

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

21 JAN 1948

Received at London Office.....

Date of writing Report 16th Jan. 48. When handed in at Local Office 20th Jan. 48. Port of Malmo.

No. in Survey held at Malmo. Date, First Survey 6th Nov. 1947. Last Survey 15th Jan. 1948.
Reg. Book No. 37477. M/S "TILIA GORTON".

Tons { Gross 1862
Net 883

Built at Malmo. By whom built Rockemmo Mek. V. A. B. Yard No. 285. When built 1948.

Owners Radner A. B. S. M. Port belonging to Helsingborg.

Electrical Installation fitted by Rockemmo Mek. V. A. B. Contract No. When fitted 1948.

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

Have plans been submitted and approved Yes. System of Distribution Two wire. Voltage of supply for Lighting 220.

Heating 220. Power 220. Direct or Alternating Current, Lighting Direct. Power Direct. 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 pole. Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing. 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 2 on port and 1 on starboard side in motor 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 port side in

engine room, forward.

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 Main-steel, 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 circuit breaker with overload and reverse current trips and a single pole equaliser switch.

and for each outgoing circuit. A double pole linked 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 8

ammeters 4. 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 meter.

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 420-440 A. are the reversed current

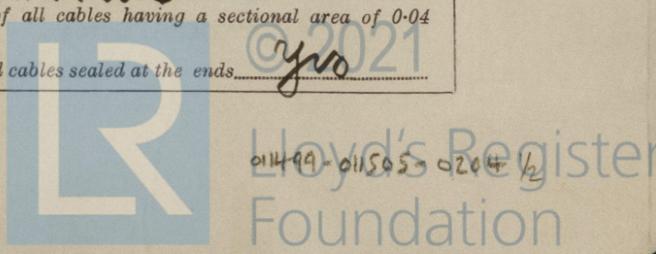
protection devices connected on the pole opposite to the equaliser connection Yes, have they been tested under working conditions, and at what current

did they operate 20-40 A. 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 Yes,

state maximum fall of pressure between bus bars and any point under maximum load less than allowed in Sec. 6, 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 Yes.



with insulating compound and 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. Yes. State how the cables are supported and protected. Supported by metal clips and protected where necessary.

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. Yes and method of control. Yes

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. Yes, are they adequately ventilated. Yes what is the battery capacity in ampere hours. Yes

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. Yes

Lamps contained in flame proof fittings and cables led in gastight tubings. Yes and where are the controlling switches fitted. Wholly outside these spaces, are all fittings suitably ventilated. Yes

are all fittings and accessories constructed and installed as per Rule. Yes. Searchlight Lamps, No. of. Yes, whether fixed or portable. Yes, 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. Yes and vertically. Yes. 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. Yes

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing. None. 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. Yes. 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. Yes. Are the cables lead covered as per Rule. Yes. 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	3	88	230	383	450	Heavy oil engines.	Heavy oil. Above 150° F.	
Harbour	1	5.5	230	24	1000	Heavy oil engine.	Heavy oil. Above 150° F.	
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel Per Pole.	Sectional Area of Strands (sq. mm).	In the Circuit.	Rule.			
MAIN GENERATOR	88	2	70	383	400	max. 30	Paper	Lead covered & armoured.
" EQUALISER		2	70		400	" 30	"	"
Harbour "	5.5	1	6	24	28	36	Rubber	"
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
	No. in Parallel Per Pole.	Sectional Area of Strands (sq. mm).	In the Circuit.	Rule.			
AUX. SWITCHBOARDS AND SECTION BOARDS ...							
B1, B6, B7, B8.	1	6	max. 27	28	127	Rubber	Lead covered & armoured.
B2.	1	10	46	58	40	Paper	"
B3, B5	1	4	16	22	18	Rubber	"
B10, C1	1	2.5	12	15	116	"	"
C2, C3.	1	4	max. 18	22	max. 50	"	"

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION.	No. in Parallel Per Pole.	Sectional Area of Strands (sq. mm).	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.	
WIRELESS	1	6	10	28	31	Rubber	Lead covered & armoured.
NAVIGATION LIGHTS	1	2.5	1	15	27	"	"
LIGHTING AND HEATING							
Main head lights.	1	1.5	0.2	8	max. 120	"	"
Side lights.	1	1.5	0.2	8	" 40	"	"
Pump light.	1	1.5	0.2	8	75	"	"
Morse light.	1	1.5	0.2	8	20	"	"
Compass light.	1	1.5	0.2	8	max. 20	"	"
Lub. oil heater.	1	10	50	58	20	Paper	"
Hot oil heater.	1	10	50	58	20	"	"
Water heater.	1	10	35	37	62	Rubber	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
Ballast pump	1	10	10	39.1	58	62	Paper. Lead covered & armoured.
Bridge commanding pumps	1	8.2	10	32	37	54	Rubber
Circ. sea & lub. oil pumps	2	38	50	142	160	max. 55	Paper
Circ. sea water pump for aux. eng.	1	4	4	16.5	22	67	Rubber
Oil fuel transfer pump	1	3.5	4	14.5	22	41	"
" " runner	1	0.6	1.5	2.7	8	12	"
Trimming gear	1	8.2	10	21.5	37	48	"
Oil separator	2	2.5	2.5	10.3	15	max. 82	"
Cool. water pumps for fuel motor	2	1	1.5	4.5	8	" 17	"
Circ. pumps for heating	1	1	2.5	4.7	15	41	"
Press. compressor (alcohol)	1	3.7	4	15.5	22	73	"
Hydrophore pumps	2	0.9	1.5	4.2	8	max. 48	"
Shut-off gear	1	6	6	24	28	120	"
Warping mangle	1	24	25	92	100	100	Paper
Winches	10	24	35	120	125	max. 80	"
Windlass	1	41	50	152	160	94	"

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.

Nils E. Freimung Electrical Engineers. Date *19th Jan 1948.*

COMPASSES.

Minimum distance between electric generators or motors and standard compass *16 fms.*
 Minimum distance between electric generators or motors and steering compass *13 fms.*

The nearest cables to the compasses are as follows:—

A cable carrying *6* Ampères *12* feet from standard compass *9* 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 *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 *✓* course in the case of the standard compass, and *0* degrees on *✓* course in the case of the steering compass.

KOSKUMS
G. Huudegrint Builder's Signature. Date *19th Jan. 1948.*

Is this installation a duplicate of a previous case *Yes* If so, state name of vessel *M/S "O. Pöngesperi", Rpt. 2401*

Plans. Are approved plans forwarded herewith *No* If not, state date of approval *7th May 1946.*

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 above described electrical equipment installations has been fitted onboard in accordance with the Rules 1939-40, approved plans and instructions and has been tested with satisfactory results.
 The workmanship and material are good.*

Notes see 5/3/48

Total Capacity of Generators *2169.5* Kilowatts.

The amount of Fee ... *Nb. 1140.-* : : When applied for, *20-1-48*
 Travelling Expenses (if any) £ : : When received, *19.....*

A. Böring
 Surveyor to Lloyd's Register of Shipping.

FRI. 12 MAR 1948

Committee's Minute
 Assigned *For minute see J.E. Rpl*

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.)