

Report on Electrical Equipment.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

7 SEP 1950

Received at London Office.....

Date of writing Report. **28th Aug.** 19**50.** When handed in at Local Office **6th Sept.** 19**50.** Port of **Gothenburg.**

Survey held at **Gothenburg** Date, First Survey **30th May** Last Survey **15th August 1950.**

No. in Reg. Book. **90155** on the **Motor Tanker "E. T. N. E. F. J. E. L. L."** Tons {Gross **9832** Net **5753**

Built at **Gothenburg** By whom built **Eriksbergs Mek. Verkst. A-B Yard** No. **397** When built **1950**

Owners **A/S Dovrefjell** Port belonging to **Oslo**

Electrical Installation fitted by **Elektriska A-B. A.E.G.** Generator ~~XXXXXXX~~ Nos. **2715/64-5** When fitted **1950**

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

Have plans been submitted and approved **Yes**. System of Distribution **2 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 frequency **---** Prime Movers,

has the governing been tested and found efficient when the whole 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 and starboard sides forward in the engine room**

--- 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 on the 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 ready

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 **6**

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**



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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** are the reversed current protection devices connected on the pole opposite to the equaliser connection **Yes** have they been tested under working conditions **Yes** **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 **permit.**, 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 exposed ends **Yes** with insulating compound **---** or waterproof insulating tape **Yes** 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 clips. All cables lead covered. Main cables armoured or steel wire braided.**

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 effectually 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 **---** and method of control **---** **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 **---**

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 flameproof fittings** **---** and where are the controlling switches fitted **In accommodation amidship** are all fittings suitably ventilated **Yes** are all fittings and accessories constructed and installed as per Rule **Yes** **Searchlight Lamps**, No. of **1** whether fixed or portable **Fixed** are their fittings as per Rule **Yes** **Heating and Cooking**, is the general construction as per Rule **Yes** are the frames effectually earthed **Yes** are heaters in the accommodation of the convection type **Yes** **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 **---** 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** If portable lamps for use in dangerous spaces are supplied, are they of a self-contained battery-fed flameproof type **Not supplied** **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 megger 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	350	Heavy oil engines	Diesel oil	Above 150° F.
STEAM GEN.	1	25	220	113.5	550	Steam engine	Same engine	---
STEAM GEN.	1	25	110	227	550	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) IN METERS	INSULATED WITH	HOW PROTECTED.
		No. in Parallel Per Pole	Sectional Area or No. and Dia. of Strands. of Sq. mm.	In the Circuit	Rule			
MAIN GENERATOR	165	4	185	750	932	30	Rubber	Lead covered & armoured
" " EQUALISER		4	185		932	30	"	" "
STEAM ENGINE DRIVEN GENERATOR	25	1	70	113.5	124	60	"	" "
STEAM ENGINE DRIVEN GENERATOR	25	1	185	227	233	60	"	" "
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR	58 HP	1	185	216	233	15	"	" "
" " GENERATOR	35	2	120	318	350	20	"	" "

MAIN DISTRIBUTION CABLES.

AUX. SWITCHBOARDS AND SECTION BOARDS								
K 1 - Workshop	1	50	100	99	20	Rubber	Lead covered & armoured	
K 2 - Hydrofors and turning motor	1	95	160	150	40	"	" "	
K 3 - Purifiers and oil heaters	1	95	160	150	30	"	" "	
K 4 - Water heaters and E.R. fans	1	70	125	125	35	"	" "	
K 5 - Pumps	1	70	125	125	55	"	" "	

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	2	10	35	38	240	Rubber	Lead covered & armoured
NAVIGATION LIGHTS	2	2.5	15	26	240	"	" "
LIGHTING XXXXXXXXXX							
Engine room	1	16	50	48	20	"	" "
Deck forward	1	10	35	38	220	"	" "
Saloon	1	35	80	78	225	"	" "
Accommodation aft, port	1	16	50	48	40	"	" "
Accommodation aft, starboard	1	16	50	48	40	"	" "
HEATING							
Saloon, fans, etc.	1	25	60	63	225	"	" "
Aft, fans, etc.	1	25	60	63	48	"	" "

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B. H. P.						
Steering engines	2	20	1	50	79	99	100	Rubber Lead covered & armoured
Main cooling water pumps	2	44	1	120	163	175	55	" "
Auxiliary cooling water pump	1	7.5	1	10	29.6	38	60	" "
Main lubricating oil pumps	2	70	1	120	260	282	25	Paper "
Ballast pump	1	20	1	35	78	78	70	Rubber "
Bilge- and sanitary pump	1	14	1	25	53	63	70	" "
Transfer pump	1	7.7	1	10	30	38	15	" "
Manoeuvring compressor	1	53	1	185	198	233	40	" "
Turning motor	1	10	1	35	80	78	60	" "
Purifiers	3	3.2	1	2.5	13	13	50	" "
Economiser circulating pump	1	3	1	2.5	10.3	13	60	" "

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.

ELEKTRISKA AKTIEBOLAGET A E Ø
 FILIAL GÖTEBORG

Ben Stenquist
 Electrical Engineers.

Date 20.8.1950.

COMPASSES.

Minimum distance between electric generators or motors and standard compass 14 Metres.

Minimum distance between electric generators or motors and steering compass 12 Metres.

The nearest cables to the compasses are as follows:—

twin
 A/cable carrying 3 Ampères 6 feet from standard compass 4 feet from steering compass.

twin
 A/cable carrying 1.5 Ampères 4 feet from standard compass 4 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

M. Lundberg
 Builder's Signature.

Date 1/9 1950.

Is this installation a duplicate of a previous case Yes If so, state name of vessel M/T "Kollstein"

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

This electric installation has been fitted in the vessel under our 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.

Noted sub 21/9/50

Total Capacity of Generators 380 Kilowatts.

The amount of Fee (Got.ac) Kr.	1397:-	When applied for, 6/9 19.50
(Skm.ac)	349:-	
Travelling Expenses (if any) Kr.	42:60	When received --- 19.---
(Skm.ac.)		

Stig Larsson Sven Boivin
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute FBI 22 SEP 1950

Assigned *see minute on I.B. Pt.*

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

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