

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 14 JAN 1937

Date of writing Report 20/12/1936 When handed in at Local Office 1936 Port of Oslo

No. in Survey held at Fredrikstad Date, First Survey 20/11 - Last Survey 23/12/1936
 Reg. Book. (Number of Visits... 8)

on the steel screw steamer "HERMA GORTON" Tons { Gross 1827
 Net 930

Built at Fredrikstad By whom built Fredrikstad Mek. Verktøst Yard No. 281 When built 1936

Owners Rederiktselskap Port belonging to Hälsingborg

Electric Light Installation fitted by Fredrikstad Mek. Verktøst Contract No. _____ When fitted 1936

Is the Vessel fitted for carrying Petroleum in bulk no

System of Distribution Direct current, constant pressure, two wire system.

Pressure of supply for Lighting 115 volts, Heating _____ volts, Power (vent. fans) 115 volts.

Direct or Alternating Current, Lighting direct ✓ Power _____

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, change over system an adjustable regulating resistance fitted in series with each shunt field _____

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 ✓

Position of Generators Engine room Starboard ✓, are the lubricating arrangements of the generators as per Rule yes ✓

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 in engine room starboard, attached to E.R. bulkhead. ✓

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 _____ ✓ Are the fittings as per Rule regarding: — spacing or shielding of live parts _____ ✓

accessibility of all parts yes ✓, absence of fuses on back of board yes ✓, proportion of omnibus bars _____ ✓

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 2-pole switches for each generator and all outgoing circuits ✓

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 Ohm meter with change-over switch for + 0 - , and directly indicating for each generator ✓

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 ✓



Cables: Single, twin, concentric, or multicore twin are the cables insulated and protected as per Tables IV or V of the Rules Yes

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 4.6 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 Yes

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 Cables are run in pipe fittings fore & aft, and in places secured by clips spaced as per Table VIII

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 W.T. metal boxes with porcelain jointing insulators

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands Yes, W.T. tubes

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 All lead cables are earthed, forward amidships & aft, & E.R., 0.016 sq. inch sect. area.
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 Yes, cables are run in iron casings, 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

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	<u>one</u>	<u>8</u>	<u>115</u>	<u>70</u>	<u>500</u>	<u>Steam engine</u>	-	-
AUXILIARY	<u>one</u>	<u>4</u>	<u>115</u>	<u>36</u>	<u>1050</u>	<u>Lighter oil engine</u>	-	-
EMERGENCY								
ROTARY TRANSFORMER	<u>in wireless</u>	<u>0.5</u>	<u>115</u>	<u>4</u>	<u>1500</u>			

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION	CONDUCTORS		COMPOSITION OF STRAND		TOTAL MAXIMUM CURRENT AMPERES		Approximate Length (Lead and Return) Feet	Insulated with	HOW PROTECTED
	No. per Pole	Total Effective Area per Pole Sq. Ins.	No.	Diameter	In Circuit	Rule			
MAIN GENERATOR	<u>1</u>	<u>0.0548</u>	<u>15</u>	<u>0.068</u>	<u>70</u>	<u>104.78</u>	<u>45</u>	<u>paper</u>	<u>iron armoring</u>
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR	<u>"</u>	<u>0.025</u>	<u>7</u>	<u>0.072</u>	<u>36</u>	<u>46.7</u>	<u>50</u>	<u>rubber</u>	<u>"</u>
EMERGENCY GENERATOR									
ROTARY TRANSFORMER MOTOR GENERATOR									
ENGINE ROOM	<u>"</u>	<u>0.00234</u>	<u>1</u>	<u>0.06</u>	<u>1.5</u>	<u>7.8</u>	<u>120</u>	<u>rubber</u>	<u>"</u>
BOILER ROOM	<u>"</u>	<u>0.00234</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>150</u>	<u>"</u>	<u>"</u>
AUXILIARY SWITCHBOARDS									
Box aftermast	<u>"</u>	<u>0.0093</u>	<u>7</u>	<u>0.04</u>	<u>21</u>	<u>31.29</u>	<u>250</u>	<u>"</u>	<u>"</u>
fore mast	<u>"</u>	<u>0.0156</u>	<u>7</u>	<u>0.053</u>	<u>31</u>	<u>37.38</u>	<u>250</u>	<u>"</u>	<u>"</u>
Refrigerating plant	<u>"</u>	<u>0.0039</u>	<u>7</u>	<u>0.027</u>	<u>6.5</u>	<u>13.15</u>	<u>130</u>	<u>"</u>	<u>"</u>
ACCOMMODATION OFFICERS	<u>"</u>	<u>0.0249</u>	<u>7</u>	<u>0.072</u>	<u>24</u>	<u>46.44</u>	<u>160</u>	<u>"</u>	<u>"</u>
CREW	<u>"</u>	<u>0.00623</u>	<u>7</u>	<u>0.033</u>	<u>12</u>	<u>18.2</u>	<u>270</u>	<u>"</u>	<u>"</u>
WIRELESS	<u>"</u>	<u>0.00623</u>	<u>7</u>	<u>0.033</u>	<u>2.6</u>	<u>18.2</u>	<u>135</u>	<u>"</u>	<u>"</u>
SEARCHLIGHT									
MASTHEAD LIGHT	<u>"</u>	<u>0.00234</u>	<u>1</u>	<u>0.06</u>	<u>0.3</u>	<u>7.8</u>	<u>360</u>	<u>"</u>	<u>"</u>
SIDE LIGHTS	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>0.3</u>	<u>"</u>	<u>75</u>	<u>"</u>	<u>"</u>
COMPASS LIGHTS	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>0.3</u>	<u>"</u>	<u>20</u>	<u>"</u>	<u>"</u>
POOP LIGHTS	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>0.2</u>	<u>"</u>	<u>410</u>	<u>"</u>	<u>"</u>
CARGO LIGHTS	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>2.6</u>	<u>"</u>	<u>70</u>	<u>"</u>	<u>rubber</u>
ARC LAMPS									
HEATERS									

MOTOR CONDUCTORS.

DESCRIPTION	No. of Motors	CONDUCTORS		COMPOSITION OF STRAND		TOTAL MAXIMUM CURRENT AMPERES		Approximate Length (Lead and Return) Feet	Insulated with	HOW PROTECTED
		No. Per Pole	Total Effective Area per Pole Sq. Ins.	No.	Diameter	In Circuit	Rule			
BALLAST PUMP										
MAIN BILGE LINE PUMPS										
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
SANITARY PUMP										
CIRC. SEA WATER PUMPS										
CIRC. FRESH WATER PUMPS										
AIR COMPRESSOR										
FRESH WATER PUMP										
ENGINE TURNING GEAR										
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS										
OIL FUEL TRANSFER PUMP										
WINDLASS										
WINCHES, FORWARD										
WINCHES, AFT										
STEERING GEAR—										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR										
WORKSHOP MOTOR										
VENTILATING FANS	<u>one</u>	<u>one</u>	<u>0.0023</u>	<u>1</u>	<u>0.06</u>	<u>2.5</u>	<u>7.8</u>	<u>30</u>	<u>rubber</u>	<u>iron armoring</u>
	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>30</u>	<u>"</u>	<u>"</u>
	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>320</u>	<u>"</u>	<u>"</u>
	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>290</u>	<u>"</u>	<u>"</u>
	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>30</u>	<u>"</u>	<u>"</u>
	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>30</u>	<u>"</u>	<u>"</u>
<u>3 accommodation fans</u>			<u>3 x "</u>	<u>"</u>	<u>"</u>	<u>3 x 3.3</u>	<u>"</u>	<u>3 x 60</u>	<u>"</u>	<u>"</u>

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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.

f. Orshel Electrical Engineers. Date *4th January 1937*

COMPASSES.

Distance between electric generators or motors and standard compass *20 feet*
 Distance between electric generators or motors and steering compass *18 feet*
 The nearest cables to the compasses are as follows:—
 A cable carrying *0.3* Ampères *2* feet from standard compass *4* feet from steering compass.
 A cable carrying *0.4* Ampères *10* feet from standard compass *10* feet from steering compass.
 A cable carrying *ab. 4* Ampères *16* feet from standard compass *15* feet from steering compass. } *Electrical lamps in bimodes*
 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.

pr. % FREDRIKSSTAD MEK. VERKSTED
Wreel Builder's Signature. Date *9.1.1937*

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.)

The electric installation on this vessel has been examined during the fitting up of the generators, & during the fitting of cables and switch board. - The materials employed appear to be the best & the workmanship is good. - The installation has been carried out in accordance with the approved plans & the Secretary's letters in connection therewith. The installation was tested as required by the Rules, Section 17 and found to be satisfactory.

It is recommended that this installation be classed in the Society's Register Book.

*Noted
 E.H.W.
 28.1.37*

Total Capacity of Generators *12* Kilowatts.

The amount of Fee ... *£ 238.80* { When applied for, *29/12/36*
 Travelling Expenses (if any) £ : : *21.1.37* { When received, *21/1*

Runde
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI 29 JAN 1937*
 Assigned *See Vol J.C. 4857*

Im. 11.20.—Transfer.
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

