

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL) 15 APR 1932

10 AUG 1931

Received at London Office
NEWCASTLE-ON-TYNE

Date of writing Report _____ When handed in at Local Office _____ Port of _____

No. in Survey held at NEWCASTLE ON TYNE Date, First Survey 26 Jan/31 Last Survey 30 March 1931
 Reg. Book. _____ (Number of Visits... 7)

89476 on the M.V. ASHMORE Tons { Gross 5817
 Net 3449

Built at NEWCASTLE ON TYNE By whom built ARMSTRONG WHITWORTH & CO LTD Card No. 1069 When built 1931

Owners B. JOCOBSEN Port belonging to ARENDAAL NORWEGIAN

Electric Light Installation fitted by ARMSTRONG WHITWORTH & CO LTD Contract No. 1069 When fitted 1931

Is the Vessel fitted for carrying Petroleum in bulk YES.

System of Distribution Double Wire

Pressure of supply for Lighting 110 volts, Heating 110 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 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 Yes, 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 Port side of Engine Room.

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

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 Port side of Engine Room.

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 Yes 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 D.P. Circuit Breaker

with overload & reverse current attachments & S.P. Equalized Switch for each main generator.

D.P. Switches and Fuses for Aux. Generator and each outgoing Circuit.

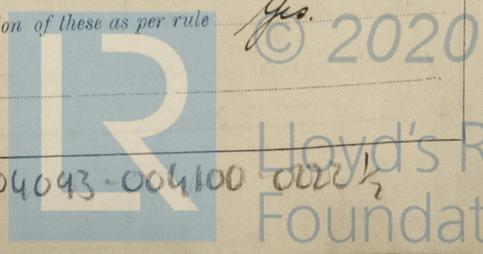
Instruments on main switchboard 3 ammeters 3 voltmeters _____ synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system Earth leakage

detector.

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



004093-004100 0000 1/2

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 *3.85 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 *Lead Covered and Armoured in Machinery spaces and along gangways. Lead covered in accommodation. All cables clipped to structure*
 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 *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 *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 *Gastight fittings in Pump Room.*

are the cables led *in galvanized gastight tubing.*
 where are the controlling switches situated *on Bridge Deck.*

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 *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 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 —, 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 —

17kw driven generator 19kw fitted 10.50 see Bremen Rpt

PARTICULARS OF GENERATING PLANT.

| DESCRIPTION OF GENERATOR. | No. of | RATED AT | | | Revs. per Min. | DRIVEN BY | WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE. | |
|---------------------------|--------|------------|--------|----------|----------------|----------------|--|----------------------|
| | | Kilowatts. | Volts. | Ampères. | | | Fuel Used. | Flash Point of Fuel. |
| MAIN | 2 | 45 | 115 | 392 | 300 | Diesel Engines | | |
| AUXILIARY | 1 | 10 | 110 | 91 | 380 | Steam Engine | | |
| EMERGENCY | 1 | 19 | 115 | | | Diesel Eng | | |
| ROTARY TRANSFORMER | | | | | | | | |

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

| DESCRIPTION. | No. per Pole. | CONDUCTORS. | | COMPOSITION OF STRAND. | | TOTAL MAXIMUM CURRENT. AMPERES. | | Approximate Length (Lead and Return) Feet. | Insulated with | HOW PROTECTED. |
|--------------------------------|---------------|--|-----|------------------------|-------------|---------------------------------|------|--|----------------|----------------|
| | | Total Effective Area per Pole Sq. Ins. | No. | Diameter. | In Circuit. | Rule. | | | | |
| MAIN GENERATOR | 2 | 5000 | 37 | .093 | 392 | 428 | 110 | V.I.R. | L.C. & A. | |
| EQUALISER CONNECTIONS | 1 | 2500 | 37 | .093 | | 214 | 55 | do | do | |
| AUXILIARY GENERATOR | 1 | 0750 | 19 | .072 | 91 | 97 | 40 | do | do | |
| EMERGENCY GENERATOR | | | | | | | | | | |
| ROTARY TRANSFORMER | | | | | | | | | | |
| ENGINE ROOM | 1 | 0100 | 7 | .044 | 28.91 | 31 | 30 | do | do | |
| BOILER ROOM | | | | | | | | | | |
| AUXILIARY SWITCHBOARDS | | | | | | | | | | |
| NAVIGATION LIGHT INDICATOR | 1 | 0040 | 7 | .036 | 1.82 | 24 | 600 | do | do | |
| MIDSHIP ACCOMMODATION DECK Box | 1 | 0600 | 19 | .064 | 43.53 | 83 | 5.40 | do | do | |
| WHEEL HOUSE DECK DECK Box | 1 | 0030 | 3 | .036 | 3.45 | 12 | 100 | do | L.C. | |
| OFFICERS ACCOMM. DECK | 1 | 0030 | 3 | .036 | 13.27 | 12 | 6 | do | do | |
| BRIDGE SPACE DECK | 1 | 0030 | 3 | .036 | 8.63 | 12 | 6 | do | do | |
| ART. ACCOMM. DECK | 1 | 0100 | 7 | .044 | 18.44 | 31 | 140 | do | L.C. & A. | |
| WIRELESS | 1 | 0225 | 7 | .064 | 15.0 | 46 | 600 | do | do | |
| RADIATOR SOCKETS | 1 | 0070 | 7 | .036 | 18.2 | 24 | 80 | do | L.C. | |
| MASTHEAD LIGHT MAIN | 1 | 0020 | 3 | .029 | 36 | 7.8 | 260 | do | L.C. & A. TWIN | |
| SIDE LIGHTS | 1 | 0020 | 3 | .029 | 36 | 7.8 | 70 | do | do | |
| COMPASS LIGHTS | 1 | 0020 | 3 | .029 | 13 | 7.8 | 20 | do | L.C. | |
| STEER LIGHTS | 1 | 0020 | 3 | .029 | 36 | 7.8 | 600 | do | L.C. & A. TWIN | |
| CARGO LIGHTS | 1 | 0020 | 3 | .029 | 1.64 | 7.8 | 80 | do | do | |
| ARE LIGHTS | 1 | 0070 | 7 | .036 | 103 | 240 | 100 | do | L.C. & A. | |
| HEATERS | 1 | 2000 | 37 | .083 | 181.81 | 184 | 60 | do | do | |
| HEATERS | 1 | 0020 | 3 | .029 | 6.8 | 7.8 | 80 | do | L.C. & A. TWIN | |

MOTOR CONDUCTORS.

| DESCRIPTION. | No. of Motors. | CONDUCTORS. | | COMPOSITION OF STRAND. | | TOTAL MAXIMUM CURRENT. AMPERES. | | Approximate Length (Lead and Return) Feet. | Insulated with | HOW PROTECTED. |
|----------------------------|----------------|---------------|--|------------------------|-----------|---------------------------------|-------|--|----------------|----------------|
| | | No. Per Pole. | Total Effective Area per Pole Sq. Ins. | No. | Diameter. | In Circuit. | Rule. | | | |
| REFRIG MOTOR | 1 | 1 | 0200 | 19 | .044 | 36 | 53 | 260 | V.I.R. | L.C. & A. |
| MAIN BILGE LINE PUMPS | 1 | 1 | 0400 | 19 | .052 | 59 | 64 | 170 | do | do |
| GENERAL SERVICE PUMP | 1 | 1 | 0400 | 19 | .052 | 59 | 64 | 170 | do | do |
| SEA COOLING WATER PUMP | 1 | 1 | 1200 | 37 | .064 | 124 | 130 | 180 | do | do |
| LUB. OIL PUMP | 1 | 1 | 0070 | 7 | .036 | 22 | 24 | 60 | do | do |
| SANITARY PUMP | 1 | 1 | 0070 | 7 | .036 | 22 | 24 | 60 | do | do |
| OIL FUEL PUMP | 1 | 1 | 0070 | 7 | .036 | 22 | 24 | 60 | do | do |
| REFRIG. COOLING WATER PUMP | 1 | 1 | 0045 | 7 | .029 | 17.2 | 18.2 | 50 | do | do |
| AIR COMPRESSOR | 1 | 2 | 6000 | 37 | .103 | 453 | 480 | 160 | do | do |
| AIR BLOWER | 1 | 1 | 0045 | 7 | .029 | 11.5 | 18.2 | 140 | do | do |
| FRESH WATER PUMP | 1 | 1 | 0045 | 7 | .029 | 11.5 | 18.2 | 140 | do | do |
| ENGINE TURNING GEAR | 1 | 1 | 0225 | 7 | .064 | 46 | 46 | 40 | do | do |
| PORTABLE ENERGY WHEEL | 1 | 1 | 0030 | 3 | .036 | 5 | 12 | 80 | do | do |
| LUBRICATING OIL PUMPS | 1 | 1 | 0100 | 7 | .044 | 26.5 | 31 | 50 | do | do |
| OIL FUEL TRANSFER PUMP | 1 | 1 | 0100 | 7 | .044 | 26.5 | 31 | 180 | do | do |
| WINDLASS | | | | | | | | | | |
| WINCHES, FORWARD | | | | | | | | | | |
| WINCHES, AFT | | | | | | | | | | |
| STEERING GEAR— | | | | | | | | | | |
| (a) MOTOR GENERATOR | 1 | 1 | 1000 | 19 | .063 | 114.5 Max | 142 | 260 | V.I.R. | L.C. & A. |
| (b) MAIN MOTOR | 1 | 1 | 0145 | 7 | .052 | 31 | 37 | 70 | do | do |
| WORKSHOP MOTOR | 1 | 1 | 0145 | 7 | .052 | 31 | 37 | 70 | do | do |
| VENTILATING FANS | | | | | | | | | | |
| ENG. ROOM AC. DECK Box | 1 | 1 | 0300 | 19 | .044 | 52 | 53 | 30 | do | do |
| do | 1 | 1 | 1000 | 19 | .083 | 106.2 | 118 | 170 | do | do |

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.

Electrical Engineers. Date _____

COMPASSES.

Distance between electric generators or motors and standard compass 190 ft.
 Distance between electric generators or motors and steering compass 180 ft.
 The nearest cables to the compasses are as follows:—
 A cable carrying 73 Ampères on the feet from standard compass 8 feet from steering compass.
 A cable carrying 13 Ampères 8 feet from standard compass on the 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.

SIR W. G. ARMSTRONG, WHITWORTH & Co. (SHIPBUILDERS), LTD.

Stewart Builder's Signature. Date 22nd April 1931.
MANAGING DIRECTOR.

Is this installation a duplicate of a previous case Yes If so, state name of vessel M.V. STEGG

General Remarks (State quality of workmanship, opinions as to class, &c. This installation has been fitted on board under special survey and has been tested under full working conditions and found satisfactory.
 The materials and workmanship were found to be good and sound.

It is submitted that this vessel is eligible for THE RECORD. Electric Light Co. Ltd. 16.4.32

Total Capacity of Generators 100 Kilowatts.

The amount of Fee ... £ 31 : 10 : 00 When applied for, 28 JUN 1931

Travelling Expenses (if any) £ : : 16 : 6 : 31 When received, 19 JUN 1931

R.C. Clayton
 Supervisor to Lloyd's Register of Shipping.

Committee's Minute TUE. 19 APR 1932

Assigned *Electric Light*

1m.0.30.—Transfer. (The Stewards are requested not to write on or back the space for Committee's Minute.)