

REPORT ON ELECTRICAL EQUIPMENT

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

25391

Date of writing Report 15th July, 1960 When handed in at Local Office 29/9/1960 Port of La Spezia
 No. in Survey held at La Spezia Date, First Survey 29/12/59 Last Survey 13/7/1960
 Reg. Book (No. of Visits 18) Tons 20700 (provisional)

on the Single Screw Steam Tanker "CRISTINA D'AMICO"
 Built at La Spezia - Muggiano By whom built Ansaldo S.p.A. - Cantiere di Muggiano Yard No. 1540 When built 1960
 Owners "ORTIGIA" S.p.A. di Navigazione Port belonging to Palermo When fitted 1960

Installation fitted by Ansaldo S.p.A. - Cantiere di Muggiano
 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
 System of Distribution Parallel System-Constant pressure Voltage of Lighting 115

Plans, have they been submitted and approved Yes System of Distribution 2 wire DC or 3 wire AC If A.C. state frequency 60 cycles
 Heating 220 Power 220 D.C. or A.C. Lighting A.C. Power D.C. Are turbine emergency governors fitted Yes

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 Yes Is the compound winding connected to the negative or positive pole negative

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 On flat after end of E.R. 1-

550 KW. generator port; 1 - 150 KW generator centre; 1 - 550 KW generator starboard.
 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 flat port side of 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 dead front type, if of synthetic insulating material is it an Approved Type Yes, if of semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule Yes 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 for each D.C. generator a double pole circuit breaker with overload trip on each pole, reverse-current trip and interlocked equaliser switch; for each A.C. generator
A 3-pole circuit breaker with overload trip on each pole and reverse-power trip on one pole.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit for each D.C. outgoing circuit a double pole circuit breaker with overload trip on each pole; for each A.C. outgoing circuit a 3-pole circuit breaker with overload
trip on each pole.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 6-D.C. 2-A.C.
 ammeters 4-D.C. 4-A.C. 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 yes Earth Testing, state means provided ohmmeters and

earth indicating 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 Croci & Farinelli, are all fuses labelled yes If circuit breakers are provided for the generators, at what or power or reverse-power
 overload do they operate instantaneous trip : 100 per cent. and at what current/do the reverse current protective
 Reverse current: 7.5 per cent rated current
 devices operate Reverse power : 9 per cent rated power. 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 max. 5% XXXX 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 T-PKAR or G-PRAR, galleys T-PKAR or G-PRAR (+)

and laundries T-PKAR or G-PRAR State how the cables are supported or protected supported by galvanized (or painted) perforated plating and metal clips. - Where cables exposed to risk of mechanical damage adequately protected.

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 and test certificates supplied yes

Have refrigeration fan motors been constructed under survey yes

Are the motors accessible for maintenance at all times yes

(+) T = V.C.insulation; G = V.R.insulation; P = lead sheet; K = P.C.P. sheet; R = P.V.C. sheath; A = steel wire braiding.

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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

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...1-30 A/h - 115 V... Where required to do so does it comply with 1948 International Convention...

Lighting, is fluorescent lighting fitted...yes... If so, state nominal lamp voltage...115... and compartments where lamps are fitted machinery spaces and accommodations.

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...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... 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...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 mast.

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 or FER... Croci & Farinelli... 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...the Sub-marine Signal- London... location of transmitter and receiver...frames 50-51 (E.R.)

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	Ansaldo/San-Giorgio, Genoa	550	230	2400	1000	Steam turbine	Ansaldo - Genoa
Port Service	1	C.R.D.A.- Monfalcone	150	230	655	400	Oil Engine	Ansaldo - Genoa
EMERGENCY ROTARY TRANSFORMER	2	Ansaldo/San-Giorgio, Genoa	70	120	420	1800	Electric motor	Ansaldo/San-Giorgio, Genoa

GENERATOR CABLES

DESCRIPTION	No. of	Kw.	CONDUCTORS		MAXIMUM CURRENT IN AMPERES		APPROX. LENGTH (feet plus return)	INSULATION	PROTECTIVE COVERING
			No. in Parallel per Pole	Sectional Area mm. ²	In the Circuit	Rule			
MAIN GENERATOR ...	2	550	4	400	2400	4x677	50	T	PKAR
" " EQUALISER ...			2	400	-	2x677	25	"	"
Port service generator	1	150	1	400	655	677	30	"	"
" " equaliser			1	200	-	414	15	"	"
EMERGENCY GENERATOR ...									
ROTARY TRANSFORMER: MOTOR	2	78	1	200	395	414	60	T	PKAR
" " GENERATOR	2	70	2	160	420	2x252	25	"	"

MAIN DISTRIBUTION CABLES (to Auxiliary Switchboards, etc.)

DESCRIPTION									
Shore connection	220 V.D.C.	1	400	652	677	80	T	PKAR	
Steering gear - port	"	1	63	150	197	140	"	"	
Steering gear - starboard	"	1	63	150	197	110	"	"	
Radio station	"	1	63	20,5	197	300	"	"	
Power s.b. on decks SIF	"	1	100	210	264	280	"	"	
" d.b. " " F101	"	1	25	87	108	25	"	"	
" s.b. " " S2F	"	1	160	319	360	60	"	"	
" d.b. " " F201	"	1	40	134	146	40	"	"	
" d.B. " " F202	"	1	10	28	38	30	G	PRAR	
" d.b. " " F205	"	1	10	35	38	35	"	"	
" d.b. " " F207	"	1	25	96	108	70	T	PKAR	
Power d.b. in E.R. F021	"	1	200	355	414	30	"	"	
" " " F022	"	1	200	368	414	50	"	"	
" " " F023	"	1	160	358	360	60	"	"	
" " " F024	"	1	100	220	264	20	"	"	

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

DESCRIPTION	No. in Parallel per Pole	Sectional Area mm. ²	MAXIMUM CURRENT IN AMPERES		APPROX. LENGTH (feet plus return)	INSULATION	PROTECTIVE COVERING
			In the Circuit	Rule			
Power d.b. in workshop F028 220 V.D.C.	1	16	78	84	60	T	PKAR
Navigation light distrib. board 115 V.A.C.	1	6,3	2,7	30	160	G	PRAR
Lighting s.b. on decks SIL	1	125	105	215	150	T	PKAR
" d.b. " " LNI 132	1	6,3	19	22	20	G	PRAR
" d.b. " " LNI 133	1	10	14	27	100	"	"
" d.b. " " LNI 134	1	6,3	19	22	20	"	"
" d.b. " " LNE 135	1	10	25	27	20	"	"
" d.b. " " LNE 236	1	1,6	5	7	20	"	"
Power d.b. " " F 137	1	4	16	16	15	"	"
Battery charging board Q.B.C.	1	16	35	49	8	"	"
Bridge searchlight	1	10	26	38	20	"	"
Lighting s.b. on decks S2L	1	63	113	138	20	T	PKAR
" d.b. " " LNI 231	1	6,3	20	22	20	G	PRAR
" d.b. " " LNI 232	1	6,3	18	22	40	"	"
" d.b. " " LNI 233	1	6,3	18	22	15	"	"
" d.b. " " LNE 234	1	10	23	27	30	"	"
" d.b. " " LNI 235	1	10	23	27	15	"	"
" d.b. " " LNI 236	1	10	24	27	25	"	"
" d.b. " " LNI 237	1	2,5	12	13	40	"	"
Power d.b. " " F 238	1	4	14	16	40	"	"
Suez Channel searchlight	1	10	26	38	245	"	"
Lighting d.b. in E.R. LMO 32	1	10	18	27	40	"	"
" d.b. " " LMO 33	1	6,3	20	22	40	"	"
" d.b. " BVR. LVO 34	1	2,5	10	13	60	"	"
" d.b. " B.R. LCO 35	1	2,5	10	13	60	"	"

MOTOR CABLES

ALL IMPORTANT MOTORS TO BE ENUMERATED									
No.	B.H.P.								
Steering gear	2	40	1	63	150	197	8	T	PKAR
F.D. fans	2	67	1	100	258	264	86	"	"
F.O. pressure pumps	2	10	1	10	41	63	40	"	"
F.O. transfer pump	1	50	1	63	188	197	55	"	"
Lub. oil circ. pumps	2	49	1	63	182	197	45	"	"
Main condenser circ. pumps	2	130	1	250	475	474	80	"	"
Main extraction pumps	2	30	1	40	113	146	30	"	"
Circ. pumps for turbogenerator	2	17,5	1	16	66	84	30	"	"
Extraction pumps for ditto	2	10	1	16	40	49	30	G	PRAR
Circ. pump for cargo pump condenser	1	28	1	25	108	108	40	T	PKAR
" " " condenser	1	12	1	16	44	49	20	G	PRAR
Drain transfer pumps	2	12	1	16	46	49	45	G	PRAR
Bilge & ballast pump	1	20	1	16	75	84	30	T	PKAR
Bilge & fire pump	1	60	1	100	225	264	55	"	"
Aut. combustion control air compressor	1	7,5	1	16	31	49	35	G	PRAR
Air compressor for general serv.	1	27	1	25	103	108	70	T	PKAR
Evaporator feed & general S.W. cooling pumps	2	16	1	10	62	63	75	"	"
Evaporator sets pumps	2	4,5	1	6,3	19	30	30	G	PRAR
Evaporator sets pumps	2	4,5	1	6,3	19	30	25	"	"
Distill. water transfer pump	1	4,5	1	6,3	18,5	30	20	"	"
Lub. oil purifiers	2	2,5	1	2,5	10	15,5	40	"	"
Ventilating fans for pump room	2	3,6	1	10	15	38	40	"	"
Ventilating fans in E.R. (& B.R.)	4	12	1	16	45,5	49	70	"	"
Exhaust fans in E.R. & B.R.	2	12	1	16	45,5	49	30	"	"
Sanitary pumps	2	6,5	1	10	26	38	50	"	"
Drinking water service pumps	2	3	1	2,5	12,5	15,5	25	"	"
Washing water service pumps	2	3,5	1	4	14,5	22,5	50	"	"
Hot washing water service pumps	2	3	1	2,5	12,5	15,5	15	"	"
Refrigerating compressors	2	7,5	1	10	30	38	20	"	"
Condenser circulating pumps	2	1,5	1	1,6	6,2	10	15	"	"
Brine pumps	2	1,5	1	1,6	6,2	10	30	"	"
Air cond. sets	3	9,5	1	16	38	49	70	T	PKAR
Compressor for air cond. sets aft	1	48	1	63	185	197	90	"	"
Condenser circ. pump	1	15	1	10	57	63	30	"	"
Compressors for air cond. sets for'd	1	20	1	16	77	84	30	"	"

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.

Società per Azioni - Sede in Genova
SANITARI DI RUSSIANO
Electrical Contractors. Date 29 LUG 1960

COMPASSES

Have the compasses been adjusted under working conditions. Yes

Società per Azioni - Sede in Genova
SANITARI DI RUSSIANO
Builder's Signature. Date 29 LUG 1960

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 "MARIA ADELAIDE" Ansaldo Yard N° 1539

Plans. Are approved plans forwarded herewith. no If not, state date of approval 26.5.59; 14.7.59.

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 constructed and fitted under special survey and is in accordance with the approved plans, Secretary's letters and Rules requirements.

The materials and workmanship are good.

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

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

5m.3.58-Transfer. (MADE AND PRINTED IN ENGLAND)
(The Surveyors are requested not to write on or below the space for Committee Minute.)

Total Capacity of Generators 1250 Kilowatts.

The amount of Fee 46 ... £11.250
See 15% = £1 349.562

When applied for, 1/8 1960

Travelling Expenses (if any) £ See Rpt. 1/1 1960

When received, 1960

Committee's Minute. FRIDAY 11 NOV 1960

Assigned. See Rpt. 1

F. Battagli
(F. Battagli)
Surveyor to Lloyd's Register of Shipping



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