

asmt

Rpt. 13.

No. 16193.

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

19 JUL 1930

Received at London Office.....

Date of writing Report 18-7-1930 When handed in at Local Office 18-7-1930 Port of Aberdeen

No. in Survey held at Aberdeen Date, First Survey 23-6-30 Last Survey 7-7-1930  
Reg. Book. (Number of Visits 3)

on the steam trawler "FRIARAGE".

Tons { Gross 215.33  
Net 93.53

Built at Aberdeen By whom built J. Lewis & Sons Ltd. Yard No. 119 When built 1930

Owners J. Graham & Sons Ltd. Port belonging to Hartlepool

Electric Light Installation fitted by J. Lewis & Sons Ltd. Contract No. When fitted 1930

Is the Vessel fitted for carrying Petroleum in bulk No.

System of Distribution Two wire.

Pressure of supply for Lighting 110 volts, Heating - volts, Power - volts.

Direct or Alternating Current, Lighting Direct Current 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 - , 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 Starboard side of 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 in engine room near dynamos.

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 micamite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework -

and is the frame effectively earthed - 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

switch & fuses to generator, S.P. switch & D.P. fuses for each outgoing circuit.

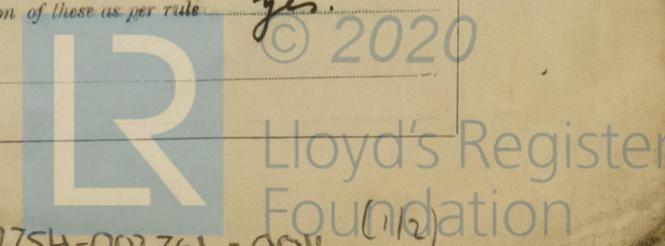
Instruments on main switchboard one ammeter, one voltmeter, - synchronising device for paralleling purposes.

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

Earth lamps.

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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**Cables:** *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 *2 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 *none*

**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 *clipped to under side of deck & to bulkheads.*

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 *none*

**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 *through earth lamps.*

are their connections made as per Rule *yes*

**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*

**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. not required by owners.*

**Secondary Batteries,** are they constructed and fitted as per Rule *none*

**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 *none*, are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *none*, 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 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 lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office

DESCRIPTION OF GENERATOR	No. of	RATED AT			DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE	
		Kilowatts	Volts	Amps.		Fuel Used	Flash Point of Fuel
MAIN	<i>One</i>	<i>2.5</i>	<i>110</i>	<i>23</i>	<i>480</i>	<i>Steam engine</i>	
AUXILIARY							
EMERGENCY							
ROTARY TRANSFORMER							

DESCRIPTION	CONDUCTORS		COMPOSITION OF STRAND		TOTAL MAXIMUM CURRENT AMPERES		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	<i>1</i>	<i>0.01046</i>	<i>7</i>	<i>.044</i>	<i>20</i>	<i>31</i>	<i>20</i>	<i>V.I.B.</i>	<i>Galv. steel tube</i>
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER MOTOR GENERATOR									
ENGINE ROOM	<i>1</i>	<i>0.00194</i>	<i>3</i>	<i>.029</i>	<i>1 1/2</i>	<i>7.8</i>	<i>28</i>	<i>"</i>	<i>L.C. Arm. &amp; braided</i>
BOILER ROOM	<i>1</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>1</i>	<i>"</i>	<i>35</i>	<i>"</i>	<i>"</i>
AUXILIARY SWITCHBOARDS									
Engine room cable	<i>1</i>	<i>0.00299</i>	<i>"</i>	<i>.036</i>	<i>8</i>	<i>12</i>	<i>12</i>	<i>"</i>	<i>"</i>
Navigation	<i>1</i>	<i>0.00194</i>	<i>"</i>	<i>.029</i>	<i>2</i>	<i>7.8</i>	<i>120</i>	<i>"</i>	<i>"</i>
Deck	<i>1</i>	<i>0.00299</i>	<i>"</i>	<i>.036</i>	<i>12</i>	<i>12</i>	<i>120</i>	<i>"</i>	<i>"</i>
ACCOMMODATION	<i>1</i>	<i>0.00194</i>	<i>"</i>	<i>.029</i>	<i>1</i>	<i>7.8</i>	<i>180</i>	<i>"</i>	<i>"</i>
	<i>1</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>1</i>	<i>"</i>	<i>100</i>	<i>"</i>	<i>"</i>
WIRELESS									
SEARCHLIGHT	<i>1</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>1/2</i>	<i>"</i>	<i>180</i>	<i>"</i>	<i>"</i>
MASTHEAD LIGHT	<i>1</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>1/2</i>	<i>"</i>	<i>20</i>	<i>"</i>	<i>"</i>
SIDE LIGHTS	<i>1</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>1/2</i>	<i>"</i>	<i>16</i>	<i>"</i>	<i>Lead covered</i>
COMPASS LIGHTS	<i>1</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>1/2</i>	<i>"</i>	<i>150</i>	<i>"</i>	<i>L.C. Arm. &amp; braided</i>
STERN LIGHTS	<i>1</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>1/2</i>	<i>"</i>	<i>150</i>	<i>"</i>	<i>"</i>
CARGO LIGHTS									
ARC LAMPS									
HEATERS									

DESCRIPTION	CONDUCTORS		COMPOSITION OF STRAND		TOTAL MAXIMUM CURRENT AMPERES		Approximate Length (Lead and Return) Feet	Insulated with	HOW PROTECTED
	No. of Motors	No. Per Pole	Total Effective Area per Pole Sq. Ins.	No.	Diameter	In Circuit			
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.

**JOHN LEWIS & SONS Ltd.**

*C. Willmott* Electrical Engineers. Date \_\_\_\_\_

**COMPASSES.**

Distance between electric generators or motors and standard compass \_\_\_\_\_

Distance between electric generators or motors and steering compass at least 40 ft.

The nearest cables to the compasses are as follows:—

A cable carrying 1 Ampères \_\_\_\_\_ feet from standard compass. 1 1/2 feet from steering compass.

A cable carrying 1/2 Ampères \_\_\_\_\_ feet from standard compass. to 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 \_\_\_\_\_ degrees on \_\_\_\_\_ course in the case of the standard compass, and no degrees on any course in the case of the steering compass.

**JOHN LEWIS & SONS Ltd.**

*C. Willmott* Builder's Signature. Date \_\_\_\_\_  
 SHIPYARD MANAGER

Is this installation a duplicate of a previous case  If so, state name of vessel \_\_\_\_\_

General Remarks (State quality of workmanship, opinions as to class, &c. \_\_\_\_\_)

The electrical installation of this vessel has been fitted on board under special survey, tried under working conditions, and found good.  
 It is eligible in my opinion to have the record "Electric Light" in the Register Book.

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

21/7/30

Total Capacity of Generators 2.5 Kilowatts.

The amount of Fee ... £ 3 : - : When applied for, 11-7-1930.

Travelling Expenses (if any) £ : : When received, 29.7.30

*P. Fitzgerald*  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute \_\_\_\_\_

Assigned Elec. Lt.

Im. 12, 28.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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