

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

11 OCT 1926

Received at London Office

Date of writing Report 6<sup>th</sup> October 1926 When handed in at Local Office 6<sup>th</sup> October 1926 Port of Gothenburg

No. in Survey held at Gothenburg Date, First Survey 25<sup>th</sup> Aug. Last Survey 30<sup>th</sup> Sept. 1926  
Reg. Book. (Number of Visits 8)

83803 on the Single Screw M/S Stensby Tons { Gross 3953  
Net 2394

Built at Gothenburg By whom built Eriksbergs Mek. Verkst. Yard No. 221 When built 1926

Owners A/S Motortramp, Stensbygaard Port belonging to Kallehave

Electric Light Installation fitted by Elektriska ABol. AEG, Göteborg Contract No. ✓ When fitted 1926

System of Distribution Two-wire system ✓

Pressure of supply for Lighting 110 ✓ volts, Heating - 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 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 yes, is an adjustable regulating resistance fitted in series with each shunt field yes

Are all terminals accessible and clearly marked yes, are they so spaced or shielded that they cannot be accidentally earthed, or short circuited yes Are the lubricating arrangements of the generators as per Rule yes

Position of Generators on port-side in 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 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 yes

Main Switch Boards, where placed in the 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, incombustible non-absorbent materials of marble, 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

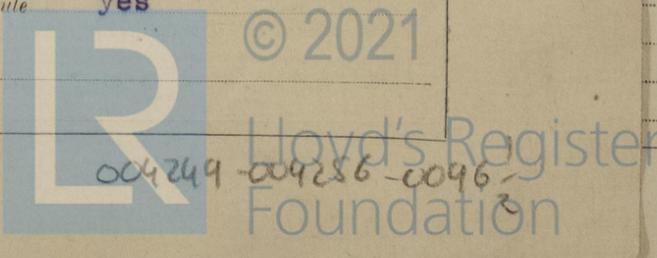
For each generator: A double pole circuit breaker with overload and reversed-current trips, and a single-pole equalizer switch as per rule. For each outgoing circuit: a fuse and a single-pole switch on each pole.

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 ohm-meters fitted with commutator for both poles.

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** twin are the cables insulated and protected as per Tables III or IV of the Rules **yes III**  
**Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load** 2 volts + 2.5 per cent for lighting  
 2 volts + 3.0 per cent for power

**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** Paper insulated cables are not used.

**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** supported by metal clips. All power cables lead covered and armoured. Light cables in cabins lead covered, otherwise lead covered and armoured or steelwired.

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 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** Main cables are not jointed, section cables are jointed in porcelain boxes and boxes as per rule.

**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** do not occur state the material of which the bushes are made

**Earthing Connections, state what earthing connections are fitted and their respective sectional areas** **yes**

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 in the navigation-room.**

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 **no**

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected **no**

**cables in cargo holds led in channels** how are the cables led

where are the controlling switches situated **on main-switchboard**

**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 axis of rotation fore and aft **yes, except windlass and winches**

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 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	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	33	220	150	400	Auxiliary Diesel engines	Diesel oil	above 150° F
AUXILIARY	1	66	220	300	400	" " "	"	"
EMERGENCY								
ROTARY TRANSFORMER	1	14	220/110	135	1400			

**LIGHTING AND HEATING CONDUCTORS.**

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Mm.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) M.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	1	95	37	1.80	150	60	rubber	armoured part iron pipes
	AUXILIARY GENERATOR	2	95	37	1.80	300	20	"	"
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER	1	70	37	1.55	90	10	"	"
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	1	6	7	1.05	20	10	"	"
	BOILER ROOM								
	Electric light								
	Distrib. board A	1	6	7	1.05	7	150	"	"
	B	1	6	7	1.05	10	40	"	"
	C	1	6	7	1.05	10	75	"	"
	D	1	4	7	0.86	8	100	"	"
	E	1	4	7	0.86	8	100	"	"
	Lead to hmps	1	1.5	1	1.38	2	60	"	Lead covered and armoured and steel wired port iron pipes.
	WIRELESS	1	10	7	1.35	18	75	"	Armoured part iron pipes
	SEARCHLIGHT								
	MASTHEAD LIGHT	1	1.5	1	1.38	1	175	"	"
	SIDE LIGHTS	1	1.5	1	1.38	1	30	"	"
	COMPASS LIGHTS	1	1.5	1	1.38	1	20	"	steel wired
	POOP LIGHTS								
	CARGO LIGHTS								
	ARC LAMPS								
	HEATERS								

**MOTOR CONDUCTORS.**

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Mm.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) M.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP	1	6	7	1.05	30	70	Rubber	Armoured part iron pipes
	MAIN BILGE LINE PUMPS								
	GENERAL SERVICE PUMP								
	EMERGENCY BILGE PUMP								
	SANITARY PUMP & Bilge pump comb.	1	10	7	1.35	32	60	"	"
	CIRC. SEA WATER PUMPS & Lubr. oil pumps comb.	1	50	19	1.83	100	50	"	"
	CIRC. FRESH WATER PUMPS								
	AIR COMPRESSOR								
	FRESH WATER PUMP								
	ENGINE TURNING GEAR	1	6	7	1.05	25	35	"	"
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS								
	OIL FUEL TRANSFER PUMP & Lubr. oil pump comb.	1	25	19	1.30	60	25	"	"
	WINDLASS	1	95	37	1.80	176	150	"	"
	WINCHES, FORWARD	6	25	19	1.30	60	120	"	"
	WINCHES, AFT	4	25	19	1.30	60	110	"	"
	STEERING GEAR	1	16	7	1.70	48	165	"	"
	WORKSHOP MOTOR	1	2.5	7	0.67	12	60	"	"
	VENTILATING FANS	1	95	37	1.80	140	50	"	"
	Lubr. oil separator	1	2.5	7	0.67	2	60	"	"
	Fuel oil	1	2.5	7	0.67	6	60	"	"
	Refrigating pump	1	6	7	1.05	30	50	"	"

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.

Elektriska Aktieförbundet A B

*Anders J. Petz*

Electrical Engineers.

Date 29.9.1926

COMPASSES.

Distance between electric generators or motors and standard compass about 15 meters

Distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows :-

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

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Have the compasses been adjusted with and without the electric installation at work at full power.

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted.

The maximum deviation due to electric currents was found to be degrees on course in the case of the standard compass, and degrees on course in the case of the steering compass.

*Luukkainen*

Builder's Signature.

Date 6/10. 1926

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 electric installation has been fitted on board under our inspection and has been tested and found satisfactory. The workmanship is good. All the Rule requirements have been complied with.

It is submitted that this vessel is eligible for THE RECORD. Elec. light.

*W.D.*  
12/10/26

Total Capacity of Generators 132 Kilowatts

The amount of Fee ... £ 608.42

When applied for, 6 Oct 1926

Travelling Expenses (if any) £

When received, 26.10.26

*V. Adilow*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 12 OCT 1926

Assigned

Im. 921.—Transfer. (The Signatories are requested not to write on or below the space for Committee's Minute.)