

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 11/2 1952 When handed in at Local Office _____ 19____ Port of Stockholm **15 DEC 1952**No. in Survey held at Norrköping Date, First Survey 12.5. Last Survey 11.10. 1952
Reg. Book. _____ (No. of Visits 10)70436 on the m.t. "NARVA" Tons { Gross 1147
Net 517Built at Norrköping By whom built AB Norrköpings Vary & Verkstad Yard No. 138 When built 1952Owners U.S.S.R. Port belonging to TallinInstallation fitted by Messrs. AEG, Norrköping When fitted 1952Is vessel equipped for carrying Petroleum in bulk. Yes Is vessel equipped with D.F. No E.S.D. Yes Gy.C. No Sub.Sig. No Radar NoPlans, have they been submitted and approved Yes System of Distribution Two wire Voltage of Lighting 110Heating - Power 110 & 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,Are the generators arranged to run in parallel Yes Is the compound winding connected to the negative or positive pole NegativeHave machines 100 kw. and over been inspected by the Surveyors during manufacture and testing None Have certificates of test for machinesunder 100 kw. been supplied and the results found as per Rule Yes Position of Generators 1-55 kW and 1-14 kW on port side1-55 kW on starboard side, 1-6 kW on top platform in E.R.is the ventilation in way of generators satisfactory Yes are they clear of inflammable material and protected from mechanical injury anddamage from water, steam and oil Yes Switchboards, where are main switchboards placed in E.R.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 Panels of steel, if of synthetic insulatingmaterial 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 Switchgearfor each generator and arrangement of equaliser switches A triple pole circuit breaker with overload and reverse current protectionand the switch and fuse gear (~~or circuit breakers~~) for each outgoing circuit A double pole circuit breaker and a fuse on each poleAre compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 4ammeters 4 voltmeters - synchronising devices - For compound machines in parallel are the ammeters and reverse currentprotection devices connected on the pole opposite to the equaliser connection Yes Earth Testing, state means provided For 220 VAn ohm-meter, for 110 V earth lamps Preference Tripping, state if provided -No, and tested -Switches, Circuit Breakers and Fuses, are they as per Rule Yes, are the fuses an Approved Type Yesmake of fuses AEG & IFÖ (diazed), are all fuses labelled Yes If circuit breakers are provided for the generators, at whatoverload do they operate 275 A - 8 sec. 85 A - 8 sec., and at what current do the reverse current protectivedevices operate 30 and 15 A 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 pointunder maximum load 3.5 V volts. Are all paper insulated and varnished cambric insulated cables sealed at the ends 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 any cables laid under machines or floorplates Yes, if so, are they adequately protected Yes Statetype of cables (if in conduit this should also be stated) in machinery spaces F.V.F.F., galleys F.V.F.F.and laundries F.V.F.F. State how the cables are supported or protected Supported by metal clips, protectedby lead covering and steel wire braiding, were necessary protected by steel pipesAre all lead sheaths, armouring and conduits effectually bonded and earthed Yes Are all cables passing through decks and watertightbulkheads provided with deck tubes or watertight glands Yes, where unarmoured cables pass through beams, etc., are the holeseffectively bushed Yes Refrigerated chambers, are the cables and fittings as per Rule YesHave refrigeration fan motors been constructed under survey - and test certificates supplied -Are the motors accessible for maintenance at all times -

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Lloyd's Register
Foundation
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Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule... **Yes**... Emergency Supply, state position A 6 kW diesel driven generator for 115 V on a platform in engine room top

Navigation Lamps, are they separately wired... **Yes**... 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, fitted and adequately ventilated as per Rule... **Yes**... state battery capacity in ampere hours... 40... Where required to do so does it comply with 1948 International Convention... -

Lighting, is fluorescent lighting fitted... **No**... If so, state nominal lamp voltage... - and compartments where lamps are fitted... -

Fittings, are all fittings on weather decks, in storerooms and engine rooms and wherever exposed to drip or condensed moisture, weatherproof... **Yes**...

Searchlights, No. of... 1... whether fixed or portable... **Fixed**... are they of the carbon arc or of the filament type... **Filament**

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 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**

Lightning Conductors, where required are they fitted as per Rule... **None**

Ships carrying Oil having a Flash Point of 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... **ABG**... Are the fittings for pump rooms, tween deck spaces, etc., in accordance with the special requirements for such ships... **Yes**... Are all cables lead covered as per Rule... **Yes**

E.S.D., if fitted state maker... **Atlas**... location of transmitter and receiver... in pump room

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.	
			Kw. per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN ...	2	ESAB	55	230	240	1000	Diesel	Daimler-Benz
	1	"	14	230	61	1150	"	"Petter"
EMERGENCY ...	1	"	6	115	52	1400	"	Motorwerke - Mannheim
ROTARY TRANSFORMER	1	"	10	110	91	2900	220 V Bl. motor	ESAB

GENERATOR CABLES.

DESCRIPTION.	No. of	Kw.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return) in m.	INSULATION.	PROTECTIVE COVERING.
			No. in Parallel per Pole.	Sectional Area of each conductor in sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR ...	1	55	1	120	240 ✓	282	35	Paper	LC Armoured
" " EQUALISER ...	-	-	1	90	-	145	17	Rubber	- " -
" " " ...	1	55	1	120	240 ✓	282	24	Paper	- " -
" " " ...	-	-	1	90	-	145	12	Rubber	- " -
HARBOURLIGHT GEN.	1	14	1	25	61 ✓	63	19	"	- " -
" EQUALISER	-	-	1	16	-	48	9	"	- " -
EMERGENCY GENERATOR ...	1	6	1	16	52 ✓	48	24	"	- " -
ROTARY TRANSFORMER: MOTOR	1	12	1	35	64 ✓	78	17	"	- " -
" " GENERATOR...	1	10	1	50	91 ✓	99	17	"	- " -

MAIN DISTRIBUTION CABLES (to Auxiliary Switchboards, etc.).

DESCRIPTION.	No. of	Kw.	No. in Parallel per Pole.	Sectional Area of each conductor in sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (lead plus return) in m.	INSULATION.	PROTECTIVE COVERING.
FROM MAIN SWITCH BOARD 220 V TO 110 V DISTRIBUTION BOARD IN ER AND DISTRIBUTION BOARD FOR WATER HEATERS	1	50	1	50	97 ✓	99	4	Rubber	LC Armoured
	1	6	1	6	16 ✓	29	20	"	- " -
FROM DISTRIBUTION BOARD 110 V TO SECT. BOARD FOR NAV. LIGHTS	1	4	1	4	2 ✓	22.5	30	"	- " -
" " " IN E.R.	1	16	1	16	45 ✓	49	16	"	- " -
" " " FOR ACC.	1	50	1	50	50 ✓	99	18	"	- " -
" " " VENT. FANS	1	6	1	6	9.5 ✓	29	20	"	- " -

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

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return) in m.	INSULATION.	PROTECTIVE COVERING.
	No. in Parallel per Pole.	Sectional Area of each conductor in sq. mm.	In the Circuit.	Rule.			
FROM FUSE BOARD TO NAV. LIGHT FOR MAST	1	1.5	0.5 ✓	9.5	90	Rubber	LC steel wire braided
" " " " " PORT SIDE	1	1.5	0.5 ✓	9.5	5	"	- " -
" " " " " STB. "	1	1.5	0.5 ✓	9.5	10	"	- " -
" " " " " AFT "	1	1.5	0.5 ✓	9.5	45	"	- " -
" " " " EACH MAST LIGHT	1	2.5	3.0 ✓	15.5	35	"	- " -
" " " " SEARCH "	1	2.5	10.0 ✓	15.5	28	"	- " -
" " " " WIRELESS STATION	1	10.0	20.0 ✓	38.0	30	"	- " -
FROM SECT. BOARD FOR ACC. TO FUSE BOARD MAIN DECK PORT SIDE	1	4	10 ✓	22.5	12	"	- " -
" " " " STB. "	1	4	10 ✓	22.5	6	"	- " -
" " " " AFT	1	4	5 ✓	22.5	16	"	- " -
" " TRUNK " STE. SIDE	1	4	4 ✓	22.5	10	"	- " -
" " " " PORT "	1	4	8 ✓	22.5	10	"	- " -
" " BOAT DECK	1	4	8 ✓	22.5	14	"	- " -
" " BRIDGE	1	4	7 ✓	22.5	20	"	- " -
" " FORWARD	1	6	10 ✓	29.0	62	"	- " -
FROM SHORE CONN. TO RECTIFIER	4	10	25 ✓	38	6	"	- " -
" RECTIFIER " MAIN SWITCHBOARD	2	50	80 ✓	99	24	"	- " -

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	No. in Parallel per Pole.	Sectional Area of each conductor in sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (lead plus return) in m.	INSULATION.	PROTECTIVE COVERING.
220 MOTORS									
SPARE LUB. OIL PUMP	1	6.0	1	6	23.5 ✓	29	9	Rubber	
FUEL OIL TRANSF. "	1	1.5	1	2.5	6.5 ✓	15.5	20	"	
CARGO OIL "	1	50.0	1	150	184 ✓	205	10	"	
FIRE & SPARE COOLING WATER PUMP	1	12.0	1	16	46 ✓	49	14	"	
BILGE AND BALLAST PUMP	1	8.2	1	10	32.5 ✓	38	28	"	
PURIFIER	2	0.65	1	2.5	2.9 ✓	15.5	24	"	
AUX. AIR COMPRESSOR	1	10.0	1	10	37 ✓	38	24	"	
VENT. FAN PUMP ROOM	1	1.1	1	2.5	4.9 ✓	15.5	30	"	
OIL BURNER FANS FOR D.B.	2	1.0	1	2.5	4.5 ✓	15.5	10	"	
STEERING ENGINE	1	3.0	1	6	12.8 ✓	29	52	"	
110 V. MOTORS									
VENT. FAN E.R.	2	0.5	1	2.5	2.5 ✓	15.5	20	"	
" " ACC.	1	1.7	1	4	4.5 ✓	22	24	"	
REFRIGERATING MACHINERY	1	1.6	1	4	13.5 ✓	22	40	"	
WIRELESS ALTERNATOR	1	0.5	1	10	-	38	20	"	

NOTE.—Use Rpt. 13 Continuation Sheet if the above space is insufficient.

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 B G
KÖPING
[Signature]

Electrical Contractors. Date 3-12-1952

COMPASSES.

Have the compasses been adjusted under working conditions 18-11-1952

AB Norrköpings Varv & Verkstad
[Signature]

Builder's Signature. Date 3-12-1952

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

Is this installation a duplicate of a previous case Yes. If so, state name of vessel m.t. "ISHIM" "IRTISH" and "SUNGARI"

Plans. Are approved plans forwarded herewith No. If not, state date of approval 6.10.50. 2.4.51 27.4.51

Certificates. Are certificates of test for motors engaged on essential sea services and generators forwarded herewith Yes

General Remarks. (State quality of workmanship and materials, opinions as to class, etc.)
The electrical equipment of this vessel is installed under Special Survey in accordance with approved plans and the Secretary's letters.
The materials and workmanship are good.
The installation has been tested under working conditions, insulation resistance measured and found good.

Noted 10/11/53

Total Capacity of Generators 140 Kilowatts.

The amount of Fee ... Kr. 1.255:- :
When applied for, 1/12 1952
When received, 19
Travelling Expenses (if any) £ : :

[Signature]
Surveyor to Lloyd's Register of Shipping.

Committee's Minute
Assigned Su F. B. Melby rph

2m.8.50.—Transfer. (MADE AND PRINTED IN ENGLAND.)
(The Surveyors are requested not to write on or below the space for Committee's Minute.)

