

Rpt. 13.

No. 48144

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 29. 6. 1928 When handed in at Local Office 30. 6. 1928 Port of GLASGOW.

No. in Survey held at GLASGOW. Date, First Survey 23. 5. 28 Last Survey 16. 6. 1928
Reg. Book. (Number of Visits 6)

40343 on the S. S. CAPE ST. GEORGE.

Built at PORT GLASGOW. By whom built MESSRS R. DUNCAN & CO. Yard No. 382 When built 1928.

Owners THE SUN SHIPPING CO. LTD Port belonging to LONDON.

Electric Light Installation fitted by MESSRS TELFORD GRIER & MCKAY Contract No. 382 When fitted 1928.

System of Distribution Two Wire

Pressure of supply for Lighting 110 Volts 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

Position of Generators in Engine Room at Starting Platform 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 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 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, 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? yes

Generator Double Pole Switches & fuses
Each Outgoing Circuit Single Pole Switch and Double Pole Fuses

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 Fuse Switch 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



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RETAIN

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Cables: Single, twin, concentric, or multicore Single & Twin 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 protected with Steel Tube
supported by clips, wiring to Lights Arm. in Crews etc. L.C. in Officers A.H. Lin Engine Room
 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 yes.

Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements none.

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 —
—, 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 —, where are the controlling switches situated —.

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

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

Motors, are their working parts readily accessible none, 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 axes 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 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 —.
 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 | 350 | 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. Amperes. | Approximate Length. (Lead and Return.) Feet. | Insulated with | HOW PROTECTED. |
| | | | | No. | Diameter. | | | | |
| | MAIN GENERATOR... | one | .06 | 19 | .064 | 73 | 30 | V.I.R. | LC + Tube |
| | EQUALISER CONNECTIONS | | | | | | | | |
| | AUXILIARY GENERATOR | | | | | | | | |
| | EMERGENCY GENERATOR | | | | | | | | |
| | ROTARY TRANSFORMER... | | | | | | | | |
| | AUXILIARY SWITCHBOARDS | | | | | | | | |
| | ENGINE ROOM | | | | | | | | |
| | BOILER ROOM | | | | | | | | |
| | ACCOMMODATION | | | | | | | | |
| | Navigation | one | .0045 | 7 | .029 | 5 | 300 | V.I.R. | in Steel Tube |
| | Saloon | one | .01 | 7 | .044 | 19 | 265 | V.I.R. | in Steel Tube |
| | Engineers | one | .007 | 7 | .036 | 11 | 70 | V.I.R. | in Steel Tube |
| | Wireless | one | .0045 | 7 | .029 | 5 | 285 | V.I.R. | in Steel Tube |
| | Aft | one | .0045 | 7 | .029 | 6 | 260 | V.I.R. | in Steel Tube |
| | Engine Room | one | .0045 | 7 | .029 | 7 | 20 | V.I.R. | LC + 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. Amperes. | 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

20 June 1928

Secretary.

COMPASSES.

Distance between electric generators or motors and standard compass

98 ft

Distance between electric generators or motors and steering compass

96 ft

The nearest cables to the compasses are as follows:—

A cable carrying 5 Ampères 8 feet from standard compass 5 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

22/6/28

Is this installation a duplicate of a previous case

Yes

If so, state name of vessel

Cape St Andrew

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

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.

@

6/7/28.

Total Capacity of Generators 8 Kilowatts.

The amount of Fee ...

£ 8.0.0.

When applied for,

@ 4/11

Travelling Expenses (if any) £

When received,

28-6-28

Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 8 - JUL 1928

Assigned

Elec Light.

W.M.



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20-6-28