

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report... 2nd December 1952 When handed in at Local Office... 13th December 1952 Port of... Gothenburg

No. in Survey held at... Gothenburg Date, First Survey... 6th October Last Survey... 28th November 1952
Reg. Book. (Number of Visits... 10)

90803 on the Motor Tanker "K A R E N M A E R S K" Tons { Gross... 11756
Net... 6852

Built at... Gothenburg By whom built... Eriksbergs Mek. Verkat. A-B. Yard No. 429 When built... 1952

Owners A/S D/S Svendborg & D/S af 1912 A/S Port belonging to... Copenhagen

Electrical Installation fitted by... Eriksbergs Mek. Verkstads A-B. Generator Nos. 2953556 - 2953557 When fitted... 1952

Is vessel fitted for carrying Petroleum in bulk... Yes Is vessel equipped with D.F. Yes E.S.D. Yes Gy.C. Yes Radar Yes

Have plans been submitted and approved... Yes System of Distribution... Two wire system Voltage of supply for Lighting... 110

Heating... 220 Power... 110/220 Direct or Alternating Current, Lighting... D.C. Power... D.C. If Alternating Current state periodicity... Prime Movers,

has the governing been tested and found as per Rule when full load is suddenly thrown on and off... Yes Are turbine emergency governors fitted with a

trip switch as per Rule... Generators, are they compound wound... Yes, are they level compounded under working conditions... Yes,

if not compound wound state distance between generators... and from switchboard... Where more than one generator is fitted are they

arranged to run in parallel... Yes, are shunt field regulators provided... Yes Is the compound winding connected to the negative or positive pole

Negative Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing... Yes Have certificates of

test for machines under 100 kw. been supplied... Yes and the results found as per rule... Yes Are the lubricating arrangements and the construction

of the generators as per rule... Yes Position of Generators... Port side forward and aft engine room platform

is the ventilation in way of generators satisfactory... Yes are they clear of inflammable material... Yes, if situated

near unprotected combustible material state distance from same horizontally... and vertically... are the generators protected from mechanical

injury and damage from water, steam and oil... Yes, are the bedplates and frames earthed... Yes and the prime movers and generators in metallic

contact... Yes Switchboards, where are main switchboards placed... On a platform, port side, in the engine room

are they in accessible positions, free from inflammable gases and acid fumes... Yes, are they protected from mechanical injury and damage from water, steam

and oil... Yes, if situated near unprotected combustible material state distance from same horizontally... and vertically... what insulation

material is used for the panels... Sindanyo, if of synthetic insulating material is it an Approved Type... Yes, if of

semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule... Is the frame effectually earthed... Yes

Is the construction as per Rule... Yes, including accessibility of parts... Yes, absence of fuses on the back of the board... Yes, individual fuses

to pilot and earth lamps, voltmeters, etc.,... Yes locking of screws and nuts... Yes, labelling of apparatus and fuses... Yes, fuses on the "dead"

side of switches... Yes Description of Main Switchgear for each generator and arrangement of equaliser switches... A double pole circuit

breaker with overload and reversed current trips and a single pole equaliser switch

and for each outgoing circuit... A double pole switch and a fuse on each pole

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule... Yes Instruments on main switchboard... 7

ammeters... 5 voltmeters... synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the

equaliser connection... Yes Earth Testing, state means provided... Ohm - meters and lamps

Switches, Circuit Breakers and Fuses, are they as per Rule... Yes, are the fuses an approved type... Yes, are all fuses labelled as

per Rule... Yes If circuit breakers are provided for the generators, at what overload current did they open when tested... 900A & 380A, are the reversed current

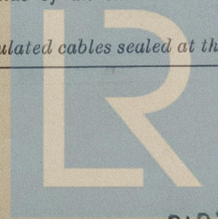
protection devices connected on the pole opposite to the equaliser connection... Yes, have they been tested under working conditions, and at what current

did they operate... 75A - 40A Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule... Yes

Cables, are they insulated and protected as per the appropriate Tables of the Rules... Yes, if otherwise than as per Rule are they of an approved type...

state maximum fall of pressure between bus bars and any point under maximum load... Below Rule, are the ends of all cables having a sectional area of 0.04

square inch and above provided with soldering sockets... Yes Are paper insulated and varnished cambric insulated cables sealed at the ends... None fitted



with insulating compound --- or waterproof insulating tape ---. Are all the cable runs in accessible positions, not exposed to drip or accumulation of water or oil, high temperatures or risk of mechanical damage. **Yes**, are cables laid under machines or floorplates. **Yes**, if so, are they adequately protected. **Yes**. Are cables in machinery spaces, galleys, laundries, etc., lead covered. **Yes** or run in conduit. ---. State how the cables are supported and protected. **Supported by metal clips. All power cables lead covered and armoured. In accommodations lead covered or run in conduits.**

Are all lead sheaths, armouring and conduits effectually bonded and earthed. **Yes**. Refrigerated chambers, are the cables and fittings as per Rule. **Yes**. Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands. **Yes**, where unarmoured cables pass through beams, etc., are the holes effectively bushed. **Yes** and with what material. **Lead**. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule. **Yes**. Emergency Supply, state position. **A heavy oil engine generating set, 10 KW., in steering gear compartment** and method of control. **Hand started. Change over switch on distribution board in steering gear compartment**. Navigation Lamps, are they separately wired. **Yes**, controlled by separate double pole switches. **Yes** and fuses. **Yes**. Are the switches and fuses in a position accessible only to the officers on watch. **Yes**, is an automatic indicator fitted. **Yes**. Secondary Batteries, are they constructed and fitted as per Rule. ---, are they adequately ventilated. --- what is the battery capacity in ampere hours. ---

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof. **Yes**. Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present. **Yes**, if so, how are they protected. **Gas-tight piping and fittings** and where are the controlling switches fitted. **In accommodation midships**, are all fittings suitably ventilated. **Yes**, are all fittings and accessories constructed and installed as per Rule. **Yes**. Searchlight Lamps, No. of ---, whether fixed or portable. ---, are their fittings as per Rule. ---. Heating and Cooking, is the general construction as per Rule. ---, are the frames effectually earthed. ---, are heaters in the accommodation of the convection type. ---. Motors, are all motors constructed and installed as per Rule. **Yes** and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil. **Yes**, if situated near unprotected combustible material state minimum distance from same horizontally --- and vertically. ---. Are motors coupled to oil fuel transfer and unit pressure pumps capable of being stopped from a position accessible in the event of fire in the pump compartment. ---. Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing. ---. Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule. **Yes**. Control Gear and Resistances, are they constructed and fitted as per Rule. **Yes**. Lightning Conductors, where required are they fitted as per Rule. ---. Ships carrying Oil having a Flash Point less than 150° F. Have all the special requirements of the Rules for such ships been complied with. **Yes**, are all fuses of the cartridge type. **Yes** are they of an approved type. **Yes**. Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships. **Not supplied**. Are the cables lead covered as per Rule. ---. Spare Gear, if the vessel is for open sea service have spares been provided as per Rule. **Yes**, are they suitably stored in dry situations. **Yes**. Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory. **Yes**.

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 ...	2	165	220	750	450	Heavy oil engine	Diesel oil	Above 150° F.
	1	35	110	318	600	Steam engine	---	---
EMERGENCY ...								
ROTARY TRANSFORMER	1	35	110	318	1460	Electric motor	---	---

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return) M.	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel Per Pole.	Sectional Area Sq. in. or mm.	In the Circuit.	Rule.			
MAIN GENERATOR ...	165	5	95	750	750	36	Rubber	Lead covered & armoured
" " EQUALISER ...		3	95			36	"	" "
STEAM ENGINE DRIVEN GENERATOR	35	2	120	318	350	24	"	" "
" " " " EQ.		1	120		175	24	"	" "
EMERGENCY GENERATOR ...								
ROTARY TRANSFORMER: MOTOR	43	2	70	218	250	16	"	" "
" " GENERATOR	43	2	120	318	350	18	"	" "
" " " " EQ.		1	120		175	18	"	" "

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return) M.	INSULATED WITH.	HOW PROTECTED.
	No. in Parallel Per Pole.	Sectional Area Sq. in. or mm.	In the Circuit.	Rule.			
AUX. SWITCHBOARDS AND SECTION BOARDS ...							
Central K 1	1	50	100	99	56	Rubber	Lead covered & armoured
Central K 2	1	35	80	78	56	"	" "
Central K 3	1	50	100	99	16	"	" "
Central K 4	1	35	80	78	136	"	" "
Central K 5	1	50	100	99	28	"	" "
Central K 6	1	35	80	78	58	"	" "
Central K 7	2	25	125	126	280	"	" "
Central F	1	16	50	49	52	"	" "
Gyre	1	16	50	49	228	"	" "
Radar	1	10	35	38	228	"	" "

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS ...	1	16	50	49	342	Rubber	Lead covered & armoured
NAVIGATION LIGHTS ...	1	2.5	15	15.5	342	"	" "
LIGHTING XXXXXXXXXX ...							
Engine room	1	16	50	49	136	"	" "
Accommodation aft, port	1	50	100	99	76	"	" "
Accommodation aft, starboard	1	50	100	99	86	"	" "
Accommodation midships	2	35	160	156	280	"	" "
Emergency Wireless	1	10	35	29	22	"	" "

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Main cooling water pumps	2	58	2	50	200	198	38	Rubber Lead covered & armoured
Main lubricating oil pumps	2	70	2	95	260	300	74	" "
Ballast pump	1	20	1	35	80	78	21	" "
Transfer pump	1	13.5	1	16	50	49	32	" "
Manoeuvring compressors	2	53	2	50	200	198	23	" "
Turning motor	1	12	1	50	100	99	36	" "
Auxiliary engine circulating pumps	1	7.5	1	10	35	38	13	" "
Economiser circulating pump	1	3	1	2.5	15	15.5	24	" "
Purifiers	2	4	1	4	20	22.5	13	" "

The Electrical Equipment is installed in accordance with the approved plans and the requirements of the Rules.
All Insulated Conductors are guaranteed to have been tested at the maker's works as specified in the Rules.
The foregoing is a correct description.

Eriksbergs Mek. Verkstads Aktiebolag

Electrical Engineers.

Date 9-12-52

COMPASSES.

Minimum distance between electric generators or motors and standard compass 8

Minimum distance between electric generators or motors and steering compass 9

The nearest cables to the compasses are as follows:—

A cable carrying 0.2 Ampères 6 feet from standard compass --- feet from steering compass.

A cable carrying 0.3 Ampères 7 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 0 degrees on every course in the case of the

standard compass, and 0 degrees on every course in the case of the steering compass.

ERIKSBERGS MEK. VERKSTADS A.-B.
GÖTEBORG

Builder's Signature.

Date 9-12-1952

Is this installation a duplicate of a previous case No If so, state name of vessel ---

Plans. Are approved plans forwarded herewith No If not, state date of approval 28.8.1952.

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith Yes

General Remarks (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.)

The electric installation has been fitted in the vessel under my inspection and has been tested and found satisfactory.

The workmanship is good and the Rule requirements have been complied with.

Lloyd's and Makers' certificates in respect of generators and motors are attached.

5m. 4.30.—Transfer. (MADE AND PRINTED IN ENGLAND.)
(The Surveyors are requested not to write on or below the space for Committee's Minute.)

Total Capacity of Generators 530 Kilowatts.

The amount of Fee ... Kr. 2150:00: 13/12 1952.

Travelling Expenses (if any) Kr. 63:60: --- 1952.

When applied for,

When received.

Committee's Minute

FRI 9 JAN 1953

Assigned

See F.E. nishy rpt.

Surveyor to Lloyd's Register of Shipping.



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