

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL) W.F.D. SAUG. 1924
Received at London Office

Date of writing Report 27.6.1924 When handed in at Local Office 4.8.1924 Port of GLASGOW.

No. in Survey held at GREENOCK Date, First Survey 19.5.24 Last Survey 24.6.1924
Reg. Book. (Number of Visits 4)

39052. on the "S.S. ALAYI" Tons { Gross 3566
Net

Built at PORT GLASGOW. By whom built LITHGOWS LTD. Yard No. 436 When built 1924.

Owners BOMBAY & PERSIA S. NAV. CO. LTD. Port belonging to LONDON.
(Summer Movers & Co.)

Electric Light Installation fitted by THE SUNDERLAND FORGE & ENG. CO. Contract No. 436 When fitted 1924.

System of Distribution Two Wire

Pressure of supply for Lighting 100 volts, Heating 100 volts, Power 100 volts.

Direct or Alternating Current, Lighting Direct Power Direct

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 —

Are all terminals accessible and clearly marked yes, are they so spaced or shielded that they cannot be accidentally earthed, or short circuited yes

Position of Generators Engine Room, Bottom Platform 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 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 —

Main Switch Boards, where placed Close to Generators.

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 Main switchgear.

Main Change-over Double Pole Switch for Main Generators, Double Pole Switches & Fuses for Branch Circuits.

On Emergency Switchboard: Main CO, Switch fitted for connecting to Main Switchboard when required.

Instruments on main switchboard 1 ammeters 1 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.

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 & Twin 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 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 & Braided Cable Clipped to Beams

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 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 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 Generator Driven by Paraffin Internal Combustion Engine fixed at Top of engine room. Controlled by Emergency Switchboard

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 Watertight Deck Fittings, 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 1, whether fixed or portable Fixed, are their fittings as per Rule Yes

Arc Lamps, other than searchlight lamps, No. of 1, are their live parts insulated from the frame of 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. | Ampères. | Revs. per Min. | | Fuel Used. | Flash Point of Fuel. | |
| MAIN | 2 | 18 | 100 | 180 | 250 | Open Type Inverted 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 | .19640 | 87 | .083 | 180 | 50 | V.I.R. | Lead Covered in Pipe |
| | AUXILIARY GENERATOR | — | | | | | | | |
| | EMERGENCY GENERATOR | — | | | | | | | |
| | ROTARY TRANSFORMER | — | | | | | | | |
| | AUXILIARY SWITCHBOARDS | 2 | .06000 | 19 | .064 | 80 | 100 | V.I.R. | Lead Covered Armoured & Braided |
| | ENGINE ROOM | 2 | .00701 | 4 | .036 | 13.8 | 60 | V.I.R. | do do |
| | BOILER ROOM | — | | | | | | | |
| | Engineers & Aft | 2 | .03960 | 19 | .052 | 50.5 | 90 | V.I.R. | do do |
| | Saloon & Forward | 2 | .03960 | 19 | .052 | 54.2 | 240 | V.I.R. | do do |
| | Navigation | 2 | .00701 | 4 | .036 | 9.6 | 300 | V.I.R. | do do |
| | Emergency Lighting | 2 | .00194 | 3 | .029 | 4.2 | 200 | V.I.R. | do do |
| | WIRELESS | 2 | .02214 | 4 | .064 | 30 | 300 | V.I.R. | Lead Covered Armoured & Braided |
| | SEARCHLIGHT | 2 | .00194 | 3 | .029 | 1.2 | 300 | V.I.R. | do do |
| | MASTHEAD LIGHT MAIN | 2 | .00194 | 3 | .029 | 1.2 | 50 | V.I.R. | Lead Covered |
| | SIDE LIGHTS | 2 | .00194 | 3 | .029 | 1.2 | 20 | V.I.R. | Lead Covered |
| | COMPASS LIGHTS | 2 | .00194 | 3 | .029 | 1.2 | 20 | V.I.R. | Lead Covered |
| | POOP LIGHTS | — | | | | | | | |
| | CARGO LIGHTS | 2 | .00194 | 3 | .029 | 3.6 | 60 | V.I.R. | Lead Covered Armoured & Braided |
| | ARC LAMPS | — | | | | | | | |
| | HEATERS | 2 | .00194 | 3 | .029 | 2.5 | 30 | V.I.R. | Lead Covered. |

| 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 | 1 | .03960 | 19 | .052 | 64 | 100 | V.I.R. | Lead Covered Armoured & Braided |
| | 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.

Prepared by THE SUDBERLAND FORGE & ENGINEERING CO. LTD.

W.M.M.

Electrical Engineers.

Date

Director.

COMPASSES.

Distance between electric generators or motors and standard compass 120 feet

Distance between electric generators or motors and steering compass 110 feet

The nearest cables to the compasses are as follows:—

A cable carrying 9.6 Ampères 15 feet from standard compass 10 feet from steering compass.

A cable carrying .6 Ampères 10 feet from standard compass led into ~~feet from~~ steering compass.

A cable carrying .6 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 *any* course in the case of the standard

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

LITHGOWS LIMITED.

W.B. Allen

Director & Secretary

Builder's Signature.

Date

29 July/24

Is this installation a duplicate of a previous case *yes.* If so, state name of vessel *S.S. Johangir.*

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

This installation

has been fitted on board under special survey listed under full working conditions and found satisfactory. The workmanship was found to be of a high standard.

It is submitted that this vessel is eligible for the Record. Elec. Light. 15/8/24.

Total Capacity of Generators 36 Kilowatts

The amount of Fee ... £ 24-10-0

When applied for, *OK.*

Travelling Expenses (if any) £ 10-6-

When received, *27/6/24*

J.S. Rankin
Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 5 AUG 1924

Assigned *Elec. Light.*

Im. 9.22.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)

A.G.B.
4/8/24



© 2020

Lloyd's Register Foundation