

Rpt. 13.

No. 78206

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 29 AUG 1924

Date of writing Report 10 When handed in at Local Office 28/8/1924 Port of NEWCASTLE-ON-TYNE

No. in Survey held at Newcastle. Date, First Survey 16th Jan 1924 Last Survey 14th Aug 1924
Reg. Book. Supp. (Number of Visits.....)90661 on the S. S. Sentry Tons { Gross 1036
Net 495

Built at Newcastle. By whom built Dyne. J. S. B. & Co. Ltd. Yard No. 228 When built 1924

Owners Fisher & Renwick, Manchester London Steamers Ltd. Port belonging to Manchester

Electric Light Installation fitted by Falconer Bros & Co. Newcastle. Contract No. 228 When fitted 1924

System of Distribution

Two wire system ✓

Pressure of supply for Lighting 100 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? no

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 In 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 —, 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 In 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 — 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? yes, 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 A double pole

linked switch & double pole fuses on dynamo mains. A single pole switch

& double pole fuses on each outgoing circuit

Instruments on main switchboard one ammeters one 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 lamps

Coupled to earth through switches & fuses

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

Insulation of Cables, state type of cables, single or twin single 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 3.79 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 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 Lead covered armoured cables in tween decks engine room supported by galvanised iron clips. Lead covered cables clipped up in cabins

If cables are run in wood casings, are the casings and caps secured by screws yes, are the caps secured by 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 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 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 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 fibre

Earthing Connections, state what earthing connections are fitted and their respective sectional areas 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, 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 no

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected no

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 axis 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 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. | Amps. | Revs. per Min. | | Fuel Used. | Flash Point of Fuel. |
| MAIN | 1 | 4.8 | 100 | 48 | 405 | 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. Amperes. | Approximate Length. (Lead and Return.) Feet. | Insulated with | HOW PROTECTED. |
|----------|------------------------|--------------------|--|------------------------|-----------|---------------------------------|--|----------------|---------------------------|
| | | | | No. | Diameter. | | | | |
| | MAIN GENERATOR... | 2 | .0396 | 19 | .052 | 48 | 25 | V. I. R | Lead covered in iron pipe |
| | AUXILIARY GENERATOR | | | | | | | | |
| | EMERGENCY GENERATOR | | | | | | | | |
| | ROTARY TRANSFORMER... | | | | | | | | |
| | AUXILIARY SWITCHBOARDS | | | | | | | | |
| | ENGINE ROOM | 2 | .00701 | 7 | .036 | 10.8 | 30 | V. I. R | Lead covered in iron pipe |
| | BOILER ROOM | 2 | .01046 | 7 | .044 | 18.3 | 196 | 50 | 50 |
| | Saloon & stateroom | 2 | .00701 | 7 | .036 | 13.8 | 80 | 50 | 50 |
| | Engineers' staff | | | | | | | | |
| | WIRELESS | | | | | | | | |
| | SEARCHLIGHT | | | | | | | | |
| | MASTHEAD LIGHT... | 2 | .00152 | 1 | .044 | 1.12 | 220 | 50 | Lead covered in iron pipe |
| | SIDE LIGHTS... | 2 | .00152 | 1 | .044 | 1.12 | 75 | 50 | Lead covered in iron pipe |
| | COMPASS LIGHTS... | 2 | .00152 | 1 | .044 | .28 | 20 | 50 | 50 |
| | STEERING LIGHTS | 2 | .00322 | 1 | .064 | 1.12 | 340 | 50 | Lead covered in iron pipe |
| | CARGO LIGHTS | 2 | .003 | 70 | .0076 | 3.0 | 50 | 50 | Cat type flexible |
| | 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 | | | | | | | | |
| | 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.

Galeon Cronak

Electrical Engineers.

Date 20.8.24.

COMPASSES.

Distance between electric generators or motors and standard compass 54 feet

Distance between electric generators or motors and steering compass 52 feet

The nearest cables to the compasses are as follows:—

A cable carrying 7.8 Ampères 5 feet from standard compass 8 feet from steering compass.

A cable carrying 3 Ampères 2 feet from standard compass 2 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 all course in the case of the standard compass, and nil degrees on all course in the case of the steering compass.

THE HORN SHIP-BUILDING CO. LIMITED.

Thomson

Builder's Signature.

Date 26.8.1924

General Manager

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.)

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

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

JWD
2/9/24

Total Capacity of Generators 4.8 Kilowatts

The amount of Fee ... £ 5 : - : When applied for, 21/8/24

Travelling Expenses (if any) £ : : When received, See debit book.

W.T. Badger

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Im. 322.—Transfer.
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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