODATION ...									
SMOKING SALOON ...	1	0.0045	7	0.029	6 1/4	18.2	160	V.I.R.	LEAD COVERED.
GENERAL SALOON ...	1	0.0045	7	0.029	8 1/4	18.2	60	V.I.R.	LEAD COVERED.
LADIES SALOON ...	1	0.003	3	0.036	4	12.0	80	V.I.R.	LEAD COVERED.
NAVIGATION DECK LTS. ...	1	0.0045	7	0.029	8 1/4	18.2	190	V.I.R.	LEAD COVERED.
SEARCHLIGHT ...	1	0.0045	7	0.029	13 1/4	18.2	160	V.I.R.	LEAD COVERED.
MASTHEAD LIGHT ...	1	0.00194	3	0.029	36	7.8	120	V.I.R.	LEAD COVERED.
SIDE LIGHTS ...	1	0.00194	3	0.029	36	7.8	30	V.I.R.	LEAD COVERED.
COMPASS LIGHTS ...	1	0.00194	3	0.029	12	7.8	8	V.I.R.	LEAD COVERED.
STERN LIGHT ...	1	0.00194	3	0.029	36	7.8	200	V.I.R.	LEAD COVERED.
CARGO LIGHTS ...									
ARC LAMPS ...									
HEATERS ...									

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Effective 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 ...										
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.

p.pro. THE SUNDERLAND FORGE & ENG. CO. LTD.

Electrical Engineers.

Date 8.3.33.

COMPASSES.

Distance between electric generators or motors and standard compass

Distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying 8.7 Ampères feet from standard compass 10 feet from steering compass.

A cable carrying 19 Ampères feet from standard compass lead into 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

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted

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 sec. course in the case of the steering compass.

FOR AND ON BEHALF OF
CAMMELL LAIRD & CO. LIMITED.

Builder's Signature.

Date

15 MAR 1933

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. The above installation was

carried out under special survey. The inst'n on completion was tested under working conditions, the materials & workmanship were good. The vessel is eligible in opinion for notation elec light

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

Elec. Light

28/3/33

Total Capacity of Generators 12 Kilowatts.

The amount of Fee ... £ 12 : - : When applied for, 14/3/33.

Travelling Expenses (if any) £ : : When received, 24 MAR. 1933

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

Committee's Minute LIVERPOOL 24 MAR. 1933

Assigned Electric Light