

Rpt. 13.

No. 37024

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 20 MAY 1926

Date of writing Report 19 When handed in at Local Office 19/5 1926 Port of Hull

No. in Survey held at Hull Date, First Survey 14/4/26 Last Survey 28-4-1926  
Reg. Book. (Number of Visits... 5)

on the steam trawler "TOURMALINE" Tons { Gross 352  
Net

Built at Beverley By whom built Cook, Wilton & Gemmell Yard No. 482 When built 1926

Owners Kingston S. T. Co. Ltd. Port belonging to Hull

Electric Light Installation fitted by W. Broady & Son. Ltd. Contract No. When fitted 1926

System of Distribution Two wire ✓

Pressure of supply for Lighting 100 ✓ volts, Heating ✓ volts, Power ✓ 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 ✓, 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 ✓

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 ✓

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 ✓

are their axis of rotation fore and aft ✓

Earthing, are the bedplates and frames of the generating plant efficiently earthed ✓ are the prime movers and their respective generators in metallic contact ✓

Main Switch Boards, where placed Beside dynamo in 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 ✓

are they protected from mechanical injury and damage from water, steam or oil ✓, 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 ✓, is all insulation of high dielectric strength and of permanently high insulation resistance ✓

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 ✓, and is the frame effectively earthed ✓

Are the following fittings as per Rule, viz.:— spacing or shielding of live parts ✓

yes, accessibility of all parts ✓, absence of fuses on back of board ✓, proportion of omnibus bars ✓

yes, individual fuses to voltmeter, pilot or earth lamp ✓, connections of switches ✓

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

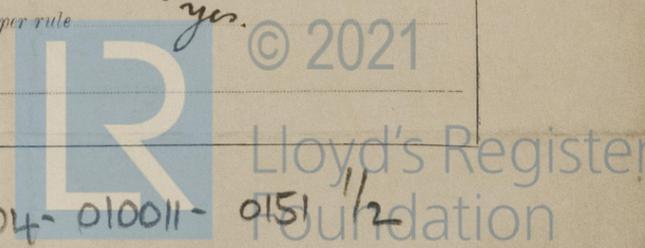
going circuit controlled by S.P. fuse & S.P. switch.

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 lamps

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

Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule ✓



**Insulation of Cables**, state type of cables, single or twin both 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 1 volt.

**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 socket 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 Armoured cables, G.I. clips & screws. L.C. cables 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 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 no joints.

**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 ebonite.

**Earthing Connections**, state what earthing connections are fitted and their respective sectional areas at switch board 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, 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 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

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 none

**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.	Ampères.	Rets. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN ...	<u>one</u>	<u>6</u>	<u>100</u>	<u>60</u>	<u>350</u>	<u>Steam engine.</u>		
AUXILIARY ...								
EMERGENCY ...								
ROTARY TRANSFORMER								

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR...	<u>2</u>	<u>.06</u>	<u>19</u>	<u>.064</u>	<u>45</u>	<u>24</u>	<u>V.I.R.</u>	<u>Lead covered.</u>
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS ...								
	ENGINE ROOM ...	<u>2</u>	<u>.0018</u>	<u>3</u>	<u>22 WG.</u>	<u>2</u>	<u>100</u>	<u>"</u>	<u>L.C. &amp; armoured.</u>
	BOILER ROOM ...	<u>2</u>	<u>.0018</u>	<u>3</u>	<u>" "</u>	<u>2</u>	<u>60</u>	<u>"</u>	<u>"</u>
	<u>Accommodation</u>	<u>2</u>	<u>.0125</u>	<u>7</u>	<u>18 "</u>	<u>10</u>	<u>24</u>	<u>"</u>	<u>"</u>
	<u>"</u>	<u>2</u>	<u>.0125</u>	<u>7</u>	<u>" "</u>	<u>10</u>	<u>160</u>	<u>"</u>	<u>"</u>
	WIRELESS ...								
	SEARCHLIGHT ...								
	MASTHEAD LIGHT...	<u>2</u>	<u>.0018</u>	<u>3</u>	<u>22 WG.</u>	<u>2</u>	<u>160</u>	<u>"</u>	<u>"</u>
	SIDE LIGHTS ...	<u>2</u>	<u>.0018</u>	<u>3</u>	<u>"</u>	<u>2</u>	<u>50</u>	<u>"</u>	<u>"</u>
	COMPASS LIGHTS ...	<u>2</u>	<u>.0018</u>	<u>3</u>	<u>"</u>	<u>2</u>	<u>50</u>	<u>"</u>	<u>"</u>
	POOP LIGHTS ...								
	CARGO LIGHTS ...								
	ARC LAMPS ...								
	HEATERS ...								

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	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.

WM. BROADBENT & SON  
 ENGLISH STREET  
 HULL

Electrical Engineers.

Date 15/5/26

COMPASSES.

Distance between electric generators or motors and standard compass 60ft.

Distance between electric generators or motors and steering compass 56ft.

The nearest cables to the compasses are as follows:—

A cable carrying .3 Ampères 8 feet from standard compass 4 feet from steering compass.

A cable carrying Ampères feet from standard compass 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 no degrees on any course in the case of the standard

compass, and no degrees on any course in the case of the steering compass.

COOK, WELTON & GEMMELL, LTD.

Alex. J. Twiddle

Builder's Signature.

Date 18-5-26

DIRECTOR

Is this installation a duplicate of a previous case yes If so, state name of vessel Sardius.

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, & found in good order. It is eligible in my opinion to have record of "Electric Light".

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

J.W.D.  
 25/5/26

Total Capacity of Generators 6 Kilowatts

The amount of Fee ... £ 3 : - : When applied for, 11/5 1926

Travelling Expenses (if any) £ : : When received, 1.7.26

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

Committee's Minute

Assigned

Elec. Lt.

Im. 924.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



© 2021

Lloyd's Register Foundation