

T.2. TANKER - WESTINGHOUSE TYPE.

Rpt. 13.

No. 105723

# REPORT ON ELECTRICAL EQUIPMENT.

3 DEC 1948

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 19... When handed in at Local Office 11 NOV 1948 Port of NEWCASTLE-ON-TYNE.

No. in Survey held at WALLSEND. Date, First Survey 28/9/48 Last Survey 8/11/48 19  
Reg. Book. (No. of Visits 11)

58442 on the T.E.S. "ESSO PURFLEET." Tons { Gross 10712 Net 6301

Built at CHESTER, P.A. By whom built SUN S.B. + D.D. Co. Yard No. - When built 1944.

Owners ANGLO AMERICAN OIL CO. LTD. Port belonging to LONDON.

Installation fitted by SUN S.B. + D.D. Co. When fitted 1944.

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. -

Plans, have they been submitted and approved No System of Distribution 3 WIRE A.C. Voltage of Lighting 115

COOKING Heating 115 Power 450 D.C. or A.C., Lighting A.C. Power A.C. If A.C. state frequency 60

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 YES Generators, are they compound wound - and level compounded under working conditions -

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 -

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 -

Position of Generators 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

NEAR ALTERNATORS - ON FORWARD END OF MAIN CONTROL PLATFORM.

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 DEAD FRONT BOARD, if of synthetic insulating material is it an Approved Type -

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 THREE POLE CIRCUIT BREAKER WITH OVERLOAD RELEASE WITH TIME LAGS UNDERVOLTAGE AND REVERSE CURRENT RELAYS.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit TRIPLE POLE CIRCUIT BREAKER WITH THREE OVERLOADS

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

3 WATTMETERS AND 2 FREQ. METERS ammeters 7 voltmeters ONE synchronising devices. For compound machines in parallel are the ammeters and reversed current protection devices 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, make of fuses - are all fuses labelled YES. If circuit breakers are provided for the generators, at what overload do they operate FULL LOAD, and at what current do the reversed current protective devices operate 10% FL.

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 AMERICAN STANDARDS, 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 0.01 square inch and above provided with soldering sockets NO - ALL MECHANICAL CONNECTORS

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 ALL CABLES - LEAD COVERED AND ARMOURED RUN ON "U" BRACKETS

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 NO UNARMOURED CABLES ON SHIP 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 position UPPER PLATFORM IN ENGINE ROOM

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 58.

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 "WIGAN" FLAMEPROOF FITTINGS and where are the controlling switches fitted OFFICERS ACCOMMODATION ALLEYWAY MIDSHIP. Are all fittings suitably ventilated Yes.

Searchlight Lamps, No. of ONE, whether fixed or portable PORTABLE, are they of the carbon arc or of the filament type FLUORESCENT.

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 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 No.

Control Gear and Resistances, are they constructed and fitted as per Rule Yes. Lighting 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 an Approved Cartridge Type Yes, make of fuse AMERICAN PATTERN. 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 FATHOMETER location of transmitter FORWARD PUMP ROOM and receiver FORWARD PUMP ROOM.

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.	WESTINGHOUSE.	400	450/3/60.	642	1200	TURBINE	WESTINGHOUSE.	
	1.	ELECT. MACHY. MAN. CO.	75	450/3/60	120.5	420	DIESEL	LOKIMER.	
	2.	WESTINGHOUSE	32.5	125 D.C.	260	1200	TURBINE.	WESTINGHOUSE.	
EMERGENCY	2.	WESTINGHOUSE.	110	125 D.C.	880	1200	TURBINE	WESTINGHOUSE.	
ROTARY TRANSFORMER	1	G.E. CO.	50	450/3/60.	80	2600	TURBINE	G.E. CO.	

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS. CM.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	Sectional Area by No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	A.I.E.E. Code.			
MAIN GENERATOR	400	1	0.7954.	642.	705.	20	V.C.	L.A.
EQUALISER								
PROP. ALTERNATOR EXCITERS. 2 OFF.	32.5	1	0.2148	260	273	35	V.C.	L.A.
SHIPS AUX. AND PROP. MOTOR EXCITERS. 2 OFF.	110	2.	0.5505.	880	1110	40	V.C.	L.A.
EMERGENCY ALTERNATOR.	75	1	0.1045	120.5	133	30	V.C.	L.A.
EMERGENCY ALTERNATOR.	50	1	0.0521	80	83	45	V.C.	L.A.
EMERGENCY GENERATOR								
ROTARY TRANSFORMER MOTOR GENERATOR.								

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

DESCRIPTION.	KILOWATTS.	CONDUCTORS. CM.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	In the Circuit.	A.I.E.E. Code.		
WORKSHOP POWER.		1	0.0082.	9.	25.5	100. V.C. L.A. 3 CORE.
GALLEY POWER TRANSFORMERS.	3-15KVA.	1	0.0521.	34	83	150. V.C. L.A. 3 CORE.
REFIG. POWER PANEL.		1	0.0082.	20	26.5	150. V.C. L.A. 3 CORE.
SHORE CONNECTION.		1	0.51.	-	466	150. V.C. L.A. 3 CORE.
LIGHTING TRANSFORMERS.	3-15KVA.	1	0.0521.	34	83	150. V.C. L.A. 3 CORE.
EMERGENCY SWITCHBOARD TIE.		1	0.1045	120	133	40. V.C. L.A. 3 CORE.

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

DESCRIPTION.	CONDUCTORS. CM.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
	No. in Parallel per Pole.	Sectional Area by No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
NAVIGATION LIGHTS.	1	0.0082	2	34	250	V.C.	L.A. 2 CORE.
AMIDSHIP LIGHTING PANEL.	1	0.0521	50	83	230	V.C.	L.A.
POOP DECK LIGHTING PANEL.	1	0.0261	3	54.5	60	V.C.	L.A.
WATER DECK LIGHTING PANEL.	1	0.0521	3	83	60	V.C.	L.A.
ENGINE ROOM LIGHTING PANEL.	1	0.0521	25	83	20	V.C.	L.A.
BOILER ROOM LIGHTING PANEL.	1	0.0206	5	46.5	60	V.C.	L.A.
WIRELESS.	1	0.0206.	44.	46.5	250	V.C.	L.A.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS. CM.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
			No. in Parallel per Pole.	Sectional Area by No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	A.I.E.E. Code.			
CARGO STAMPING PUMP MOTORS.	2	50	1	0.0521.	63	83	30	V.C.	L.A. 3 CORE.
CARGO PUMP MOTORS.	3	200	1	0.2535.	249	208	30	V.C.	L.A. 3 CORE.
MAIN CIRC. PUMP MOTOR.	1	125	1	0.2356	156	234	90	V.C.	L.A. 3 CORE.
FIRE & BUTTERWORTH PUMP MOTORS.	2	50	1	0.0521	63	83	130	V.C.	L.A. 3 CORE.
STEERING GEAR MOTORS.	2	35	1	0.0206.	44.5	46.5	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.
DRILL 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. CIRC. PUMP MOTOR.	1	20	1	0.0261	38	54.5	80	V.C.	L.A. 3 CORE.
AUX. COND. PUMP MOTOR.	1	15	1	0.013	19	34.5	70	V.C.	L.A. 3 CORE.
FUEL OIL TRANSFER PUMP MOTORS.	2	20	1	0.013	26	34.5	45	V.C.	L.A. 3 CORE.
FUEL OIL SERVICE PUMP MOTORS.	2	7 1/2	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	0.0206	63	113	170	V.C.	L.A. 3 CORE.
EVAPORATOR FEED PUMP MOTORS.	2	1	1	0.0051	1.7	18.5	90	V.C.	L.A. 3 CORE.
ACCOM. VENT FAN MOTORS.	2	2	1	0.0051	3.1	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 FAN MOTORS.	4	2	1	0.0051	3.1	18.5	150	V.C.	L.A. 3 CORE.
REFRIG. COMPRESSOR MOTORS	2	7 1/2	1	0.0051	10	18.5	30	V.C.	L.A. 3 CORE.
REFRIG. COND. CIRC. PUMP MOTOR.	1	1	1	0.0051	1.7	18.5	30	V.C.	L.A. 3 CORE.
ATMOS. DRAIN & RECEIVER PUMP MOTOR.	1	2	1	0.0051	3.1	18.5	90	V.C.	L.A. 3 CORE.
SHIP 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 1/2	1	0.0051.	10	18.5	130	V.C.	L.A. 3 CORE.
SANITARY PUMP MOTOR	1	7 1/2	1	0.0051	10	18.5	130	V.C.	L.A. 3 CORE.
ENGINE ROOM BLUE PUMPS.	2	10	1	0.0082	13	26.5	130	V.C.	L.A. 3 CORE.
DRINKING WATER PUMP MOTORS.	2	1	1	0.0051.	1.7	18.5	130	V.C.	L.A. 3 CORE.
MAIN MOTOR COOLING FAN MOTOR.	2	9.2	1	0.013	13	34.5	65	V.C.	L.A. 3 CORE.
TURBINE TURNING GEAR MOTOR	1	3	1	0.0051	4.4	18.5	20	V.C.	L.A. 3 CORE.
MAIN SHAFT TURNING GEAR MOTOR.	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.
PUMP ROOM EXHAUST FAN MOTOR.	1	1.5	1	0.0051	2.4	18.5	36	V.C.	L.A. 3 CORE.
RADIO M/G. SET. 450/3/60-5KVA. 120VOLTS	1	10	1	0.0082.	13.	25.5	16	V.C.	L.A. 3 CORE.

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 Contractors. Date.....

COMPASSES.

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

..... 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..... No If so, state name of vessel.....

Plans. Are approved plans forwarded herewith..... No If not, state date of approval.....

Certificates. Are certificates of test for motors engaged on essential sea 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 SHIP TO THE STANDARDS OF THE AMERICAN BUREAU OF SHIPPING HAS BEEN IN OPERATION FOR APPROXIMATELY FOUR YEARS. ALTERNATORS AND EXCITERS EXAMINED. SWITCHBOARDS EXAMINED AND ALL MECHANICAL CONNECTORS EXAMINED FOR TIGHTNESS. ENGINE ROOM MOTORS EXAMINED. THE LIGHTING FITTINGS IN THE 'TWEEN DECK SPACE CENTRE CASTLE HAVE BEEN REPLACED WITH FLAMEPROOF FITTINGS (SWITCHES IN ACCOMMODATION ALLEYWAY). THE JUNCTION BOX IN THE 'TWEEN DECK SPACE CENTRE CASTLE HAS BEEN OVERHAULED, THE LID GROUNDED, AND A JOINTING OF ASBESTOS CORD IMPREGNATED WITH RED LEAD FITTED AND IS NOW CONSIDERED EFFICIENT.

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. H8.

Total Capacity of Generators..... 925 Kilowatts.

The amount of Fee ... .. £	:	:	When applied for,
SUNDAY ATTENDANCE FEE. £ 5-5-0.	:	:	<u>not yet</u>
Travelling Expenses (if any) £	:	:	When received, <u>19</u>

.....  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute..... FRI. 4 FEB 1949

Assigned..... See minute on fee  
mach H.

Im. 11.45-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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