

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report 28.3.1928 When handed in at Local Office 28.4.1928 Port of GLASGOW.

No. in Survey held at GRANGEMOUTH. Date, First Survey 28.3.28 Last Survey 5.4.28 19  
Reg. Book. (Number of Visits.....)

41867. on the S. S. MIRANI.

Tons { Gross 739  
Net 381

Built at GRANGEMOUTH. By whom built THE GRANGEMOUTH DRY Dock No. 415 When built 1928

Owners MESSRS BURNS PHILIP & CO. Port belonging to LONDON.

Electric Light Installation fitted by MESSRS TELFORD GRIER & MCKAY. Contract No. When fitted

System of Distribution Two Wire ✓

Pressure of supply for Lighting 110 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 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. yes

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 Stbd. 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. On Bulkhead near Dynamo

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. Slate Slab, if semi-insulating material is used, are all conducting parts insulated from the slab

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

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

Double pole Switch & Two single pole Fuses for Dynamo Circuit

Single pole Switch & Two single pole Fuses for each outgoing Circuit.

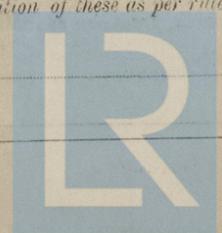
Instruments on main switchboard one ammeter, one voltmeter, — synchronising device for paralleling purposes.

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

Lamp Switch & Fuse in series between each bus bar & earth.

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



© 2020

Lloyd's Register Foundation

**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 5 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 yes

**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 supported by clips & protected by steel tubes

If cables are run in wood casings, are the casings and caps secured by screws yes, are the cap screws of brass yes, are the cables run in separate grooves yes. 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 yes

**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 yes

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 yes

**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 yes

where are the controlling switches situated yes

**Searchlight Lamps, No. of** none, whether fixed or portable yes, are their fittings as per Rule yes

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

**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 axes 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 yes, if not of this type, state distance of the combustible material horizontally or vertically above the motors yes and yes

**Control Gear and Resistances,** are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule yes

**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 yes

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office yes

**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	one	6	110	55	350	Open 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...	One	.04	✓ 19	.052	55	60	N.R.	L.C. in Tube.
	EQUALISER CONNECTIONS								
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM								
	BOILER ROOM								
	ACCOMMODATION								
	Fans	one	.0045	✓ 4	.029	6	72	N.R.	L.C. in Tube
	Navigation	one	.0045	✓ 4	.029	5	180	N.R.	In Tube
	Forward	one	.0045	✓ 4	.029	8	258	N.R.	In Tube
	Saloon	one	.0045	✓ 4	.029	10	132	N.R.	In Tube
	Wireless	one	.0045	✓ 4	.029	8	72	N.R.	L.C. in Tube
	Midship	one	.0045	✓ 4	.029	12	72	N.R.	L.C. in Tube
	Engine Room	one	.0045	✓ 4	.029	8	24	N.R.	L.C. in Tube
	WIRELESS								
	SEARCHLIGHT								
	MASTHEAD LIGHT								
	SIDE LIGHTS								
	COMPASS LIGHTS								
	POOP LIGHTS								
	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								
	(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.

**TELFORD, GRIER & MACKAY, LTD.**

Electrical Engineers.

Date

**COMPASSES.**

Distance between electric generators or motors and standard compass

60 feet

Distance between electric generators or motors and steering compass

56 feet

The nearest cables to the compasses are as follows:—

A cable carrying 5 Ampères 12 feet from standard compass 8 feet from steering compass.

A cable carrying 1/2 Ampères one foot from standard compass one foot 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 *any* course in the case of the standard

compass, and *nil* degrees on *any* course in the case of the steering compass.

THE GRANGEMOUTH DOCKYARD

*A. G. Grier*

Builder's Signature.

Date *12<sup>th</sup> April 1928*

Is this installation a duplicate of a previous case *Yes* if so, state name of vessel *SS. Malaké*

General Remarks (State quality of workmanship, opinions as to class, etc.) *This installation has*

*been fitted on board under special survey. Tested under full load conditions and found satisfactory.*

*The materials & workmanship were found to be good and sound.*

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

*J. Rankin*  
7/5/28

Total Capacity of Generators *6* Kilowatts.

The amount of Fee ... £ *6.0.0* : *27.4.28* When applied for.

Travelling Expenses (if any) £ *10.0* : *2.5.28* When received.

*J. Rankin*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 1 - MAY 1928**

Assigned *Elec. Light.*

*A. G. Grier*  
21/4/28

Im. 127.—Transfer.  
(The Surveys are requested not to write on or behind the space for Committee's Minute.)



© 2020

Lloyd's Register Foundation