

REPORT ON ELECTRICAL EQUIPMENT

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 5th March 62 When handed in at Local Office 19 Received at London Office Port of Gdansk

No. in Survey held at Gdansk Date, First Survey 21.3.61 Last Survey 16.Feb.19 62

Reg. Book on the M.T. "BALACLAVA" (No. of Visits 13365)

Built at Gdansk By whom built Stocznia Gdanska Yard No. B70/02 When built 1960-61

Owners USSR Ministry of Merch.Mar. Port belonging to R I G A

Installation fitted by Stocznia Gdanska - Electrical Department When fitted 1961

Is vessel equipped for carrying Petroleum in bulk yes Is vessel equipped with D.F. yes E.S.D. yes Gy. yes Sub.Sig. no Radar yes

Plans, have they been submitted and approved yes System of Distribution 3 Phase-3 Wire; Single PH.2 Wire Voltage of Lighting 110

Heating none Power 380 D.C. or A.C. Lighting AC Power AC If A.C. state frequency 50 cycles

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 -, and level compounded under working conditions -

Are the generators arranged to run in parallel yes Is the compound winding connected to the negative or positive pole -

Have machines 100 KVA and over been inspected by the Surveyors during manufacture and testing yes Have certificates of test for machines under 100 KVA been supplied and the results found as per Rule yes Position of Generators E.R. Lower platform, Port For'd & Aft and Starboard For'd

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 E.R. Lower Platform For 'd Centre

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 Dead Front type, fittings mounted on insulated bases, 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 Triple pole circuit breakers with under voltage reverse power and overload current relays. Overload and reverse power relays with time settings, voltage regulators, synchronising lamps, and synchroscopes for each machine.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit triple pole circuit breakers with fuses, rotary switches with fuses and overload relays. Preference trippings for now essential circuits with time setting. Push button remotecontrols for large motors.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule yes Instruments on main switchboard 13 ammeters 6 voltmeters 3 Wattmeters 3 synchronising devices. / For compound machines in parallel are the ammeters and reverse current protection devices connected on the pole opposite to the equaliser connection - Earth Testing, state means provided -

Ohmmeters and lamps Preference Tripping, state if provided yes, and tested yes

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

make of fuses Polish State Factories, are all fuses labelled yes If circuit breakers are provided for the generators, at what overload do they operate 115% full load current power, and at what current do the reverse current protective devices operate 10% full load

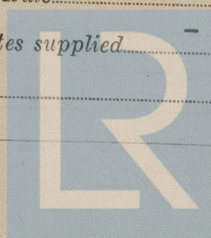
Cables, are they insulated and protected as per Rule yes, if otherwise than as per Rule are they of an Approved Type -, state maximum fall of pressure between bus bars and any point under maximum load less than 6 volts Are all paper insulated and varnished cambric insulated cables sealed at the ends 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 State type of cables (if in conduit this should also be stated) in machinery spaces L.C.W.B., galleys L.C.W.B. and laundries L.C.W.B. State how the cables are supported or protected steel cable trays, or strong steel supporting brackets with clips. Cables suitably protected where exposed.

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 -

Have refrigeration fan motors been constructed under survey - and test certificates supplied -

Are the motors accessible for maintenance at all times -



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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 batteries poop boat deck- separate compartment port aft

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. 140 Where required to do so does it comply with 1948 International Convention. -

Lighting, is fluorescent lighting fitted. yes If so, state nominal lamp voltage. 110 and compartments where lamps are fitted. E.R.; Blr.R; Saloon, Smoke Room & Mess Room

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

Searchlights, No. of 3, 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. steam only 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 required

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. Polish State Factories 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. N-11 Gdansk location of transmitter and receiver. Sep. Compartment ER Port For'd

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	KVA	RATED AT			PRIME MOVER	
			320 KVA. per Generator	Volts	Amps	Revs. per Min.	TYPE	MAKER
MAIN ...	3	Tvornica "R.CONCAR"-Yugo slavia	320	400	462	500	Diesel	Tvornica "Jugoturbiba-Sulzer"
EMERGENCY ...								
ROTARY TRANSFORMER								

GENERATOR CABLES

DESCRIPTION	No. of	KVA	CONDUCTORS		MAXIMUM CURRENT		APPROX. LENGTH (lead plus return) in ft.	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 ...	3	320	4	120	462	492	44x4	VIR	LCWB
" " EQUALISER ...									
EMERGENCY GENERATOR ...									
ROTARY TRANSFORMER: MOTOR									
" " GENERATOR ...									

MAIN DISTRIBUTION CABLES (to Auxiliary Switchboards, etc.)

DESCRIPTION	No. of	KVA	CONDUCTORS	MAXIMUM CURRENT	APPROX. LENGTH	INSULATION	PROTECTIVE COVERING
Steering Gear	1	35	44	55	110	VIR	L.C.W.B.
" "	1	35	44	55	130	"	"
Transformer 50KVA/115V (2)	1	70	75	87	28	"	"
" Secondary Circuit (2)	3	95	260	315	28x3	"	"
" 50 KVA 380/230V	1	70	75	87	34	"	"
" Secondary circuit	2	70	130	174	34x2	"	"

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT		APPROX. LENGTH (lead plus return) in ft.	INSULATION.	PROTECTIVE COVERING.
	No. in Parallel	Sectional Area or No. and Dia. of Strands Sq. mm.	In the Circuit.	Rule.			
Section Board S 54	1	35	45	55	40	VIR	LCWB
Section Board S 55	1	50	52	69	50	"	"
Section Board S 56	1	50	57	69	180	"	"
Section Board S 57	1	70	75	87	40	"	"
DB S 58	1	16	29	33	80	"	"
DB S 59	1	10	24	27	50	"	"
DB S 63	1	10	18	38	220	"	"
DB S 64	1	10	10.5	38	240	"	"
DB S 54A	1	10	31.1	38	20	"	"
DB S 54 B	1	10	32.2	38	80	"	"
DB S 54 C	1	4	18.9	22.5	20	"	2
DB S 54 D	1	2.5	6.55	15.5	50	"	"
DB S 55 A	1	10	29	38	6	"	"
DB S 55 B	1	10	30.5	38	6	"	"
DB S 55 C	1	10	34	38	24	"	"
DB S 56 A	1	4	18.7	22.5	30	"	"
DB S 56 B	1	4	20	22.5	4	"	"
DB S 56 C	1	10	29	38	20	"	"
DB S 56 D	1	2.5	14.7	15.5	20	"	"
DB S 56 E	1	6	19.6	29	160	"	"
DB S 57 A	2	25	49	126	6	"	1e
DB S 57 B	2	25	51	126	190	"	1c
DB S 57 C	1	10	33	38	12	"	"
DB S 63	1	10	18	38	220	"	"
DB S 64	1	10	14.5	38	240	"	"
Navigation Lights DB	1	4	3.6	22.5	240	"	"
Suez Canal Light	1	16	27.4	49	300	"	"

MOTOR CABLES CONT

Steering Compt. Fan	1	0.65	1	1.5	1	2	100	VIR	LCWB
Hold Fan	1	1.8	1	1.5	3.5	2	210	"	"
For'd Pump Room Fan	2	0.8	1	1.5	1.2	7	230	"	"
Gyro Room Fan	1	0.33	1	1.5	0.8	7	80	"	"
Main Pump Room Fan	1	3.3	1	1.5	5.4	7	80	"	"
Main Pump Room Fan	1	2.7	1	1.5	4.5	7	80	"	"
CO Room Fan	1	0.5	1	1.5	1	7	110	"	"

DESCRIPTION	CONDUCTORS		MAXIMUM CURRENT IN AMPERES		APPROX. LENGTH (lead plus return, ft.)	INSULATION	PROTECTIVE COVERING
	No. in Parallel Per Pole	Sectional Area Sq. ins. or mm.	In the Circuit	Rule			
Gyro (2)	1	2.5	4.8	13	180	VIR	LCWB
Battery Charging	1	1.5	3.6	7	70	"	"
D.B. S 6	1	10	20.9	27	44	"	"
D.B. S 11	1	25	33.5	44	36	"	"
D.B. S 12	1	16	25	33	72	"	"
D.B. S 13	1	25	28	44	76	"	"
D.B. S 14	1	25	30.5	44	40	"	"
D.B. S 15	1	25	40	44	48	"	"
D.B. S 16	1	6	14.5	21	20	"	"
D.B. S 31	2	35	82	110	40x2	"	"
D.B. S 31A	1	25	44	44	6	"	"
D.B. S 31 B	1	10	20.8	27	70	"	"
D.B. S 35	1	50	56	69	16	"	"
D.B. S 35 A	1	6	18.3	21	40	"	"
D.B. S 36	1	16	29.2	33	32	"	"
D.B. S 36 A	1	4	13	16	30	"	"
D.B. S 40	1	10	20	27	70	"	"
D.B. S 42	1	10	19.5	27	60	"	"
D.B. S 42 A	1	2.5	2.8	13	14	"	"
D.B. S 42 B	1	2.5	5.5	13	90	"	"
D.B. S 45	2	25	64	88	104x2	"	"
D.B. S 46	1	16	26.5	33	100	"	"
D.B. S 46 A	1	6	16	21	12	"	"
D.B. S 46 A1	1	2.5	7.8	13	24	"	"
D.B. S 46 B	1	4	10.5	16	30	"	"
D.B. S 46 C	1	6	11.8	21	220.	"	"
Radio	2	16	24.5	66	220x2	"	"

ALL IMPORTANT MOTORS TO BE ENUMERATED		No.	B.H.P.						
Aux.Eng.Cooling Water pp.	2	8	1	4	13	16	16	VIR	LCWB
Lubricating oil separator	2	7.4	1	4	12	16	14	"	"
Steering Gear	2	29.5	1	35	44	55	70	"	"
Heavy oil separator	2	12.3	1	6	19	21	64	"	"
Fuel Valve Cooling Pump	2	3.5	1	1.5	5.5	7	28	"	"
Evaporator Vacuum Pump	1	4.4	1	2.5	7	13	10	"	"
Evaporator Cooling Pump	1	2.0	1	1.5	3.6	5.5	14	"	"
Evaporator Pump	1	2.0	1	1.5	3.6	5.5	10	"	"
Separator Transfer Pump	2	1.6	1	1.5	2.6	5.5	64	"	"
Boiler circulating pump	1	12	1	6	18	21	34	"	"
Boiler oil fuel unit	2	2.3	1	1.5	3.8	7	10	"	"
Forced draught fan	2	18.7	1	16	28	33	10	"	"
Diesel oil separator	1	7.4	1	4	12	16	64	"	"
Aux.Eng.St.By.Cool.Pump	1	8	1	4	13	16	20	"	"
Hydraphore S.W. Pump	3	9.6	1	4	14.5	16	42	"	"
Hydraphore F.W.Pump	1	1.8	1	1.5	2.6	7	60	"	"
Lub.oil transfer pump	1	2.7	1	1.5	4.9	7	8	"	"
Separator sludge pump	1	0.6	1	1.5	1.0	7	30	"	"
Oil fuel booster pump	2	9.8	1	4	14.5	16	8	"	"
M.E. S.W.Cooling Pump	2	37.5	1	50	54.3	69	16	"	"
M.E. F.W.Cooling Pump	2	27.5	1	25	40	44	50	"	"
Bilge and Ballast Pump	2	23.5	1	25	34	44	12	"	"
Fire Pump	2	53.5	1	70	80	87	50	"	"
Starting Air Compressor	2	86	2	50	122.5	138	34	"	"
M.E.Lub.oil Pump	2	99	2	70	140	174	64	"	"
Hi- Press Compressor	1	70	2	35	102	110	40	"	"
Hi-Press Unit	3	7.0	1	2.5	11	13	60	"	"
Hi-Press Circulating Pump	1	13.7	1	10	20.8	27	60	"	"
Hi-Press Fans	3	6.9	1	2.5	11	13	120	"	"
Oil Fuel Transfer Pump	2	16.7	1	10	25	27	16	"	"
Boiler Room Fan	2	6.4	1	2.5	9.8	13	90	"	"
Engine Room Fan	2	16	1	10	22	27	100	"	"
Engine Room Fan	2	3.5	1	1.5	5.5	7	150	"	"
Separator Room Fan	1	0.75	1	1.5	1.5	7	120	"	"
Domestic Refrig.Machine	1	28.2	1	25	40	44	110	"	"
Galley fan	2	0.33	1	1.5	0.8	7	80	"	"

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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.

DYREKTOR TECHNICZNY

mgr inż. W. Galle

Electrical Contractors.

Date

COMPASSES

Have the compasses been adjusted under working conditions.

DYREKTOR TECHNICZNY

mgr inż. W. Galle

Builder's Signature.

Date

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. yes If not, state date of approval. -

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 has been installed under Special Survey in accordance with the Rule requirements, Secretary's letters and approved plans.

The workmanship and material are of good quality.

The installation has been tested in accordance with the Rule requirements and proved satisfactory.

This installation, in our opinion, is eligible for classification.

Total Capacity of Generators 960 KVA ~~1000 KVA~~

The amount of Fee zŁ 12,240 & £ 236.17.6. When applied for,
- 10 % = zŁ 10,990.- £ 213.05.- 31.1.1962

Travelling Expenses (if any) £ : : 19.

When received,

Surveyor to Lloyd's Register of Shipping

Committee's Minute

FRIDAY 27 APR 1962

Assigned

See Rpt 1



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