

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 17th Oct. 1947. When handed in at Local Office 18th Oct. 1947. Port of Maharr. Received at London Office 20 OCT 1947No. in Survey held at Maharr. Date, First Survey 4th Aug. Last Survey 9th Oct. 1947. Reg. Bookamppl. (Number of Visits 1)

367121 on the Single Screw Motor Tanker "GAUTHIOD" Tons { Gross 8650, Net 5093

Built at Maharr. By whom built Lockman Mde. V. A. B. Yard No. 288. When built 1947.

Owners Stockholm Rederi A. B. Sora. Port belonging to Stockholm.

Electrical Installation fitted by Lockman Mde. V. A. B. Contract No. When fitted 1947.

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

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

Heating 10 & 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 Yes. Generators, are they compound wound Yes, are they level compounded under working conditions Yes,

if not compound wound state distance between generators Yes and from switchboard Yes. 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 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 Main: One on each side in motor space. Aux. steam driven: One 2nd deck in motor space, p.s.

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 Yes and vertically Yes, 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 In front of motor space, port side.

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 Yes and vertically Yes, what insulation material is used for the panels Main - Steel, 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 Yes. 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 breakers with overload and rev. 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 Yes 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.

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 520 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 65 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 1000 lb. allowed in sec. 4, 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.

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 ☒ are cables laid under machines or floorplates ☒ if so, are they adequately protected ☒ Are cables in machinery spaces, galleys, laundries, etc., lead covered ☒ or run in conduit ☒ State how the cables are supported and protected *Imported my metal clips. Protected where necessary.*

Are all lead sheaths, armouring and conduits effectually bonded and earthed ☒ Refrigerated chambers, are the cables and fittings as per Rule ☒ Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands ☒ where unarmoured cables pass through beams, etc., are the holes effectively bushed ☒ 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 ☒ controlled by separate double pole switches ☒ and fuses ☒ Are the switches and fuses in a position accessible only to the officers on watch ☒ is an automatic indicator fitted ☒ 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 ☒ Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present ☒ if so, how are they protected ☒ *Lamps contained in flameproof fittings and cables led in gastight tubing.* and where are the controlling switches fitted *Wholly outside these spaces* are all fittings suitably ventilated ☒ are all fittings and accessories constructed and installed as per Rule ☒ 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 *None* Motors, are all motors constructed and installed as per Rule ☒ and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil ☒ 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 ☒ *None* Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule ☒ Control Gear and Resistances, are they constructed and fitted as per Rule ☒ 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 ☒ are all fuses of the cartridge type ☒ are they of an approved type ☒ Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships ☒ 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 ☒ are they suitably stored in dry situations ☒ Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory ☒

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	R.P.M.		Fuel Used.	Flash Point of Fuel.
MAIN ...	2	100	230	435	350	Heavy oil engines.	Heavy oil.	Above 150° F.
Harbours	1	25	230	114	600	Steam engine.		
EMERGENCY ...								
ROTARY TRANSFORMER	1	20	115	174	1850			

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return) in feet.	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR ...	100	2	95	435	480	max 38	Paper	Lead covered & armoured.
" " EQUALISER ...		2	95	-	-	" 38	"	"
Harbours generator	25	1	35	114	125	31	"	"
EMERGENCY GENERATOR ...								
ROTARY TRANSFORMER: MOTOR ...	24	1	50	125	160	68	"	"
" " GENERATOR ...	20	1	95	174	240	60	"	"

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return) in feet.	INSULATED WITH.	HOW PROTECTED.
	No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
AUX. SWITCHBOARDS AND SECTION BOARDS ...							
B1a, B1b.	1	25	max 38	100	max 60	Paper	Lead covered & armoured.
B2	1	10	36	37	12	Rubber	"
B3a, B3b	2	50	max 38	98	max 130	"	"
B3a1.	1	6	7	28	114	"	"
B5	1	50	36	98	256	"	"
C1	1	10	55	52	43	Paper	"
C2	1	6	25	21	62	Rubber	"
C5	1	50	124	160	86	Paper	"

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS ...	C3	1	16	48	180	Rubber	Lead covered & armoured.
NAVIGATION LIGHTS ...	B4	1	6	28	200	"	"
LIGHTING AND HEATING							
Main head lights.		1	1.5	0.4	8	max 60	"
Side lights.		1	1.5	0.4	8	40	"
Top lights.		1	1.5	0.4	8	360	"
Compass lights.		1	1.5	0.4	8	max 22	"
Cooking.		2	10	114	116	9	Paper
Water heaters.		1	1.5	3.2	8	max 40	Rubber
Water heaters.		1	1.5	6.6	8	30	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Bridge pumps	1	7.5	1	10	29	37	54	Rubber
Bridge & auxiliary pumps	1	8	1	10	31.5	37	48	"
Circ. sea water pumps	1	26	1	25	99	100	64	Paper
" fresh "	1		1	25		100	64	"
" sea & fresh "	1	26	1	25	99	100	64	"
" " water pumps for engine	1	5.4	1	6	21.8	28	38	Rubber
Engine running gear	1	14.3	1	10	60	64	105	Paper
Indicating oil pumps	2	35.5	1	50	133	160	68	"
Oil fuel transfer pumps	1	5	1	6	19.6	38	44	Rubber
Cool. water pumps for motor	2	1	1	1.5	4.5	8	max 38	"
Exh. oil separators	1	3.5	1	4	15	22	32	"
Exh. " " "	2	3.5	1	4	15	22	max 37	"
Exh. compressors	1	6	1	10	24	37	62	"
Starting gear	2	18.5	1	16	73	80	max 110	Paper
Workshop motor	1	3	1	4	12.2	22	64	Rubber
Lift blocks	1	5	1	6	20.5	28	50	"
Water pumps	1	2.5	1	2.5	10.4	15	32	"
Exh. " " "	1	2.5	1	2.5	10.4	15	32	"
Circ. pumps for exhaust gas economiser.	1	0.4	1	1.5	1.3	8	7	"

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. Frenning

Electrical Engineers.

Date *17th Oct. 1947*

COMPASSES.

Minimum distance between electric generators or motors and standard compass

Engine room to bridge.

Minimum distance between electric generators or motors and steering compass

Engine room to bridge.

The nearest cables to the compasses are as follows:—

A cable carrying *alt. 21* Ampères *9* feet from standard compass *7* 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.

KOCKUMS
MEKANISKA VERKSTÄDE AKTEROM

T. H. H. H. H.

Builder's Signature.

Date *17th Oct. 1947*

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 *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 under survey in accordance with the Rules, approved plans and instructions and has been tested with satisfactory results.

The workmanship and materials are good.

Note - Single pole circuit breakers fitted in accommodations aft to be replaced by double pole circuit breakers first opportunity.

Note see 31/10/47.

Total Capacity of Generators *225* Kilowatts.

The amount of Fee

*mmr. fe. 840:-
skm. " 210:-*

When applied for,
18th Oct. 47

Travelling Expenses (if any)

skm. 20:-

When received,
19

A. Barring

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

21 NOV 1947

Assigned

See F.E. mch. rpt.



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