

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

27 JUL 1949

Received at London Office

When handed in at Local Office 25 JUN 1949 Port of NEWCASTLE-ON-TYNE

Survey held at WALLSEND-ON-TYNE. Date, First Survey 28/4/49 Last Survey 21/6/49 19 (No. of Visits 12)

on the T.E.V. "ESSO BIRMINGHAM." Tons { Gross 10727. Net 6324.

built at CHESTER, PA. By whom built SUN S.B. & DRY DOCK CO. Yard No. - When built 1943.

owners ANGLo-AMERICAN OIL CO. LTD. Port belonging to LONDON.

Installation fitted by SUN S.B. & DRY DOCK CO. When fitted 1943.

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 THREE WIRE - A.C. Voltage of Lighting 115

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

Time 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 -

not compound wound state distance between generators - and from switchboard - Are the generators arranged to run

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

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 GENERATORS - 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 -; 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

each generator and arrangement of equaliser switches. THREE POLE CIRCUIT BREAKER WITH THREE OVERLOADS WITH TIME LAG UNDERVOLTAGE

AND REVERSE CURRENT TRIPS.

Is the switch and fuse gear (or circuit breakers) for each outgoing circuit. THREE 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

Also 3 WATTMETERS AND 2 FREQ. METERS. meters 7 voltmeters 1 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.

Are fuses, Circuit Breakers and Fuses, are they as per Rule YES, are the fuses an Approved Type. AMERICAN STANDARDS

Are all fuses labelled YES If circuit breakers are provided for the generators, at what

load do they operate. FULL LOAD, and at what current do the reversed current protective devices operate. 10%

Are Boxes, Section Boards and Distribution Boards, is the construction as per Rule YES

Are they insulated and protected as per Rule YES, if otherwise than as per Rule are they of an Approved Type. AMERICAN STANDARDS

Are the 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

ends sealed at the ends YES Are all the cable runs in accessible positions, not exposed to drip or accumulation of water or oil,

at 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 -

of the "HR" type - State how the cables are supported or protected. ALL CABLES - LEAD COVERED AND ARMURED CLIPPED.

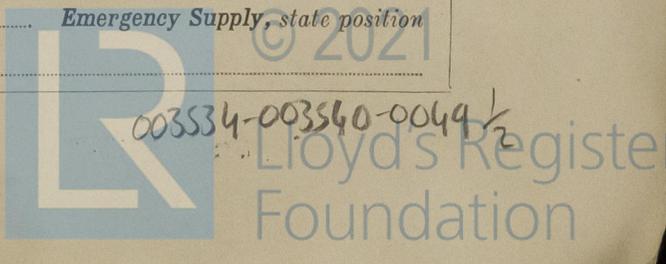
Are all lead sheaths, armouring and conduits effectually bonded and earthed YES Are all cables passing through decks and watertight

heads provided with deck tubes or watertight glands YES, where unarmoured cables pass through beams, etc., are the holes

adequately bushed. NO UNARMURED CABLES ON SHIPS Refrigerated chambers, are the cables and fittings as per Rule -

Are the groups of lights in the engine and boiler rooms arranged as per Rule YES Emergency Supply, state position

IN ENGINE ROOM - AT ENGINE ROOM TOPS.



Navigation Lamps, are they separately wired Yes controlled by separate ^{single} 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, weather proof 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. and where are the controlling switches fitted ACCOMM. MIDSHIPS IN ALLEYWAY. 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 FILAMENT.

Heating and Cooking, is the general construction as per Rule Yes, are the frames effectually earthed Yes, are heaters 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 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 -.

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 complied with Yes, are all fuses of an Approved Cartridge Type Yes, make of fuse AMERICAN STANDARDS. Are the fittings for 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				PRIME MOVER.	
			Kilowatts per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN ...	2.	G.E.C.	400	480-3-60	642	1200	TURBINE.	G.E.C.
Port Use Alternator.	1	G.E.C.	50	480-3-60	80	3600	TURBINE	G.E.C.
EMERGENCY ALTERNATOR.	1	ELECT. MACH. MAN CO.	75	480-3-60	1205	720	DIESEL.	LOANER.
PROPULSION EXCITERS EMERGENCY	2.	G.E.C.	75	110	682	1200	TURBINE	G.E.C.
ROTARY TRANSFORMER SHIPS AUX. EXCITERS.	2.	G.E.C.	55	120	458	1200	TURBINE.	G.E.C.

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus cable).	INSULATION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	Sectional Area of Conductors Sq. ins. or sq. mm.	In the Circuit.	A.I.E.E. Rule.			
MAIN GENERATOR	400	1	0.07854	642	705	30	V.C.	L.A.
EQUALISER								
Port Use Alternator.	50.	1	0.0824.	80	113	45	V.C.	L.A. 3 CORE.
EMERGENCY ALTERNATOR.	75	1	0.0824.	1205	158	30	V.C.	L.A.
PROPULSION GEAR EXCITERS.	75	1	0.4804.	682	705	35	V.C.	L.A.
SHIPS AUXILIARIES EXCITERS.	55	1	0.5890.	458	582.	40	V.C.	L.A.
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR.								

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

DESCRIPTION.	No. in Parallel per Pole.	Sectional Area of Conductors Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus cable).	INSULATION.	PROTECTIVE COVERING.
WORKSHOP POWER SECTION BOARD.	1	0.0082	9.	25.5.	100	V.C. L.A. 3 CORE.
GALLERY POWER TRANSFORMERS.	3-15KVA.	1	0.0821.	34.	83	V.C. L.A. 3 CORE.
LIGHTING TRANSFORMERS	3-15KVA.	1	0.0821.	34	83	V.C. L.A. 3 CORE.
DOMESTIC REFRIG. PANEL.	1.	0.0082.	20	25.5.	150	V.C. L.A. 3 CORE.
EMERGENCY SWITCHBOARD TIE.	1	0.1046.	120	133.	40	V.C. L.A. 3 CORE.
SHORE CONNECTION.	1	0.51	-	466	150	V.C. L.A. 3 CORE.

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

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus cable).	INSULATION.	PROTECTIVE COVERING.
	No. in Parallel per Pole.	Sectional Area of Conductors Sq. ins. or sq. mm.	In the Circuit.	Rule.			
WIRELESS.	1	0.0206.	455	62	250	V.C.	L.A. 2 CORE.
NAVIGATION LIGHTS.	1	0.0082.	2	34	250	V.C.	L.A. 2 CORE.
MIDSHIPS FORECASTLE LIGHTING.	1	0.0821.	50	83	230	V.C.	L.A. 3 CORE.
DECK AND BOAT DECK LIGHTING.	1	0.0261.	3	54.5	60	V.C.	L.A. 3 CORE.
UPPER DECK LIGHTING.	1	0.0821	2	83	50	V.C.	L.A. 3 CORE.
ENGINE ROOM LIGHTING.	1	0.0521	25	83	20	V.C.	L.A. 3 CORE.
BOILER ROOM LIGHTING.	1	0.0206	15	46.5	60	V.C.	L.A. 3 CORE.
BATTERY CHARGING.	1	0.008	10	13	40	V.C.	L.A. 3 CORE.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus cable).	INSULATION.	PROTECTIVE COVERING.
			No. in Parallel per Pole.	Sectional Area of Conductors Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN CIRCULATING PUMP MOTOR.	1	125	1	0.2206.	166	204	90	V.C.	L.A. 3 CORE.
STEER & 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.
WATHE MOTOR.	1	2	1	0.0051.	31	18.5	10	V.C.	L.A. 3 CORE.
PELLING Wg. MOTOR.	1	1	1	0.0051.	17	18.5	20	V.C.	L.A. 3 CORE.
GRINDER MOTOR.	1	3	1	0.0051	44	18.5	30	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.
BOILER CIRC. FAN MAIN MOTOR.	1	10	1	0.0082	13	25.5	65	V.C.	L.A. 3 CORE.
HEAVY OIL TRANSFER PUMP MOTOR.	1	20	1	0.013.	26	24.5	45	V.C.	L.A. 3 CORE.
HEAVY OIL SERVICE PUMP MOTORS	2	7.5	1	0.0051	10	18.5	50	V.C.	L.A. 3 CORE.
HEAVY OIL SERVICE PUMP MOTORS.	2	5	1	0.0051	6.9	18.5	60	V.C.	L.A. 3 CORE.
HEAVY OIL SEPERATOR MOTOR.	1	2	1	0.0051	3.1	18.5	90.	V.C.	L.A. 3 CORE.
FORCED DRAUGHT FAN MOTORS.	3	50	1	0.0824.	63	113.	170	V.C.	L.A. 3 CORE.
VAPORATOR FEED PUMP MOTORS.	2	1	1	0.0051.	17	18.5	90	V.C.	L.A. 3 CORE.
PORT ACCOMM. VENT. FANS.	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 & BOILER ROOM VENT. FAN MOTORS.	4	2	1	0.0051.	3.1	18.5	150	V.C.	L.A. 3 CORE.
DOMESTIC REFRIG. COMPRESSOR MOTORS.	2.	7.5	1	0.0051	10	18.5	30	V.C.	L.A. 3 CORE.
DOMESTIC REFRIG. COND. CIRC. PUMP MOTOR.	1	2	1	0.0051	3.1	18.5	30	V.C.	L.A. 3 CORE.
PHOSPHORIC DEAN & RECEIVER PUMP MOTOR.	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.
FRESH WATER SERVICE PUMP MOTOR.	1	7.5	1	0.0051	10	18.5	135	V.C.	L.A. 3 CORE.
ANTHRAZENE 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.
LINKING WATER PUMP MOTOR APP.	1	1	1	0.0051	17	18.5	130	V.C.	L.A. 3 CORE.
WATER COOLING FAN.	1	15	1	0.013.	19	34.5	65.	V.C.	L.A. 3 CORE.
ENGINE TURNING GEAR MOTOR.	1	3	1	0.0051.	44.	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.
EXHAUSTION CONTROL COMP. MOTOR.	1	15	1	0.013.	19	34.5	15	V.C.	L.A. 3 CORE.
CRACK PUMP MOTORS.	3	200	1	0.2536.	249	308	30	V.C.	L.A. 3 CORE.
CRACK STRIPPING PUMP MOTORS	2	50	1	0.0821	63	83	30	V.C.	L.A. 3 CORE.
ENGINE ROOM EXHAUST FAN MOTOR.	1	1.25	1	0.0051.	2.1	18.5	36	V.C.	L.A. 3 CORE.
WIRELESS M/G. 450V. AC./110V. D.C.	1	7.5.	1	0.0051.	10	18.5	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 YES. If so, state name of vessel "ESSE LONDON"

Plans. Are approved plans forwarded herewith -. 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 INSTALLATION TO THE STANDARDS OF THE AMERICAN BUREAU OF SHIPPING HAS BEEN IN OPERA
 FOR APPROXIMATELY SIX YEARS. ALTERNATORS AND EXCITERS OPENED UP FOR EXAMINATION, BRUSHGEAR CLEANED AND OVERHAULED.
 SWITCHBOARD OVERHAULED AND ALL CONNECTIONS EXAMINED FOR TIGHTNESS. ENGINE ROOM MOTORS EXAMINED INTERNALLY. EMERGENCY
 ALTERNATOR AND SWITCHBOARD OVERHAULED. THE LIGHTING FITTINGS IN THE TWEEN DECK SPACE CENTRE CASTLE HAVE BEEN REPLACED
 FLAMEPROOF FITTINGS (SWITCHING IN ACCOMMODATION ALLEYWAY). THE JUNCTION BOX IN THE TWEEN DECK SPACE CENTRE CASTLE HAS HAD
 LID FLANGE GROUND AND A JOINTING OF ASBESTOS CORD IMPREGNATED WITH RED LEAD FITTED AND IS NOW CONSIDERED EFFICIENT.
 TRANSFORMER FITTED TO E.R. MOTORS PILOT LIGHTS VOLTAGE 115/24 VOLTS. ALL LIGHTING AND POWER CIRCUITS EXAMINED A
 MEGGER TESTED. ALL FOUND SATISFACTORY

THE MATERIALS USED AND THE WORKMANSHIP ARE SATISFACTORY.

IN MY OPINION, THE ELECTRICAL EQUIPMENT OF THIS SHIP, IS IN A SATISFACTORY CONDITION AND ELIGI
 TO RECEIVE THE SOCIETY'S CLASSIFICATION OF L.M.C. 6. HQ.

Noted sent 11/10/49

Total Capacity of Generators 925 Kilowatts.

The amount of Fee ...	£	:	:	When applied for,
LATE ATTENDANCE FEE.	£ 3-3-0.	:	:	<u>not yet</u>
Travelling Expenses (if any) £	:	:	:	When received,
				19

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

Committee's Minute FRI. 14 OCT 1949

Assigned

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.)