

## REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

13 JUL 1955

Received at London Office.

Date of writing Report 19 When handed in at Local Office 21 JUN 1955 Port of Sunderland

No in Survey held at Sunderland Date, First Survey 14TH JANUARY Last Survey 14TH JUNE 1955

Reg. Book. (No. of Visits 11)

71424 on the M. V. "Ayia Markella". Tons { Gross 8451 Net 4957.6

Built at Sunderland By whom built Bartram & Sons Ltd. Yard No. 348 When built 1955

Owners S. M. L. Maritime Co. Ltd. (S.M.L. Co. Ltd.) Port belonging to Athens.

Installation fitted by Bartram & Sons Ltd. Sunderland When fitted 1955

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 Two wire insulated Voltage of Lighting 220

Heating 220 Power 220 D.C. or A.C., Lighting D.C. Power D.C. 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 No 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 - Have certificates of test for machines under 100 kw. been supplied and the results found as per Rule Yes Position of Generators Inboard and Outboard

starboard side on auxiliary flat.

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 Fore and aft on

starboard side facing port side and adjacent to shell 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 Sindanyo, 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 - 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 Air Break Circuit Breaker with Overloads and Time delays on both poles.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit Double Pole Double Throw Quick Break Knife Switch and Double Pole Fuses.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 2

ammeters 2 voltmeters - 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 lamps coupled to 'E' thro switches & fuses Preference Tripping, state if provided - and tested -

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

make of fuses "Artie", are all fuses labelled Yes If circuit breakers are provided for the generators, at what overload do they operate 10% and at what current do the reverse current protective devices operate - 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 < 13.2 volts Are all paper insulated and varnished cambric insulated cables sealed at the ends Yes

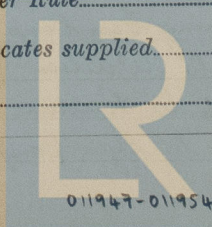
Are all the cable runs in accessible positions not exposed to drip or accumulation of water or oil, high temperatures or risk of mechanical damage Yes, are any cables laid under machines or floorplates Yes, if so, are they adequately protected Yes State type of cables (if in conduit this should also be stated) in machinery spaces L. 6. & B. galleys L. 6.

and laundries L. 6. State how the cables are supported or protected Generator mains clipped to perforated steel tray plate. Cables in Engine Room clipped to perforated steel tray plate. Fore and aft mains thro tween decks clipped to inside of fore and aft stiffeners. L. 6. cables in accommodation clipped to wood grounds.

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

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

Lighting, is fluorescent lighting fitted. Yes If so, state nominal lamp voltage. Yes and compartments where lamps are fitted. Yes

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 Yes, whether fixed or portable. Yes, are they of the carbon arc or of the filament type. Yes

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. 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, make of fuse. Yes 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 Submarine Signals location of transmitter and receiver. Trans. 140/142 Mainboard

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	Campbell & Ishawood. Nos. 50581 & 50582.	50	220	224	600	Steam	Reader.
EMERGENCY ROTARY TRANSFORMER								

#### GENERATOR CABLES.

DESCRIPTION.	No. of	Kw.	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. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	1	50	1	34/083	224	314	54	U.V.	L.B. & B.
" " EQUALISER	1	50	1	34/083	224	314	42	U.V.	L.B. & B.
EMERGENCY GENERATOR									
ROTARY TRANSFORMER: MOTOR									
" " GENERATOR									

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

DESCRIPTION.									
Main switchboard to Workshop. S.B. 'G'	1	4/064	20	46	48	U.V.	L.B. & B.		
Main switchboard to Engine Rm. S.B. 'F'	1	4/064	30	46	258	U.V.	L.B. & B.		
S.B. 'G' to connection for portable.	1	4/036	4	24	60	U.V.	L.B. & B.		
Main switchboard to Engine Room S.B. 'H'	1	4/044	25	31	42	U.V.	L.B. & B.		
Main switchboard to Engine Room S.B. 'J'	1	4/044	13	31	180	U.V.	L.B. & B.		
Main switchboard to Engine Rm S.B. 'D2'	1	4/044	10	31	108	U.V.	L.B. & B.		
Main switchboard to Engine Rm Port S.B. 'D1'	1	4/044	10	31	258	U.V.	L.B. & B.		
Main switchboard to Refug. Control Panel.	1	4/044	16.9	31	282	U.V.	L.B. & B.		
Main switchboard to Engine Room. S.B. 'C'	1	4/064	24.9	46	48	U.V.	L.B. & B.		
S.B. 'C' to Foremast House. S.B. 'C1'	1	4/064	14.4	46	204	U.V.	L.B. & B.		
S.B. 'C' to Mainmast House. S.B. 'C2'	1	4/064	13.5	46	390	U.V.	L.B. & B.		
S.B. 'C2' to Steering Gear Comp. S.B. 'C3'	1	4/064	3.4	46	420	U.V.	L.B. & B.		
Main switchboard to Winches.	1	4/064	20	80	234	U.V.	L.B. & B.		
Main switchboard to Radar.	1	4/064	20	80	228	U.V.	L.B. & B.		
Main switchboard to Gyro Compass.	1	4/064	20	80	240	U.V.	L.B. & B.		

#### 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. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
Main switchboard to Navigation Indicator.	1	4/064	1	46	240	U.V.	L.B. & B.
Alternative supply to Navigation Indicator.	1	3/029	1	5	12	U.V.	L.B.
Main switchboard to Officers Bridge S.B. 'A'	1	19/064	51	143	192	U.V.	L.B. & B.
S.B. 'A' to Wheelhouse S.B. 'A1'	1	4/044	15	31	69	U.V.	L.B.
S.B. 'A' to Captains Bridge S.B. 'A2'	1	4/044	8	31	24	U.V.	L.B.
S.B. 'A' to Officers Bridge S.B. 'A3'	1	4/044	9	31	42	U.V.	L.B.
S.B. 'A' to Officers Bridge S.B. 'A4'	1	4/044	9	31	84	U.V.	L.B.
S.B. 'A' to Mainly Connection	1	4/044	8	31	50	U.V.	L.B.
Main switchboard to Upper Deck. S.B. 'B'	1	19/064	46	143	144	U.V.	L.B. & B.
S.B. 'B' to Upper Deck Passage. S.B. 'B1'	1	4/044	14	31	48	U.V.	L.B.
S.B. 'B' to Upper Deck Passage. S.B. 'B2'	1	4/044	10	31	102	U.V.	L.B.
S.B. 'B3' to Domestic Refrigerator S.B. 'B3'	1	4/029	2	15	40	U.V.	L.B. & B.
S.B. 'B' to Upper Deck. S.B. 'B3'	1	4/044	22	31	180	U.V.	L.B.
S.B. 'B3' to Galley Compressors. (2)	1	4/029	1	15	84/84	U.V.	L.B. & B.
S.B. 'B3' to Drying Room. S.B. 'B3'	1	4/029	5	15	20/20	U.V.	L.B. & B.
S.B. 'B3' to Mainly Port. S.B. 'B3'	1	4/044	8	31	40	U.V.	L.B.
Main switchboard to Engine Room S.B. 'E'	1	19/064	41.6	143	258	U.V.	L.B. & B.

#### ALL IMPORTANT MOTORS TO BE ENUMERATED.

DESCRIPTION.	No.	B.H.P.	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. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
Fresh Water Pump.	1	0.45	1	4/029	3	15	36	U.V.	L.B. & B.
Plano Unit 'P1' Nav. Bridge	1	1.35	1	4/036	6.3	24	216	U.V.	L.B. & B.
Plano Unit 'P2' Boat Deck Port.	1	3.5	1	4/044	14.5	31	105	U.V.	L.B. & B.
Plano Unit 'P3' Boat Deck Starboard.	1	3.5	1	4/044	14.5	31	153	U.V.	L.B. & B.
Exhaust Fan. 'E1' Off Bridge	1	1.35	1	4/036	6.3	24	132	U.V.	L.B. & B.
Engine Room Port Vent Fan.	1	3.5	1	4/044	15	31	36	U.V.	L.B. & B.
Engine Room Starboard Vent Fan.	1	3.5	1	4/044	15	31	144	U.V.	L.B. & B.
Workshop Motor.	1	3	1	4/044	13	31	33	U.V.	L.B. & B.
Lub. & Diesel Oil Purifier No. 1.	1	2.5	1	4/036	11	24	51	U.V.	L.B. & B.
Lub. & Diesel Oil Purifier No. 2.	1	2.5	1	4/036	11	24	54	U.V.	L.B. & B.
Sludge Pump	1	0.5	1	4/029	3	15	50	U.V.	L.B. & B.
No. 1 Purifier No. 1.	1	4.5	1	4/064	32	46	114	U.V.	L.B. & B.
No. 2 Purifier No. 2.	1	4.5	1	4/064	32	46	120	U.V.	L.B. & B.
No. 3 Purifier No. 3.	1	4.5	1	4/064	32	46	114	U.V.	L.B. & B.
No. 4 Purifier No. 4.	1	4.5	1	4/064	32	46	123	U.V.	L.B. & B.
Fresh Water Pumps.	2	1.25	1	4/029	6.5	15	18/24	U.V.	L.B. & B.
Refug. Compressor Motor.	1	3	1	4/036	13	24	36	U.V.	L.B. & B.
S.W. Pump for Refug.	1	0.45	1	3/036	4	10	126	U.V.	L.B. & B.

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.

FOR AND ON BEHALF OF  
BARTRAM and SONS LTD.

*Cecil McPetrich*

Electrical Contractors.

Date

#### COMPASSES.

FOR AND ON BEHALF OF  
BARTRAM and SONS LTD.

Have the compasses been adjusted under working conditions.

*Cecil McPetrich*

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 on this vessel has been installed under special survey and the arrangements are in accordance with or equivalent to those shown on the approved plans and the Rules for Electrical Equipment.*

*The materials used are of good quality and the workmanship is good.*

*On completion the installation was run operating under working conditions, the various protective devices were adjusted and operated; and the insulation resistance of all circuits measured and found good.*

*This installation is in my opinion suitable for a classed vessel.*

Total Capacity of Generators. 100 Kilowatts.

The amount of Fee ...

£ 54 : -

When applied for,

12 JUL 19 1955

When received,

Travelling Expenses (if any) £

19

*R. H. Hill*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute. TUESDAY 30 AUG 1955

Assigned. See Rpt. 4 C.