

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

17 NOV 1948

Received at London Office.....

Date of writing Report... 22-10-48 When handed in at Local Office... 19... Port of... LIVERPOOL.

No. in Survey held at... BIRKENHEAD Date, First Survey... Last Survey... 10-10-1948
Reg. Book. (Number of Visits.....)59465 on the... S.S. "FORT STEVENS" Tons { Gross... 10639
Net... 6274

Built at... MOBILE, ALA. By whom built... ALABAMA D.D. S.B. Co. Yard No. - When built... 1944

Owners... BRITISH TANKER CO. LD Port belonging to... LONDON.

Electrical Installation fitted by... PRESUMED BY BUILDERS Contract No. - When fitted... 1944

Is vessel fitted for carrying Petroleum in bulk... YES Is vessel equipped with D.F. YES E.S.D. YES Gy.C. YES Sub. Sig. NO

Have plans been submitted and approved... Typical T2 Tanker plans System of Distribution... Voltage of supply for Lighting... 120 A.C.

Heating... 220 A.C. Power... Direct or Alternating Current, Lighting... AC Power... DC If Alternating Current state periodicity... 60 Hz Prime Movers,

has the governing been tested and found as per Rule when full load is suddenly thrown on and off... YES Are turbine emergency governors fitted with a

trip switch as per Rule... YES Generators, are they compound wound... below, are they level compounded under working conditions... -

if not compound wound state distance between generators... - and from switchboard... - Where more than one generator is fitted are they

arranged to run in parallel... NO, 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... NO Have certificates of

test for machines under 100 kw. been supplied... NO and the results found as per rule... - Are the lubricating arrangements and the construction

of the generators as per rule... YES Position of Generators... In main engine room, starting platform.

is the ventilation in way of generators satisfactory... YES are they clear of inflammable material... YES, if situated

near unprotected combustible material state distance from same horizontally... - and vertically... - are the generators protected from mechanical

injury and damage from water, steam and oil... YES are the bedplates and frames earthed... YES and the prime movers and generators in metallic

contact... YES Switchboards, where are main switchboards placed... In main engine room, starting platform.

are they in accessible positions, free from inflammable gases and acid fumes... YES are they protected from mechanical injury and damage from water, steam

and oil... YES, if situated near unprotected combustible material state distance from same horizontally... - and vertically... - what insulation

material is used for the panels... Dead-front board, Insulating material of synthetic insulating material is it an Approved Type... - if of

semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule... - Is the frame effectually earthed... YES

Is the construction as per Rule... YES, including accessibility of parts... YES, absence of fuses on the back of the board... YES, individual fuses

to pilot and earth lamps, voltmeters, etc... YES locking of screws and nuts... YES, labelling of apparatus and fuses... YES, fuses on the "dead"

side of switches... YES Description of Main Switchgear for each generator and arrangement of equaliser switches... Triple pole circuit

breakers for A.C. Generators. D.P. circuit breakers for D.C. Generators.

and for each outgoing circuit... Triple pole or double pole circuit breakers.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule... YES Instruments on main switchboard... 14.

ammeters... 5 voltmeters... 1 synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the

equaliser connection... - Earth Testing, state means provided... Earth indicating lamp on A.C. D.C. systems.

Switches, Circuit Breakers and Fuses, are they as per Rule... YES, are the fuses an approved type... YES, are all fuses labelled as

per Rule... YES If circuit breakers are provided for the generators, at what overload current did they open when tested... 100% are the reversed current

protection devices connected on the pole opposite to the equaliser connection... - have they been tested under working conditions, and at what current

did they operate... - Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule... All American

Cables, are they insulated and protected as per the appropriate Tables of the Rules... 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... - are the ends of all cables having a sectional area of 0.04

square inch and above provided with soldering sockets... Clamps Are paper insulated and varnished cambric insulated cables sealed at the ends.

Generators set consist of 400 K.V.A. alternators. 75 Kw. Steam driven turbines and 55 Kw. D.C. Generators (Comp. Wound). The whole mounted on common baseplate and driven by steam turbines.

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof. Yes. Are 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. In twin deck space midships - Flameproof fittings.

and where are the controlling switches fitted. In accommodation details of space., are all fittings suitably ventilated. Yes, are all fittings and accessories constructed and installed as per Rule. Yes. Searchlight Lamps, No. of 2, whether fixed or portable. Portable, are their fittings as per Rule. 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. —. Motors, are all motors constructed and installed as per Rule. Yes and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil. Yes, if situated near unprotected combustible material state minimum distance from same horizontally — and vertically —. Are motors coupled to oil fuel transfer and unit 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 services been supplied and the results found as per Rule. No. 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 the cartridge type. American type, are they of an approved type. —. 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. Spare Gear, if the vessel is for open sea service have spares been provided as per Rule. Yes, are they suitably stored in dry situations. Yes. Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory. Yes.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN ...	2	400 (500 KVA)	450	642	1200	Steam Turbines		
	2	75	110	682				
	2	55	120	454				
EMERGENCY ...	1	75 (93.8 KVA)	450	120.5	900	Oil Engine	Diesel Oil	above 150°F
ROTARY TRANSFORMER								

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (feet - wire rated as 100 ft.).	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel For Field.	Sectional Area or No. and Dia. of Strands.	In the Circuit.	IN THE CIRCUIT.			
MAIN GENERATOR ... A.C. ...	400	1	1,000,000	642	725	60	V.C	L.C.A.
" " X-REPAIRS EXCITER ...	75	1	1,000,000	682	725	60	"	"
" " D.C. ...	55	1	750,000	458	592	60	"	"
EMERGENCY GENERATOR ... A.C. ...	75	1	106,000	120	150	30	"	"
ROTARY TRANSFORMER: MOTOR ...								
GENERATOR ...								

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (load mm ^{feet}).	INSULATED WIRE.	HOW PROTECTED.
	No. In Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
AUX. SWITCHBOARDS AND SECTION BOARDS ...	1	10400	9.3	25	120	I.C.	L. C. A.
Machine Shop Power Panel 440V	1	66400		83	45	"	"
Galley Power 440V main to 15KVA. Transformer	1	500,000	185	234	150	"	"
" (220V main from Transformer.)	1	659,000		392	45	"	"
Slow Connection.	1	66400		93	180	"	"
Main from 440V Bus. Bus to 15KVA Lighting Transformer.	1	450,000		308	15	"	"
" " by Transformer 5 Cn. Switchboard.	1	16500		34	80	"	"
Helicopter A.C. 6m Bus to heli. Deck Board.							

		LIGHTING AND HEATING, ETC.		V.C.		L.C. A	
WIRELESS	...	1	33100	15	55	300	"
NAVIGATION LIGHTS	...	1	10400	15	25	250	"
LIGHTING AND HEATING	...						
Headlight - Forecastle Lighting		1	66400	30	83	400	"
Top & Boat Deck Deck Lighting		1	33100	20	55	70	"
Upper Deck	"	1	66400	25	83	100	"
Engine Room	"	1	66400	15	83	40	"
Boiler Room	"	1	26300	12	47	70	"
Cable Reels		1	6520	34	18	75	"
Main Motor		1	6530	13	18	24	"
Gensets		1	6530	13	18	30	"
Battery Charge Gensets Room		1	4000	5	15	60	"
General for Lighting for 1st N.C. On Bus.		1	4100	4	15	120	"
Engine Room Em. Lig for 15V. DC Bus		1	10400	15	25	100	"

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	Cm.						
Engine Room Vent Fans	4	2	1	6530	3.19	18	60	V.C.	L.C.A.
Oil Compressor.	1	5	1	6530	7.3	18	30	"	"
Electric Tensioning Gear	1	3	1	6530	4.5	18	20	"	"
Engine Room Bilge Pumps	2	10	1	10.400	13.7	25	110	"	"
Main Condensate Circ.	1	125	1	300.000	105	234	60	"	"
Main Shaft Tensioning Gear	1	5	1	6530	8.6	18	100	"	"
Main Propulsion Motor Fan	1	15	1	16500	21	34	75	"	"
Lub. Oil Service Pump.	2	5	1	6530	7.1	18	60	"	"
" Separator	2	2	1	6530	3.19	18	120	"	"
Fire & Boiler Wash Pumps	2	50	1	66400	63	83	60	"	"
Steering Gear Motor	2	30	1	33100	39	55	165	"	"
Main Condensate Pumps	2	25	1	26300	32	47	50	"	"
Over Circulating "	1	30	1	33100	39	55	90	"	"
Coolers "	1	10	1	10400	13.7	25	60	"	"
Fuel Oil "	1	7.5	1	6530	10.5	18	45	"	"
Forced Draft Fans	3	50/20	1	66400	63/29	83	80	"	"
Evaporator Feed Pumps	2	1	1	6530	1.5	18	90	"	"
Acc. Vent Fans	2	2	1	6530	3.1	18	50	"	"
Refining Compressor	1	7.5	1	6530	10	18	125	"	"
" Circ. Pump	1	1	1	6530	1.55	18	150	"	"
Sanitary Pump	1	7.5	1	6530	10.3	18	125	"	"
Drinking Water Pumps	2	1	1	6530	1.5	18	90	"	"
Cargo Pumps	3	200	1	450.000	243	308	60	"	"
Shipping "	2	50	1	66100	63	83	45	"	"
Fuel Oil Transfer "	2	20	1	16500	25	34	50	"	"
Lub. Oil Service "	1	10.5	1	6530	10.3	18	150	"	"
High Water Pumps	2	2	1	6530	3	18	90	"	"

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.

Electrical Engineers.

Date

COMPASSES.

Minimum distance between electric generators or motors and standard compass

40 ft

Minimum distance between electric generators or motors and steering compass

40 ft

The nearest cables to the compasses are as follows:—

A cable carrying 1.5 Ampères 10 feet from standard compass 7 feet from steering compass.

A cable carrying 0.2 Ampères 10 feet from standard compass 10 feet from steering compass.

A cable carrying Ampères feet from standard compass feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power

Yes

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted

Yes

The maximum deviation due to electric currents was found to be

degrees on

course in the case of the

standard compass, and

degrees on

course in the case of the steering compass.

Builder's Signature.

Date

Is this installation a duplicate of a previous case.

If so, state name of vessel

El. Morris, 'Tromocyclis' etc

Plans. Are approved plans forwarded herewith

If not, state date of approval

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

General Remarks (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.)

The electrical equipment of this vessel appears to be installed in accordance with American practice and with the typical approved plans of T2 Tankers. The details of this report were obtained from these plans and from personal observation. It was noted that lighting sub-circuits are controlled by single pole switches, and portable connections, switches and non-flameproof lighting fittings were installed in the main deck space. The wiring in this space has now been altered to D.P. control with switches outside of space & all portable connections and switches removed. The generator, motor, control gear, transformers, switches, cables etc. have been examined, tested, necessary repairs effected, insulation test carried out and found satisfactory.

The installation appears in good and efficient condition & should not be accepted for classification.

Total Capacity of Generators 985 Kilowatts

(2 at 400 kws, 2 at 55 & 1 at 75 kws)
(The 2.75 kws Exciter are not included in total)

The amount of Fee

£ 30 : 0

When applied for,
10 NOV 1948

Travelling Expenses (if any)

£ . : .

When received,
10

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

LIVERPOOL

16 NOV 1948

Assigned

See Minute on Machinery Report.

5m.430.—Transfer. (MADE AND PRINTED IN ENGLAND.)
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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