

REPORT ON ELECTRIC FITTINGS.

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

-7 NOV 1929

Date of writing Report _____ When handed in at Local Office 6 NOV. 1929 Port of Sunderland.

No. in Survey held at Sunderland. Date, First Survey July 29 Last Survey Sep. 16 1929
 Reg. Book. Suff. (Number of Visits 7) Tons { Gross 3777
40470 on the S.S. Glaisdale { Net 2262
 Built at Sunderland. By whom built Sir J. Harington & Sons Ltd Yard No. 707. When built 1929
 Owners Headlam & Sons S.S. Ltd. Port belonging to Whitby
 Electric Light Installation fitted by The Sunderland Forge & Eng Co Ltd Contract No. 707. When fitted 1929

System of Distribution Double wire _____ volts, Power _____ volts.

Pressure of supply for Lighting 110 _____ volts, Heating _____ Power _____

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 no _____, 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 starboard side _____, are the lubricating arrangements of the generators as per Rule yes _____

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 _____ are the prime movers and _____

Earthing, are the bedplates and frames of the generating plant efficiently earthed yes _____

their respective generators in metallic contact yes _____

Main Switch Boards, 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 _____, 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 yes _____, if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micaite 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 _____, proportion of omnibus bars yes _____, accessibility of all parts yes _____, absence of fuses on back of board yes _____, connections of switches yes _____

individual fuses to voltmeter, pilot or earth lamp yes _____, Main Switchgear, description of switchgear for each generator and each outgoing circuit Double pole switch + fuses on dynamo mains. 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 _____

Joint Boxes Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule yes _____

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 *4.7 - Yes*

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 *Main cables Lead covered Armoured & Braided secured by G.I. clips, Accommodation Lead covered & Braided secured by Brass clips*
 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 *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 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 *Brass Packed Glands*

Earthing Connections, state what earthing connections are fitted and their respective sectional areas *Earth Indicating Lamps*

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule _____, are their connections made 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 _____
 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 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 _____

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 | 6 | 110 | 54.5 | 430 | Single Cylinder 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. Ampères. | Approximate Length. (Lead and Return.) Feet. | Insulated with | HOW PROTECTED. |
|----------|--|--------------------|--|------------------------|-----------|---------------------------------|--|----------------|---------------------------------|
| | | | | No. | Diameter. | | | | |
| | MAIN GENERATOR | 2 | .03960 | 19 | .052 | 54.5 | 30 | V.I.R. | Lead covered Armoured & Braided |
| | EQUALISER CONNECTIONS | | | | | | | | |
| | AUXILIARY GENERATOR | | | | | | | | |
| | EMERGENCY GENERATOR | | | | | | | | |
| | ROTARY TRANSFORMER | | | | | | | | |
| | AUXILIARY SWITCHBOARDS | | | | | | | | |
| | ENGINE ROOM | 2 | .00194 | 13 | .029 | 4.55 | 42 | V.I.R. | Lead covered Armoured & Braided |
| | BOILER ROOM | 2 | .00701 | 7 | .036 | 8.36 | 224 | V.I.R. | Lead covered Armoured & Braided |
| | ACCOMMODATION <i>Forward</i> | 2 | .00299 | 3 | .036 | 8 | 60 | V.I.R. | Lead covered Armoured & Braided |
| | Engines <i>Aft</i> | 2 | .00299 | 3 | .036 | 8 | 60 | V.I.R. | Lead covered Armoured & Braided |
| | WIRELESS | 2 | .00701 | 7 | .036 | 13 | 245 | V.I.R. | Lead covered Armoured & Braided |
| | SEARCHLIGHT | 4 | .00194 | 3 | .029 | .363 | 460 <i>off</i> 320 <i>forward</i> | V.I.R. | Lead covered Armoured & Braided |
| | MASTHEAD LIGHT <i>Wired in Duplication</i> | 4 | .00194 | 3 | .029 | .363 | 20 | V.I.R. | Lead covered Armoured & Braided |
| | SIDE LIGHTS | 2 | .00194 | 3 | .029 | .18 | 15 | V.I.R. | Lead covered Armoured & Braided |
| | COMPASS LIGHTS | 2 | .00299 | 3 | .036 | 3.63 | 280 | V.I.R. | Lead covered Armoured & Braided |
| | POOP LIGHTS | 2 | .00194 | 3 | .029 | 1.72 | 150 | V.I.R. | Lead covered Armoured & Braided |
| | ARC LAMPS | | | | | | | | |
| | HEATERS | | | | | | | | |

MOTOR CONDUCTORS.

| Ref. No. | DESCRIPTION. | No. of Motors. | Effective Area of each Conductor. Sq. Ins. | COMPOSITION OF STRAND. | | Total Maximum Current. Ampères. | 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.

p.pro. THE SUNDERLAND FORGE & ENGINEERING CO. LTD.

H. Raffan Electrical Engineers.

Date 23rd October 1929

COMPASSES.

Distance between electric generators or motors and standard compass

87 feet

Distance between electric generators or motors and steering compass

82 feet

The nearest cables to the compasses are as follows:—

A cable carrying 4.63 Ampères 10 feet from standard compass 8 feet from steering compass.

A cable carrying .18 Ampères 10 feet from standard compass Led into feet from steering compass.

A cable carrying .18 Ampères Led into feet from standard compass 10 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.

SIR JAMES LAING & SONS, LIMITED.

W. Richardson

Builder's Signature.

Date

SECRETARY.

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 elec light wireless

THIS DESIGN IS AVAILABLE TO THE RECORD. Elec. Light.

W.T. Badger
7/11/29

Total Capacity of Generators 6 Kilowatts.

The amount of Fee ... £ 6: : When applied for, 17 Sep 19 29
Travelling Expenses (if any) £ : : When received, 28 Sep 19 29

W.T. Badger
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned *Elec Light*

Im. 228.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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