

Rpt. 13

No. 1093

# REPORT ON ELECTRICAL EQUIPMENT

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 10.12. 1960 When handed in at Local Office 12.12. 1960 Port of Rijeka

No. in Survey held at Rijeka Date, First Survey 21.7.60 Last Survey 19.11.1960  
Reg. Book (No. of Visits 12)90404 on the "TRUD" Tons { Gross 17.597  
Net 10.445

Built at Rijeka By whom built Shipyard "3 Maj" Yard No. 460 When built 1960

Owners Black Sea State Steamship Co. Port belonging to Odessa

Installation fitted by Brodogradiliste "3 Maj" When fitted 1960

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 Three phase A.C. Voltage of Lighting 110

Heating 110/44 Power 440 D.C. or A.C. Lighting AC Power AC If A.C. state frequency 60 c/s

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 Yes Generators, are they compound wound Yes, and level compounded under working conditions Yes

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

Have machines 90 kw. and over been inspected by the Surveyors during manufacture and testing Yes Have certificates of test for machines under 100 kw. been supplied and the results found as per Rule Yes Position of Generators Engine Room

Turbogenerators first platform port side Diesel generator upper platform port side

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 Engine Room

first platform starboard side

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 Dead Front panel, if of synthetic insulating material of 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 generator equipped with three-pole circuit breakers and no-volt, short circuit, delayed overload and reverse power relays

and the switch and fuse gear (or circuit breakers) for each outgoing circuit are fitted with relays protected

circuit breakers backed up with fuses if necessary. Non-essential consumers are connected to the preference tripping system.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 18

ammeters 3 voltmeters 2 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 resistance

meter &amp; earth 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 Siemens Schuckert, are all fuses labelled Yes If circuit breakers are provided for the generators, at what power overload do they operate Main 935 A Harbour 221 A, and at what current do the reverse current protective devices operate 70 KW 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 volts. 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 State type of cables (if in conduit this should also be stated) in machinery spaces lead covered &amp; arm., galleys lead covered &amp; arm. and laundries lead covered &amp; arm. State how the cables are supported or protected cables supported on perforated cable profiles and in holds protected in enclosed steel cable trays

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 -





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 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 all-weather light fitted Yes

Secondary Batteries, are they constructed, fitted and adequately ventilated as per Rule..... Yes..... Is an alternative supply provided..... Yes.....  
ampère hours..... 240 Ah 48 h..... Where required to do so does it comply with 1949 IEC....., state battery capacity in

Lighting, is fluorescent lighting fitted Yes If so, state nominal lamp voltage 110 and compartments where lamps are fitted Engine Room, Boiler Room, Gangways, Mess Room, Saloons

All fittings except in Accommodation are waterproof

Searchlights, No. of 2, 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

...ing 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..... Are motors.....

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..... Yes

Lightning Conductors, where required are they fitted as per Rule..... Yes

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

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 Kelvin Hughes location of transmitter \_\_\_\_\_ Are all cables lead covered as per Rule Yes

Insulation Tests, has the insulation resistance of all circuits and apparatus been tested as per Rule and suitably stored in dry situations. Yes

PARTICULARS OF GENERATING PLANT					
DESCRIPTION OF GENERATOR	No. of	MARKE	KVA	RATED	

### PARTICULARS OF GENERATING PLANT

PARTICULARS OF GENERATING PLANT							
DESCRIPTION OF GENERATOR	No. of	MAKER	KVA <small>Kw per Generator</small>	RATED AT			PRIME MOVER
				Volts	Ampères	Revs. per Min.	TYPE  MAKER
MAIN ... Harbour	2	Siemens Schuckert	560	450	720	1200	turbo
	1	" "	<u>148</u>	450	192	1200	diesel
EMERGENCY ...							De Laval Sweden
ROTARY							M.W.H. Germany
TRANSFORMER							

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

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 for sq. mm.	In the Circuit	Rule			
SEP 1 Water Pumps	1	25	43	41	60	Rubber	Lead cov. & arm
SEP 2 Water Pumps	1	4	15	16	150	"	" " "
SEP 3 Fuel transfer pumps	1	70	76	87	48	"	" " "
SEP 4 Condenser service Pumps	1	50	55	69	80	"	" " "
SEP 5 Condenser service Pumps	1	50	58	69	86	"	" " "
SEP 6 Boiler firing Equipment	1	95	76	105	90	"	" " "
SEP 7 Boiler Lighting-up Equipment	1	6	3	21	96	"	" " "
SEP 8 Boiler Room compressors	1	25	27	44	100	"	" " "
SEP 9 Boiler & Engine room Vent. Fans	1	70	80	87	110	"	" " "
SEP 10 L.P.S. Co. Circulating Pumps	1	70	74	87	92	"	" " "
SEP 11 Refrigerating Machinery	1	35	54	55	90	"	" " "
SEP 12 Water service pumps forw.	1	6	15	21	550	"	" " "
SEP 13 Hydromores	1	25	40	44	150	"	" " "
SEP 14 Separators	1	4	7, 2	16	125	"	" " "
SEP 15 Separators	1	4	13, 4	16	130	"	" " "
SEP 16 Workshop Machinery	1	16	26	33	100	"	" " "
SEP 17 Cargo tank vent. fans	1	6	18	21	450	"	" " "
SEP 18 Bridge	1	10	25	27	600	"	" " "
SEP 19 Galley	1	35	53	55	150	"	" " "
SEP 20 Salon pantry	1	50	68	69	500	"	" " "
SEP 21 Officer's Pantry	1	50	46	69	140	"	" " "
SEP 22 Crew's Pantry	1	50	68	69	130	"	" " "
SEP 23 Air conditioning machy. aft.	1	95	72	105	150	"	" " "
SEP 24 Air conditioning machy. fwd.	1	35	37, 4	55	600	"	" " "
SEP 25 Chemical feeding station	1	2, 5	2	13	160	"	" " "
SEP 26 Engine Room Auxiliaries	1	2, 5	3, 6	13	120	"	" " "
SEP 27 Refrigerating machinery	1	10	16	27	90	"	" " "

## MOTOR CABLES

ALL PORTANT MOTORS TO BE ENUMERATED	No.	B.H.P.	MOTOR SPEEDS							
Lubricating Oil Pump	2	25	1	16	31	33	18	Rubber	Lead cov.& arm.	
Condenser Main Extract.p.	2	20	1	10	27	27	20	"	"	"
Fuel oil transfer p.	2	31	1	25	38	44	60	"	"	"
Feed water drain transp.	2	13.5	1	6	17.5	21	80	"	"	"
Gen.purpose compressor	1	30	1	25	39	44	100	"	"	"
Main circulating pump	2	63	1	70	84	87	50	"	"	"
Bilge pump	1	42	1	50	52	69	90	"	"	"
Ballst pump	1	42	1	50	52	69	100	"	"	"
Atm.condenser circ.pump	1	46	1	50	60	69	150	"	"	"
Boiler feed water pump	2	100	2	50	117	138	140	"	"	"
Steering gear	2	36	1	35	52	55	250	"	"	"
Boiler Forced draught fan	2	136	2	120	157	246	200	"	"	"
Funnel Fan	1	34	1	35	45	55	240	"	"	"
Boiler room fan	2	9.5	1	4	15	16	30	"	"	"
Engine room fan	4	9.5	1	4	15	16	40	"	"	"
Diesel gen.cooling pump	1	5.3	1	2.5	7.7	13	50	"	"	"
Hydrophore pump	4	5.5	1	2.5	8.1	13	40	"	"	"
Air condition.compres.	1	30	1	25	37.5	44	20	"	"	"
Air condition.compres.	1	15	1	6	20	21	30	"	"	"
Air cond.vent fan	1	8	1	2.5	10.5	13	30	"	"	"
Turning gear	1	5	1	2.5	7.5	13	60	"	"	"
Refriger.compressor	3	11	1	6	14.8	21	30	"	"	"



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.

BRODUGRADILIŠTE 3. MAJ  
RIJEKA

*[Signature]*

Electrical Contractors.

Date

#### COMPASSES

Have the compasses been adjusted under working conditions. Yes

BRODUGRADILIŠTE 3. MAJ  
RIJEKA

*[Signature]*

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. Yes If so, state name of vessel. Petar Zoranic

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 described herein has been installed under Special Survey in accordance with the Rules of the Society, approved plans and Secretary's letters.

The material and workmanship are good.

On completion of installation the generators were examined under full working conditions and for paralleling. The overload and reverse power trips tested and governors tested under full load with satisfactory results.

Insulation test carried out on the circuit and found satisfactory.

Total Capacity of Generators 1270 Kilowatts.

The amount of Fee ... £ 161-07-11 + 135.576.-din When applied for, *[Signature]*

19

When received,

19

Travelling Expenses (if any) £ : :

*[Signature]* For self and A. Butler  
Surveyor to Lloyd's Register of Shipping

Committee's Minute

FRIDAY 14 APR 1961

Assigned

*See Rpt 46*