

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....26 MAY 1933

Date of writing Report 23rd May 1933 When handed in at Local Office 24th May 1933 Port of Gothenburg

No. in Survey held at Gothenburg Date, First Survey 10th April Last Survey 24th May 1933
Reg. Book. (Number of Visits.....10.....)

on the M/S "KAAPAREN" Tons { Gross 3385.68
Net 1878.80

Built at Gothenburgh By whom built A/B Götaverken Yard No. 466 When built 1930.
Partly rebuilt 1933

Owners Rederi A/B Transatlantic Port belonging to Gothenburgh

Electric Light Installation fitted by A/B Götaverken Contract No. 466 When fitted 1933.

Is the Vessel fitted for carrying Petroleum in bulk No.

System of Distribution TWO-WIRE-SYSTEM.

Pressure of supply for Lighting 220 volts, Heating 220 volts, Power 220 volts.

Direct or Alternating Current, Lighting Direct Power Direct

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 yes, 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 3 generators at the port and one at the starboard side of the motorroom.

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 on a platform in the forward part of the motorroom

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 of marble, 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 micaite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework yes

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 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 circuit breaker with overload and reversed current trips and a single pole equalizer switch. For each outgoing circuit: A single pole switch and a fuse at each pole.

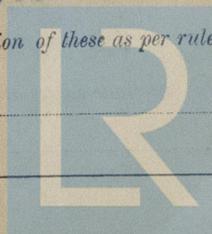
Instruments on main switchboard 8 ammeters 4 voltmeters -- synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system ohm-meter

fitted with commutator for each pole.

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, ~~triple~~ --- 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 2 volts + 3 per cent for lighting 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 --- Paper insulated cables 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 lead covered and armoured. Lighting cables lead covered in cabins. For the rest lead covered and 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 brach cables 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 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 -- Yes in holds fitted between deck beams, having cast covers protected by round 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 all except 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 yes, 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 --
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	66	220	300	300	Diesel engine	Diesel oil	above 150° F
AUXILIARY	1	66	220	300	400	"	"	"
EMERGENCY	1	110	220	450				
<i>Note: 1 additional generator fitted 110kW. 7.3u Se bot 9929-9931 1 Aux generator removed from vessel</i>								
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		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	2	95	19	2.17	300	✓	30-40-40-46	Rubber	Lead covered and armoured
EQUALISER CONNECTIONS	2	95	19	2.17	300	✓	14-12-12-40	"	"
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER MOTOR GENERATOR									
ENGINE ROOM	1	4	7	0.86	16	✓	4	"	"
BOILER ROOM									
AUXILIARY SWITCHBOARDS									
Heating board I	1	25	19	1.29	60	✓	170	"	"
II	1	10	7	1.35	30	✓	110	"	"
III	1	25	19	1.29	60	✓	50	"	"
IV+V	1	70	19	2.17	125	✓	70	"	"
Lighting board A	1	2.5	7	0.67	8	✓	170	"	"
ACCOMMODATION B & C	1	4	7	0.86	14	✓	110	"	"
D	1	4	7	0.86	13	✓	50	"	"
E & F	1	6	7	1.05	32	✓	70	"	"
G	1	1.5	1	1.38	3	✓	80	"	"
H	1	6	7	1.05	17	✓	80	"	"
WIRELESS	1	6	7	1.05	30	✓	30	"	"
SEARCHLIGHT									
MASTHEAD LIGHT	1	1.5	1	1.38	0.5	✓	130-160	"	"
SIDE LIGHTS	1	1.5	1	1.38	0.5	✓	40-40	"	"
COMPASS LIGHTS	1	1.5	1	1.38	0.5	✓	30	"	"
POOP LIGHTS	1	1.5	1	1.38	0.5	✓	190	"	"
CARGO LIGHTS									
ARC LAMPS									
HEATERS Water	1	25	19	1.29	64	✓	56	"	"

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.) Feet. met.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP	1	1	25	19	1.29	69	✓	29	Rubber	Lead covered and armoured
MAIN BILGE LINE PUMPS										
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
SANITARY PUMP	1	1	10	7	1.35	30	✓	48	"	"
CIRC. SEA WATER PUMPS	2	2	140	19	2.17	207	✓	41-41	"	"
CIRC. FRESH WATER PUMPS										
AIR COMPRESSOR										
FRESH WATER PUMP	1	1	1.5	1	1.38	4	✓	69	"	"
ENGINE TURNING GEAR	2	1	2.5	7	0.67	12	✓	68-82	"	"
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS										
OIL FUEL TRANSFER PUMP	1	1	25	19	1.29	60	✓	24	"	"
WINDLASS	1	1	95	19	2.17	160	✓	100	"	"
WINGHES, FORWARD Hatch I & II	2	1	95	19	2.17	185	✓	108	"	"
" " " III & IV	2	1	95	19	2.17	185	✓	110	"	"
WINGHES, AFT Hatch I & II	2	1	95	19	2.17	185	✓	153	"	"
" " " III & IV	2	1	95	19	2.17	185	✓	150	"	"
Capstans STEERING GEAR	2	1	95	19	1.53	95	✓	192	"	"
(a) MOTOR GENERATOR										
(b) MAIN MOTOR	1	1	16	7	1.71	60	✓	198	"	"
WORKSHOP MOTOR	1	1	2.5	7	0.67	12	✓	48	"	"
VENTILATING FANS I & IV	4	1	16	7	1.71	55	✓	55-49-53-46	"	"
" " V & VI	2	1	1.5	1	1.38	8	✓	58-48	"	"
Refrigerator I&II	1	2	140	19	2.17	207	✓	30-26	"	"
" III	1	1	10	7	1.35	33	✓	78	"	"
Brine pumps	2	1	10	7	1.35	24	✓	22-22	"	"
Cooling Water Pump	1	1	10	7	1.35	24	✓	30	"	"
" " "	1	1	1.5	1	1.38	8	✓	66	"	"
Sanitary pump	1	1	1.5	1	1.38	8	✓	34	"	"
Separators	2	1	1.5	1	1.38	8	✓	26-21	"	"
Vapour Extractor	1	1	10	7	1.35	16	✓	62	"	"

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 May, 23th 1933.
Hydman

COMPASSES.

Distance between electric generators or motors and standard compass about 12 met.
 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 Builder's Signature. Date May, 23th 1933.
Hydman

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 has been fitted on board under my inspection and to my satisfaction. The workmanship is good and the Rule requirements have been complied with.

Elec Light
27/5/33

Im. 9, 30.—Transit.
 (The Surveyors are requested not to write on or behind the space for Committee's Minute.)

Total Capacity of Generators 308 264 Kilowatts.

The amount of Fee £ 29/5 390 : : When applied for, 19
 Travelling Expenses (if any) £ : : When received, 31.5.19.33

E. Bernelius
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 30 MAY 1933
 Assigned Elec. Lt