

Rpt. 13.

No. 12615

## REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 23 OCT 1939

Date of writing Report 12<sup>th</sup> Oct. 1939 When handed in at Local Office 13<sup>th</sup> Oct. 1939 Port of Gothenburg  
 No. in Survey held at Gothenburg Date, First Survey 29<sup>th</sup> July Last Survey 5<sup>th</sup> Oct. 1939  
 Reg. No. 40954 on the Single S. M. "SALAMIS" (Number of Visits 13)  
 Tons { Gross 8286.40  
 Net 4900.77  
 Built at Gothenburg By whom built Aktiebolaget Götaverken Yard No. 535 When built 1939  
 Owners A/S Salamis Port belonging to Oslo  
 Electric Light Installation fitted by Aktiebolaget Götaverken Contract No. 535 When fitted 1939  
 Is the Vessel fitted for carrying Petroleum in bulk yes

System of Distribution two - wire - system  
 Pressure of supply for Lighting 110 volts, Heating - 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 temperature rise 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 Have certificates of test results for machines under 100 kw. been submitted and approved yes Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing -  
 Have certificates for generators under 100 kw. been supplied and approved 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 at the port side of the motorroom, 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 on a platform over the generator s  
 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 of marble, is all insulation of high dielectric strength and of permanently high insulation resistance yes, is it of an approved type 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, is the non-hygroscopic insulating material of an approved type 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, temperature rise of omnibus bars yes, individual fuses to voltmeter, pilot or earth lamp yes, are moving parts of switches alive in the "off" position no are all screws and nuts securing connections effectively locked yes are any fuses fitted on the live side of switches no  
 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. For outgoing circuits: Double pole switches and a fuse at each pole.  
 Are turbine driven generators fitted with emergency trip switch as per rule - Are cupboards or compartments containing switchboards composed of fire-resisting material or lined with approved material yes Instruments on main switchboard 4 ammeters 2  
 voltmeters - synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connection yes  
 Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system ohmmeter Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules yes are the fusible cutouts of an approved type Draper have the reversed



current protection devices been tested under working conditions **yes** are all fuses labelled as per rule **yes**

**Joint Boxes, Section and Distribution Boards,** is the construction, protection, insulation, material, and position of these as per rule **yes**

**Cables:** Single **yes** are the cables insulated and protected as per Rules IV, V, X, XI, XII or XIII of the Rules **yes**

If the cables are insulated otherwise than as per Rule, are they of an approved type **yes** **Fall of Pressure,** state maximum between bus bars and any point of the installation under maximum load **2 v. + 3 pr cent for lighting** **2 v. + 5 " " power** **Cable Sockets,** are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets **yes** **Paper Insulated and Varnished Cambric Insulated Cables,** are the cables sized as far as possible in accessible positions

If conductors are paper or varnished cambric insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound **yes** or waterproof insulating tape **yes** **Cable Runs,** are the cables fixed as far as possible in accessible positions

are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit **yes** supported by metal clips. All power cables **yes** **Support and Protection of Cables,** state how the cables are supported and protected **lead covered and armoured**

If cables are run in wood casings, are the casings and caps secured by screws **yes** are the cap screws of brass **yes** are the cables run in separate grooves **no** If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII **yes**

**Refrigerated Chambers,** are the cables and fittings in accordance with the special requirements **yes**

**Joints in Cables,** state if any, and how made, insulated, and protected **no joints in main cables**

**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 lashed **yes** state the material of which the bushes are made **lead**

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

**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 **yes**

**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** are they ventilated 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 **yes**

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected **yes** **contained in gastight fittings** **in gastight tubing** **outside of the dangerous spaces**

are all fittings suitably ventilated **yes** are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials **yes**

**Heating and Cooking Appliances,** are they constructed and fitted as per Rule **yes** are air heaters constructed and fitted as per Rule **yes**

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

**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** **all except the turning motor** 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 **yes** have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing **yes** have certificates for all motors for essential services been supplied and approved **yes** **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 **yes** are all fuses of the fitted cartridge type **yes** are they of an approved type **yes** If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed flameproof type approved for use in dangerous spaces **yes** are they suitably stored in dry situations **yes** **Spare Gear,** if the vessel is for open sea service have spares been supplied as per Rule **yes**

PARTICULARS OF GENERATING PLANT.									
DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.		
		Kilowatts.	Volts.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN	1	75	115	652	450	Diesel engine	Diesel oil	Above 150° F.	
AUXILIARY	1	75	115	652	450	Steam engine			
EMERGENCY									
ROTARY TRANSFORMER									

GENERATOR, LIGHTING AND HEATING CONDUCTORS.									
DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT, AMPERES.		Approximate Length. (Lead and Return.) Feet. <small>W&amp;ET</small>	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR	1	400	37	2.05	652	680	32-22	Rubber	Lead covered and armoured
EQUALISER CONNECTIONS	4	400	37	2.05		680	32-22	"	" " " "
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER									
MOTOR GENERATOR									
ENGINE ROOM									
BOILER ROOM	1	8	7	1.05	26	29	6	"	" " " "
AUXILIARY SWITCHBOARDS									
Battery board	1	20	19	1.29	60	62	80	"	" " " "
Ventilating fans	1	2.5	7	0.67	14.5	16	46	"	" " " "
Lanterns	1	4	7	0.86	2	23	190	"	" " " "
ACCOMMODATION aft port	1	8	7	1.05	15	29	38	"	" " " "
" " starb.	1	8	7	1.05	16	29	24	"	" " " "
" " midships	1	50	19	1.53	56	100	173	"	" " " "
" " forward	1	10	7	1.35	6	39	240	"	" " " "
WIRELESS	1	35	19	1.53	36	75	210	"	" " " "
SEARCHLIGHT									
MASTHEAD LIGHT	1	1.5	1	1.38	0.4	9	130-180	"	" " " "
SIDE LIGHTS	1	1.5	1	1.38	0.4	9	50-50	"	" " " "
COMPASS LIGHTS	1	1.5	1	1.38	0.4	9	20	"	" " " "
POOP LIGHTS	1	1.5	1	1.38	0.4	9	250	"	" " " "
CARGO LIGHTS									
HEATERS									

MOTOR CONDUCTORS.										
DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT, AMPERES.		Approximate Length. (Lead and Return.) Feet. <small>W&amp;ET</small>	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP										
MAIN BILGE LINE PUMPS										
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
SANITARY PUMP	1	1	4	7	0.86	24	23	20	Rubber	Lead covered and armoured
CIRC. SEA WATER PUMPS										
CIRC. FRESH WATER PUMPS										
AIR COMPRESSOR										
FRESH WATER PUMP	1	1	2.5	7	0.67	17	16	46	"	" " " "
ENGINE TURNING GEAR	1	1	36	19	1.53	80	75	100	"	" " " "
ENGINE REVERSING GEAR										
cooling w. LUBRICATING OIL PUMPS	2	2	300	37	2.27	375	400	23-24	"	" " " "
OIL FUEL TRANSFER PUMP										
WINDLASS										
WINCHES, FORWARD										
WINCHES, AFT										
STEERING GEAR—										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR										
WORKSHOP MOTOR	1	1	4	7	0.86	25.5	23	74	"	" " " "
VENTILATING FANS	2	1	2.5	7	0.67	12.6	16	16-40	"	" " " "
Lubr. oil separator	1	1	6	7	1.05	30	29	23	"	" " " "
Fuel oil	1	1	6	7	1.05	30	29	23	"	" " " "
" " " pump	1	1	1.5	1	1.38	9.2	9	22	"	" " " "
Vapour extractor	1	1	10	7	1.35	39	39	38	"	" " " "
Refrigerator	1	1	35	19	1.53	81	75	50	"	" " " "
Cooling w. pump	1	1	2.5	7	0.67	16.8	16	42	"	" " " "



The Electrical Equipment is installed in accordance with the approved plans.

All Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

*[Signature]*

Electrical Engineers.

Date October 12th, 1939.

#### COMPASSES.

Minimum distance between electric generators or motors and standard compass about 9 met.

Minimum distance between electric generators or motors and steering compass " 8 "

The nearest cables to the compasses are as follows:—

A cable carrying 35 Amperes 23 feet from standard compass 18 feet from steering compass.

A cable carrying 1 Amperes 8 feet from standard compass 5 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 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 0 degrees on " course in the case of the standard compass, and 0 degrees on " course in the case of the steering compass.

*[Signature]*

Builder's Signature.

Date Oct. 12th, 1939.

Is this installation a duplicate of a previous case No

If so, state name of vessel 70 Nils - Stockholm Jan 14 5 34.

General Remarks (State quality of workmanship, opinions as to class, &c.)

The electric installation

has been fitted on board under my inspection and to my satisfaction  
and has been tested and found satisfactory.

The workmanship is good and all the requirements of the  
Rules have been complied with.

The generators and electric motors as per the electrical  
certificates attached.

*[Signature]*

26/10/39

Total Capacity of Generators 150 Kilowatts.

The amount of Fee ... 25.7/2:50 : { When applied for, 13th Oct 1939

Travelling Expenses (if any) £ : : { When received, 25.10.39

Committee's Minute

Assigned

See fol. 2E. 12615

*[Signature]*  
Surveyor to Lloyd's Register of Shipping.