

Rpt. 13

No.

28944

## REPORT ON ELECTRICAL EQUIPMENT

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 29/4/1964 When handed in at Local Office 19 Port of GENOA

No. in Survey held at GENOA Date, First Survey 31/12/1963 Last Survey 5/4/1964  
Reg. Book (No. of Visits 25)

on the M.S. "FEDOR POLETAEV" Tons { Gross Net

Built at GENOA SESTRI By whom built S.A. ANSALDO-CANTIERE NAVALE Yard No. 1594 When built 1964/3

Owners BLACK SEA STATE STEAMSHIP LINES Port belonging to ODESSA

Installation fitted by S.A. ANSALDO CANTIERE NAVALE When fitted 1964/3

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. no Radar yes

Plans, have they been submitted and approved yes System of Distribution 3 phase 3 wire parallel Voltage of Lighting 127 system

Heating 127 Power 380 D.C. or A.C. Lighting AC Power AC If A.C. state frequency 50 C.P.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 no 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 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 one diesel port fwd. Two diesels

engine room tank top. Two stbd. tween deck level (turbo alt. fwd. and diesel aft).

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 M.E. room fwd. tween deck

level running athwartships.

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, 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 one three pole circuit breaker with short circuit and over-

load protective devices on each pole and reverse-power protective device on one pole.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit a three pole circuit breaker with short-circuit

and overload protective devices on each pole

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule yes Instruments on main switchboard 25

ammeters 7 voltmeters 1 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 earth

indicating lamps-Ohmmeter 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 "SIMENS" &amp; "HALSHE", are all fuses labelled yes If circuit breakers are provided for the generators, at what

overload do they operate 115 % of rated current, and at what current do the reverse current protective

devices operate 10% of rated kW Cables, are they insulated and protected as per Rule no

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 less than 6% volts Are all paper insulated and varnished cambric insulated cables sealed at the ends none fitted

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 B-KAR &amp; G.KAR, galleys B.KAR and G-KAR

and laundries B-KAR &amp; G.KAR State how the cables are supported or protected supported on galvanized or painted

perforated steel trays. Secured by Metal clips and adequately protected from mechanical damage.

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 yes (domestic only)

Have refrigeration fan motors been constructed under survey no 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  
poor-boat deck stbd. side. Diesel driven 150 kW alternator.  
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...2-104 cell. Alkaline 90A/h...2-10 cell. Alkaline 60A/h... Where required to do so does it comply with 1948 International Convention...  
Lighting, is fluorescent lighting fitted...yes... If so, state nominal lamp voltage...127 and compartments where lamps are fitted  
Machinery spaces and accommodation  
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...none... 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...yes  
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...steel masts  
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...SIEMENS" & "HAISHA" 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...  
E.S.D., if fitted state maker...N.E.L. 5... location of transmitter and receiver...between frames 117-118.  
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				TYPE	PRIME MOVER
			Kw. per Generator	Volts	Amperes	Revs. per Min.		
MAIN ...	3	O.E.T. MONFALCONE	550	400	995	500	Oil Eng.	C.R.D.A., TRIESTE.
Harbour servi	1	A.S.G. GENOA	450	400	810	1500	Turbine	ANSALDO, GENOA.
EMERGENCY ...	1	A.S.G. GENOA	200	400	360	750	Oil Eng.	M.A.N.
ROTARY TRANSFORMER	1	Hans.A.G. Still.	150	400	271	1500	Oil Eng.	BREDA-BRESCIA.

#### GENERATOR CABLES

DESCRIPTION	No. of	Kw.	CONDUCTORS		MAXIMUM CURRENT IN AMPERES		APPROX. LENGTH (lead only) in M.	INSULATION	PROTECTIVE COVERING
			No. in Parallel per Pole	Sectional Area sq. mm.	In the Circuit	Rule			
MAIN GENERATOR ...	3	550	5	125	995	1050	18	B.	KAR
" " EQUALISER ...	1	450	4	125	810	840	18	B.	KAR
Main generator	1	450	4	125	810	840	18	B.	KAR
Harbour service	1	200	2	125	360	420	22	B.	KAR
EMERGENCY GENERATOR ...	1	150	2	80	271	310	10	B.	KAR
ROTARY TRANSFORMER: MOTOR									
" " GENERATOR ..									

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

DESCRIPTION	No. of	Kw.	Sectional Area sq. mm.	In the Circuit	Rule	INSULATION	PROTECTIVE COVERING
Emergency switchboard connection	2	80	286	310	55	B	KAR
Shore connection	1	160	229	240	55	"	"
Steering gear	1	40	90	100	60	"	"
Power dist. board P.015.	2	125	411	420	22	"	"
" " P.019	1	6.3	29	34	64	"	"
" " P.024	1	80	148	155	12	"	"
" " P.025	1	40	76.5	100	40	"	"
" " P.026	1	125	203	210	18	"	"
" " P.028	1	125	206	210	50	"	"
" " P.029	1	125	188	210	40	"	"
" " P.030	1	40	71.5	100	40	"	"
" " P.031	1	40	72	100	130	"	"
Miscellaneous MC.035	1	40	72	100	130	"	"
90 kVA transformer bank (380 V. side)	1	80	137	155	40	"	"
ditto 127 Volts. Side to DB P.016	2	125	409	420	5	"	"

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

DESCRIPTION	CONDUCTORS		MAXIMUM CURRENT IN AMPERES		APPROX. LENGTH (lead only) in M.	INSULATION	PROTECTIVE COVERING
	No. in Parallel per Pole	Sectional Area sq. mm.	In the Circuit	Rule			
40 kVA-3 phase trans. (380 V. side)	1	25	61	77	32	B	KAR
ditto 127 V. side to lighting d.b. 1.036	1	125	182	210	8	"	"
10 kVA-3 phase trans. (380 V. side)	1	6.3	15	34	10	"	"
ditto 127 V. side to lighting d.b. 1.037	1	16	45.5	58	5	"	"
10 kVA-3 phase trans. (380 V. side)	1	6.3	15	34	10	"	"
ditto 127 V. side to lighting d.b. 1.038	1	16	45.5	58	5	"	"
Radio Station	1	10	11	43	140	"	"
EMERGENCY DISTRIBUTION CABLES							
Main switchboard connection	2	80	286	310	55	B	KAR
Steering gear	1	40	90	100	65	"	"
Power dist. board P.084	1	80	145	155	10	"	"
Miscell. dist. board MC.805	1	25	72	77	130	"	"
10 kVA-3 phase trans. (380 V. side)	1	6.3	15	34	8	"	"
ditto 127 V. side to emergency lighting	1	16	45.5	58	8	"	"

#### MOTOR CABLES

ALL IMPORTANT MOTORS TO BE ENUMERATED	No.	B.H.P.							
Steering gear	2	60	1	40	87	100	6	B	KAR
M.E.lub.oil	1	200	2	80	265	310	5	"	"
M.E. S.W.circ.	1	70	1	40	102	100	30	"	"
M.E. F.W.circ.	1	70	1	40	102	100	25	"	"
M.E. F.O.booster	2	6.5	1	4	10.65	16	35	G	"
M.E. fuel valve cooling	2	6	1	4	9.8	16	40	"	"
Aux.diesel pre.lub.	3	7.5	1	4	12.5	16	34	"	"
" " S.W.circ.	2	16	1	6.3	25.5	34	26	B	"
" " "	1	4.2	1	1.6	7.3	9	40	G	"
" " O.F.supply	1	1.5	1	1.6	3	9	38	"	"
turbo alt.cond.circ.	1	4.3	1	25	64	77	31	B	"
" " " extract.	1	4.5	1	2.5	6.6	12	34	G	"
" " " pre.lub.	1	1.5	1	1.6	3	9	35	"	"
Air compressors	2	125	1	125	205	210	33	B	"
S.W.circ.for above	1	5.5	1	2.5	8.85	12	48	G	"
Air comp.aux.	1	22	1	6.3	35	34	65	B	"
S.W.circ.for above	1	0.6	1	1.6	1.15	9	65	G	"
F.O.transfer	1	27	1	16	38	58	34	B	"
Daily service F/O trans ;	1	14	1	6.3	21.5	34	32	"	"
Lub.oil transfer	1	7	1	4	11.5	16	43	G	"
Ballast	1	500	3	160	660	720	18	B	"
Fire	1	170	2	63	230	270	37	"	"
Bilge	1	80	1	63	120	135	65	"	"
General Service	1	58	1	40	81	100	26	"	"
Atmds.cond.circ.	1	27	1	16	42	58	38	"	"
W.T.aux.blrs.feed	2	46	1	25	69	77	26	"	"
" " " fuel	2	2.5	1	1.6	4.3	9	17	G	"
" " " diesel	1	0.5	1	1.6	1.4	9	20	"	"
" " " fans	2	35	1	16	51	58	10	B	"
Aux.& D.B. circ.	2	16	1	6.3	25	34	24	"	"
DB feed	1	18	1	6.3	26	34	25	"	"
F/O & L/O purifiers	6	12.5	1	6.3	26	34	25	"	"
E.R.vent.fans	4	19.5	1	6.3	19	34	25	"	"
" " exhst."	2	11.5	1	6.3	18	34	34	"	"
Cargo pumps & ballast	4	500	3	160	700	720	15	"	"

NOTE.—Use Rpt. 43 Continuation Sheet if the above space is insufficient

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Lloyd's Register  
Foundation

011869-011876-0002



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.

ANSALDO S.p.A. - CAN  
Il Direttore

Electrical Contractors.

Date 8 MAG 1964

#### COMPASSES

Have the compasses been adjusted under working conditions... yes

ANSALDO S.p.A. - CAN  
Il Direttore

Builder's Signature.

Date 4/4/1964

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.s. "LEONARDO DA VINCI"

Plans. Are approved plans forwarded herewith... no If not, state date of approval 19/11/62; 30/5/63; 19/9/63; 18/11/63.

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 ship has been constructed and fitted under special survey and is in accordance with the approved plans, Secretary's letters and rule Requirements.

The material and workmanship are good.

Upon completion the plant was tried under full working condition, the installation resistance tested and found satisfactory.

This installation is eligible, in my opinion, for full Classification.

Total Capacity of Generators 2450 Kilowatts.

The amount of Fee Lit. £ 656.250. Due

When applied for, 4/5/1964

When received, 19

Travelling Expenses (if any) (See Rpt. 1)

Surveyor to Lloyd's Register of Shipping

FRIDAY 11 SEP 1964

Committee's Minute

Assigned

See Rpt 1