

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

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Date of writing Report 13/11/25 When handed in at Local Office 20.2.26 10 Port of GLASGOW.

No. 701 Survey held at GLASGOW. Date, First Survey 15<sup>th</sup> Oct 1925 Last Survey Nov 11<sup>th</sup> 1925  
(Number of Visits 4)

on the S. S. GRAIGWEN. Tons { Gross 3694 Net

Built at PORT GLASGOW. By whom built MESSRS R. DONCAN & CO. Yard No. 366 When built 1925.

Owners MESSRS THE GRAIG SHIPPING CO. Port belonging to CARDIFF.

Electric Light Installation fitted by MESSRS TELFORD GRIER & MCKAY. Contract No. 366 When fitted 1925.

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 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 yes

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 Engine Room on Starboard Side

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 on Bulkhead beside Generator.

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 Slate Base, 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 yes, and is the

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

One double pole switch & two single Pole Fuses for Generator

One Single Pole Switch & Two Single Pole Fuses for outgoing

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

Single Pole Tumbler Switch, Fuse & Lamp in Series between each bus bar & Earth.

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



**Insulation of Cables**, state type of cables, single or twin *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 Volts*

**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 *supported by clips to underside of deck or to bulkhead. Protected by Armour or lead cover & armour*

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 *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 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 *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 *Watertight Well-Glass or Bulkhead Glass protected by heavy metal Guard*

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 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 *yes*

**Lightning Conductors**, where lightning conductors are required, are these fitted as per Rule *yes*

**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	one	8	110	73	380	Vertical Open Type 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	.06	19	.064	73	40 feet	V.I.R.	Lead cover & steel Tube
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM								
	BOILER ROOM								
	Forward	one	.0045	7	.029	4	170 yds	V.I.R.	Armd.
	Navigation	one	.0045	7	.029	7	90 yds	V.I.R.	Armd
	Saloon	one	.0045	7	.029	7	80 yds	V.I.R.	Armd
	Wireless	one	.004	7	.036	14	84 yds	V.I.R.	Armd
	Engineers	one	.0045	7	.029	6	30 yds	V.I.R.	L.C. & A.
	Engine Room	one	.0045	7	.029	5	10 yds	V.I.R.	L.C. & A.
	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								
	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.

*Jelford Greer & Mackay* Electrical Engineers. Date 16th Nov. 1925  
*per W. Henderson Director*

COMPASSES.

Distance between electric generators or motors and standard compass 105 ft.  
 Distance between electric generators or motors and steering compass 105 ft.  
 The nearest cables to the compasses are as follows:—  
 A cable carrying 7 Ampères 12 feet from standard compass 6 feet from steering compass.  
 A cable carrying 1/2 Ampères one feet from standard compass one 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 any course in the case of the standard compass, and nil degrees on any course in the case of the steering compass.

*Robert Duncan & Co. Ltd* Builder's Signature. Date 18/11/25  
*per W. Kelly*

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.) This installation has been fitted on board under special survey. Tested under full working conditions and found satisfactory. The workmanship was found to be good and sound.

It is submitted that this vessel is eligible for THE RECORD. Glec. Light.  
*RM*  
3/3/26

Total Capacity of Generators 8 Kilowatts

The amount of Fee ... £ 8.0.0 : When applied for, clerk.  
 Travelling Expenses (if any) £ : : When received, 8/21/26  
nmsh.

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

Committee's Minute GLASGOW 23 FEB 1926

Assigned Glec. Light.

*A. G.*  
20/2/26

In 9, 24.—Transfer. (The Surveys are requested not to write on or below the space for Committee's Minutes.)