

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office... 27 NOV. 1925

Date of writing Report 24<sup>th</sup> Nov 1925 When handed in at Local Office 24<sup>th</sup> Nov 1925 Port of Gothenburg

No. in Survey held at Gothenburg Date, First Survey 8<sup>th</sup> Sept Last Survey 14<sup>th</sup> October 1925  
(Number of Visits... 14.....)

Supplement on the Twin Screw Steamer "Annie Johnson"  
Reg. No. 37930

Tons { Gross 4896  
Net 2852

Built at Gothenburg By whom built ABol. Götaverken Yard No. 392 When built 1925

Owners Rederiaktiebol. Nordstjernan Port belonging to Stockholm

Electric Light Installation fitted by Elektriska ABol. AEG, Gothenburg Contract No. ✓ When fitted 1925

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 part side in engineroom

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 max. circuit breaker and a separate single pole equalizer switch.

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

Shipping.



**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** 3.2 per cent for lighting and 3.5 " " " 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 as per Rule or plated steel wire.

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 Rules.

**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** 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**

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

where are the controlling switches situated **on main switch board**

**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 Brinepump 2 H P windlass & 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, 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	100 ✓	220	455	400	Auxiliary Diesel engines	Diesel oil above 150° F	
EMERGENCY	-							
ROTARY TRANSFORMER	1	20	220/110	190	1400			

**LIGHTING AND HEATING CONDUCTORS.**

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	2	185 ✓	37	2.52	455	45	Rubber	Armoured part
	AUXILIARY GENERATOR	1	95	37	1.80	300			iron pipes
	EMERGENCY GENERATOR	-							
	ROTARY TRANSFORMER	1	70 ✓	37	1.55	106	10	"	"
	AUXILIARY SWITCHBOARDS	-							
	ENGINE ROOM	1	6 ✓	7	1.05	20	10	"	"
	BOILER ROOM								
	Electric Light:								
	Distrib. board A	1	16 ✓	7	1.7	15	140	"	"
	B	1	16 ✓	7	1.7	15	80	"	"
	C	1	6 ✓	7	1.05	7.5	110	"	"
	D	1	6 ✓	7	1.05	10	120	"	"
	E	1	6 ✓	7	1.05	13	60	"	"
	F	1	6 ✓	7	1.05	13	60	"	"
	G	1	6 ✓	7	1.05	9	60	"	"
	H	1	6 ✓	7	1.05	9	60	"	"
	I	1	6 ✓	7	1.05	5	90	"	"
	J	1	2.5 ✓	7	0.86	3	160	"	"
	K	1	2.5 ✓	7	0.86	3	100	"	"
	Lead to lamps	1	1.5 ✓	1	1.38	2	60	"	Lead covered and armoured, steel wired
	WIRELESS Generator	1	4 ✓	7	0.86	12.5	95	"	part. iron pipes, armoured
	SEARCHLIGHT								
	MASTHEAD LIGHT	1	1.5 ✓	1	1.38	1	150	"	" "
	SIDE LIGHTS	1	1.5 ✓	1	1.38	1	25	"	" "
	COMPASS LIGHTS	1	1.5 ✓	1	1.38	1	15	"	steel wired
	POOP LIGHTS								
	CARGO LIGHTS								
	ARC LAMPS								
	HEATERS								

**MOTOR CONDUCTORS.**

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP	1	120 ✓	37	2.03	150	20	Rubber	Armoured part
	MAIN BILGE LINE PUMPS								iron pipes.
	GENERAL SERVICE PUMP								
	EMERGENCY BILGE PUMP								
	Bilge & SANITARY PUMPS	2	10 ✓	7	1.35	32	35	"	"
	Circ. SEA WATER PUMPS & Lubri. oil pumps comb.	2	120 ✓	7	2.03	167	75	"	"
	Circ. FRESH WATER PUMPS								
	AIR COMPRESSOR								
	FRESH WATER PUMP	1	2.5 ✓	7	0.67	18	15	"	"
	ENGINE TURNING GEAR	2	6 ✓	7	1.05	25	30	"	"
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS								
	OIL FUEL TRANSFER PUMP	1	6 ✓	7	1.05	25	30	"	"
	WINDLASS	1	150 ✓	37	2.27	230	180	"	"
	WINCHES	10	50 ✓	19	1.83	100	120	"	"
	WINCHES, Air Lifting	1	25	19	1.30	70	60	"	"
	STEERING GEAR	1	35	19	1.53	80	190	"	"
	WORKSHOP MOTOR	1	2.5 ✓	7	0.67	12	30	"	"
	VENTILATING FANS	5	2.5 ✓	7	0.67	12	25	"	"
	Battery	1	35 ✓	19	1.53	75	40	"	"
	Refrg. compressor	2	120 ✓	37	2.03	160	28	"	"
	" (stores)	1	10 ✓	7	1.35	40	65	"	"
	Lubr. oil separator	1	2.5 ✓	7	0.67	6	25	"	"
	Hot water pump	1	2.5 ✓	7	0.67	5	15	"	"
	Ventilating fans	2	10 ✓	7	1.35	35	40	"	"
	"	2	4 ✓	7	0.86	18	50	"	"
	Refrg. pumps	2	2.5 ✓	7	0.67	16	15	"	"
	Brine pumps	3	2.5 ✓	7	0.67	16	15	"	"

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 AKTIEBOLAGET A. E. G.

FILIAL GÖTEBORG

*Oscar Johnson* *Pruus A. Vedin* Electrical Engineers.

Date *24<sup>th</sup> Nov. 1925*

COMPASSES.

Distance between electric generators or motors and standard compass *About 15 meters*

Distance between electric generators or motors and steering compass *About 15 meters*

The nearest cables to the compasses are as follows:—

A cable carrying \_\_\_\_\_ Amperes \_\_\_\_\_ feet from standard compass \_\_\_\_\_ feet from steering compass.

A cable carrying \_\_\_\_\_ Amperes \_\_\_\_\_ feet from standard compass \_\_\_\_\_ feet from steering compass.

A cable carrying \_\_\_\_\_ Amperes \_\_\_\_\_ feet from standard compass \_\_\_\_\_ feet from steering compass.

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.

*Pruus A. Vedin*

Builder's Signature.

Date *24<sup>th</sup> Nov. 1925*

Is this installation a duplicate of a previous case *Yes* so, state name of vessel *"Svea Johanna"*

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.*

*All the Rule requirements have been complied with except that at the special request of the Owners a separate equalizer switch fitted in the proximity of the generators in order to make the equalizer leads as short as possible. The equalizer leads are of the same size as the generator main cables.*

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

*[Signature]*  
*27/11/25*

Total Capacity of Generators *266* Kilowatts

The amount of Fee ... *£ 694.33* : *24<sup>th</sup> Nov. 1925* When applied for.

Travelling Expenses (if any) £ : *200.00* When received.

*V. Wilow* *G. Brandev*  
Surveyors to Lloyd's Register of Shipping.

Committee's Minute

TUES. 1 DEC 1925

Assigned

141,924.—T. ansler. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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