

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office... 6 MAY 1930

Date of writing Report

19

When handed in at Local Office

5 MAY 1930

Port of

SUNDERLAND.

No. in Survey held at

Sunderland

Date, First Survey

18/12/29

Last Survey

1/3/1930

Reg. Book. Suffix.

ESSEX MANOR

40198 on the

Tons

Gross 5001

Net 3100

Built at

SUNDERLAND

By whom built

W<sup>ms</sup> DOXFORD & SONS LTD

Yard No. 601

When built

1930

Owners

Essex S.S. Co. Ltd.

Port belonging to

London

Electric Light Installation fitted by

THE SUNDERLAND FORGE & ENG. CO. LTD.

Contract No. 601

When fitted

1930

System of Distribution

Double Wire

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 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

1 Generator

, is an adjustable regulating resistance fitted in series with each shunt field

—

Are all terminals accessible and clearly marked

Yes

, are they so spaced or shielded that they cannot be accidentally earthed, or short circuited

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 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

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

—

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 micaite and the slab similarly insulated from its framework

Yes

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

Double Pole Switch & Fuses on Main Generator. Single Pole Switches & double pole Fuses on each outgoing circuit.

Instruments on main switchboard

1

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

Lamps Switches & Fuses.

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

RETAIN

RETAIN



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**Insulation of Cables**, state type of cables, single or twin Single & Twin 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 5.3

**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 L.C. & B in Brass Clips in Accom. V.I.R. in Galvanized Wrought Iron Pipe in 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 VI 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 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 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 Yes, are separate screens provided for the use of oil and electric side lights —

are separate oil lanterns provided for the mast head lights and side lights —

**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 axis 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 Drip Proof, 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 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.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	1	10	110	90.9	380	Steam Engine		
AUXILIARY								
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. Ampères.	Approximate Length. (Lead and Return). Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	2	.075	19	.072	90.9	30	V.I.R.	L.C.B.
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	2	.003	3	.036	6.8	40	V.I.R.	L.C.B.
	BOILER ROOM								
	NAVIGATION	2	.003	3	.036	4.2	360	V.I.R.	in G.W.I. Pipe
	CARGO	2	.007	7	.036	16.3	105	V.I.R.	in G.W.I. Pipe
	ACCOMMODATION	2	.007	7	.036	11.6	310	V.I.R.	in G.W.I. Pipe
	WIRELESS	2	.010	7	.044	15	360	V.I.R.	in G.W.I. Pipe
	SEARCHLIGHT								
	MASTHEAD LIGHT	2	.002	3	.029	.36	470	V.I.R.	in G.W.I. Pipe
	SIDE LIGHTS	2	.002	3	.029	.36	70	V.I.R.	L.C.B.
	COMPASS LIGHTS	2	.002	3	.029	.18	50	V.I.R.	L.C.B.
	STEER LIGHTS	2	.002	3	.029	.36	300	V.I.R.	L.C.B.
	CARGO LIGHTS								
	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.

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

*H. Aaffus*

Electrical Engineers.

Date 15th April 1930

COMPASSES.

Distance between electric generators or motors and standard compass 116 feet

Distance between electric generators or motors and steering compass 120 feet

The nearest cables to the compasses are as follows:—

A cable carrying 4.2 Ampères 10 feet from standard compass 10 feet from steering compass.

A cable carrying .18 Ampères 2 feet from standard compass 2 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 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.

WILLIAM DOXFORD & SONS, Limited.

*W. Gallacher*

Builder's Signature.

Date 23/4/1930

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.

*W.T. Badger*  
12/5/30

Total Capacity of Generators 10 Kilowatts

The amount of Fee ... £ 10: : 3 Mch 19 30

Travelling Expenses (if any) £ : : 11 Mch 19 30

*W.T. Badger*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned *Elec Light*

1m, 9, 21, — Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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