

JUL 18 1938

Rpt. 13.

No. 22840

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 12-7-38 19 38 When handed in at Local Office 10 Port of HAMBURG

No. in Survey held at Lübeck Date, First Survey 2-8-38 Last Survey 30-6-38 19 38  
Reg. Book. on the Steel Ss. "Reinbek" (Number of Visits 10)

Built at Lübeck By whom built Lüb. Maschb. Ges. Yard No. 367 Tons { Gross 2884  
Net 1644 When built 1935

Owners Knöhr & Burchard Nft. Port belonging to Hamburg

Electric Light Installation fitted by Siemens Schuckertwerke A.G. Contract No.          When fitted 1938

System of Distribution single wire with hull return ✓

Pressure of supply for Lighting 110 volts, Heating          volts, Power 110 volts.

Direct or Alternating Current, Lighting D.C. Power A.C.

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 no, 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 Steam: port eng. room Diesel: starb. 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 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 engine room, starb.

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, marble. Tested 2000V A.C. 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         , 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. Generators:

Single pole change over switches, fuse on insulated pole. Outg. circuits: Single pole change over switches, fuses on insulated pole.

Instruments on main switchboard 2 ammeters 2 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          ✓

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



*German Standards*  
 up to 250 and are the cables insulated and protected as per Tables IV or V of the Rules *yes*  
 Cables: Single, twin, concentric or multicore  
 Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *2.5 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 fitted*  
 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 *armoured cables supported by clips. On deck where exposed to risk of damage protected by tubes.*  
 Support and Protection of Cables, state how the cables are supported and protected *yes*  
 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 *water-tight joint boxes.*  
 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 *as required by Rules. Generators 95 mm<sup>2</sup> each.*  
 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 *✓*  
 Navigation Lamps, are these separately wired *yes*, controlled by separate switch and separate fuses *yes*, are the fuses double pole *no*, 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 *In forehold. Cables protected by iron bars.*  
 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 *✓*  
 where are the controlling switches situated *✓*  
 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 *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 *✓*  
 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 *none, Steel masts*  
 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.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	1	15	115	130	500	Steam		
AUXILIARY	1	15	115	130	750	Oil Engine	Gas Oil	about 150° F
EMERGENCY								
ROTARY TRANSFORMER								

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins. mm.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Returns.) Feet. m.	Insulated with	HOW PROTECTED.	
				No.	Diameter.					
	MAIN GENERATORS, &c.	1	95	37	1.81	130	7	30	Rubber	Lead covered and armoured.
	EQUALISER CONNECTIONS									
	AUXILIARY GENERATOR									
	EMERGENCY GENERATOR									
	ROTARY TRANSFORMER									
	AUXILIARY SWITCHBOARDS									
	ENGINE ROOM									
	BOILER ROOM	1	95	1	1.85	5	max. 45			
	ACCOMMODATION									
	Sub-distribution Boards—									
	Port & L. midship	1	25	19	1.3	40	✓	90		
	" 3 aftship	1	6	19	.64	15	✓	75		
	Navigation lamps	1	2.5	1	1.78	4	✓	65		
	Auto. Machinery	1	Bus Bar			40				
	WIRELESS	1	16	19	1.04	25	✓	40		
	SEARCHLIGHT									
	MASTHEAD LIGHT	1	15	1	1.88	1	✓	100		
	SIDE LIGHTS	1	15	1	1.88	1	✓	10		
	COMPASS LIGHTS	1	15	1	1.88	1	✓	15		
	POOP LIGHTS	1	10	1	1.33	1	✓	80		
	CARGO LIGHTS	1	2.5	1	1.78	8	✓	60		
	ARC LAMPS									
	HEATERS									

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins. mm.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Returns.) Feet. m.	Insulated with	HOW PROTECTED.	
				No.	Diameter.					
	BALLAST PUMP									
	MAIN BILGE LINE PUMPS	1	16	19	1.04	53	✓	40	Rubber	Lead covered and armoured.
	GENERAL SERVICE PUMP									
	EMERGENCY BILGE PUMP									
	SANITARY PUMP									
	CIRC. SEA WATER PUMPS	1	2.5	1	1.78	13	✓	40		
	CIRC. FRESH WATER PUMPS									
	COMPRESSOR	1	16	19	1.04	35	✓	30		
	FRESH WATER PUMP	1	15	1	1.88	4.8	✓	12		
	ENGINE TURNING GEAR									
	ENGINE REVERSING GEAR									
	LUBRICATING OIL PUMPS									
	OIL FUEL TRANSFER PUMP									
	WINDLASS									
	WINCHES, FORWARD									
	WINCHES, AFT									
	STEERING GEAR									
	(a) MOTOR GENERATOR	1	25	19	1.3	64	✓	60		
	(b) MAIN MOTOR	1	25	19	1.3	30	✓	8		220 Volts
	WORKSHOP MOTOR									
	VENTILATING FANS	2	15	1	1.88	4 each	✓	30		
	ditto in workshop	1	15	1	1.88	.7	✓	20		
	Grinding Stone	1	1.5	1	1.88	.6	✓	10		
	Lathe	1	10	19	.88	33	✓	8		
	Drilling machine	1	6	19	.64	17	✓	6		

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.

**SIEMENS-SCHÜCKERTWERKE**  
 AKTIENGESELLSCHAFT  
 HANSEATISCHE ZWEIGNIEDERLASSUNG HAMBURG  
 IN VIMACHT

Electrical Engineers.

Date 14.7.38

*Smith*

**COMPASSES.**

Distance between electric generators or motors and standard compass 26 m

Distance between electric generators or motors and steering compass 28 m

The nearest cables to the compasses are as follows:—

A cable carrying 5 Ampères close to feet from standard compass close to 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 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.

Maschinen-Gesellschaft

*Willing*

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 electric installation is fitted in accordance with the approved plans, the Secretary's letters and in compliance with the Rules. Materials and workmanship are of good quality. It has given satisfaction under working conditions and was found in order.*

*Noted  
 J.P.  
 20/7/38*

Total Capacity of Generators 30.— Kilowatts.

The amount of Fee 2.10.0 £ 4.50.— : search. Rpt.  
 Travelling Expenses (if any) £ : :  
 When applied for, 11.7.38.19.....  
 When received, .....19.....

*J.P. Smith*  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI 29 JUL 1938

*See Ham F.O. 22840*

Assigned

Im. 228.—Transfer.  
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)