

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 4 FEB 1948

Date of writing Report 19<sup>TH</sup> JANUARY 1948 When handed in at Local Office 3. 2. 48 Port of GLASGOW

No. in Survey held at PORT GLASGOW Date, First Survey 27<sup>TH</sup> FEBRUARY Last Survey 19<sup>TH</sup> JANUARY 1948  
Reg. Book. (Number of Visits.....)

36401 on the ARGUS Tons 1918  
Net 671

Built at PORT GLASGOW By whom built FERGUSON BROS (P.GLS) LTD Yard No. 381 When built 1947

Owners CORPORATION OF THE TRINITY HOUSE Port belonging to LONDON

Electrical Installation fitted by MESSRS J. CHARTERS Contract No. 381 When fitted 1947

Is vessel fitted for carrying Petroleum in bulk No Is vessel equipped with D.F. YES E.S.D. YES Gy.C. ✓ Sub.Sig. ✓

Have plans been submitted and approved YES System of Distribution TWO WIRE Voltage of supply for Lighting 220

Heating 220 Power 220 Direct or Alternating Current, Lighting D.C. Power D.C. If Alternating Current state periodicity ✓ Prime Movers,

has the governing been tested and found as per Rule when full load is suddenly thrown on and off YES Are turbine emergency governors fitted with a

trip switch as per Rule ✓ Generators, are they compound wound YES, are they level compounded under working conditions YES,

if not compound wound state distance between generators ✓ and from switchboard ✓ Where more than one generator is fitted are they

arranged to run in parallel YES, are shunt field regulators provided YES Is the compound winding connected to the negative or positive pole

NEGATIVE Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing ✓ Have certificates of

test for machines under 100 kw. been supplied YES and the results found as per rule YES Are the lubricating arrangements and the construction

of the generators as per rule YES Position of Generators IN ENGINE ROOM

, is the ventilation in way of generators satisfactory YES are they clear of inflammable material YES, if situated

near unprotected combustible material state distance from same horizontally ✓ and vertically ✓, are the generators protected from mechanical

injury and damage from water, steam and oil YES, are the bedplates and frames earthed YES and the prime movers and generators in metallic

contact YES Switchboards, where are main switchboards placed ON RAISED PLATFORM AT FIT END OF ENGINE ROOM

are they in accessible positions, free from inflammable gases and acid fumes YES, are they protected from mechanical injury and damage from water, steam

and oil YES, if situated near unprotected combustible material state distance from same horizontally ✓ and vertically ✓, what insulation

material is used for the panels FITTINGS MOUNTED ON INSULATED STEEL BARS, if of synthetic insulating material is it an Approved Type YES, if of

semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule ✓ Is the frame effectually earthed YES

Is the construction as per Rule YES, including accessibility of parts YES, absence of fuses on the back of the board YES, individual fuses

to pilot and earth lamps, voltmeters, etc. YES locking of screws and nuts YES, labelling of apparatus and fuses YES, fuses on the "dead"

side of switches YES Description of Main Switchgear for each generator and arrangement of equaliser switches MAIN GENERATORS - 227 AMP

D.P. CIRCUIT-BREAKER FITTED WITH OVERLOAD AND REVERSE CURRENT TRIPS. S.P. EQUALISER SWITCH INTER-

LOCKED WITH CIRCUIT-BREAKER. AUXILIARY GENERATOR - 200 AMP. D.P. SWITCH AND FUSES.

and for each outgoing circuit 200 AMP, 150 AMP OR 60 AMP. D.P. SWITCHES WITH FUSES.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule YES Instruments on main switchboard Four

ammeters Two voltmeters ✓ synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the

equaliser connection YES Earth Testing, state means provided EARTH LAMPS

Switches, Circuit Breakers and Fuses, are they as per Rule YES, are the fuses an approved type YES, are all fuses labelled as

per Rule YES If circuit breakers are provided for the generators, at what overload current did they open when tested FULL LOAD, are the reversed current

protection devices connected on the pole opposite to the equaliser connection YES, have they been tested under working conditions, and at what current

did they operate 10% - 15% FL Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule YES

Cables, are they insulated and protected as per the appropriate Tables of the Rules YES, if otherwise than as per Rule are they of an approved type ✓,

state maximum fall of pressure between bus bars and any point under maximum load 4.7 VOLTS, are the ends of all cables having a sectional area of 0.01

square inch and above provided with soldering sockets YES Are paper insulated and varnished cambric insulated cables sealed at the ends YES



with insulating compound ☒ or waterproof insulating tape ☒. Are all the cable runs in accessible positions, not exposed to drip or accumulation of water or oil, high temperatures or risk of mechanical damage ☒. Are cables laid under machines or floorplates ☒. If so, are they adequately protected ☒. Are cables in machinery spaces, galleys, laundries, etc., lead covered ☒ or run in conduit ☒. State how the cables are supported and protected.

MAINS. - L.C. CABLES CLIPPED TO STEEL TRAY.

MACHINERY SPACE. - L.C. CABLES CLIPPED TO STEEL TRAY.

ACCOMMODATION. - L.C. CABLE CLIPPED TO WOODWORK.

Are all lead sheaths, armouring and conduits effectually bonded and earthed ☒. Refrigerated chambers, are the cables and fittings as per Rule ☒.

Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands ☒. Where unarmoured cables pass through beams, etc., are the holes effectively bushed ☒ and with what material LEAD. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule ☒. Emergency Supply, state position ☒.

Navigation Lamps, are they separately wired ☒ controlled by separate double pole switches ☒ and fuses ☒. Are the switches and fuses in a position accessible only to the officers on watch ☒. Is an automatic indicator fitted ☒. Secondary Batteries, are they constructed and fitted as per Rule ☒. Are they adequately ventilated ☒. What is the battery capacity in ampere hours ☒.

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof ☒. Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present ☒. If so, how are they protected ☒.

FLAMEPROOF FITTINGS. and where are the controlling switches fitted OUTSIDE PIPE TUNNEL. Are all fittings suitably ventilated ☒. Are all fittings and accessories constructed and installed as per Rule ☒. Searchlight Lamps, No. of 2, whether fixed or portable FIXED. Are their fittings as per Rule ☒. Heating and Cooking, is the general construction as per Rule ☒.

Are the frames effectually earthed ☒. Are heaters in the accommodation of the convection type NO. Motors, are all motors constructed and installed as per Rule ☒ and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil ☒. If situated near unprotected combustible material state minimum distance from same horizontally ☒ and vertically ☒. Are motors coupled to oil fuel transfer and unit pressure pumps capable of being stopped from a position accessible in the event of fire in the pump compartment ☒.

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing ☒. Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule ☒. Control Gear and Resistances, are they constructed and fitted as per Rule ☒. Lightning Conductors, where required are they fitted as per Rule ☒. Ships carrying Oil having a Flash Point less than 150° F. Have all the special requirements of the Rules for such ships been complied with ☒. Are all fuses of the cartridge type ☒.

Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships ☒. Are the cables lead covered as per Rule ☒. Spare Gear, if the vessel is for open sea service have spares been provided as per Rule ☒. Are they suitably stored in dry situations ☒. Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory ☒.

Particulars of Generating Plant.

DESCRIPTION OF GENERATOR. No. of Kilowatts. Volts. Amperes. Revs. per Min. DRIVEN BY Fuel Used. Flash Point of Fuel.

MAIN ... 2 50 220 227 500 STEAM ENGINE OIL FUEL ABOVE 150°F

1 50 220 227 800 DIESEL ENGINE OIL FUEL ABOVE 150°F

1 30 225 133 1100 DIESEL ENGINE OIL FUEL ABOVE 150°F

EMERGENCY ...

ROTARY TRANSFORMER

GENERATOR CABLES.

DESCRIPTION. KILOWATTS. CONDUCTORS. No. in Parallel Per Pole. Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm. MAXIMUM CURRENT IN AMPERES. In the Circuit. Rule. APPROX. LENGTH (lead plus return feet). INSULATED WITH. HOW PROTECTED.

MAIN GENERATOR ... 50 1 37/103 227 385 100 V.C. L.C.

" " EQUALISER ... 30 1 37/072 133 246 50 V.C. L.C.

EMERGENCY GENERATOR ...

ROTARY TRANSFORMER: MOTOR

" " GENERATOR ...

# MAIN DISTRIBUTION CABLES.

DESCRIPTION. CONDUCTORS. No. in Parallel Per Pole. Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm. MAXIMUM CURRENT IN AMPERES. In the Circuit. Rule. APPROX. LENGTH (lead plus return feet). INSULATED WITH. HOW PROTECTED.

AUX. SWITCHBOARDS AND SECTION BOARDS ...

## LIGHTING AND HEATING, ETC., CABLES.

WIRELESS ... 1 7/036 10 24 210 RUBBER L.C.

NAVIGATION LIGHTS ... 1 3/036 2.5 10 210 RUBBER L.C.

LIGHTING AND HEATING ... 1 7/044 18.7 31 260 RUBBER L.C.

FORWARD LIGHTING ... 1 7/044 24 31 112 RUBBER L.C.

AFT LIGHTING ... 1 7/064 43.8 46 112 RUBBER L.C.

MIDSHIP LIGHTING ... 1 7/064 25.1 46 60 RUBBER L.C.

UPPER DECK LIGHTING ... 1 7/064 15.1 46 40 RUBBER L.C.

BRIDGE LIGHTING ... 1 7/064 31.8 46 100 RUBBER L.C.

PANTRY D.B. ... 1 7/036 17.6 24 30 RUBBER L.C.

ENGINE ROOM LIGHTING ... 1 19/052 44 104 140 V.C. L.C.

FORWARD PUMPS ... 1 7/044 25.1 31 30 RUBBER L.C.

ENGINE ROOM PUMPS ... 1 7/036 12.6 24 100 RUBBER L.C.

DONKEY BOILER D.B. ... 1 7/044 28.5 31 110 RUBBER L.C.

REFRIG. AND GALLEY D.B. ... 1 19/052 45 104 160 V.C. L.C.

CAPSTANS ... 1 7/064 45.6 46 110 RUBBER L.C.

VENTILATION D.B. ... 1 19/052 104 100 V.C. L.C.

SHORE SUPPLY.

## MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED. No. B.H.P. 2 10 1 7/064 41 46 210 RUBBER L.C.

STEERING GEAR ... 2 6 1 7/044 22.5 31 80 RUBBER L.C.

CAPSTANS ... 1 19.5 1 19/052 75 104 65 RUBBER L.C.

BOAT WINCH ... 2 1.7 1 3/036 8 10 40 RUBBER L.C.

VENT FANS FORWARD ... 2 1.3 1 3/036 6.2 10 90 RUBBER L.C.

VENT FANS AFT ... 2 1.5 1 3/036 3.6 10 50 RUBBER L.C.

FOREHOLD F.W. PUMP ... 1 6.5 1 7/044 26 31 100 RUBBER L.C.

FOREHOLD F.O. PUMPS ... 2 2 1 7/029 9 15 40 RUBBER L.C.

DOMESTIC REFRIGERATOR ... 1 2 1 7/029 9 15 40 RUBBER L.C.

FRESH AND SALT WATER PUMPS ... 2 1.5 1 7/029 6.3 15 50 RUBBER L.C.

DONKEY BOILER FEED PUMP ... 1 1 1 3/036 4.6 10 10 RUBBER L.C.

DONKEY BOILER FAN ... 1 1.5 1 7/029 6.3 15 30 RUBBER L.C.



The Electrical Equipment is installed in accordance with the approved plans and the requirements of the Rules.  
All Insulated Conductors are guaranteed to have been tested at the maker's works as specified in the Rules.  
The foregoing is a correct description.

*J. Charters*

Electrical Engineers.

Date *27<sup>th</sup> Jan. '48*

#### COMPASSES.

Minimum distance between electric generators or motors and standard compass *THIRTEEN FEET*

Minimum distance between electric generators or motors and steering compass *THIRTEEN FEET*

The nearest cables to the compasses are as follows:—

A cable carrying *15.1* Ampères *NINE* feet from standard compass *SEVEN* feet from steering compass.

A cable carrying *12* Ampères *LED INTO* ~~feet from~~ standard compass *LED INTO* ~~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.

*Peter Ferguson*

Builder's Signature.

Date *30 January 1948*

Is this installation a duplicate of a previous case *No* If so, state name of vessel *✓*

Plans. Are approved plans forwarded herewith *No* If not, state date of approval *3<sup>rd</sup> SEPTEMBER 1946*

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith *YES*

General Remarks (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.)

*The electrical equipment of this vessel has been fitted on board under special survey tested under working conditions and found satisfactory. The quality of materials and workmanship is good.*

*Noted SM 23/2/48*

Total Capacity of Generators *180* Kilowatts.

The amount of Fee ... £ *48: 0: 0* When applied for, *AT GAK* 19...

Travelling Expenses (if any) £ *1: 9: 0* When received, 19...

Committee's Minute *GLASGOW 23 FEB 1948*

Assigned *SEE ACCOMPANYING MACHINERY REPORT*

*J. M. Gardiner*  
Surveyor to Lloyd's Register of Shipping.



© 2020

Lloyd's Register  
Foundation