

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 23 APR 1956

Date of writing Report 28 March 1956 When handed in at Local Office 4 April 1956 Port of Marseilles

No. in Survey held at La Seyne sur Mer Date, First Survey 3rd Oct 1955 Last Survey 10 Nov 1956
Reg. Book, 1955 not kept. (No. of Visits six)

34309 on the Steel Sessel Motor Ship "ZAGORA" Tons { Gross 1678.63 Net 120.16

Built at La Seyne sur Mer By whom built Forges et Chant. de la Med. Yard No. 1310 When built 1956

Owners Societe Franco Cherifienne de Mar. Port belonging to CASABLANCA

Installation fitted by Forges et Chantiers de la Mediterranee, La Seyne sur Mer When fitted 1956

Is vessel equipped for carrying Petroleum in bulk. no 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 Single wire and hull return Voltage of Lighting 220

Heating 220 Power 220 D.C. or A.C., Lighting DC Power DC 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 Positive

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 Two diesel generator sets on starboard side and one on port side of Main Engine on the Engine Room lower platform.

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 Main switchboard on Engine Room starboard upper platform, above the two starboard sets of diesel generators.

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 panel

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 Double pole D.C. circuit breakers (one pole for equalising) for each generator all fitted with overload trips, Reverse current trips also fitted.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit Duty 2 fuse gear and single pole switch.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule yes Instruments on main switchboard 8 ammeters 3 voltmeters no

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 none 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 Diazed, are all fuses labelled yes If circuit breakers are provided for the generators, at what overload do they operate what 125% F.L.

and at what current do the reverse current protective devices operate approx 45A. Cables, are they insulated and protected as per Rule yes

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 9 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. no, if so, are they adequately protected. yes

State type of cables (if in conduit this should also be stated) in machinery spaces VC & VR, LC & AB, galleys VC & VR, LC & AB and lavatories

State how the cables are supported or protected Single wire cables supported on steel cleats welded to metal work spaced as per rule and efficiently protected.

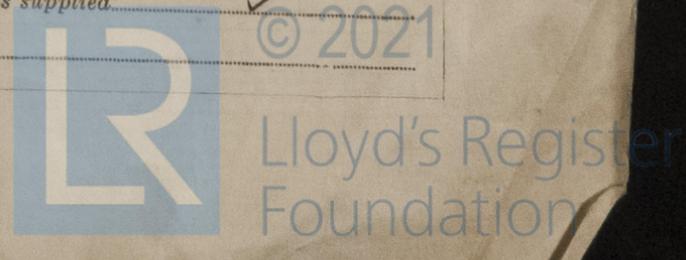
Are all lead sheaths, armouring and conduits effectually bonded and earthed. yes Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands. yes

where unarmoured cables pass through beams, etc., are the holes effectively bushed. yes Refrigerated chambers, are the cables and fittings as per Rule. yes

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

Are the motors accessible for maintenance at all times. yes

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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
Accumulators Battery on Boat Deck starboard side aft in special compartment
 Navigation Lamps, are they separately wired yes controlled by separate double pole switches and fuses. Circuit breakers 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 45 Amps hrs Where required to do so does it comply with 1948 International Convention yes
 Lighting, is fluorescent lighting fitted ✓ If so, state nominal lamp voltage ✓ and compartments where lamps are fitted ✓

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

Lifeboat ✓
 No. of 4, whether fixed or portable sockets, 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 yes 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 ✓

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 ✓, are all fuses of an Approved Cartridge Type ✓, make of fuse ✓ Are the fittings for pump
 rooms, tween deck spaces, etc., in accordance with the special requirements for such ships ✓ Are all cables lead covered as per Rule ✓

E.S.D., if fitted state maker Submarine Signal Co location of transmitter and receiver in 1st space of DB aft of E.R. and Bullhead

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.	Amps.	Revs. per Min.	TYPE.	MAKER.
MAIN	3		100	230	435	750	Heavy Oil Engine 6 cyl.	Deeries du Nord at Marseilles (M.A.N. Licenses)
EMERGENCY	✓							
ROTARY TRANSFORMER	✓							

GENERATOR CABLES.

DESCRIPTION.	No. of	Kw.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return loss) in m.	INSULATION.	PROTECTIVE COVERING.
			No. in Parallel per Pole.	Sectional Area No. and Dia. of Strands sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	3	100	2	185(x2)	435	619	3.6	VC	LC & AB
" EQUALISEE			1	185	218	396	3.6	VC	LC & AB
EMERGENCY GENERATOR									
ROTARY TRANSFORMER : MOTOR									
" GENERATOR									

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

DESCRIPTION.	No.	Kw.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return loss) in m.	INSULATION.	PROTECTIVE COVERING.
			No. in Parallel per Pole.	Sectional Area No. and Dia. of Strands sq. mm.	In the Circuit.	Rule.			
Forward Auxiliary Switchboard (Whirls and 4 machines)	1	74.4	1	74.4	160	201.2	35	VC	LC & AB
Mt Auxiliary Switchboard (2 machines & Emerg. Steering)	1	57.4	1	57.4	130	168.8	50	VC	LC & AB
Middleships Aux. Switchboard:	1	94.0	1	94.0	185	221.0	38	VC	LC & AB

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

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DESCRIPTION.	No. in Parallel per Pole.	Sectional Area No. and Dia. of Strands sq. mm.	MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return loss) in m.	INSULATION.	PROTECTIVE COVERING.
			In the Circuit.	Rule.			
<u>Lighting:</u> to 1st Lighting Distribution Board	1	5.5	17.7	19.2	8	VR	LC & AB
to 2nd do do	1	7.92	40.0	45.2	20	VC	LC & AB
to 3rd do do	1	5.5	18.2	19.2	28	VR	LC & AB
to 4th do do	1	3.52	11.3	13.0	43	VC	LC & AB
<u>Heating:</u> to Deck Accommodation Sect. Board	1	14.1	57	70	46	VC	LC & AB
Upper Deck Midship.	1	21.5	71	90.2	20	VC	LC & AB
Boat Deck do do	1	21.5	73	90.2	25	VC	LC & AB
<u>Navigating Apparatus:</u> (Cyto, Galat, Echo Foundry)	1	5.5	18	19.2	25	VR	LC & AB
<u>Navigating lights:</u>	1	2.0	1.6	7.4	23	VR	LC & AB

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return loss) in m.	INSULATION.	PROTECTIVE COVERING.
			No. in Parallel per Pole.	Sectional Area No. and Dia. of Strands sq. mm.	In the Circuit.	Rule.			
Main Air Compressor	2	12	1	7.92	41	45.2	9	VC	LC & AB
Ballast pumps	4	27	4	29.3	93	109	17	VC	LC & AB
Bridge pump	4	27	4	29.3	93	109	18	VC	LC & AB
Stand by cooling water pump	1	13	1	14.1	60	70	13	VC	LC & AB
Fire & Gal. Service pump.	4	7	1	14.1	40	70	19	VC	LC & AB
Auxiliary cooling water pump.	1	2	1	3.52	13	13	15	VR	LC & AB
Stand by lub. oil pump	1	2.5	1	29.3	82	109	6	VC	LC & AB
Lub. oil transfer pump	1	1	1	2.0	4	7.4	7	VR	LC & AB
Oil fuel transfer pump	1	3	1	5.5	18	19.2	18	VR	LC & AB
Aux. Air Compressor	1	14	1	3.52	14	13	4	VR	LC & AB
Transfer gear	1	3	1	3.52	12	13	12	VR	LC & AB
Eng. Room Vent. Fans	2	1.25	1	2.0	5	7.4	17	VR	LC & AB
Steering gear	1	5.5	1	7.92	24	45.2	52	VR	LC & AB
Winches	1	27	1	48.3	120	150	30	VC	LC & AB

NOTE.—Use Rpt. 43 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. *[Signature]*

Electrical Contractors

Date 20th March 1956

Soc. des Forges et Chantiers de la Mediterranee - La Seyne S. Mer.

COMPASSES.

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

[Signature]

Builder's Signature

Date 20th March 1956

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 approved plans and with the applicable requirements of the Rules and the Secretary's letters.

The materials and workmanship are good

The completed installation examined under working conditions was found satisfactory and is suitable, in my opinion, for a closed ship.

Total Capacity of Generators 300 Kilowatts.

The amount of Fee *sent* (Fees) is 109,200: When applied for, 20th March 56

Travelling Expenses (if any) is 20,100: When received, 19

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

Committee's Minute FRIDAY 19 MAY 1956

Assigned See Rep. 46.

Im. 754-Transfer. (MADE AND PRINTED IN ENGLAND)
(The Surveyors are requested not to write on or below the space for Committee Minutes.)