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—TYPE T.2. TANKER.—

Rpt. 13.

No. 104937

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report... 26 NOV 1947... When handed in at Local Office... 26 NOV 1947... Port of... NEWCASTLE-ON-TYNE

No. in Survey held at... WALLSEND-ON-TYNE... Date, First Survey... 14TH OCTOBER 1947... Last Survey... 17TH NOVEMBER 1947
Reg. Book. (Number of Visits... EIGHT...)

23579 on the S.S. "ESSO LONDON." Tons { Gross... 10712
Net... 6301

Built at... CHESTER Pa. By whom built... SUN S.B. + DAY DOCK CO. LTD. Yard No... — When built... 1944

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

Electrical Installation fitted by... SUN S.B. + D.D. CO. LTD. 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... YES

Have plans been submitted and approved... No System of Distribution... THREE WIRE A.C. Voltage of supply for Lighting... 115.

COOKING... 115 Heating... 115 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... No, 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 RELEASE WITH TIME LAGS ON EACH LEG AND REVERSE CURRENT RELAYS.

and for each outgoing circuit... 3 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... ONE

ammeters... ONE 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 PATTERNS, 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... 10% F.L. 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, 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 0.04

square inch and above provided with soldering sockets... No ALL Are paper insulated and varnished cambric insulated cables sealed at the ends... YES

MECHANICAL CONNECTORS

SLM
14/1/48

ONE WATTMETER
ONE EXCITER
AMMETER.

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with insulating compound. or waterproof insulating tape. 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. Are cables laid under machines or floorplates. if so, are they adequately protected. Are cables in machinery spaces, galleys, laundries, etc., lead covered. or run in conduit. State how the cables are supported and protected. All Cables - Lead Covered and Armoured Run on "U" Brackets.

Are all lead sheaths, armoring and conduits effectually bonded and earthed. 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. where unarmoured cables pass through beams, etc., are the holes effectively bushed. and with what material. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule. Emergency Supply, state position. Upper Platform in Engine Room. and method of control. BATTERY AUTOMATIC START.

Navigation Lamps, are they separately wired. controlled by separate double pole switches. and fuses. Are the switches and fuses in a position accessible only to the officers on watch. is an automatic indicator fitted. Secondary Batteries, are they constructed and fitted as per Rule. are they adequately ventilated. 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. Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present. if so, how are they protected. Flameproof Fittings - No Pattern.

and where are the controlling switches fitted. In Accommodation Midships in Aftway. are all fittings suitably ventilated. are all fittings and accessories constructed and installed as per Rule. Searchlight Lamps, No. of. ONE, whether fixed or portable. Fixed. are their fittings as per Rule. 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 free from damage from water, steam and oil. 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. 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 services been supplied and the results found as per Rule. Control Gear and Resistances, are they constructed and fitted as per Rule. 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. are all fuses of the cartridge 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. Are the cables lead covered as per Rule. Spare Gear, if the vessel is for open sea service have spares been provided as per Rule. are they suitably stored in dry situations. Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory.

PARTICULARS OF GENERATING PLANT.

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	450 Volts	642	1200	TURBINE.		
Port Use Alternator	1	50	3 PHASE	80	3600	TURBINE.		
EMERG. ALTERNATOR	1	75	60 CYCLES	120.5	720	DIESEL ENGINE	OIL	ABOVE 150° F.
PROPULSION EXCITER	2	75	110	688	1200	TURBINE.		
SHIP AUXILIARY ALT. EXCITER	2	75	120	458	1200	TURBINE.		

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	400	1	0.0054.	642	405	30	V.C.	L.A.
Port Use ALTERNATOR	50	1	0.0021.	80	113	45	V.C.	L.A.
EMERGENCY ALTERNATOR	75	1	0.0029.	120.5	158	30	V.C.	L.A.
PROPULSION GEAR EXCITER	75	1	0.0054.	682	405	35	V.C.	L.A.
SHIP AUX. ALTERNATOR EXCITER	55	1	0.0090.	458	582	40	V.C.	L.A.
EMERGENCY GENERATOR								
ROTARY TRANSFORMER MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.	
	No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.					
AUX. SWITCHBOARDS AND SECTION BOARDS							
WORKSHOP POWER. 250. 300.	1	0.0082	90	25.5	100	V.C.	L.A. 3 CORE
GALLEY POWER TRANSFORMERS 2-15KVA. SINGLE PHASE	1	0.0521	24.0	83	150	"	" " "
LIGHTING TRANSFORMERS 2-15KVA. SINGLE PHASE	1	0.0521	34.0	83	20	"	" " "
DOMESTIC REFRIG. PANELS	1	0.0082	20.0	25.5	150	"	" " "
EMERGENCY SWITCHBOARD TIE.	1	0.1045	120	133	40	"	" " "
SHORE CONNECTION.	1	0.51	-	466	150	"	" " "

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	110 Volts D.C.	1	0.0206	460	62	250	V.C.	L.A.	2 CORE
NAVIGATION LIGHTS		1	0.0082	2.0	34	250	"	"	" "
LIGHTING AND HEATING									3 CORE
MIDSHIP AND FORECASTLE LIGHTING.		1	0.0521	50	83	230	"	"	" "
POOP AND BOAT DECK LIGHTING.		1	0.0261	3	54.5	60	"	"	" "
UPPER DECK LIGHTING.		1	0.0521	3	83	50	"	"	" "
ENGINE ROOM LIGHTING.		1	0.0521	25	83	20	"	"	" "
BOILER ROOM LIGHTING.		1	0.0206	15	46.5	60	"	"	" "
BATTERY CHARGING.		1	0.002	10	13	40	"	"	" "

MOTOR CABLES.

MAIN SHAFT TURNING GEAR.	1	5	1	0.0051	6.9	18.5	110	"	"	" "
COMBUSTION CONTROL COMPRESSOR	1	15	1	0.013	19	34.5	15	"	"	" "
CARGO PUMPS	3	200	1	0.3535	249	308	30	"	"	" "
CARGO STRIPPING PUMPS.	2	50	1	0.0521	63	83	30	"	"	" "
PUMP ROOM EXHAUST FAN.	1	1/4	1	0.0051	2.1	18.5	36	"	"	" "
WIRELESS M.G.	1	7 1/2	1	0.0051	10	18.5	16	"	"	" "

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.	
			No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.					
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	83	130	"	" " "
STEERING GEAR MOTORS.	2	35	1	0.0206	44.5	46.5	150	"	" " "
LATHE MOTOR.	1	2	1	0.0051	3.1	18.5	10	"	" " "
DRILLING M.C. MOTOR.	1	1	1	0.0051	1.4	18.5	20	"	" " "
GRINDER MOTOR.	1	3	1	0.0051	4.4	18.5	20	"	" " "
MAIN CONDENSATE PUMP.	2	25	1	0.0206	32	46.5	60	"	" " "
AUX. CIRCULATING PUMP.	1	30	1	0.0261	38	54.5	80	"	" " "
AUX. CONDENSATE PUMP.	1	15	1	0.013	19	34.5	40	"	" " "
COOLER CIRC. PUMP. (MAIN MOTOR).	1	10	1	0.0082	13	25.5	65	"	" " "
FUEL OIL TRANSFER PUMP.	1	20	1	0.013	26	34.5	45	"	" " "
FUEL OIL SERVICE PUMPS	2	7 1/2	1	0.0051	10	18.5	50	"	" " "
LUB. OIL SERVICE PUMPS	2	5	1	0.0051	6.9	18.5	60	"	" " "
LUB. OIL SEPARATOR PUMP.	1	2	1	0.0051	3.1	18.5	90	"	" " "
FORCED DRAUGHT FANS.	3	50	1	0.0029	63	113	170	"	" " "
EVAPORATOR FEED PUMPS.	2	1	1	0.0051	1.7	18.5	90	"	" " "
APT. ACCUM. VENT FANS.	2	2	1	0.0051	3.1	18.5	110	"	" " "
FRESH WATER PUMPS.	2	2	1	0.0051	3.1	18.5	100	"	" " "
ENGINE & BOILER ROOM VENT FANS.	4	2	1	0.0051	3.1	18.5	30	"	" " "
DOMESTIC REFRIG. COMPRESSORS	2	7 1/2	1	0.0051	10	18.5	30	"	" " "
DOM. REFRIG. COND. CIRC. PUMP.	1	2	1	0.0051	3.1	18.5	40	"	" " "
ATMOSPHERIC DRAIN & RECEIVER PUMP	1	5	1	0.0051	6.9	18.5	15	"	" " "
SHIP SERVICE AIR COMPRESSOR.	1	4 1/2	1	0.0051	10	18.5	135	"	" " "
SALT WATER SERVICE PUMP.	1	4 1/2	1	0.0051	10	18.5	130	"	" " "
SANITARY PUMP.	1	4 1/2	1	0.0051	10	18.5	130	"	" " "
ENGINE ROOM BILGE PUMPS	2	10	1	0.0082	13.0	25.5	130	"	" " "
DRINKING WATER PUMP APT.	1	1	1	0.0051	1.4	18.5	130	"	" " "
MAIN COOLING FAN.	1	15	1	0.013	19.0	34.5	65	"	" " "
TURBINE TURNING GEAR MOTOR	1	3	1	0.0051	4.4	18.5	20	"	" " "

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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 Amperes feet from standard compass feet from steering compass.
A cable carrying Amperes feet from standard compass feet from steering compass.
A cable carrying Amperes 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. 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 services and generators forwarded herewith. No

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 THREE YEARS. ALTERNATORS AND EXCITERS OPENED UP FOR EXAMINATION. GAUGE BEAR CLEANED AND OVERHAULED. AMPHIDYNE UNITS CLEANED AND OVERHAULED. MAIN SWITCHBOARD CLEANED. ALL CONNECTIONS EXAMINED FOR TIGHTNESS. MAIN CIRCULATING PUMP MOTOR OVERHAULED. THREE FORCED DRAUGHT FAN MOTORS OVERHAULED. THREE CARGO PUMP MOTORS AND TWO CARGO STRIPPING PUMP MOTORS OVERHAULED. EMERGENCY GENERATOR SWITCHBOARD CLEANED AND OVERHAULED. THE LIGHTING FITTINGS IN THE TWEEN DECK SPACE IN THE CENTRE CASTLE HAVE BEEN REPLACED WITH FLAMEPROOF FITTINGS. THE JUNCTION BOX IN THE TWEEN DECK SPACE IN THE CENTRE CASTLE HAS HAD THE TWO FACINGS GROUND AND A TREAT OF ASBESTOS CLOTH IMPREGNATED WITH RED LEAD FITTED AND IS NOW EFFICIENT. ALL LIGHTING AND POWER CIRCUITS EXAMINED AND MEASUR 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 ELIGIBLE TO RECEIVE THE SOCIETY'S CLASSIFICATION OF L.M.C. (WITH DATE) WHEN THE SURVEY OF THE MACHINERY IS COMPLETED.

Total Capacity of Generators. 925. Kilowatts.

The amount of Fee ... £ : : When applied for,19.....
Travelling Expenses (if any) £ : : When received,19.....

Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 20 JAN 1948

Assigned See Rpt. 9

Rpt. No.

Port of NEWCASTLE-ON-TYNE

Continuation of Report No. 101937 dated 17/1/47

on the

SS "Cora London" SURVEY OF ELECTRICAL INSTALLATION.

THE NAMEPLATE PARTICULARS OF THE PROPULSION ALTERNATOR, MOTOR AND EXCITERS AND THE SHIP SERVICE ALTERNATORS AND EXCITERS ARE AS FOLLOWS:—

PROPULSION ALTERNATOR: GENERAL ELECTRIC. TYPE A.T.B.2. - SERIAL NO. 6840740 - 4400/6400 KVA. - 3600/3715 R.P.M. - FORM H.L. - 2300/2375 VOLTS - 1237/1315 AMPS - 100% P.F. - 3 PHASE. 60/62 CYCLES. - 110 EXCITATION VOLTS. - 162/167 EXCITATION AMPS. ONE OFF.

PROPULSION MOTOR: GENERAL ELECTRIC. TYPE T.S.M. 80 - SERIAL NO. 6037846 - 6000 H.P. 90 R.P.M. - FORM H.L. - 2300 VOLTS - ARMATURE AMPS 1150 - P.F. 1.0 - 4400 KVA. - 3 PHASE - 60 CYCLES - EXCITER VOLTS - 120 - FIELD AMPS 390 - CONTINUOUS RATING 60°C. RISE - MAX S.H.P. 6000 AT 90 R.P.M. ONE OFF.

SHIP SERVICE ALTERNATORS: GENERAL ELECTRIC - TYPE A.T.B. - SERIAL NOS. 6874975 AND 6723144 500 KVA. - 1200 R.P.M. - 450 VOLTS - 3 PHASE - 60 CYCLES - 642 AMPS - 400 KWS - 0.8 P.F. - 120 EXCITATION VOLTS - 32 EXCITATION AMPS - FRAME NO. 976 - TEMPERATURES AT 500 KVA. CONT. RATING 40°C. ARMATURE 50°C. TWO OFF.

PROPULSION ALTERNATOR AND MOTOR EXCITERS: GENERAL ELECTRIC - TYPE M.P.C. - SERIAL NOS. 248774 AND 2089293 - 75 KWS - 1200 R.P.M. - FORM A.L. - 110 VOLTS - 692 AMPS - EXCITATION VOLTS 120 - SHUNT WOUND - CONT. RATING. COMMUTATOR 55°C - INSULATED WINDINGS AND ARMATURE CORE 40°C - BASE COPPER WINDINGS 55°C. - SHUNT FIELD 40°C. TWO OFF.

SHIP SERVICE ALTERNATOR EXCITERS: GENERAL ELECTRIC - TYPE M.P.L. - SERIAL NOS. 248577 AND 2089294 - 65 KWS - 1200 R.P.M. - MODEL NO. 1750055 - 130 - FORM E.S. - COMP. WOUND - 450 AMPS - 120 VOLTS - CONT. RATING - 40°C. RISE. TWO OFF.

PORT USE SHIP SERVICE ALTERNATOR: GENERAL ELECTRIC - TYPE T.L.B. - SERIAL NO. 2484244 62.5 KVA. - 3600 R.P.M. - FORM C. - 450 VOLTS - 80 AMPS - 0.8 P.F. - 50 KWS - 3 PHASE - 60 CYCLES - 120 EXCITATION VOLTS - 4.5 EXCITATION AMPS - FRAME H.L. - TEMPERATURES AT 62.5 KVA CONTINUOUS RATING 40°C. ARMATURE 50°C. RISE BY THERMOMETER. ONE OFF.

EMERGENCY DIESEL DRIVEN ALTERNATOR. ELECTRIC MACHINERY MANUFACTURING CO. - SERIAL NO. 87100 75 KWS - 450 VOLTS - 93.8 KVA. - 120.5 AMPS - 0.8 P.F. - 720 R.P.M. - 3 PHASE - 60 CYCLES - CONT. RATING. - 40°C. RISE ARMATURE - 50°C. RISE FIELD ONE OFF.

R. P. Storie
SURVEYOR TO LLOYD'S REGISTER,
NEWCASTLE-ON-TYNE.