

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.

16 NOV 1951

Date of writing Report - 19 - When handed in at Local Office 2nd Nov. 51. Port of MIDDLESBROUGH.

No. in Survey held at SOUTHBANK - ON - TEES. Date, First Survey 12-6-51 Last Survey 22.10. 1951.
Reg. Book. (No. of Visits 16)35199 on the M. V. "ATHELFOAM." Tons } Gross 7486
Net 4145

Built at SOUTHBANK - ON - TEES. By whom built SMITHS DOCK CO. LTD. Yard No. 1212 When built 1951.

Owners ATHEL LINE LTD. Port belonging to LIVERPOOL.

Installation fitted by CAMPBELL & ISHERWOOD CO. LTD. When fitted 1951.

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 TWO WIRE Voltage of Lighting 110

Heating 110 Power 110 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.

if not compound wound state distance between generators. - and from switchboard. - Are the generators arranged to run

in parallel. YES. are shunt field regulators provided. YES. Is the compound winding connected to the negative or positive pole

NEGATIVE. Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing. - Have certificates of

test for machines under 100 kw. been supplied. YES. and the results found as per Rule. YES.

Position of Generators ON STARTING PLATFORM, STARBOARD SIDE, FOREWARD IN ENGINE ROOM.

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 SWITCHBOARD FLAT,

ABOVE GENERATORS, ARRANGED THWARTSHIPS FACING AFT.

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 EBONY FINISH. 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. TRIPLE POLE AIR BREAK CIRCUIT BREAKER WITH

OVERLOADS AND TIME LAGS ON TWO POLES, REVERSE CURRENT TRIP, AND THIRD POLE

COUPLED TO EQUALISER.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit. DOUBLE POLE SINGLE 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. 5

ammeters. 3 voltmeters. - synchronising devices. For compound machines in parallel are the ammeters and reversed current

protection devices connected on the pole opposite to the equaliser connection. YES. Earth Testing, state means provided.

EARTH LAMPS COUPLED TO 'EARTH' THROUGH SWITCHES AND FUSES.

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

make of fuses. SIEMENS 'Z'. 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 reversed current protective devices operate. 15%.

Joint Boxes, Section Boards and Distribution Boards, is the construction as per Rule. YES.

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. < 6.6 VOLTS. are the ends of all cables having a sectional

area of 0.01 square inch and above provided with soldering sockets. YES. 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. Are cables in machinery spaces, galleys, laundries, etc., lead covered. YES. or run in conduit. -

or of the "HR" type. - State how the cables are supported or protected. ENGINE ROOM WIRING ON SOLID AND

PERFORATED STEEL TRAY PLATE. FOREWARD MAINS CLIPPED TO SOLID STEEL TRAY PLATE WITH

STEEL COVER PLATES ALONG BOTH SIDES OF GANGWAY. CENTRECASTLE BRIDGE SPACE WIRING

ON PERFORATED STEEL TRAY PLATE. L.C. CABLE CLEATED TO WOOD GROUNDS IN ACCOMMODATION.

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.

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 and fitted as per Rule... **YES**... are they adequately ventilated... **YES**... state battery capacity in ampere hours...

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof... **YES**... Are any fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present... **YES**... if so, how are they protected... **'WIGAM', 'VICTOR PRODUCTS', 'C&Z', 'VERITY'S MAXLUM', 'FLAMEPROOF FITTINGS'**...

and where are the controlling switches fitted... **OFFICERS QUARTERS MIDSHIPS**... Are all fittings suitably ventilated... **YES**... Searchlight Lamps, No. of... **2**... whether fixed or portable... **2**... are they of the carbon arc or of the filament type... **2**...

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... **2**... 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... **2**... Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing... **2**... Have certificates of test for motors under 100 BHP intended for essential sea services been supplied and the results found as per Rule... **YES**...

Control Gear and Resistances, are they constructed and fitted as per Rule... **YES**... Lightning Conductors, where required are they fitted as per Rule... **2**... Ships carrying Oil having a Flash Point 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 'Z'**... Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships... **YES**... Are the cables lead covered as per Rule... **YES**...

E.S.D., if fitted state maker... **MARCONI 'SEAGRAPH'**... location of transmitter... **FRAMES 41/42**... and receiver... **FRAMES 41/42**... 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.	MAKER.
			Kilowatts per Generator.	Volts.	Ampères.	Revs. per Min.			
MAIN ...	2	SUNDERLAND FORGE.	50	110	454	500	STEAM.	P. BROTHERHOOD.	
	1	SUNDERLAND FORGE	50	110	454	500	DIESEL.		
EMERGENCY ... ROTARY TRANSFORMER									

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	Sectional Area of No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR ...	50	2	37/083	454	628	24	V.C.	L.C. + B.
" " EQUALISER ...	50	1	37/083	227	314	12	V.C.	L.C. + B.
	50	2	37/083	454	628	32	V.C.	L.C. + B.
	50	1	37/083	227	314	16	V.C.	L.C. + B.
	50	2	37/083	454	628	52	V.C.	L.C. + B.
	50	1	37/083	227	314	26	V.C.	L.C. + B.
EMERGENCY GENERATOR ...								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR...								

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

DESCRIPTION.	No. in Parallel per Pole.	Sectional Area of No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
MAIN SWITCHBOARD TO STEERING C.O. SWITCH.	2	19/083	120	202	420/360	V.C.	L.C.A. + B.
MAIN SWITCHBOARD TO MIDSHIPS SUB-SWITCHBOARD.	1	37/103	348	408	570	V.C.	L.C.A. + B.
MAIN SWITCHBOARD TO 2 ND DECK AFT. S.B. 'S9'	1	19/083	151	202	192	V.C.	L.C.A. + B.
MAIN SWITCHBOARD TO UPPER DECK AFT. S.B. 'S3'	1	19/083	165	202	186	V.C.	L.C.A. + B.
MAIN SWITCHBOARD TO POOP DECK. S.B. 'S8'	1	19/083	142	202	186	V.C.	L.C.A. + B.
MAIN SWITCHBOARD TO ENG. ROOM. S.B. 'S7'	1	19/044	69	92	60	V.C.	L.C.A. + B.
MAIN SWITCHBOARD TO ENG. ROOM. S.B. 'S5'	1	19/064	91	143	60	V.C.	L.C.A. + B.
MAIN SWITCHBOARD TO ENG. ROOM. S.B. 'S4'	1	19/044	62	92	60	V.C.	L.C.A. + B.
MAIN SWITCHBOARD TO WORKSHOP. S.B. 'S6'	1	19/064	93	143	60	V.C.	L.C.A. + B.
MAIN SWITCHBOARD TO UPPER DECK. S.B. 'S2'	1	19/083	58	202	186	V.C.	L.C.A. + B.
MAIN SWITCHBOARD TO COMPRESSOR. S.B. 'S10'	1	19/064	56	143	324	V.C.	L.C.A. + B.
MAIN SWITCHBOARD TO NAVIGATION C.O. SWITCH	1	7/044	2	45	710	V.C.	L.C.A. + B.

LIGHTING, HEATING, WIRELESS, NAVIGATION LIGHTS, ETC., CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
	No. in Parallel per Pole.	Sectional Area of No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN SWITCHBOARD TO RADAR.	1	7/064	20	80	690	V.C.	L.C.A. + B.
MAIN SWITCHBOARD TO GYRO COMPASS.	1	7/064	20	80	570	V.C.	L.C.A. + B.
MAIN SWITCHBOARD TO WIRELESS.	1	7/064	15	80	690	V.C.	L.C.A. + B.
MAIN SWITCHBOARD TO SUET CANAL PROJECTOR.	1	7/064	28	80	1190	V.C.	L.C.A. + B.
MIDSHIPS PANEL S1 TO WHEELHOUSE DB 'S1-1'	1	7/036	15	24	140	V.I.R.	L.C.
MIDSHIPS PANEL S1 TO WHEELHOUSE DB 'S1-2'	1	7/036	13	24	120	V.I.R.	L.C.
MIDSHIPS PANEL S1 TO NAV. BRIDGE DB 'S1-3'	1	7/036	16	24	120	V.I.R.	L.C.
MIDSHIPS PANEL S1 TO BRIDGE DK PT. DB 'S1-4'	1	7/044	25	31	80	V.I.R.	L.C.
MIDSHIPS PANEL S1 TO BRIDGE DK STBD. DB 'S1-5'	1	7/036	18	24	40	V.I.R.	L.C.
MIDSHIPS PANEL S1 TO BRIDGE DK STBD. DB 'S1-6'	1	7/044	21	31	40	V.I.R.	L.C.
MIDSHIPS PANEL S1 TO FORECASTLE DB 'S1-7'	1	7/036	10	24	350	V.I.R.	L.C.
NAVIGATION C.O. SWITCH TO NAVIGATION IND. R.	1	7/044	2	31	15	V.I.R.	L.C.
MIDSHIPS PANEL S1 TO AIR CONDITIONING PANEL.	1	7/036	14	24	70	V.I.R.	L.C.
MIDSHIPS PANEL S1 TO KETTLE CON. CHARTROOM.	1	7/029	9	15	120	V.I.R.	L.C.
MIDSHIPS PANEL S1 TO CAPTAINS COLD CUPBOARD	1	7/036	5	24	30	V.I.R.	L.C.
ALTERNATIVE SUPPLY TO NAVIGATION C.O. SW.	1	7/044	2	31	140	V.I.R.	L.C.
MIDSHIPS PANEL S1 TO AIR HEATER DB 'S1-8'	1	7/064	32	80	12	V.C.	L.C.
S.B. 'S2' TO PANTRY SOCKET.	1	7/036	15	24	206	V.I.R.	L.C.
S.B. 'S3' TO UPPER DK PORT. DB 'S3-1'	1	7/036	13	24	100	V.I.R.	L.C.
S.B. 'S3' TO UPPER DK STBD. DB 'S3-2'	1	7/044	23	31	30	V.I.R.	L.C.
S.B. 'S3' TO POOP DK PORT AFT. DB 'S3-3'	1	7/044	17	31	130	V.I.R.	L.C.
S.B. 'S3' TO POOP DK PORT FWD DB 'S3-4'	1	7/044	22	31	130	V.I.R.	L.C.
S.B. 'S3' TO POOP DK STBD. DB 'S3-5'	1	7/044	22	31	70	V.I.R.	L.C.
S.B. 'S3' TO POOP DK PORT AFT. DB 'S3-6'	1	7/036	9	24	130	V.I.R.	L.C.
S.B. 'S3' TO GALLEY. 'S3-7'	1	7/044	22	31	272	V.I.R.	L.C.
S.B. 'S7' TO ENG. RM. PORT. DB 'S7-1'	1	7/044	15	31	200	V.I.R.	L.C.A. + B.
S.B. 'S7' TO ENG. RM. STBD. DB 'S7-2'	1	7/044	20	31	120	V.I.R.	L.C.A. + B.
S.B. 'S7' TO ENG. RM. PORT. DB 'S7-3'	1	7/044	18	31	240	V.I.R.	L.C.A. + B.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	No. in Parallel per Pole.	Sectional Area of No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
BILGE & SANITARY PUMP.	1	18	1	19/083	140	202	198	V.C.	L.C.A. + B.
TURNING GEAR MOTOR.	1	7.5	1	19/052	65	110	252	V.C.	L.C.A. + B.
FRESH WATER PUMP.	1	8.5	1	19/082	70	110	216	V.C.	L.C.A. + B.
CRANE MOTOR.	1	3	1	7/044	26	45	180	V.C.	L.C.A. + B.
FRIDGE COMPRESSOR.	1	5	1	7/064	42.5	80	30	V.C.	L.C. + B.
FRIDGE PUMP.	1	1.5	1	7/036	14	24	240	V.I.R.	L.C.A. + B.
STEERING GEAR MOTORS	2	15	1	19/083	120	202	42/42	V.C.	L.C.A. + B.
BOAT WINCHES, MIDSHIPS.	2	7.5	1	7/064	65	80	90/60	V.C.	L.C.
SUPPLY FAN MIDSHIPS UPPER DK.	1	0.75	1	7/029	15	15	120	V.I.R.	L.C.A. + B.
AIR HEAT MOTORS, UPPER EDGES	2	3.0	1	7/044	25.4	45	60/60	V.C.	L.C.
AIR HEAT MOTORS, UPPER DK AFT	2	3.0	1	7/064	25.4	80	104/104	V.C.	L.C.
VENT FAN.	1	0.5	1	7/029	4.5	15	200	V.I.R.	L.C.
FRESH WATER PUMP.	1	4.0	1	7/044	9.3	31	120	V.I.R.	L.C.A. + B.
ENGINE ROOM VENT FANS.	2	1.6	1	7/044	13.1	31	130/100	V.I.R.	L.C.A. + B.
FUEL VALVE COOLING PUMP.	1	2.0	1	7/044	18.5	45	174	V.C.	L.C.A. + B.
BOILER EXHAUST FAN.	1	3.25	1	7/064	26.9	80	250	V.C.	L.C.A. + B.
FUEL PRIMING PUMP.	1	1.5	1	7/044	13.5	31	140	V.I.R.	L.C.A. + B.
DIESEL GEN. FUEL PUMP.	1	0.45	1	7/036	4.5	24	90	V.I.R.	L.C.A. + B.
FRESH WATER PUMP.	1	5.0	1	7/064	43	80	246	V.C.	L.C.A. + B.
FUEL COOLING VALVE PUMP	1	1.5	1	7/044	13.5	31	176	V.I.R.	L.C.A. + B.
DIESEL GEN. CIRC. PUMP.	1	4.0	1	7/064	34	80	110	V.C.	L.C.A. + B.
DRILLING MACHINE	1	2.0	1	7/052	18.5	37	80	V.I.R.	L.C.A. + B.
LATHE	1	2.0	1	7/044	18.5	31	48	V.I.R.	L.C.A. + B.
GRINDER.	1	3.0	1	7/044	25	31	100	V.I.R.	L.C.A. + B.
SHAPER	1	2.0	1	7/044	18.5	31	36	V.I.R.	L.C.A. + B.
BOAT HOISTS AFT.	2	5.0	1	7/064	43.3	80	220/40	V.C.	L.C.
OIL PURIFIERS.	2	2.0	1	7/044	18.5	45	45/45	V.C.	L.C.A. + B.
OIL HEATER PUMP.	1	2.0	1	7/044	18.5	45	45	V.C.	L.C.A. + B.
OIL PURIFIERS (FUEL)	2	3.75	1	7/064	32.6	80	48/50	V.C.	L.C.A. + B.
OIL PURIFIER (LUB.)	1	3.5	1	7/064	30.5	80	46	V.C.	L.C.A. + B.
EXTRACTION FAN (SEPAR. RM.)	1	0.6	1	3/086	3.5	10	42	V.I.R.	L.C.A. + B.
S.B. '7' TO ENG. RM. STBD. DB 'S7-4'	1	7/044	16	31	110	V.I.R.	L.C.A. + B.		
S.B. 'S7' TO KETTLE CONN. SWITCHBOARD FLAT	1	7/029	9	15	20	V.I.R.	L.C.A. + B.		
S.B. 'S8' TO BAKERS OVEN.	1	7/064	63	80	196	V.C.	L.C.		

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.

GAMBELL & FISHERWOOD LTD

Electrical Contractors.

Date 15/10/51

COMPASSES.

Have the compasses been adjusted under working conditions

YES.

SMITH'S DOCK CO. LTD.
B. E. Hunter

Builder's Signature.

Date 29-10-51.

SHIPYARD-MANAGER.

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.

AS FITTED PLAN FORWARDED.

Certificates. Are certificates of test for motors engaged on essential sea services and generators forwarded herewith

YES.

General Remarks. (State quality of workmanship, whether insulation tests, etc., have been made, 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 OPERATED 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 INTENDED FOR THE CARRIAGE OF MOLASSES AND PETROLEUM IN BULK.

SPECIAL NOTATION :- D.F., E.S.D., Gyro C and Radar.

Noted Dec 4.12.51

Total Capacity of Generators 150 Kilowatts.

The amount of Fee ...

£ 64 : 10

When applied for,

15. 11. 19 51.

When received,

19

Travelling Expenses (if any) £

Surveyor to Lloyd's Register of Shipping

[Signature]

Committee's Minute

TUES. 11 DEC 1951

Assigned

See F.E. mchly apt

