

— G.E.C. TYPE T.2. TANKER —

No. 105225

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

30 APR 1948

Date of writing Report. 12th APRIL 1948 When handed in at Local Office. 14 APR 1948 Port of NEWCASTLE-ON-TYNE

No. in Survey held at NORTH SHIELDS Date, First Survey 10th FEBRUARY 1948 Last Survey 12th APRIL 1948
Reg. Book. 36863 on the S.S. 'THELICONUS' Tons { Gross 10638
Net 6307

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

Owners ANGLO SAXON PETROLEUM Co. Port belonging to LONDON

Electrical Installation fitted by ALABAMA D.D. & S.B. Co. 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. —

Have plans been submitted and approved. — System of Distribution THREE WIRE - INSULATED Voltage of supply for Lighting 115

Heating — Power 450 Direct or Alternating Current, Lighting A.C. Power A.C. If Alternating Current state periodicity 60 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 —, 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 YES, are shunt field regulators provided YES Is the compound winding connected to the negative or positive pole — 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 ENGINE ROOM

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 NEAR GENERATORS - ON FORWARD END OF MAIN CONTROL 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, if 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 EXCEPT FOR INSTRUMENT FUSES, 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 THREE POLE CIRCUIT BREAKER WITH OVERLOAD RELEASES WITH TIME LAGS ON EACH LEG AND REVERSE CURRENT RELAYS

and for each outgoing circuit THREE POLE CIRCUIT BREAKER WITH 3 OVERLOADS

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule YES Instruments on main switchboard 15

Also 3 WATTMETERS AND 2 FREQUENCY METERS. ammeters 7 voltmeters ONE 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 LAMPS

Switches, Circuit Breakers and Fuses, are they as per Rule YES, are the fuses an approved type AMERICAN PATTERN, 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 FULL LOAD, 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 YES/10% FL Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule YES

Cables, are they insulated and protected as per the appropriate Tables of the Rules YES/AMERICAN PATTERN, if otherwise than as per Rule are they of an approved type —, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets ALL MECHANICAL CHAMPS Are paper insulated and varnished cambric insulated cables sealed at the ends YES

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with insulating compound — or waterproof insulating tape 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 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 —. State how the cables are supported and protected ALL CABLES - LEAD COVERED AND ARMOURD RUN ON "U" BRACKETS.

Are all lead sheaths, armouring and conduits effectually bonded and earthed YES. Refrigerated chambers, are the cables and fittings as per Rule —. 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 NO UNARMOURD CABLES ON SHIP. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule YES. Emergency Supply, state position IN DECK HOUSE ON PORT SIDE OF POOP and method of control BATTERY AUTOMATIC START.

Navigation Lamps, are they separately wired YES controlled by separate double pole switches YES 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. Secondary Batteries, are they constructed and fitted as per Rule YES, are they adequately ventilated YES what is the battery capacity in ampere hours 108.

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

FLAMEPROOF FITTINGS - "WIGAN" PATTERN

and where are the controlling switches fitted IN ACCOMMODATION MIDSHIPS IN ALLEYWAY, are all fittings suitably ventilated YES, are all fittings and accessories constructed and installed as per Rule YES. Searchlight Lamps, No. of ONE, 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 YES. 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 YES.

Are the fittings for pump rooms, engine 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.

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	400	450 Volts	642	1200	TURBINE		
PROPELSION EXCITERS	1	75	3φ-600	120.5	726	DIESEL ENGINE	OIL	ABOVE 150° F.
	2	75	110	682	1200	TURBINE		
SHIPS AUX EXCITERS	2	55	110	458	1200	TURBINE		

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH IN FEET.	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel Per Pole.	Sectional Area of Stranded Cable Sq. In. or Sq. mm.				
MAIN GENERATOR	400	1	0.7854	642	705	30	V.C. L+A.
EQUALISER							
EMERGENCY ALTERNATOR.	75	1	0.0829	120.5	158	30	V.C. L+A.
PROPELSION EXCITER.	75	1	0.7854	682	705	35	V.C. L+A.
AUX. ALT. EXCITER.	55	1	0.5890	458	582	40	V.C. L+A.
EMERGENCY GENERATOR							
ROTARY TRANSFORMER MOTOR							
"							
"							
GENERATOR							

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	No. in Parallel Per Pole.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (feet) (Lead from main bus-bar).	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel Per Pole.	Sectional Area of Stranded Cable Sq. In. or Sq. mm.				
AUX. SWITCHBOARDS AND SECTION BOARDS	1	1	0.0082	9.0	25.5	100	V.C. L+A. 3 CORE
WORKSHOP POWER SECT. BOARD	1	1	0.0521	34.0	82	150	V.C. L+A. 3 CORE
GALLEY POWER PANEL 3-15KVA TRANSFORMER	1	1	0.0051	4.5	18.5	220	V.C. L+A. 3 CORE
MIDSHIP 440 VOLT PANEL	1	1	0.0521	34	82	20	V.C. L+A. 3 CORE
LIGHTING TRANSFORMERS 3-15KVA	1	1	0.0051	11	18.5	150	V.C. L+A. 3 CORE
DOMESTIC REFRIG. PANEL							
EMERGENCY SWITCHBOARD TIE	1	1	0.0829	100	113	70	V.C. L+A. 3 CORE
SHORE CONNECTION BOX	1	1	0.51	—	466	150	V.C. L+A. 3 CORE

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	1	0.0261	43.5	72	250	V.C. L+A. 2 CORE
NAVIGATION LIGHTS	1	1	0.0082	2	34	250	V.C. L+A. 2 CORE
LIGHTING AND HEATING							
MIDSHIP FORECASTLE Ltg.	1	1	0.0829	50	113	230	V.C. L+A. 3 CORE
POOP & BOAT DECK LIGHTING	1	1	0.0261	13	54.5	60	V.C. L+A. 3 CORE
UPPER DECK ACCOMM. LIGHTING	1	1	0.0521	13	82	50	V.C. L+A. 3 CORE
ENGINE ROOM LIGHTING	1	1	0.0521	25	82	20	V.C. L+A. 3 CORE
BOILER ROOM LIGHTING	1	1	0.0206	15	46.5	60	V.C. L+A. 3 CORE
BATTERY CHARGING	1	1	0.003	10	13	40	V.C. L+A. 3 CORE

MOTOR CABLES.

MAIN SHAFT TURNING GEAR	1	5	1	0.0051	6.9	18.5	110	V.C. L+A. 3 CORE
COMBUSTION CONTROL COMPRESSOR	1	15	1	0.013	19	34.5	15	V.C. L+A. 3 CORE
CARGO PUMPS	3	200	1	0.3535	249	308	30	V.C. L+A. 3 CORE
CARGO STRIPPING PUMPS	2	50	1	0.0521	63	82	30	V.C. L+A. 3 CORE
PUMP ROOM EXHAUST FAN MOTOR	1	1.5	1	0.0051	2.2	18.5	36	V.C. L+A. 3 CORE
WIRELESS M/G. 450VOLTS/115VOLTS DC.	1	7.5	1	0.0051	10	18.5	16	V.C. L+A. 3 CORE

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
MAIN CIRCULATING PUMP	1	125	1	0.2356	156	234	90	V.C. L+A. 3 CORE
FIRE & BUTTERWORTH PUMPS	2	50	1	0.0521	63	82	130	V.C. L+A. 3 CORE
STEERING GEAR MOTORS	2	30	1	0.0261	38	54.5	150	V.C. L+A. 3 CORE
LATHE MOTOR	1	2	1	0.0051	3.1	18.5	10	V.C. L+A. 3 CORE
DRILLING M.C. MOTOR	1	1	1	0.0051	1.7	18.5	20	V.C. L+A. 3 CORE
GRINDER MOTOR	1	3	1	0.0051	4.4	18.5	20	V.C. L+A. 3 CORE
MAIN CONDENSATE PUMP MOTORS	2	25	1	0.0206	32	46.5	60	V.C. L+A. 3 CORE
AUX CIRCULATING PUMP MOTOR	1	30	1	0.0261	38	54.5	80	V.C. L+A. 3 CORE
AUX CONDENSATE PUMP MOTOR	1	15	1	0.013	19	34.5	70	V.C. L+A. 3 CORE
COOLER CIRCULATING FAN MOTOR	1	10	1	0.0082	13	25.5	65	V.C. L+A. 3 CORE
FUEL OIL SERVICE PUMP MOTORS	2	7.2	1	0.0051	10	18.5	50	V.C. L+A. 3 CORE
LUB. OIL SERVICE PUMP MOTORS	2	5	1	0.0051	6.9	18.5	60	V.C. L+A. 3 CORE
LUB. OIL SEPARATOR MOTOR	1	2	1	0.0051	3.1	18.5	90	V.C. L+A. 3 CORE
FORCED DRAUGHT FAN MOTORS	3	50	1	0.0521	63	82	170	V.C. L+A. 3 CORE
EVAPORATOR FEED PUMP MOTOR	1	1	1	0.0051	1.7	18.5	90	V.C. L+A. 3 CORE
AFT. ACCOMM. VENT. FANS	2	1.5	1	0.0051	2.4	18.5	150	V.C. L+A. 3 CORE
FRESH WATER PUMP MOTORS	2	2	1	0.0051	3.1	18.5	110	V.C. L+A. 3 CORE
ENGINE ROOM VENT. FANS	4	2	1	0.0051	3.1	18.5	150	V.C. L+A. 3 CORE
DOMESTIC REFRIG. MOTOR	1	7.5	1	0.0051	10	18.5	150	V.C. L+A. 3 CORE
REFRIG CONDENSATE PUMP	1	0.5	1	0.0051	0.9	18.5	150	V.C. L+A. 3 CORE
ATMOSPHERIC DRAIN & RECEIVER PUMP	1	2	1	0.0051	3.1	18.5	90	V.C. L+A. 3 CORE
SHIPS SERVICE AIR COMPRESSOR MOTOR	1	5	1	0.0051	6.9	18.5	15	V.C. L+A. 3 CORE
SALT WATER SERVICE PUMP MOTOR	1	7.5	1	0.0051	10	18.5	135	V.C. L+A. 3 CORE
SANITARY PUMP MOTOR	1	7.5	1	0.0051	10	18.5	130	V.C. L+A. 3 CORE
ENGINE ROOM BILGE PUMP MOTORS	2	10	1	0.0082	13	25.5	130	V.C. L+A. 3 CORE
DRINKING WATER PUMP MOTOR AFT.	1	1	1	0.0051	1.7	18.5	50	V.C. L+A. 3 CORE
DRINKING WATER PUMP MOTOR MIDSHIPS	1	1	1	0.0051	1.7	18.5	65	V.C. L+A. 3 CORE
MAIN MOTOR COOLING FAN	1	15	1	0.013	19	34.5	20	V.C. L+A. 3 CORE
TURBINE TURNING GEAR MOTOR	1	3	1	0.0051	4.4	18.5		

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

Minimum distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

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

A cable carrying Ampères feet from standard compass 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

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

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. Yes If so, state name of vessel SS "TECTUS"

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 INSTALLATION TO THE

STANDARDS OF THE AMERICAN BUREAU OF SHIPPING HAS BEEN IN OPERATION FOR APPROXIMATELY 4 YEARS. ALTERNATORS AND EXCITERS OPENED UP FOR EXAMINATION. BRUSHGEAR CLEANED AND OVERHAULED. MAIN SWITCHBOARD CLEANED AND OVERHAULED AND ALL CONNECTORS EXAMINED FOR TIGHTNESS. ALL ENGINE ROOM MOTORS EXAMINED. EMERGENCY ALTERNATOR SWITCHBOARD CLEANED AND OVERHAULED. THE LIGHTING FITTINGS IN THE TWEEN DECK SPACE IN THE CENTRE CASTLE HAS BEEN REPLACED WITH FLAMEPROOF FITTINGS. ALL LIGHTING AND POWER CIRCUITS EXAMINED AND TESTED. ALL FOUND TO BE SATISFACTORY.

THE MATERIALS USED AND THE WORKMANSHIP ARE SATISFACTORY.

IN MY OPINION, THE ELECTRICAL EQUIPMENT OF THIS SHIP, IS IN A SATISFACTORY CONDITION, AND ELIGIBLE TO RECEIVE THE SOCIETY'S CLASSIFICATION OF L.M.C. 4. 48.

Noted
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Total Capacity of Generators. 875 Kilowatts.

The amount of Fee ... £ : : When applied for, ... 19. ...
SUNDAY ATTENDANCE FEE £5:5:0. : : When received, ... 19. ...
Travelling Expenses (if any) £ : : ...

Surveyor to Lloyd's Register of Shipping.

Committee's Minute 28 MAY 1948

Assigned Su F.E. mch. rpt.