

Rpt. 13.

No. 35918

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 5.II.52 19... When handed in at Local Office NOV 11 1952 Received at London Office 21 NOV 1952

No. in Reg. Book. 90017 Survey held at Sunderland Date, First Survey 18.7.52 Last Survey 3.II.52 Port of Sunderland (No. of Visits 18)

on the m.v. "CALDEX CALCUTTA" Tons 851 Gross 4808 Net

Built at Sunderland By whom built Wm. Doxford & Sons Ltd Yard No. 789 When built 1952

Owners Overseas Tankship (U.K) Ltd. Port belonging to London

Installation fitted by Campbell & Isherwood Ltd When fitted 1952

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

Plans, have they been submitted and approved yes System of Distribution 2-wire insd. Voltage of Lighting 110

Heating - 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

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 Nos. 1 & 2, Engine Room

floor level, Port sidx.

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 engine room on raised flat, athwartships, fwd of main engine.

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 "Interohm" 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 a triple-pole (one pole for equaliser) air-break circuit-breaker fitted with O/L and R/V current tripping devices.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit for large power: a D.P. air-break circuit breaker with O/L trips on each pole; other circuits:- a D.P. knife switch and fuses.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule yes Instruments on main switchboard 3 ammeters 3 voltmeters 3 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 E lamps Preference Tripping, state if provided no, and tested -

Switches, Circuit Breakers and Fuses, are they as per Rule yes, are the fuses an Approved Type yes make of fuses 'Artic', 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 within 15% 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 within 6 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 - State type of cables (if in conduit this should also be stated) in machinery spaces L.C.A.B., galleys L.C.A.B. and laundries - State how the cables are supported or protected main feeders and cables along fore and aft gangways, V.C.L.C.A.B. cables clipped to solid metal troughing on underside of gangway. Accommodation:- L.C. cables clipped to the surface and protected where necessary by wood or metal guards.

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 - Have refrigeration fan motors been constructed under survey - Are the motors accessible for maintenance at all times -

Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule... **Yes**... Emergency Supply, state position

"Neverfail" emergency lighting system on failure of ships supply or E.R. fuses.

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

Lighting, is fluorescent lighting fitted... **no**... If so, state nominal lamp voltage... and compartments where lamps are fitted... **no**

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 **1** of **18"** 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... are the frames effectually earthed... 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... **no**

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... **no**

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... **'Artic'**... 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 **Marconi**... location of transmitter and receiver... **fr. nos. 45/46 P.&S.**

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 & Isherwood Ltd	150	110	1362	500	Diesel	Mirrlees Bickerton & Day
		Nos. 47813/4						Nos. 34677/8
EMERGENCY ROTARY TRANSFORMER	1	Campbell & Isherwood Ltd	50	110	455	750	Diesel	McLaren & Co. Ltd
		No. 47306						No. 50352

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	No. 1.	150	4	37/.093	1362	1452	90	V.C.	L.C.A.B.
"	EQUALISER		2	"		726	90	"	"
"	No. 2.	150	4	"	1362	1452	75	"	"
"	eq.		2	"		726	75	"	"
Aux.	No. 3.	50	1	61/.093	455	492	72	"	"
"	eq.		1	37/.083		314	72	"	"

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

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.	
Engine Room Vents SB, B & E.I.	1	19/.052	102	110	70	V.C.	L.C.A.B.
" " Machy Spaces Ltgs	1	19/.044	40	92	40	"	"
Shore Connection	2	37/.072	-	520	80	"	"
Engine Room Sub Board No. 1	1	37/.083	213	314	80	"	"
" " " " " 2	1	37/.083	258	314	98	"	"
Galley Section K.	1	19/.052	86	110	220	"	"
Midship Sub Board No. 1.	1	37/.103	306	408	524	"	"
" " " " " 2	1	37/.083	48	314	526	"	"
Section Panel G, Pantry Bridge Dk.	1	7/.064	66	80	100	"	"
" " B, Bridge Dk.	1	7/.064	50	80	60	"	"
" " A, " "	1	7/.052	50	60	45	"	"
" " H, Fridge Space	1	19/.052	65	110	90	"	"
" " C, Upper Deck	1	19/.052	95	110	60	"	"
" " J, Laundry	1	19/.044	60	92	160	"	"
D.G. Supply	1	19/.064	91.5	143	30	"	"

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

DESCRIPTION.	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
			In the Circuit.	Rule.			
Navigation - main supply	1	7/.036	2	28	140	V.C.	L.C.A.B.
" - alt supplt	1	7/.036	-	28	16	"	"
Radar Supply	1	7/.064	25	80	175	"	"
W/T. Supply	1	7/.064	21	80	190	"	"
Gyro Supply	1	7/.036	10	28	190	"	"
Forecastle DB	1	7/.052	15	60	400	"	L.C.A.B.
Mast Floods B-I, off B.	1	7/.036	10	28	140	"	L.C.A.B.
Wheelhouse DB, A-I, off A	1	7/.036	12	28	140	"	"
Upper Bridge Ltg. DB, A-2, off A	1	7/.036	14	28	60	"	"
Bridge Ltg. DB, A-3, off A	1	7/.036	12	28	80	"	"
" " " A-4 "	1	7/.036	12	28	45	"	"
Upper Bridge DB, C-I, port, off C	1	7/.036	18	28	16	"	"
" " " C-2, Star, "	1	7/.036	20	28	8	"	"
" " " C-3, aft, "	1	7/.036	13	28	16	"	"
" " " C-4, Poop Star. "	1	7/.036	18	28	18	"	"
" " " C-5, " Port "	1	7/.036	12	28	16	"	"
" " " C-6, Aft "	1	7/.036	14	28	19	"	"
Eng. Rm. Ltg. D-I, off main board	1	7/.044	20	42	80	"	L.C.A.B.
" " " D-2, off D	1	7/.044	20	42	160	"	"
" " " D-3, " "	1	7/.044	20	42	70	"	"
Suez Canal Proj. (wiring only)	1	19/.044	-	92	450	"	"
Bridge Searchlight	1	7/.036	15	28	180	"	L.C.A.B.
Midships Foaster	1	7/.044	27	42	20	"	"
Aft ditto	1	7/.044	27	42	16	"	"
Laundry Boilers (2)	1	7/.036	15	28	40.60	"	"
Pump Rm. Ltg. F	1	7/.036	11	28	45	"	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	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.			
Steering Motors	2	15	1	19/.064	117	143	230	V.C.	L.C.A.B.
Valve Cooling Pumps	2	2	1	7/.036	18	28	2/62	"	"
F.W. Circulating Pumps	1	1/2	1	7/.036	6	28	34	"	"
Oil Separators	6	3	1	7/.044	26	42	av. 20	"	"
Priming Pump	1	1.5	1	7/.036	15	28	60	"	"
F.W. Pumps	2	2 1/2	1	7/.036	22	28	2/70	"	"
Transfer Pump	1	4 1/2	1	7/.052	50	60	90	"	"
Sanitary & Fridge Pump	1	6	1	7/.052	50	60	60	"	"
Crane Motor	1	3	1	7/.036	26	28	50	"	"
Lathe Motor	1	2	1	7/.036	16	28	32	"	"
Drill Motor	1	1 1/2	1	7/.036	15	28	46	"	"
Grinder Motor	1	2	1	7/.036	16	28	32	"	"
S.W. Pumps	1	4	1	7/.052	35	60	70	"	"
Bilge Pumps	2	18	1	19/.083	145	202	2/190	"	"
General Service Pump	1	30	1	37/.072	227	260	150	"	"
Forced Lub. Pumps	2	16	1	19/.064	124	143	2/130	"	"
S.W. Circulating Pumps	2	40	1	37/.083	300	314	2/110	"	"
Jacket Water Pumps	2	40	1	37/.083	300	314	2/60	"	"
Turning Gear Motor	1	20	1	19/.083	155	202	222	"	"
Air Compressors	2	67	1	37/.072	505	520	2/88	"	"
Engine Room Vent Fans	2	1 1/2	1	7/.036	15	28	2/70	"	"
Aft Thermotanks	2	3	1	7/.044	26	42	2/24	"	L.C.A.B.
Midship ditto	1	4 1/2	1	7/.044	28	42	104	"	"
Mid Pantry Supply Fan	1	1/2	1	7/.029	6	15	100	V.I.R.	"
Fridge Compressor	1	6	1	7/.052	50	60	85	V.C.	L.C.A.B.
" Water Pump	1	1 1/2	1	7/.036	14	28	130	"	"
Washing M/c.	2	1	1	7/.029	10	15	2/26	V.I.R.	L.C.A.B.
Aft Exhaust Fan	1	1.2	1	7/.029	13	15	52	"	"
Aft Supply Fan	1	1/2	1	7/.029	3	15	64	"	"
Galley Blower	1	.6	1	7/.029	5	15	30	"	"

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.

CAMPBELL & ISHERWOOD, LTD.

Electrical Contractors.

Date 4/11/52

COMPASSES.

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

For and on behalf of WILLIAM DOXFORD & SONS, LIMITED.

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... yes If so, state name of vessel m.v. "Ealtex Tanganyika"

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 the approved plans and the special requirements of Section 15 of the "Rules For Electrical Equipment".

The materials and workmanship are goods On completion, satisfactory trials of the equipment were witnessed and the insulation resistance of all circuits was measured and found good. This equipment is in my opinion suitable for a vessel bearing the

Society's class for "Carrying Petroleum In Bulk".

Table with multiple columns containing technical specifications and descriptions of equipment, including items like 'Generator', 'Motor', 'Pump', and 'Compressor'.

Total Capacity of Generators (2 x 150, 1 x 50) 350 Kilowatts.

The amount of Fee £94.10.0 275. 12. 0. When applied for, NOV 20 1952

Travelling Expenses (if any) £ 18. 18. 0. When received, 19

Surveyor to Lloyd's Register of Shipping.

TUES. 9 DEC 1952

Committee's Minute Assigned See F.E. mch. rpt.

25.11.52

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