Rpt. 13. No. 17012

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 16 Sep. 1926

Date of writing Report 16th Sept. 1926 When handed in at Local Office ..... 19 .. Port of HAMBURG

No. in Reg. Book. Survey held at Kiel. Date, First Survey 8th June Last Survey 28th August 1926 (Number of Visits 9)

on the Steel Twin Sc. M.V. "CALLIOPE" Tons Gross 8744 Net 5026

Built at Kiel By whom built Howaldtswerke Yard No. 675 When built 1926

Owners Baltisch Amerik. Petrol. Imp. G.m.b.H. Port belonging to Danzig.

Electric Light Installation fitted by Schinag - Hamburg Contract No. ✓ When fitted 1926.

System of Distribution 2 wire - 2 conductor insulated with separate conductor - except small cables. ✓

Pressure of supply for **Lighting** 110 ✓ volts, **Heating** ✓ volts, **Power** 220 volts.

Direct or Alternating Current, Lighting Direct Current ✓ **Power** Direct Current ✓

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 Engine room Port, 4th and aft, - steam driven emerg. set in auxiliary engineroom - Heller dub, 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 with the exception of steam driven emergency set.

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 cylinder platform aft - steam driven emergency set in auxiliary 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, non-ignitable non-absorbent materials Yes, is all insulation of high dielectric strength and of permanently high insulation resistance 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 ✓, 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 see letter, 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 fuse on each pole and a double pole linker switch - For each circuit: A fuse on each pole and a single-pole change-over switch on one pole.

Instruments on main switchboard 8 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 2 Ohmmeters.

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.

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Cables: *Single, twin, concentric, or multicore* single & twin *for small sections* The German Standards have been applied *are the cables insulated and protected as per Tables IV or V of the Rules* generally.

Fall of Pressure, *state maximum between bus bars and any point of the installation under maximum load* about 3 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* no paper insulated cables

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* armoured cables clipped and running in troughs, where they are exposed to mechanical risk protected by steel iron.

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* yes. *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* watertight 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* hard wood.

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* 1 Diesel set with hand starting arrangement in engine room between duct - 1 steam driven set in auxiliary engine room.

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 where 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 - garlight fittings, lamps protected by steel gauze covers.

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 - garlight fittings - lamps protected by steel glass covers. *how are the cables led* garlight tubing.

where are the controlling switches situated double-pole switches on deck outside the space.

Searchlight Lamps, No. of 2, *whether* ~~fixed or~~ *portable* yes, *are their fittings as per Rule* yes.

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* 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* yes

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

Steam set removed 5.40 & replaced by a turbo set 300 KW. 250 Volts

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No of	RATED AT Kilowatts.	Volts.	Ampères.	Revs. per Min.	DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE. Fuel Used.	Flash Point of Fuel.
MAIN	2	each 19.5	230	850	300	2 C.S.A. Diesel Engines	Diesel Oil	170°F.
AUXILIARY ...	1	25	230	109	425	" " "	"	"
EMERGENCY ...	1	10	115	87	400	" " "	"	"
	1	15	230	65	400	2 cyl. comp. steam engine.		
ROTARY TRANSFORMER	1	15	230/115	130	500	Electric Motor.		

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors. Lead & Return.	Effective Area of each Conductor. Sq. Inches.	COMPOSITION OF STRAND. No.	Diameter.	Total Maximum Current. Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
	MAIN GENERATOR...	2x2	3x240	61	2.25	850	58		
	EQUALISER CONNECTIONS ...								
	AUXILIARY GENERATOR ...	2	70 ✓	19	2.15	109	36		
	EMERGENCY GENERATOR ...	2 - 2	50 - 50 ✓	19	1.85	87 - 65	28 - 21		
	ROTARY TRANSFORMER... ...	2	70	19	2.15	130	66		
	AUXILIARY SWITCHBOARDS ...								
	ENGINE ROOM ... ... }	Close to main switchboard.							
	BOILER ROOM ... ... }								
	ACCOMODATION								
	Station No 1 (Forehip)	2	16 ✓	7	1.7	13	260		
	" No 2 (Midship)	2	16 ✓	7	1.7	22	180		
	" No 3 (Aft)	2	16	7	1.7	58	40		
	Motor Station No I.	2	10 ✓	7	1.35	34	76	rubber	lead covered and armoured.
	" " No II.	2	10 ✓	7	1.35	38	22		
	" " No III.	2	16 ✓	7	1.7	48	30		
	WIRELESS	2	6 ✓	1	2.75	13	146		
	SEARCHLIGHT	2	6	1	2.75	30	128		
	MASTHEAD LIGHT...	2 x 2	1.5 ✓	1	1.4	1	104 - 140		
	SIDE LIGHTS	2 - 2	1.5 ✓	1	1.4	1	38		
	COMPASS LIGHTS	2	1.5 ✓	1	1.4	0.5	12		
	POOP LIGHTS	2	1.5 ✓	1	1.4	1	30		
	CARGO LIGHTS	2	2.5 ✓	1	1.8	4	28		
	ARC LAMPS								
	HEATERS								

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Inches.	COMPOSITION OF STRAND. No.	Diameter.	Total Maximum Current. Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
	BALLAST PUMP ... ... }	1	25 ✓	19	1.55	67	64		
	MAIN BILGE LINE PUMPS } W.T.D. Boiler FAN								
	~~GENERAL SERVICE PUMP~~ ..	1	6 ✓	1	2.75	31	78		
	Steering No 2. "								
	~~EMERGENCY BILGE PUMP~~ ..	1	2.5 ✓	1	1.8	4.6	72		
	SANITARY PUMP ~~& Fire~~ ..	1	70 ✓	19	2.15	109	72		
	CIRC. SEA WATER PUMPS ..	2	50 ✓	19	1.85	90	76		
	CIRC. FRESH WATER PUMPS	1	35 ✓	19	1.55	76	60		
	AIR COMPRESSOR	1	2x240 ✓	2x61	2.25	515	38		
	FRESH WATER PUMP	1	2.5 ✓	1	1.8	8	68		
	ENGINE TURNING GEAR ..	2	4 ✓	1	2.25	21	34		
	ENGINE REVERSING GEAR ...								
	LUBRICATING OIL ~~PUMPS~~ Seperator ..	1	2.5 ✓	1	1.8	11	32	rubber	lead covered and armoured.
	OIL FUEL TRANSFER PUMP								
	WINDLASS	Steam driven							
	WINCHES, FORWARD		"						
	WINCHES, AFT		"						
	STEERING GEAR—								
	(a) MOTOR GENERATOR...	2	95	19	2.5	160	64		
	(b) MAIN MOTOR	2	120	37	2.05	180	60		
	WORKSHOP MOTOR	1	4 ✓	1	2.25	20	16		
	VENTILATING FANS	Engine room 1	2.5 ✓	1	1.8	45	14		
	Forward Blower	2	2x240 ✓	2x61	2.25	520	28		
	Heavy oil transfer pump.	2	2.5 ✓	1	1.8	4.5	6		
	" " seperators	2	2.5 ✓	1	1.8	16	15		
	" " circulating pump.	2	2.5 ✓	1	1.8	4.6	14		
	Compressor Refriger.	1	6	1	2.75	31	26		
	Drilling Machine.	1	2.5 ✓	1	1.8	7	6		
	Shaping "	1	2.5 ✓	1	1.8	11	8		
	Cubic Fan - Cold Meat room.	2	2.5 ✓	1	1.8	4.5	28 - 42.		

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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.

„Schiffag"
Schiffs-Installation Aktiengesellschaft
Zweigniederlassung Hamburg
i.V. Rasdrey

Electrical Engineers. Date 10/9/26

COMPASSES.

Distance between electric generators or motors and standard compass 68 m.

Distance between electric generators or motors and steering compass 68 m.

The nearest cables to the compasses are as follows:—

A cable carrying 0.5 Ampères more to feet from standard compass more 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 " course in the case of the standard compass, and nil degrees on " course in the case of the steering compass.

HOWALDTSWERKE
pp. Bahr

Builder's Signature. Date 10/9/26.

Is this installation a duplicate of a previous case yes If so, state name of vessel "THALIA" - "URANIA"

General Remarks (State quality of workmanship, opinions as to class, &c. Workmanship and Material of this Electric Installation are of good quality. As the conductors used are of the "German Standards" the Society's Rules respecting conductors have been applied generally. The installation has been built and fitted under Special Survey in accordance with the approved plans, the Secretary's letter and otherwise in conformity with the requirements of the Rules and is eligible in my opinion for record "ELECT. LIGHT".

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

18/9/26

Total Capacity of Generators ~~140~~ 21 Kilowatts.

The amount of Fee ... ... £ 42:10 : When applied for, 25/8/1926

Travelling Expenses (if any) £ : : When received, ...19....

Friedrich Nitt
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Im.1.26.—Transfer.

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

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