

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 16th July 1926 When handed in at Local Office 21st July 1926 Port of Gothenburg Received at London Office 26 JUL 1926

No. in Survey held at Gothenburg Date, First Survey 8th June Last Survey 15th July 1926
 (Number of Visits 10)

Reg. Book Supplement 88918 on the Single Screw Motorship "Erik Frisell"
 Built at Gothenburg By whom built A/B. Götaverken Yard No. 364 When built 1926
 Tons { Gross 5066
 Net 2862

Owners Trafikaktieb. Grängesberg-Oxelösund and Power Port belonging to Stockholm

Electric Light Installation fitted by Luth & Roséns Elektriska A/B. & A/B. Götaverken Contract No. - When fitted 1926

System of Distribution Three-wire system for Lighting and Two-wire for power-installation

Pressure of supply for Lighting 2 x 110 volts, Heating 220 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 overload 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

Are all terminals accessible and clearly marked yes, are they so spaced or shielded that they cannot be accidentally earthed, or short circuited yes Are the lubricating arrangements of the generators as per Rule yes

Position of Generators Two on portside and one on starboard side in 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 axis 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

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, incombustible 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 connected to one pole insulated from the slab with mica or micanite and the slab similarly insulated from its framework --- and is the frame effectively earthed yes

Are the following fittings as per Rule, viz. :— spacing or shielding of live parts yes, accessibility of all parts yes, absence of fuses on back of board yes, 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 double-pole max. circuit breaker interlocked with a single-pole equalizer. For each outgoing

circuit: A fuse on each pole and double pole switch on each outgoing conductor.

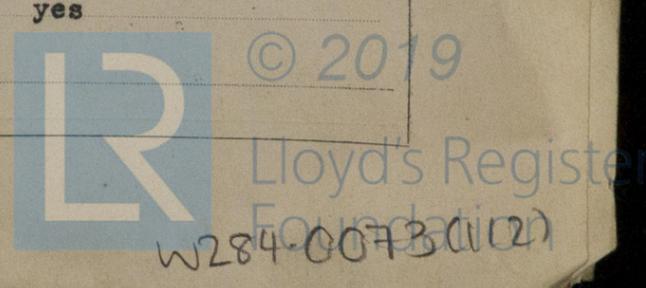
Instruments on main switchboard 3 ammeters 3 voltmeters -- synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system Ohm-meters fitted

with commutator for both poles.

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules yes

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



(Single-, twin and three-core)
Insulation of Cables, state type of cables, single or twin (are the cables insulated and protected as per Tables III or IV of the Rules **yes** III
Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load **3 per cent for lighting and 5 per cent for Power**
Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.007 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 **Paper insulated cables are not used**
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 are lead-covered and armoured and further extra protected where so required. Light cables in cabins lead-covered, otherwise lead-covered and armoured with plaited steel wire.**
 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 VI **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 **main-cables are not jointed. Section cables are jointed in joint-boxes, and boxes as per 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 Positions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed **do not occur**, state the material of which the bushes are made --
Earthing Connections, state what earthing connections are fitted and their respective sectional areas **by screws of large area**
 , 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 **yes**, are the switches and fuses grouped in a position accessible only to the officers on watch **yes, in the chart room**
 has each navigation lamp an automatic indicator as per Rule **yes**, are separate screens provided for the use of oil and electric side lights --
 are separate oil lanterns provided for the mast head lights and side lights --
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 **no**
 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 --
Cables in cargo holds led in channels
 where are the controlling switches situated **on main switch board**
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 axis of rotation fore and aft **yes, except the ballast 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 --, 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 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 --
 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.	Amperes.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN ...	3	3 x 66	220	3 x 300	400	Auxiliary Diesel Engines	Diesel Oil	Above 150° F
AUXILIARY ...	-							
EMERGENCY ...	-							
ROTARY TRANSFORMER	1							

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter. m/m.				
Each	MAIN GENERATOR...	2	95	19	2.52	300	40	Rubber	Armoured with steel band part, iron pipes
	AUXILIARY GENERATOR	-							
	EMERGENCY GENERATOR	-							
	ROTARY TRANSFORMER...	1	25	7	2.13		10	"	"
	AUXILIARY SWITCHBOARDS	-							
	ENGINE ROOM	3	6	7	1.05		10	"	Armoured with plaited steel wire, part, iron pipes
	BOILER ROOM	-							
	Electric Light:								
	Distrib. board A	3	4	7	0.86		124	"	"
	" " B	3	6	7	1.05		86	"	"
	" " C	3	2.5	7	0.67		28	"	"
	" " D	3	2.5	7	0.67		50	"	"
	" " E	3	4	7	0.86		66	"	"
	" " F	3	2.5	7	0.67		78	"	"
	" " G	3	6	7	1.05		94	"	"
	" " H	3	1.5	7	0.52		121	"	"
	(motor	1	6	7	1.05		70	"	"
	(generator	1	4						
	SEARCHLIGHT	-							
	MASTHEAD LIGHT...	1	1.5	7	0.52		50	"	"
	SIDE LIGHTS ...	1	1.5	7	0.52		10	"	"
	COMPASS LIGHTS ...	1	1.5	7	0.52		10	"	"
	POOP LIGHTS	-							
	CARGO LIGHTS	-							
	ARC LAMPS	-							
	HEATERS	-							

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter. m/m.				
	BALLAST PUMP and ballast	1	70	19	2.17	140	60	Rubber	Armoured with steel band part iron pipes
	MAIN BILGE LINE PUMP...	1	95	19	2.52	160	56	"	"
	GENERAL SERVICE PUMP	-							
	EMERGENCY BILGE PUMP	-							
	Bilge and SANITARY PUMP	1	6	7	1.05	30	60	"	"
	CIRC. SEA WATER PUMPS	-							
	CIRC. FRESH WATER PUMPS	-							
	AIR COMPRESSOR	-							
	FRESH WATER PUMP	1	2.5	7	0.67	10	12	"	"
	ENGINE TURNING GEAR	1	10	7	1.35	34	72	"	"
	ENGINE REVERSING GEAR	-							
	(Cooling water and LUBRICATING OIL PUMPS	2	70	19	2.17	140	18	"	"
	COBND.	1	25	7	2.13	50	24	"	"
	OIL FUEL TRANSFER PUMP	1	95	19	2.52	200	160	"	"
	WINDLASS	1	35	19	1.53	100	100	"	"
	WINCHES, FORWARD	5	35	19	1.53	100	100	"	"
	WINCHES, AFT	5	35	19	1.53	100	140	"	"
	STEERING GEAR	2	35	19	1.53	100	140	"	"
	WORKSHOP MOTOR	1	2.5	7	0.67	16	40	"	"
	VENTILATING FANS	-							
	Refrigerating	1	6	7	1.05	26	8	"	"
	Mooring winches	2	35	19	1.53	84	145	"	"
	Battery	1	16	7	1.71	10-45	40	"	"
	Oil separator	1	2.5	7	0.67	4	22	"	"

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.

LUTH & ROSÉNS ELEKTRISKA AKTIEBOLAG

Lars Blume
 MARINAVDELNINGEN

Electrical Engineers.

Date 16/7-1926

Bror Christensen / Pros.

COMPASSES.

Distance between electric generators or motors and standard compass About 30 meters
 Distance between electric generators or motors and steering compass " " "
 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

Trust S. Medus

Builder's Signature.

Date 19 July 1926

Is this installation a duplicate of a previous case Yes If so, state name of vessel 1/5 "MURJEK."

General Remarks (State quality of workmanship, opinions as to class, &c. This electric installation has been fitted on board under our inspection and has been tested and found satisfactory. The workmanship is good. All the Rule requirements have been complied with

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

[Handwritten signature]
 27/7/26

Total Capacity of Generators 198 Kilowatts

The amount of Fee £ 662.48 : 16/7/26
 Travelling Expenses (if any) £ : : 20/8/26

[Handwritten signature]
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 27 JUL 1926

Assigned Elec Light

100,924.—Transfer.
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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