

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL) 19 MAR 1930
Received at London Office

Date of writing Report 19.2.1930 When handed in at Local Office 17.8.1930 Port of GLASSGOW.
No. in Survey held at GREENOCK Date, First Survey 23.12.29 Last Survey 14/2 1930
Reg. Book. S. S. CHARTERHURST. (Number of Visits.....9)
on the Tons { Gross 4965
Net
Built at IRVINE By whom built AYRSHIRE DRY DOCK LTD Yard No. 515 When built 1930
Owners Port belonging to
Electric Light Installation fitted by MESSRS CLAUD HAMILTON LTD Contract No. 515 When fitted 1930
Is the Vessel fitted for carrying Petroleum in bulk No.

System of Distribution Double wire distributing fuse box
Pressure of supply for Lighting 110 volts, Heating none volts, Power none

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 only one

Where more than one generator is fitted are they arranged to run in parallel only one, 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.

Position of Generators Engine Room Are the lubricating arrangements of the generators as per Rule 5 Sect 2
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

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 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 Same compartment

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 none 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.

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.

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
D.P. main switch and fuses for generator and S. P. switches and D.P. fuses for each outgoing circuit

Instruments on main switchboard 1 ammeters 1 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 Lamp

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 3 Sect 6



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10000
main twin
Cables: Single, twin, concentric, or multicore are the cables insulated and protected as per Tables IV or V of the Rules
Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 5 Kells
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
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
Support and Protection of Cables, state how the cables are supported and protected
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
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
Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands
Bushes in Beams and Non-watertight Partitions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed
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
Emergency Supply, state position and method of control of the emergency supply and how the generator is driven
Navigation Lamps, are these separately wired, controlled by separate switch and separate fuses, are the fuses double pole
are the switches and fuses grouped in a position accessible only to the officers on watch
has each navigation lamp an automatic indicator as per Rule
Secondary Batteries, are they constructed and fitted as per Rule
Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight
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
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
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

| 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 | 1 | 8 | 110 | 43 | 350 | direct coupled to steam engine | - | - | |
| AUXILIARY | | | | | | | | | |
| EMERGENCY | | | | | | | | | |
| ROTARY TRANSFORMER | | | | | | | | | |
| GENERATOR, LIGHTING AND HEATING CONDUCTORS. | | | | | | | | | |
| DESCRIPTION. | No. per Pole. | 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. | | | | |
| MAIN GENERATOR | 1 | | .06 | 19 | .064 | 43 | 20 | V. G. R. | Lead covered in tubing. |
| EQUALISER CONNECTIONS | | | | | | | | | |
| AUXILIARY GENERATOR | | | | | | | | | |
| EMERGENCY GENERATOR | | | | | | | | | |
| ROTARY TRANSFORMER | | | | | | | | | |
| ENGINE ROOM | 1 | .0045 | | 4 | .029 | 18 | 4 | V. G. R. | Lead & Armoured. |
| BOILER ROOM | | | | | | | | | |
| AUXILIARY SWITCHBOARDS | 1 | .0045 | | 4 | .029 | 18 | 140 | V. G. R. | Armoured. |
| Saloon Accommodation Engineers | 1 | .003 | | 3 | .036 | 12 | 80 | V. G. R. | Lead & Armoured. |
| ACCOMMODATION | | | | | | | | | |
| WIRELESS | 1 | .004 | | 4 | .036 | 24 | 140 | V. G. R. | Armoured. |
| SEARCHLIGHT | 2 | .002 | | 3 | .029 | 4.8 | 240 | " " " | Lead covered. |
| MASTHEAD LIGHT | 2 | .002 | | 3 | .029 | 4.8 | 80 | " " " | " " |
| SIDE LIGHTS | 2 | .002 | | 3 | .029 | 4.8 | 30 | " " " | " " |
| COMPASS LIGHTS | 1 | .004 | | 4 | .036 | 24 | 80 | " " " | Armoured. |
| POOP LIGHTS | | | | | | | | | |
| CARGO LIGHTS | | | | | | | | | |
| ARC LAMPS | | | | | | | | | |
| HEATERS | | | | | | | | | |
| MOTOR CONDUCTORS. | | | | | | | | | |
| DESCRIPTION. | No. of Motors. | 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. | | | | |
| 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.

For CLAUD HAMILTON, LIMITED

half Lawrence.

Electrical Engineers.

Date *21st Feb. 30*

COMPASSES.

Distance between electric generators or motors and standard compass *80 feet*

Distance between electric generators or motors and steering compass *45 feet*

The nearest cables to the compasses are as follows:—

A cable carrying *15* Ampères *24* feet from standard compass *22* feet from steering compass.

A cable carrying *3* Ampères *10* feet from standard compass *10* 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.

FOR AND ON BEHALF OF
AYRSHIRE DOCKYARD CO., LIMITED.

A. MacLellan

MANAGER

Builder's Signature.

Date *11/3/30.*

Is this installation a duplicate of a previous case *no.*

If so, state name of vessel *yes*

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 and workmanship were found to be good and sound.

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

Elec. Light

J. R. Rankin

Surveyor to Lloyd's Register of Shipping.

Total Capacity of Generators

8

Kilowatts.

The amount of Fee ... £ *8* : : *14/3/30*

When applied for,

When received,

Travelling Expenses (if any) £

10/6

26.3.30

Committee's Minute

GLASGOW 18 MAR 1930

Assigned

Elec. Light



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