

Rpt. 13.

No. 8216

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 7 MAR 1931

Date of writing Report 10th Feb 1931 When handed in at Local Office 2nd March 1931 Port of GöteborgNo. in Survey held at Göteborg Date, First Survey 5th Jan Last Survey 26th Feb 1931
(Number of Visits 9)Reg. Book. Supplement 92455 on the Twin S. Motor vessel "SVEABORG" Tons { Gross 9076
Net 5258Built at HAMBURG By whom built BLOHM & VOSS Yard No. 489 When built 1931Owners Stockholms Rederiaktiebolag Svea Port belonging to StockholmElectric Light Installation fitted by AB. Götaverken Contract No. 455 When fitted 1931Is the Vessel fitted for carrying Petroleum in bulk YesSystem of Distribution Two-Wire-SystemPressure of supply for Lighting 110 volts, Heating 220 volts, Power 220 volts.Direct or Alternating Current, Lighting Direct Power DirectIf 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 inseries with each shunt field YesAre 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 One at the starboard side and two at the port side of the motor 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 axes of rotation fore and aft Yes.Earthing, are the bedplates and frames of the generating plant efficiently earthed Yes. are the prime movers andtheir respective generators in metallic contact Yes.Main Switch Boards, where placed aft in the motorroom

If the generators and main switchboard are not placed in the same compartment, is each generator provided with

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 unprotectedwoodwork 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 ofpermanently high insulation resistance Yes if semi-insulating material is used, are all conducting parts insulated from the slabwith mica or micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework Yesand is the frame effectively earthed Yes Are the fittings as per Rule regarding:— spacing or shielding of live partsYes, accessibility of all parts Yes, absence of fuses on back of board Yes, proportion of omnibusbars Yes, individual fuses to voltmeter, pilot or earth lamp Yes., connections of switches YesMain Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches For each generator:Double pole circuit breaker with overload and reversed current trips and a single pole equalizer switch.For each outgoing circuit: A double pole linked switch and a fuse at each pole.Instruments on main switchboard 6 ammeters 4 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 fittedwith commutators for both poles.Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules Yes.Paint Boxes Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule Yes.

© 2020

Lloyd's Register

Foundation

W439-02411122

Cables: Single, twin, concentric, or multicore single and twin ones are the cables insulated and protected as per Tables IV or V of the Rules Yes
2v + 3 pr. cent for lighting
2v + 5 " " " power

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 2v + 5 " " " power

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 supported by metal clips, all power cables lead covered and armoured. Lighting cables lead covered in cabins. For the rest lead covered and steel wire plaited or 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, 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 No joints in main cables.

Joints in section cables as pr 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 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 lamps contained

in gastight fittings -, how are the cables led

in gastight tubing -

where are the controlling switches situated outside of dangerous space

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 axes of rotation fore and aft all except the turning motors

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 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

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office Yes

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	3	66	220	300	400	Diesel engine	Dieselloil	Above 150° F.
AUXILIARY								
EMERGENCY								
ROTARY TRANSFORMER	1	14	220 110	80 125	1350			

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length (Lead and Return).	Insulated with	HOW PROTECTED.	
	No. per Pole.	Total Effective Area per Pole Sq. mm/m	No.	Diameter.	In Circuit.	Rule.				
MAIN GENERATOR	2	190	19	2.52	300		48-48-56	Rubber	Lead covered and steel armoured	
EQUALISER CONNECTIONS	2	190	19	2.52	300		48-48-56	"	"	
AUXILIARY GENERATOR										
EMERGENCY GENERATOR										
ROTARY TRANSFORMER MOTOR	1	25	7	2.13	80		10	"	"	
ROTARY TRANSFORMER GENERATOR	1	70	19	2.17	125		10	"	"	
ENGINE ROOM	1	4	7	0.86	15		2	"	"	
BOILER ROOM	1	4	7	0.86	15		2	"	"	
AUXILIARY SWITCHBOARDS	1	25	7	2.13	61		35	"	"	
Heating board aft S.B.	1	25	7	2.13	72		35	"	"	
" " " port	1	35	19	1.53	100		193	"	"	
" " " midships	1	35	19	1.53	100		193	"	"	
ACCOMMODATION aft S.B.	1	6	7	1.05	18		35	"	"	
" " port	1	4	7	0.86	14		35	"	"	
" " midships	1	25	7	2.13	20		193	"	"	
Lanterns	1	4	7	0.86	2.5		213	"	"	
WIRELESS	1	6	7	1.05	20		208	"	"	
SEARCHLIGHT	1	1.5	1	1.38	0.5		100-140	"	"	
MASTHEAD LIGHT	1	1.5	1	1.38	0.5		40-40	"	"	
SIDE LIGHTS	1	1.5	1	1.38	0.5		20	"	"	
COMPASS LIGHTS	1	1.5	1	1.38	0.5		220	"	"	
POOP LIGHTS	1	1.5	1	1.38	0.5			"	"	
CARGO LIGHTS								"	"	
ARC LAMPS								"	"	
HEATERS	1	2.5	1	1.78	5		-	"	"	

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length (Lead and Return).	Insulated with	HOW PROTECTED.	
		No. per Pole.	Total Effective Area per Pole Sq. mm/m	No.	Diameter.	In Circuit.	Rule.				
BALLAST PUMP	1	1	10	7	1.35	36		48	Rubber	Lead covered and steel armoured	
MAIN BILGE LINE PUMPS											
GENERAL SERVICE PUMP											
EMERGENCY BILGE PUMP											
SANITARY PUMP	1	1	10	7	1.35	32		36	"	"	
CIRC. SEA WATER PUMPS											
CIRC. FRESH WATER PUMPS											
AIR COMPRESSOR											
FRESH WATER PUMP	1	1	15	1	1.38	8		10	"	"	
ENGINE TURNING GEAR	2	1	4	7	0.86	23		58-58	"	"	
ENGINE REVERSING GEAR											
LUBRICATING OIL PUMPS	2	1	120	37	2.03	198		24-24	"	"	
OIL FUEL TRANSFER PUMP	1	1	6	7	1.05	26		58	"	"	
WINDLASS	1	2	140	19	2.17	315		305	"	"	
WINCHES, FORWARD											
WINCHES, AFT											
STEERING GEAR—											
(a) Motor Generator											
(b) MAIN MOTOR	2	1	70	19	2.17	120		81	"	"	
WORKSHOP MOTOR	1	1	2.5	1	1.78	12		36	"	"	
VENTILATING FANS											
Fuel oil separator	1	1	10	7	1.35	35		36	"	"	
Lubr. oil	1	1	1.5	1	1.38	8		32	"	"	
Refrigerator	1	1	6	7	1.05	32		24	"	"	
Cooling W. pump	1	1	1.5	1	1.38	4		12	"	"	
Bath water pump	1	1	1.5	1	1.38	5		56	"	"	

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.

Aktiebolaget Götaverken

Electrical Engineers.

Date II. 10 31.

COMPASSES.

Distance between electric generators or motors and standard compass 10 met. to wireless transformer

Distance between electric generators or motors and steering compass 10 " " " "

The nearest cables to the compasses are as follows:—

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

A cable carrying Ampères 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

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.

AKTIEBOLAGET GÖTAVERKEN

[Signature]

Builder's Signature.

Date II. 10.31

Is this installation a duplicate of a previous case 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 my inspection and has been tested & found satisfactory.
The workmanship is good.
All the Rule requirements have been complied with.*

Elec Light

J. B. 10/3/31

Total Capacity of Generators 198 Kilowatts.

The amount of Fee ... £ 663.40 : When applied for, 4th March 1931

Travelling Expenses (if any) £ : When received, 30.3.1931

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

Committee's Minute FRI. 13 MAR 1931

Assigned

*Elec Lt
See Stam J.E 19561*

TUE. 30 JUN 1931



© 2020

Lloyd's Register Foundation