

Rpt. 13.

No. 16938

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 6 AUG 1930

Date of writing Report

19 When handed in at Local Office

10

Port of

West Hartlepool

No. in Survey held at

West Hartlepool

Date, First Survey

31/3/30

Last Survey

25th June 1930

Reg. Book. Supp.

42570 on the

S.S. Ithia

(Number of Visits.....)

Tons { Gross 4160

Net 2530

Built at

Sunderland

By whom built

W. Gray &amp; Co. Ltd.

Yard No. 1037

When built 1030

Owners

E. Hadjilias

Port belonging to

Athens

Electric Light Installation fitted by

Messrs Clarke Chapman &amp; Co. Ltd.

Contract No. 1037

When fitted 1930

Is the Vessel fitted for carrying Petroleum in bulk

No.

System of Distribution

Double 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

series with each shunt field

Yes

, is an adjustable regulating resistance fitted in

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

Engine room 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

Yes

, 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 Board

where placed

Engine room starboard side

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

Yes

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

, 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 + double pole fuses on dynamo mains. Single pole switch + double pole fuses on each outgoing circuit.

Instruments on main switchboard

one

ammeters

one

volts

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

coupled to earth through switches fuses

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



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**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 4 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 headarm cables in engine room. Armoured & braided in twin decks & cargo spaces. Lead covered in acc.

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 none made

**Joints in Cables,** state if any, and how made, insulated, and protected none made

**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 yes

**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 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 yes, are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected yes, how are the cables led yes, where are the controlling switches situated yes

**Searchlight Lamps, No. of** yes, whether fixed or portable yes, are their fittings as per Rule yes

**Arc Lamps,** other than searchlight lamps, No. of yes, 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 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 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 ...                  | 1      | 10         | 110    | 90       | 360            | Single cylinder steam engine |  |                      |
| AUXILIARY ...             |        |            |        |          |                |                              |  |                      |
| EMERGENCY ...             |        |            |        |          |                |                              |  |                      |
| ROTARY TRANSFORMER        |        |            |        |          |                |                              |  |                      |

## GENERATOR, LIGHTING AND HEATING CONDUCTORS.

| DESCRIPTION.                   | 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. | In Circuit.                     | Rule. |  |                |                  |
| MAIN GENERATOR ...             | 1             | .1009                                  | 19                     | .083      | 90                              | 118   | 20   | V.I.R          | Lead covered     |
| EQUALISER CONNECTIONS ...      |               |  |                        |           |                                 |       |  |                |                  |
| AUXILIARY GENERATOR ...        |               |  |                        |           |                                 |       |  |                |                  |
| EMERGENCY GENERATOR ...        |               |  |                        |           |                                 |       |  |                |                  |
| ROTARY TRANSFORMER { MOTOR ... |               |  |                        |           |                                 |       |  |                |                  |
| ENGINE ROOM ...                | 1             | .00701                                 | 7                      | .036      | 18.7                            | 24    | 60   | 50             | Lead & arm'd     |
| BOILER ROOM ...                |               |  |                        |           |                                 |       |  |                |                  |
| AUXILIARY SWITCHBOARDS ...     |               |  |                        |           |                                 |       |  |                |                  |
| ACCOMMODATION ...              | 1             | .02214                                 | 4                      | .064      | 26.3                            | 46    | 210  | 50             | Arm'd & braided  |
| Engines and aft                | 1             | .01462                                 | 4                      | .052      | 17.6                            | 34    | 80   | 50             | 50               |
| WIRELESS ...                   | 1             | .00701                                 | 7                      | .036      | 18.7                            | 24    | 220  | 50             | 50               |
| SEARCHLIGHT ...                | 1             | .00152                                 | 1                      | .044      | .3                              | 6.1   | 160  | 50             | 50               |
| MASTHEAD LIGHT ...             | 1             | .00152                                 | 1                      | .044      | .3                              | 6.1   | 40   | 50             | Lead covered     |
| SIDE LIGHTS ...                | 1             | .00152                                 | 1                      | .044      | .25                             | 6.1   | 20   | 50             | 50               |
| COMPASS LIGHTS ...             | 1             | .00152                                 | 1                      | .044      | .3                              | 6.1   | 320  | 50             | Arm'd & braided  |
| CARGO LIGHTS ...               | 1             | .003                                   | 40                     | .0076     | 2.5                             | 12    | 100  | 50             | Braided & Comp'd |
| 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. | In Circuit.                     | Rule. |  |                |                |
| 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 of the installation.

W. H. Chapman & Co., Ltd.

Director Electrical Engineers.

Date 7/7/30

#### COMPASSES.

Distance between electric generators or motors and standard compass 96 feet

Distance between electric generators or motors and steering compass 90 feet

The nearest cables to the compasses are as follows:—

A cable carrying .25 Amperes on the 7 feet from standard compass 7 feet from steering compass.

A cable carrying .25 Amperes 7 feet from standard compass on the 7 feet from steering compass.

A cable carrying Amperes 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 all course in the case of the standard

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

For William Gray & Co., Limited.

Wm. S. Simpson

Builder's Signature.

Date 15/7/30

General Manager

Is this installation a duplicate of a previous case? Yes If so, state name of vessel S.S. Atthis

General Remarks (State quality of workmanship, opinions as to class, &c.)

The above installation is in accordance with the Society's Rules. The vessel is eligible in my opinion for notation as light wireless.

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

12/7/30

Total Capacity of Generators 10 Kilowatts.

The amount of Fee ... £ 10 : — : When applied for, 20.8.30

Travelling Expenses (if any) £ : : When received, 11.9.30

W. T. Badger

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Elec Lt.



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