

Rpt. 13.

No. 49862

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 11 DEC 1929

Date of writing Report

2.12.1929 When handed in at Local Office 7.12.1929 Port of GLASGOW.

No. in Survey held at
Reg. Book.
39245. on the

GREENOCK.

Date, First Survey 28.5.29 Last Survey

(Number of Visits 11)

13.11.1929.

M.V. ATHEL SULTAN.

Tons { Gross
Net

Built at PORT GLASGOW By whom built W.HAMILTON & CO. Yard No. 408 When built 1929.

Owners THE UNITED MOLASSES CO LTD Port belonging to LIVERPOOL.

Electric Light Installation fitted by MESSRS W.M. MUIR. GOODFELLOW & CO Contract No. 408 When fitted 1929.

System of Distribution

TWO-WIRE

Pressure of supply for Lighting

110 volts, Heating

volts, Power

110

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 rating YES, are they compound wound
are they over compounded 5 per cent. YES, if not compound wound state distance between each generator

YES

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

Are the lubricating arrangements of the generators as per Rule

YES

Position of Generators

MAIN ENGINE ROOM AT THRUST RECESS.

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

if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators

and YES, are the generators protected from mechanical injury and damage from water, steam or oil

are their axes of rotation fore and aft YES

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

ATHWARTSHIPS, AFT OF 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 YES

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

woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards YES

are they constructed wholly of durable, non-ignitable non-absorbent materials YES

YES, if semi-insulating material is used, are all conducting parts insulated from the slab

permanently high insulation resistance YES

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 YES

YES, accessibility of all parts YES

YES, absence of fuses on back of board YES

bars 800 AMPS PER DIN, individual fuses to voltmeter, pilot or earth lamp YES

YES, connections of switches YES

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches ON EACH

GENERATOR CIRCUIT, DOUBLE POLE CIRCUIT BREAKER. ON EACH OUTGOING CIRCUIT, DOUBLE POLE CHANGE

OVER SWITCH, BY TWO SINGLE POLE FUSES

Instruments on main switchboard 2 ammeters 2 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

YES

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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W1154-0035½

Lloyd's Register

Foundation

Cables: Single, twin, concentric, or multicore
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 A.S. 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 LEAD COVERED CABLES IN GALV. IRON TUBE

IN ACCOMMODATION LEAD COVERED CABLE CLIPPED TO BULKHEADS.

Support and Protection of Cables, state how the cables are supported and protected IN ACCOM. BRASS CLIPS. IN ENG RM

GALV CLIPS OTHER PLACES, CABLES IN GALV TUBE.

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

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

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

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 IN WATERTIGHT

WELL GLASS FITTINGS. IN PUMPKIN ROOMS DOUBLE GLASS WATERTIGHT 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 IN PUMP

ROOMS DOUBLE GLASS WATER TIGHT FITTINGS

, how are the cables led

IN GALV. TUBING

where are the controlling switches situated

OUTSIDE DANGEROUS PLACES

Searchlight Lamps, No. of ONE, whether fixed or portable PORTABLE, are their fittings as per Rule YES

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 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 materials YES

are they protected from mechanical injury and damage from water, steam or oil YES are their axes 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 — 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

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. | Amperes. | | |
| MAIN ... | 2 | 25 | 110 | 227 | 400 | 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. No. Diameter. | Total Maximum Current. Amperes. | Approximate Length. (Lead and Return.) Foot. | Insulated with HOW PROTECTED. | |
| MAIN GENERATOR... | 1 | 15 | 37 | 042 | 227 | 62 | PAPER LC & ARM | |
| EQUALISER CONNECTIONS | | | | | | | | |
| AUXILIARY GENERATOR | | | | | | | | |
| EMERGENCY GENERATOR | | | | | | | | |
| ROTARY TRANSFORMER... | | | | | | | | |
| AUXILIARY SWITCHBOARDS | | | | | | | | |
| ENGINE ROOM ... | 1 | 01 | 7 | 044 | 27 | 30 | V.H.R. LC & ARM | |
| BOILER ROOM ... | 2 | 01 | 7 | 044 | 27 | 30 | V.H.R. LC & ARM | |
| ACCOMODATION ... | | | | | | | | |
| CREW | 1 | 0145 | 7 | 052 | 10 | 770 | " " " | |
| OFFICERS | 1 | 0225 | 7 | 064 | 26 | 440 | " " " | |
| GYRO | 1 | 01 | 17 | 044 | 8 | 450 | " " " | |
| CARGO | 1 | 01 | 7 | 044 | 14 | 400 | " " " | |
| POOP | 1 | 01 | 7 | 044 | 23 | 190 | " " " | |
| NAVIGATION | 1 | 007 | 7 | 036 | 6 | 480 | " " " | |
| WIRELESS | | | | | | | | |
| SEARCHLIGHT | | | 0100 | 19 | 052 | 60 | 840 | LC |
| 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. No. Diameter. | Total Maximum Current. Amperes. | Approximate Length. (Lead and Return.) Feet. | Insulated with HOW PROTECTED. |
| 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 ... | 1 | 01 | 7 | 044 | 90 | 90 | V.H.R. AC & ARM |
| VENTILATING FANS ... | | | | | | | |
| OIL PURIFIER N°1 | 1 | 007 | 7 | 036 | 20 | 200 | " " " |
| " " N°2 | 1 | 007 | 7 | 036 | 20 | 200 | " " " |

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 W. MUIR GOODFELLOW & COY LTD

wm goodfellow director

Electrical Engineers.

Date 4/12/29

COMPASSES.

Distance between electric generators or motors and standard compass

200 ft.

Distance between electric generators or motors and steering compass

200 ft.

The nearest cables to the compasses are as follows :—

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

A cable carrying 12 Ampères 1 feet from standard compass 1 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.

WILLIAM HAMILTON & CO. (1928) Limited

Builder's Signature,

Date 3/12/29

Is this installation a duplicate of a previous case

yes. If so, state name of vessel

Athel Duke.

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

This installation has been fitted on board under special survey.
Tested under full working conditions and found satisfactory.
The materials and workmanship were found to be good and sound.

It is understood that
this instrument is for
THE RACON. Electric Light.

11/12/29

IM.298—Transfer.
The Surveyors are requested not to write on or below the space for Committee's Minutes.

Total Capacity of Generators 50 Kilowatts.

The amount of Fee £ 27.10.0 When applied for
@ 9k

Travelling Expenses (if any) £ 10.6. When received,
16/11/1929

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

Committee's Minute GLASGOW

10 DEC 1929

Assigned

Electric Light.

W.M.



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Foundation