

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office. 2 JUL 1951

Date of writing Report 29/6 1951. When handed in at Local Office 29/6 1951. Port of MALMÖ.

No. in Survey held at MALMÖ. Date, First Survey 17/4 Last Survey 21/6 1951.
Reg. Book. Suppl. (No. of Visits 20)96235 on the m/t "SVITHIOD" Tons } Gross 10.555
Net 7.827

Built at Malmö. By whom built Kockums M.V. Aktieb. Yard No. 325 When built 1951

Owners Stockholms Rederi A.-B. Svea Port belonging to Stockholm.

Installation fitted by Kockums Mek. Verkstads A.-B. When fitted 1951

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

Plans, have they been submitted and approved Yes. System of Distribution Two wire insulated Voltage of Lighting 110

Heating 220 Power 220 D.C. or A.C., Lighting D.C. Power D.C. If A.C. state frequency -

Prime Movers, has the governing been found as per Rule when full load is thrown on and off Yes. Are turbine emergency governors fitted with a trip switch - Generators, are they compound wound Yes., and level compounded under working conditions Yes.,

if not compound wound state distance between generators - and from switchboard - Are the generators 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.

Position of Generators One on port and one on stbd. side in engine room.

is the ventilation in way of generators satisfactory Yes. are they clear of inflammable material and protected from mechanical injury and damage from water, steam and oil Yes. Switchboards, where are main switchboards placed On a platform at port side of engine room.

are they in accessible positions, free from inflammable gases and acid fumes and protected from mechanical injury and damage from water, steam and oil Yes. what insulation is used for the panels Deadfront switchboard, 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 construction as per Rule, including locking of screws and nuts. Yes. Description of Main Switchgear for each generator and arrangement of equaliser switches 3-pole C.B. with o/c in two poles U/V trips and o/c perf. relay. Third pole used for equaliser.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit D.P. knife or rotary switch and D.P. fuse.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes. Instruments on main switchboard 8

ammeters 6 voltmeters - synchronising devices. For compound machines in parallel are the ammeters and reversed current protection devices connected on the pole opposite to the equaliser connection Yes. Earth Testing, state means provided Ohm metres.

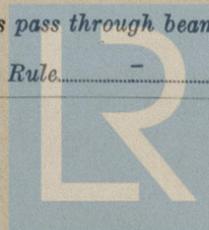
Switches, Circuit Breakers and Fuses, are they as per Rule Yes., are the fuses an Approved Type Yes.,

make of fuses L.K. and ASEA, are all fuses labelled Yes. If circuit breakers are provided for the generators, at what overload do they operate Operated at 10% set at 50% and at what current do the reversed current protective devices operate 15% R/C

Joint Boxes, Section Boards and Distribution Boards, is the construction as per Rule Yes.

Cables, are they insulated and protected as per Rule 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 < 6% are the ends of all cables having a sectional area of 0.01 square inch and above provided with soldering sockets Yes. Are all paper insulated and varnished cambric insulated cables sealed at the ends - 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 any 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 - or of the "HR" type - State how the cables are supported or protected L.C. & S.T.A. cables clipped to surface plate or tray in machinery spaces and on decks and covered with steel channel plates under floor plates in E.R. L.C. cables clipped to surface and to wood grounds in accommodations.

Are all lead sheaths, armouring and conduits effectually bonded and earthed 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. Refrigerated chambers, are the cables and fittings as per Rule -



Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule... Yes. Emergency Supply, state position

Navigation Lamps, are they separately wired... controlled by separate double pole switches 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. Is an alternative supply provided... Yes.

Secondary Batteries, are they constructed and fitted as per Rule... are they adequately ventilated... state 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 any 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... Cables led in gastight tubing and lamps contained in flame proof fittings.

and where are the controlling switches fitted... Wholly outside this spaces. Are all fittings suitably ventilated... Yes.

Searchlight Lamps, No. of... whether fixed or portable... are they of the carbon arc or of the filament type...

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 and placed in well-ventilated compartments in which inflammable gases cannot accumulate and protected from damage from water, steam and oil... Yes.

Are motors coupled to oil fuel transfer and 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 sea 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 an Approved Cartridge Type... Yes. make of fuse... L.K. and ASEA.

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.

E.S.D., if fitted state maker... Hughes. location of transmitter... end of E.R. double bottom, port side. and receiver... end of E.R. double bottom, stbd. side.

Spare Gear, if the vessel is for open sea service have spares been provided as per Rule and 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	MAKER.	RATED AT				PRIME MOVER.	
			Kilowatts per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN ...	2	ASEA.	150	230	652	350	Heavy oil eng.	Kockums M.V. Aktieb.
Harbour	1	G.E.C.	40	230	174	525	Steam eng.	W. Sisson & Co. Ltd.
"	1	G.E.C.	40	115	348	525	" "	"
EMERGENCY ...								
ROTARY TRANSFORMER	1	Elektromekano	25	115	217.5	1450	El. motor.	Elektromekano.

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR ...	150	3	185	652	3x232	Max. 58	Rubber	L.C. & S.T.A.
" " EQUALISER ...		6	185	-	6x232	" 58	"	" " "
Harbour Generator.	230 V. 40	1	120	174	174	14	"	" " "
" "	115 V. 40	2	120	348	2x174	17	"	" " "
EMERGENCY GENERATOR ...								
ROTARY TRANSFORMER: MOTOR	38.5 H.P.	1	120	144	174	42	"	" " "
" " GENERATOR...	25	1	185	217.5	232	16	"	" " "

MAIN DISTRIBUTION CABLES (to Section Boards, Distribution Fuse Boards, etc.).

DESCRIPTION.	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
S.B.C1 Sep. & Dom. compr. in E.R.	1	50	98	98	25	Rubber	L.C. & S.T.A.
S.B.C2 Vent. fan & oil fuel pump in E.R.	1	25	61	63	20	"	" " "
S.B.C3 Shop	1	16	48	48	92	"	" " "
S.B.C4 Gyroroom	1	70	90	125	196	"	" " "
S.B. C5 Galley	1	120	160	174	65	"	" " "
S.B. C6 Laundry	1	25	48	63	51	"	" " "
S.B. B1 Gyroroom	1	150	138	203	200	"	" " "
D.B. C1a Pumps etc. in E.R.	1	25	44.5	63	2	"	" " "
D.B. C4a Refr. & heaters.	1	35	45	79	2	"	" " "
D.B. C5a Galley	1	10	40	38	2	"	" " "
D.B. C7 Pumps for start. of oil burning.	1	35	19	79	37	"	" " "
D.B. B1a Navigation bridge.	1	35	68	79	31	"	" " "
D.B. B1b Boat deck amidships	1	16	45	48	36	"	" " "

LIGHTING, HEATING, WIRELESS, NAVIGATION LIGHTS, ETC., CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
D.B. B1c Forecastle.	1	6	11	28	108	Rubber	L.C. & S.T.A.
D.B. B2 Poop, port.	1	35	65	79	72	"	" " "
D.B. B3 " , stbd.	1	35	60	79	94	"	" " "
D.B. B4 Engine room.	1	16	45	48	10	"	" " "
Navigation light.	1	6	1	28	230x20	"	" " "
Wireless.	1	6	8	28	50	"	" " "
Radar.	1	6	6.5	28	65	"	" " "
Water heater.	1	16	41	48	56	"	" " "

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
			No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
Cooling water pumps.	2	46-62	1	240	172.5	273	Max. 76	Rubber	L.C. & S.T.A.
Lubr. oil pumps	2	46	1	150	171	203	" 92	"	" " "
Fire pump	1	17	1	35	65.5	79	28	"	" " "
Turning gear	1	16	1	35	64	79	100	"	" " "
Steering gear	2	24.5	1	50	93	98	Max. 146	"	" " "
Traverse crane	1	6.5	1	10	25.7	38	60	"	" " "
Bilge pump	1	8	1	10	31.6	38	44	"	" " "
Cool. water pumps (aux. oil eng.)	1	11	1	16	43	48	74	"	" " "
Domestic refr. compr.	1	5	1	6	20	28	54	"	" " "
Cool. w. pump for refr. mchy.	1	1	1	1.5	4.2	8	18	"	" " "
Lubr. oil sep.	1	4	1	4	16.5	22	49	"	" " "
Spare sep.	1	4	1	4	16.5	22	31	"	" " "
Circ. pump for exh. gas econ.	1	1.5	1	2.5	6.5	15	16	"	" " "
Cool. pumps for nozzles	2	1	1	1.5	4.5	8	Max. 44	"	" " "
Hydrophor pumps	2	2	1	2.5	8.3	15	" 12	"	" " "
E.R. vent. fan stbd.	1	3	1	2.5	12.5	15	93	"	" " "
E.R. " " port	1	6	1	6	23.5	28	74	"	" " "
Fuel oil sep.	1	4	1	4	16.5	22	26	"	" " "
" " transf. pump	1	5	1	6	21	28	11	"	" " "
Lathe	1	5	1	4	21	22	45	"	" " "
Drilling machine	1	1.8	1	2.5	7.7	15	10	"	" " "
Grinding "	1	1.5	1	2.5	6.4	15	28	"	" " "

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.

KOCKUMS
 MEKANISKA VERKSTADS AKTIEBOLAG
 ELEKTRISKA AVDELNINGEN

M. E. Fennberg Electrical Contractors. Date 29.6.51.

COMPASSES.

Have the compasses been adjusted under working conditions. Yes.

KOCKUMS
 MEKANISKA VERKSTADS AKTIEBOLAG

Per Holmberg Builder's Signature. Date 29.6.51.

Have the foregoing descriptions and schedules been verified and found correct. Yes.

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. 18.5.51.

Certificates. Are certificates of test for motors engaged on essential sea 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 installation has been fitted onboard in accordance with the Rules, approved plans and instructions and has been tested with satisfactory results.

The workmanship and material are good.

This electric equipment installation is, in my opinion, suitable for a classed vessel.

Noted. See 17/7/51

Total Capacity of Generators 340 Kilowatts.

The amount of Fee ...	£r. MMO. 1312:-	When applied for,	29/6 19 51.
	Kr. SKM. 328:-		
Travelling Expenses (if any)	£r. SKM. 20:-	When received,	19

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

FRI. 20 JUL 1951

Committee's Minute

Assigned *See P.E. sketch rpt.*

2m.9.46.—Transfer. (MADE AND PRINTED IN ENGLAND.)
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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