

# Report on Electrical Equipment.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 10 OCT 1949

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Survey held at Gothenburg Date, First Survey 5th August. Last Survey 22nd Sept. 1949.

No. in Reg. Book. (Number of Visits 17)

40015 on the Motor Tanker "P. E. R. I. C. L. E. S" Tons Gross 9938 Net 5893

Built at Gothenburg By whom built A-B. Götaverken Yard No. 630 When built 1949

Owners D/S. A/S. Eikland Port belonging to Oslo

Electrical Installation fitted by A-B. Götaverken Generator ~~600000~~ No 2216577-8-9 When fitted 1949

Is vessel fitted for carrying Petroleum in bulk Yes. Is vessel equipped with D. F. Yes. E. S. D. Yes. Gy. C. Yes. Sub. Sig. No. Radar Yes

Have plans been submitted and approved Yes. System of Distribution 2 wire system Voltage of supply for Lighting 110

Heating 220 Power 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 and the results found as per rule Are the lubricating arrangements and the construction

of the generators as per rule Yes. Position of Generators 2 on port side, and 1 on starboard side of the engine

room floor 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 Mica. if of synthetic insulating material is it an Approved Type. 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 linked circuit

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

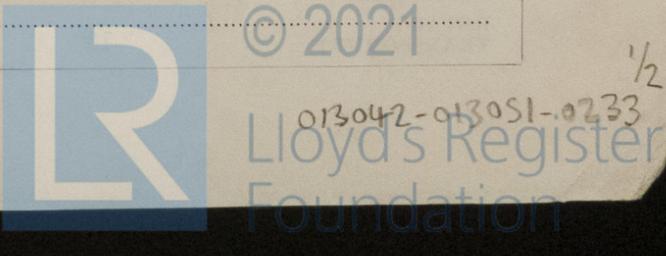
breaker as per Rule.

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 9

ammeters 6. 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 **perm.** are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets **clamps** **Yes** are paper insulated and varnished cambric insulated cables sealed at the exposed ends **---** 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 **No** if so, are they adequately protected **---** 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 or steel wire braided. 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 **---** **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 **Lamps in flameproof fittings and cables in gastight piping**

and where are the controlling switches fitted **Outside the spaces** 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 **Yes**

are the frames effectually earthed **Yes** 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 **---**

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 **---** **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	110	220	500	450	Heavy oil engine	Diesel oil	Above 150° F.
	1	110	220	500	450	Steam engine	---	---
EMERGENCY ROTARY TRANSFORMER	2	10	110	91	1750	Electric motor	---	---

**GENERATOR CABLES.**

DESCRIPTION	KILOWATTS	CONDUCTORS		MAXIMUM CURRENT IN AMPERES		APPROX. LENGTH (lead plus return wires) MET.	INSULATED WITH	HOW PROTECTED.
		No. in Parallel Per Pole	Sectional Area Sq. mm.	In the Circuit	Rule			
MAIN GENERATOR	110	3	120	500 ✓	525	20-30-90	Rubber	Lead covered & armoured
" " EQUALISER		3	120	--	525	20-30-90	"	" "
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR	12	1	25	63 ✓	63	20-20	"	" "
" " GENERATOR	10	1	50	91 ✓	99	20-20	"	" "

**MAIN DISTRIBUTION CABLES.**

AUX. SWITCHBOARDS AND SECTION BOARDS								
Section board for engine room fans	1	6	21.5 ✓	29	30	Rubber	Lead covered & armoured	
Section board port forward	1	10	33 ✓	38	30	"	" "	
Section board for purifiers	1	70	106 ✓	125	30	"	" "	
Section board, refrigerating plant	1	10	35 ✓	38	80	"	" "	
Section board for hydrofor pumps	1	10	32 ✓	38	80	"	" "	
Section board for workshop	1	6	26 ✓	29	80	"	" "	
Section board for galley	1	50	91 ✓	99	80	"	" "	

**LIGHTING AND HEATING, ETC., CABLES.**

WIRELESS	1	16	10 ✓	48	280	Rubber	Lead covered & armoured	
NAVIGATION LIGHTS	B.4	4	2 ✓	21	240	"	" "	
<del>XXXXXXXXXXXXXXXXXXXX</del>								
Distribution board aft starboard	B 1	1	35 ✓	63	78	120	"	" "
Distribution board aft port	B 2	1	50 ✓	76	99	80	"	" "
Distribution board amidships	B 3	1	70 ✓	78	125	200	"	" "
Distribution board forward	B 5	1	16 ✓	10	48	260	"	" "
Distribution board engine room	B 6	1	16 ✓	40	48	10	"	" "
Distribution board heating amidship	1	35	68 ✓	78	240	"	" "	

**MOTOR CABLES.**

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B. H. P.							
✓ Main cooling water pumps	2	63	2	70	237 ✓	250	50-70	Rubber	Lead covered & armoured
✓ Main lubricating oil pumps	2	55	1	150	205 ✓	203	60-70	"	" "
✓ Manoeuvring air compressors	2	53	1	150	198 ✓	203	30-40	"	" "
✓ Ballast pump	1	20	1	50	78 ✓	99	90	"	" "
✓ Bilge- and sanitary pump	1	12	1	16	48 ✓	48	90	"	" "
✓ Fuel oil transfer pump	1	15	1	25	58 ✓	63	80	"	" "
✓ Auxiliary engine cooling wtr p	1	5	1	4	20 ✓	21	20	"	" "
✓ Steering gear	2	18	1	35	71 ✓	78	100-100	"	" "
Engine room air fans	2	2.8	1	2.5	11 ✓	13	20-80	"	" "
✓ Purifiers	3	8.5	1	10	33 ✓	38	20-20-20	"	" "
Provision refrigerating compr.	2	3.7	1	4	16 ✓	21	40-40	"	" "
Hydrofor pump	2	3	1	2.5	12.5 ✓	13	30-30	"	" "
✓ Turning motors	1	10	1	10	40 ✓	39	70	"	" "
Air condition fan, port	1	1.1	1	2.5	10 ✓	13	20	"	" "
Air condition fan, starboard	1	1	1	2.5	9.4 ✓	13	20	"	" "
Air condition fan, amidship	1	1	1	2.5	9.4 ✓	13	40	"	" "
Hot wtr. pump	1	2.5	1	2.5	9.4 ✓	13	40	"	" "

