

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 25th Mar. 1929 When handed in at Local Office 26th March 1929 Port of Leith Received at London Office 27 MAR 1929

No. in Survey held at Burntisland Date, First Survey 23rd Jan^y Last Survey 15th March 1929
Reg. Book. (Number of Visits 8)

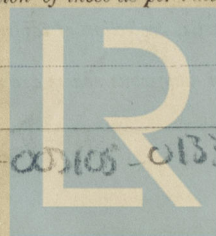
91599 on the S.S. "PENYBRYN" Tons { Gross 4251.45
Net 2635.40

Built at Burntisland By whom built The Burntisland S.B. & Co. Yard No. 150 When built 1929.

Owners Lundegaard & Sønner Port belonging to Largsund

Electric Light Installation fitted by The Burntisland Shipbuilding Co. Ltd. Contract No. ✓ When fitted 1929

System of Distribution 2 Wire Lead & return.
Pressure of supply for Lighting 110 volts, Heating — volts, Power — volts.
Direct or Alternating Current, Lighting Direct Power —
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 —
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 Bunker Recess Starboard Side.
Is the ventilation in way of the generators satisfactory Yes., are they clear of all inflammable material Yes.
Are they 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 Bolted Direct to Earth are the prime movers and their respective generators in metallic contact Yes.
Main Switch Boards, where placed Bunker Recess 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, 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 Bolted Direct to Earth. 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 1- D.P. Main Switch and Fuses for Mains and Single Pole Switches and D.P. Fuses for 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 Two Indicating Lamps.
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 multi-core 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

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 *Acc; Lead Covered supported with brass saddles and screws. Cargo Space; Wire Armoured supported gal. clips. Machinery Space; Same as Cargo Space*

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

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 *Dynamo and Switchboard bolted direct to Earth*

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

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

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 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 | 11.9 | 110 | 109 | 550 | Enclosed 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 | | 19 | 0.083 | 51 | 24 | Rubber | L.C. & Wire Armoured. |
| | EQUALISER CONNECTIONS | | | | | | | | |
| | AUXILIARY GENERATOR | | | | | | | | |
| | EMERGENCY GENERATOR | | | | | | | | |
| | ROTARY TRANSFORMER... | | | | | | | | |
| | AUXILIARY SWITCHBOARDS | | | | | | | | |
| | ENGINE ROOM | 2 | 0.045 | 7 | 0.029 | 13 | 12 | Rubber | L.C. & Wire Armoured. |
| | BOILER ROOM | | | | | | | | |
| | ACCOMMODATION Saloon | 2 | 0.045 | 7 | 0.029 | 10 | 180 | " | Wire Armoured |
| | " Engineers | 2 | 0.045 | 7 | 0.029 | 9 | 90 | " | " |
| | " Navigation | 2 | 0.045 | 7 | 0.029 | 5 | 180 | " | " |
| | Crews Acc. | 2 | 0.045 | 7 | 0.029 | 5 | 324 | " | " |
| | WIRELESS | 2 | 0.070 | 7 | 0.036 | 9 | 180 | " | " |
| | SEARCHLIGHT | | | | | | | | |
| | MASTHEAD LIGHT... | 2 | 0.020 | 3 | 0.029 | 36 | 300 | " | " |
| | SIDE LIGHTS | 2 | 0.020 | 3 | 0.029 | 36 | 72 | " | Lead Covered |
| | 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. 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.

FOR THE BURNISLAND SHIPBUILDING COMPANY LTD.

W. J. D. L. E.
Electrical Engineers.

Date *25/3/29*

COMPASSES.

Distance between electric generators or motors and standard compass *100* ft.

Distance between electric generators or motors and steering compass *103* "

The nearest cables to the compasses are as follows:—

A cable carrying *2* Ampères *7*" feet from standard compass *7*" feet from steering compass.

A cable carrying _____ Ampères _____ feet from standard compass _____ 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 THE BURNISLAND SHIPBUILDING COMPANY LTD.

W. J. D. L. E.
Builder's Signature.

Date *25/3/29*

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.)

This installation has been efficiently fitted on board in accordance with the Rules.

The Materials & workmanship are sound & good, & the installation was found satisfactory under full load & working conditions.

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

Elec. Light

J. H. 1/4/29

Total Capacity of Generators *11.9* Kilowatts.

The amount of Fee ... *£12 : 0 : 0* When applied for, *23/3 1929.*

Travelling Expenses (if any) £ : : When received, *14.5 1929*

John Houston.
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Elec Light



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Foundation