

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

5-DEC 1952

Date of writing Report NOVEMBER 24th 1952 When handed in at Local Office -1. DEC. 1952 19 Port of NEWCASTLE-ON-TYNENo. in Survey held at HEBBURN-ON-TYNE Date, First Survey FEBRUARY 19th 1952 Last Survey NOVEMBER 17th 1952
Reg. Book. (No. of Visits 20)90257 on the S.S. "CALTEX LIVERPOOL" Tons { Gross 11814
Net 6886Built at HEBBURN-ON-TYNE By whom built R.W. HAWTHORN LESLIE & CO. LTD. Yard No. 706 When built 1952Owners OVERSEAS TANKSHIP (UK) LTD Port belonging to LONDON (BRITISH)Installation fitted by R.W. HAWTHORN LESLIE & CO. LTD. When fitted 1952Is vessel equipped for carrying Petroleum in bulk YES Is vessel equipped with D.F. YES E.S.D. YES Gy.C. YES RADAR YES (macon)Plans, have they been submitted and approved YES System of Distribution TWO WIRE Voltage of Lighting 110Heating 110 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 fittedwith a trip switch YES Generators, are they compound wound YES, and level compounded under working conditions YESif not compound wound state distance between generators — and from switchboard — Are the generators arranged to runin parallel YES, are shunt field regulators provided YES Is the compound winding connected to the negative or positive poleNEGATIVE Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing. REMARKS Have certificates oftest for machines under 100 kw. been supplied YES and the results found as per Rule YESPosition of Generators IN ENGINE ROOMis the ventilation in way of generators satisfactory YES are they clear of inflammable material and protected from mechanical injury anddamage from water, steam and oil YES Switchboards, where are main switchboards placed NEAR 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 SINDANYO, if of synthetic insulatingmaterial is it an Approved Type YES, if of semi-insulating material (slate or marble) are all conducting parts insulated therefrom asper Rule — Is the construction as per Rule, including locking of screws and nuts YES Description of Main Switchgearfor each generator and arrangement of equaliser switches MAIN GENERATORS: TP. CIRCUIT BREAKERS WITH 20/L'S, N.Y. & R.C.TRIPS. LIGHTING GENERATORS: D.P. CIRCUIT BREAKERS WITH 20/L'S & N.Y. TRIPS.and the switch and fuse gear (or circuit breakers) for each outgoing circuit 220V. CIRCUITS: D.P. CIRCUIT BREAKERS WITH 20/L'S& N.Y. TRIPS OR D.P. SWITCHES AND FUSES. 110V. CIRCUITS: D.P. CHANGE OVER SWITCHES & FUSES.Are compartments containing switchboards composed of fire-resisting material or lined as per Rule YES Instruments on main switchboard 5ammeters 6 voltmeters — synchronising devices. For compound machines in parallel are the ammeters and reversed currentprotection devices connected on the pole opposite to the equaliser connection YES Earth Testing, state means provided —EARTH LAMPSSwitches, Circuit Breakers and Fuses, are they as per Rule YES, are the fuses an Approved Type YESmake of fuses ARTIC are all fuses labelled YES If circuit breakers are provided for the generators, at whatoverload do they operate TESTED AT 100% F.L. SET AT 150% F.L. and at what current do the reversed current protective devices operate 15% F.L.Joint Boxes, Section Boards and Distribution Boards, is the construction as per Rule YESCables, 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 LESS THAN 6% are the ends of all cables having a sectionalarea of 0.01 square inch and above provided with soldering sockets YES Are all paper insulated and varnished cambric insulatedcables 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 theyadequately 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 Clipped to steel trap, woodwork or metalwork and protected by pipesor plating as necessary.Are all lead sheaths, armouring and conduits effectually bonded and earthed YES Are all cables passing through decks and watertightbulkheads provided with deck tubes or watertight glands YES, where unarmoured cables pass through beams, etc., are the holeseffectively bushed YES Refrigerated chambers, are the cables and fittings as per Rule —Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule YES Emergency Supply, state positionIN ENGINE ROOM.

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Foundation

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. 90 AMPERE HOURS

Fittings, are all fittings on weather decks, instokeholds 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. Flameproof fittings fixed in accordance with approved plans.

and where are the controlling switches fitted. Upper deck alleyway port aft. Are all fittings suitably ventilated. YES

Searchlight Lamps, No. of. ONE, 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. 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. —

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. — 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. ARTIC 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 location of transmitter. Frs. 48-49 Port and receiver. Frs. 48-49 Starb

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.	
			Kilowatts per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN	2	CROCKER WHEELER	367	220	1667	1200	STEAM TURBINE	WORTHINGTON PUMP & MCH. CO. CORP.
		NEW JERSEY. U.S.A.						WELLSVILLE N.Y. U.S.A.
	1	B.T.H. CO. LTD.	75	220	341	500	DIESEL ENGINE	MIRLEES & CO. LTD.
EMERGENCY ROTARY TRANSFORMER	2	W.H. ALLEN & CO. LTD.	50	110	455	1250	MOTOR	W.H. ALLEN & CO. LTD.

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 or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	367	2	127.103	1667	1974	110	VC	LC & B
" " EQUALISER		2	127.103	—	1974	110	VC	LC & B
" " "	75	1	37.093	341	363	164	VC	LC & B
" " "		1	37.072	—	260	164	VC	LC & B
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR	75.5 HP	1	37.083	290	314	150	VC	LC & B
" " GENERATOR	50	1	61.093	455	492	120	VC	LC & B

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

DESCRIPTION.								
PNEUPRESS MOTORS	S.B.19.	1	19.052	64.2	110	240	VC	LCA & B.
ENGINEERS WORKSHOP	S.B.18. FROM 220v	1	7.064	15.8	80	330	"	"
ENGINE ROOM MOTORS	S.B.20 MAIN	1	19.064	58.7	143	180	"	"
BOILER ROOM MOTORS	S.B.21. SWITCH	1	19.093	121.1	202	120	"	"
ENGINE ROOM MOTORS	S.B.22. BOARD	1	19.083	113.5	202	120	"	"
Dom. FRIDGE MOTORS	DB/F.B.	1	19.064	36.4	143	360	"	"
POOP DECK LTG.	S.B.31.	1	19.083	136.9	202	150	"	"
UPPER DECK LTG.	S.B.32. FROM	1	19.093	109.6	202	120	"	"
E.R. & B.R. LTG.	S.B.33. 110v.	1	19.052	45.4	110	135	"	"
E.R. & B.R. LTG.	S.B.34. MAIN	1	19.052	52.6	110	90	"	"
EMERGENCY LTG.	S.B.35. SWITCH	1	7.064	4.5	90	90	"	"
Accom. VENTILATION	S.B.36. BOARD	1	19.083	107.2	202	300	"	"
MIDSHIP SW. BOARD SUPPLY No. 1		1	37.103	312.3	408	595	"	"
MIDSHIP SW. BOARD SUPPLY No. 2.		1	37.103	312.3	408	595	"	"
UPPER BRIDGE LTG.	D.B.46 FROM	1	7.064	37.3	80	60	"	LC
FORECASTLE LTG	D.B.47. MIDSHIPS	1	7.064	17	80	30	"	"
BRIDGE DECK LTG. (PORT.)	D.B.48 SWITCHBOARD.	1	7.064	37.2	80	120	"	"
BRIDGE DECK LTG (STARB)	D.B.49.	1	7.064	23.1	80	30	"	"

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

DESCRIPTION.	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
			In the Circuit.	Rule.	In the Circuit.	Rule.			
BAKER'S OVEN.		From 220v M.S.W.B.	1	7.064	36.3	80	390	VC	LCA & B
POOP DK. LTG. STARB	For	D.B.31A " 110v S.B.31.	1	7.052	23.8	37	60	VRI	LC
" " " " AFT.	D.B.31B " "	1	7.052	28.6	37	150	"	"	"
" " " " PORT.	For	D.B.31C " "	1	7.052	29.3	37	60	"	"
" " " " AFT.	D.B.31D " "	1	7.052	33	37	150	"	"	"
" " " " " "	D.B.31E " "	1	7.052	23.2	37	60	"	"	"
UPPER DK. LTG. STARB	For	D.B.32A " 110v S.B.32.	1	7.052	23.2	37	90	"	"
" " " " AFT.	D.B.32B " "	1	7.052	27.4	37	210	"	"	"
" " " " PORT.	For	D.B.32C " "	1	7.052	28	37	30	"	"
" " " " AFT.	D.B.32D " "	1	7.052	30	37	150	"	"	"
E.R. LTG. STARB	D.B.33A " 110v S.B.33	1	7.044	12.7	31	60	"	"	LCA & B
" " " " " "	D.B.33B " "	1	7.044	20.7	31	120	"	"	"
" " " " " "	D.B.33C " "	1	7.044	12	31	195	"	"	"
E.R. LTG. PORT.	D.B.34A " 110v S.B.34	1	7.044	14	31	60	"	"	"
" " " " " "	D.B.34B " "	1	7.044	21.6	31	165	"	"	"
" " " " " "	D.B.34C " "	1	7.044	7	31	120	"	"	"
EMERGENCY LTG CUBICLE	E.L. " 110v S.B.35	1	7.029	4.5	15	30	"	"	"
GYRO COMPASS AFT. POWER UNIT	" 220 M.S.W.B.	1	7.064	10	80	480	VC	"	"
SUEZ CANAL PROTECTOR	" "	1	19.064	27	143	555	VC	"	"
GYRO COMPASS SUPPLY	" "	1	7.044	10	31	120	VRI	LC	"
ECHO SOUNDING SUPPLY	" 110v D.B.45	1	3.029	1	5	50	VRI	"	"
WHEELHOUSE NAVIGATION BOARD	D.B.45 " MID. SW. B.	1	7.064	39.9	80	150	VC	"	"
NAVIGATION IND. BOARD	" 110v D.B.45	1	3.036	1.8	10	20	VRI	"	"
FORECASTLE LTG	D.B.47A " 110v D.B.47.	1	7.036	6	24	480	VRI	LCA & B	"
WIRELESS	" 110v M.S.W.B.	1	19.052	15	110	84	VC	LC	"
RAIAR	" "	1	19.052	30	110	80	"	"	"
DG. SUPPLY	" 220v M.S.W.B.	1	19.052	67	110	80	"	"	"
SHORE SUPPLY CONN.	" "	2	37.012	500	520	96	"	LC & B	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.		No.	B.H.P.						
PNEUPRESS PUMPS	FROM S.B.19	3	4.5	1	7.044	18.5	31	60	VRI
" " "	"	1	2	1	7.029	8.7	15	60	"
GRINDER	FROM S.B.18	1	0.5	1	7.029	2.9	15	45	"
DRILLING M/C	"	1	0.75	1	7.029	3.8	15	36	"
LATHE	"	1	2	1	7.029	9.1	15	45	"
LUB. OIL PUMP	FROM 220v M.S.W.B.	2	13	1	19.052	51.5	110	240	VC
AUX. COND. PUMP	"	1	17	1	19.052	66.3	110	180	"
GEN. SERVICE COMPRESSOR	"	1	25	1	19.083	97	202	360	"
CARGO COND. EXT. PUMP	"	2	20	1	19.052	79	110	165	"
CARGO COND. CIRC. PUMP	"	1	30	1	19.064	114	143	150	"
MAIN COND. WATER EXT. PUMP	"	2	30	1	19.064	117	143	120	"
F.D. FANS	"	2	37	1	37.072	146	260	300	LC & B
BUTT. & G. S. PUMP	"	1	86	1	37.093	327	363	225	"
MAIN CIRC. PUMP	"	1	90	1	37.093	339	363	180	"
STEERING GEAR MOTORS	"	2	20	1	19.064	81	143	480	LCA & B
S.W. EVAP. BEINE PUMP	FROM SB20	1	1.5	1	7.029	6.7	15	72	VRI
S.W. EVAP. F.W. PUMP	"	1	4.25	1	7.036	18.3	24	60	"
F.W. EVAP. SLUDGE PUMP	"	1	2.75	1	7.036	12.1	24	96	"
F.W. EVAP. FEED. PUMP	"	1	1.75	1	7.029	7.9	15	72	"
LUB. OIL SEPARATOR	"	1	3	1	7.036	12.7	24	132	"
B.R. SUPPLY FANS	FROM S.B.21	2	3.5	1	7.052	15	37	360	"
F.D. PRESSURE PUMPS	"	2	8	1	7.064	33	80	120	V.C.
Comb. Control Air Comp	"	1	6	1	7.052	25.1	37	198	VRI
DRAIN TANK PUMP	FROM S.B.22.	1	6.5	1	7.064	26.5	80	150	VC
E.R. SUPPLY FANS	"	2	8	1	7.064	31.5	80	288	VC
TURNING MOTOR	"	1	6	1	7.064	24	80	180	VC
S.W. CIRC. PUMP	DOMESTIC	1	1.5	1	7.036	6.7	24	210	VRI
COMPRESSOR	FRIDGE MCH.	2	7	1	7.064	28.6	80	40	VC
VEG. ROOM CIRC. FAN.	FED FROM	1	0.33	1	3.029	1.3	5	100	VRI
MEAT ROOM AIRCIRC. FAN.	F.B.	1	0.125	1	3.029	0.8	5	100	"
Dom. FRIDGE MCH. COMP. EX. FAN. FROM DB32B.	"	1	0.17	1	3.036	1.9	10	105	"
PUMP ROOM EX. FAN. (AFT.)	" SB34	1	1	1	7.029	10	15	90	"
AFT. ACCOM. VENT. FANS	" SB36	2	4	1	7.064	34.6	80	60	VC
AFT. ACCOM. VENT. FANS	" SB36	2	2	1	7.036	19	24	60	VRI
MIDSHIPS ACCOM. VENT. FAN	FROM MID. SW.B.	1	4	1	7.064	34.5	80	105	VC
SOUNDING M/C	"	1	1.5	1	7.036	15	24	120	VRI
OIL FUEL HEATER	FROM M. SW.B.	1	18 KW	1	19.052	82	110	180	VC

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 R. & W. HAWTHORN, LESLIE & CO, LIMITED,

Electrical Contractors.

Date 27/1/52

COMPASSES.

Have the compasses been adjusted under working conditions.

FOR R. & W. HAWTHORN, LESLIE & CO, LIMITED

Builder's Signature.

Date 27/1/52

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. No. Retained for 707/13. If not, state date of approval. 31-7-51, 11-10-51, 1-1-52

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 of the vessel has been fitted on board under special survey and seen under working conditions. A type test consisting of a 6 hour full load heat run has been carried out on the 400Kws American built generators, temperature rises measured and found to be in accordance with rule requirements. Generators, circuit breakers and insulation tests carried out and all found to be satisfactory.

The materials and workmanship are good.

The equipment as installed is suitable in my opinion for a class ship.

Total Capacity of Generators 809 Kilowatts.

The amount of Fee ... £142 : 9

When applied for,
4 DEC 1952

When received,

Travelling Expenses (if any) £

Surveyor to Lloyd's Register of Shipping.

FRI, 9 JAN 1953

Committee's Minute

Assigned

S. F. E. mch. rpt.