

# 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

10

When handed in at Local Office

10

Port of

No. in Survey held at *NEWCASTLE ON TYNE*  
Reg. Book.

Date, First Survey

26 Jan/31

Last Survey

30 March 1931

(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*

Hard No. 1069

When built 1931

Owners *B. JOCOBSEN*

Port belonging to

*ARENDAL**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 *Yes*, 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

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. Equalizer 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*

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Lloyd's Register  
Foundation



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 *2.85 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 *Gaslight fittings in Pump Room.*

*in galvanised gaslight tubing.*

where are the controlling switches situated *on Bridge Deck.*

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

Are 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 —

*12000 driven generator 19 kW fitted 10.50 See Bremen Rpt*

# 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	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.		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	28.9	31		50	do	do
BOILER ROOM ...										
AUXILIARY SWITCHBOARDS ...										
NAVIGATION LIGHT INDICATOR ...	1	0040	7	.036	1.82	24		600	do	do
Accommodation ...	1	0600	19	.064	43.53	83		540	do	do
WHEEL HOUSE ...	1	0030	3	.036	3.45	12		100	do	L.C.
OFFICER'S ACCOM ...	1	0030	3	.036	13.27	12		6	do	do
BRIDGE SPACE ...	1	0030	3	.036	8.63	12		6	do	do
ART. ACCOM ...	1	0100	7	.044	18.44	31		140	do	L.C. & A.
WIRELESS ...	1	0225	7	.064	15.0	46		600	do	do
MASTHEAD LIGHT ...	1	0070	7	.036	16.2	24		80	do	L.C.
SIDE LIGHTS ...	1	0020	3	.029	36	7.8		260	do	L.C. & A. TWIN
COMPASS LIGHTS ...	1	0020	3	.029	36	7.8		70	do	do
TELEPHONE LIGHTS ...	1	0020	3	.029	36	7.8		20	do	L.C.
CARGO LIGHTS ...	1	0020	3	.029	36	7.8		600	do	L.C. & A. TWIN
HEATERS ...	1	0070	7	.036	16.2	24		80	do	do
HEATERS ...	1	0070	7	.036	16.2	24		100	do	L.C. & A.
HEATERS ...	1	0070	7	.036	16.2	24		60	do	do
HEATERS ...	1	0070	7	.036	16.2	24		60	do	L.C. & A. TWIN

## MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		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	0300	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
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	16.2	140	do	do
FRESH WATER PUMP ...	1	1	0045	7	.029	11.5	16.2	140	do	do
ENGINE TURNING GEAR ...	1	1	0225	7	.064	46	46	40	do	do
PORTABLE ENGINE WHEEL ...	1	1	0030	3	.036	5	12	80	do	do
ENGINE REVERSING GEAR ...	1	1	0100	7	.044	26.5	31	50	do	do
LUBRICATING OIL PUMPS ...	1	1	0100	7	.044	26.5	31	180	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	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. RM. AUX. P. ...	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.

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

Builder's Signature.  
MANAGING DIRECTOR.

Date 22<sup>nd</sup> April 1931.

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

16.4.32

Total Capacity of Generators 100 Kilowatts.

The amount of Fee ... £ 31 : 10

When applied for,

28 JUN 1931

Travelling Expenses (if any) £

When received,

16.6.31

R. C. Clayton.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 19 APR 1932

Assigned

Electric Light



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