

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

-1 SEP 1928

Received at London Office

Date of writing Report 4.8.28 When handed in at Local Office 26.8.28 Port of GLASSGOW.

No. in Survey held at GLASSGOW. Date, First Survey 29.2.28 Last Survey 18.8.28  
Reg. Book.

Y8063 on the M.V. KARAMEA. (Number of Visits 9)

Built at GOVAN. By whom built THE FAIRFIELD SBCO Yard No. 626 When built 1928.

Owners SHAW SAVILL &amp; ALBION CO LTD Port belonging to SOUTHAMPTON.

Electric Light Installation fitted by MESSRS THE FAIRFIELD SBCO LTD Contract No. 626 When fitted 1928

System of Distribution TWO-WIRE  
Pressure of supply for Lighting 220 volts, Heating 220 volts, Power 220 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 IN ENGINE ROOM, HOLD LEVEL 2 PORT &amp; 2 STARBOARD.

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 ON SWITCHBOARD PLATFORM IN ENGINE ROOM, AFT END.

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

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 EACH MAIN GENERATOR HAS A 1500 AMP. T.P. CIRCUIT BREAKER WITH OVERLOAD TRIPS &amp; TIME LAGS, CENTRE POLE AS EQUALIZER. EACH OUT-GOING CIRCUIT HAS EITHER A D.P. CIRCUIT BREAKER WITH O/L TRIPS &amp; TIME LAGS, OR A D.P. QUICK BREAK KNIFE SWITCH &amp; 2 S.P. FUSES.

Instruments on main switchboard 5 ammeters 6 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 EARTH LAMPS WITH S.P. SWITCHES &amp; S.P. FUSES.

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



**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. LIGHTNING 3-6 VOLTS. POWER 8 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. NONE

**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. MAIN CABLES & ENG. RM. CABLES LEAD, ARM'D & BRAIDED, SECURED BY S.I. CLIPS, OTHER CABLES LEAD COVERED & BRAIDED SECURED BY BRASS CLIPS. WHERE NECESSARY CABLES ARE COVERED WITH 1/8" S.I. PLATE.

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.

**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. SHEET LEAD

**Earthing Connections,** state what earthing connections are fitted and their respective sectional areas. NONE

—, 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. EMERGENCY SWITCHBOARD IN ENGINE ROOM, FORWARD OF ENG. RM. 12 K.W. DYNAMO DRIVEN BY SINGLE CYL. HEAVY FUEL OIL ENGINE. SEVERAL 12 VOLT LAMPS ARE ALSO FITTED IN ENGINE RM. ETC. SUPPLIED FROM BATTERY THROUGH AUTOMATIC SWITCH.

**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. YES

**Fittings,** are all fittings on weather decks, in storerooms 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. NONE

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected. NONE

—, how are the cables led. —

where are the controlling switches situated. —

**Searchlight Lamps,** No. of NONE, whether fixed or portable. —, are their fittings as per Rule. —

**Arc Lamps,** other than searchlight lamps, No. of NONE, 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. YES, if not of this type, state distance of the combustible material horizontally or vertically above the motors. —

**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. 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. —

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 GENERATOR.	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.		
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN	4	275	220	1260	300	W.H. ALLEN 6 CYL. 4 CYCLE DIESEL ENGINE	DIESEL OIL	200° F.	
EMERGENCY	1	12	220	54.5	375	W.H. ALLEN SINGLE CYL. 2 CYCLE HEAVY FUEL OIL ENGINE	DIESEL OIL	200° F.	
Ref. No.									
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	1.08	127	.106	1260	174	PURE RUBBER	LEAD, ARM'D & BRAIDED
	EQUALISER CONNECTIONS	1	1.08	127	.106	—	87	0°	0°
	EMERGENCY GENERATOR	2	.060	19	.064	54.5	30	0°	0°
E	ENGINE ROOM	2	.022	7	.064	36.5	273	0°	0°
B	ACCOMMODATION FORWARD	2	.028	19	.044	16.6	228	0°	0°
C	AFT	2	.028	19	.044	23.6	183	0°	0°
A	WHEELHOUSE & NAVIGATOR	2	.005	7	.029	1.4	321	0°	LEAD & BRAIDED
	WIRELESS	2	.022	7	.064	12.6	324	0°	LEAD & BRAIDED
	CARGO LIGHTS	2	.060	19	.064	50.4	177	0°	LEAD, ARM'D & BRAIDED
H	WATERS FORWARD	2	.117	37	.064	120.4	339	0°	0°
J	HEATERS AFT	2	.101	19	.083	85	153	0°	0°
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	1	.101	19	.083	87.5	228	PURE RUBBER	LEAD, ARM'D & BRAIDED
	MAIN BILGE LINE PUMPS	2	.060	19	.064	60	111	0°	0°
	GENERAL SERVICE PUMP	1	.076	19	.072	70	267	0°	0°
	TURBO BLOWERS	2	.744	(2) 91	.103	1255	264	0°	0°
	SANITARY PUMP	1	.060	19	.064	58.5	249	0°	0°
	JACKET COOLING PUMPS	3	.117	37	.064	115	303	0°	0°
	PISTON OIL PUMPS	1	.060	19	.064	60	138	0°	0°
	AIR COMPRESSOR	2	.606	(2) 91	.093	745	210	0°	0°
	FRESH WATER PUMP	1	.028	19	.044	25.4	216	0°	0°
	ENGINE TURNING GEAR	2	.076	19	.072	77	126	0°	0°
	CO. WATER CIRC. PUMP	1	.117	37	.064	115	210	0°	0°
	LUBRICATING OIL PUMPS	3	.040	19	.052	34.7	267	0°	0°
	WINDLASS	12	.606	(2) 91	.093	1505	801	CAMBRIC	0°
	WINCHES, FORWARD	9	.606	(2) 91	.093	1075	405	0°	0°
	WINCHES, AFT								
	STEERING GEAR								
	(b) MAIN MOTOR	2	.148	37	.072	133	468	PURE RUBBER	0°
1	ENG. RM. AUXILIARY BOARD	6	.117	37	.064	111.4	180	0°	0°
2	0°	4	.101	19	.083	86.8	228	0°	0°
3	0°	5	.060	19	.064	61	228	0°	0°
4	0°	3	.060	19	.064	46	228	0°	0°
5	GALLEY 0°	2	.148	37	.072	118.5	174	0°	0°
	GALLEY BOILER		.022	7	.064	18	207	0°	LEAD & BRAIDED
	REFRIG. MACH. BOARD	11	1.038	(3) 127	.103	1466	198	0°	LEAD, ARM'D & BRAIDED



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.

*E. Skinner*

Electrical Engineer.

Date 29/8/28

#### COMPASSES.

Distance between electric generators or motors and standard compass 40 FEET FROM W/T CONVERTER

Distance between electric generators or motors and steering compass 37 " " " "

The nearest cables to the compasses are as follows:—

A cable carrying .14 Ampères 1N feet from standard compass feet from steering compass.

A cable carrying .14 Ampères 1N 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 FAIRFIELD S.B. & E. Company, Limited, Builder's Signature.

Date

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 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.*

Total Capacity of Generators 1112 Kilowatts

The amount of Fee ...

£ 57.6.0

When applied for,

SEP 1928

Travelling Expenses (if any) £

When received,

5.9.58

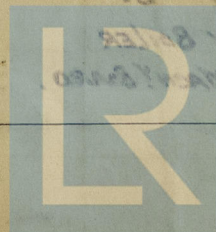
Committee's Minute

TUE. 4 SEP 1928

Assigned

*Elec Light*

*J. Craikin*  
Surveyor to Lloyd's Register of Shipping.



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