

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

JAN 1947

Date of writing Report 4-12-47 When handed in at Local Office 19... Port of LIVERPOOL

No. in Survey held at BIRKENHEAD. Date, First Survey 29/16 Last Survey 17/11 1947
Reg. Book. (Number of Visits.....)

24143 on the s.s. "THELAMUS" ex "FORT RALEIGH" Tons { Gross.....
Net.....

Built at PORTLAND, OR. By whom built KAISER CO. INC. Yard No. - When built 1945

Owners ANGLO SAXON PETROLEUM CO. LTD Port belonging to LONDON.

Electrical Installation fitted by PRESUMED FITTED BY BUILDERS. Contract No. - When fitted 1945

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 Typical plan of System of Distribution POWER - 3 phase 3 wire LIGHTING MAIN - 3 PL 3 wire (CIRCUITS - Single phase 2 wire) Voltage of supply for Lighting 120 AC

Heating 220 AC Power 440 AC Direct or Alternating Current, Lighting AC Power AC 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 X. See note 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 - Have certificates of test for machines under 100 kw. been supplied - 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, Insulation material by panels appear to be American, if of synthetic insulating material is it an Approved Type YES, 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. Generator. D.P. Circuit breaker for D.C. Generator.

and for each outgoing circuit Triple pole or Double pole circuit breaker.

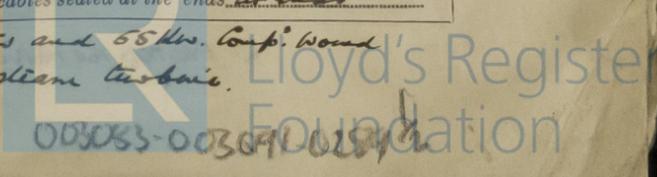
Are compartments containing switchboards composed of fire-resisting material or lined as per Rule YES Instruments on main switchboard 14

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 Load indicating lamps on AC & DC 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 Not tested, 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 type

Cables, are they insulated and protected as per the appropriate Tables of the Rules American Standard Cable, 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 16. Clamp mechanical V.C. 55 cables lapped and cables not soldered at ends

* Generating sets comprise Alternator, 75kw. Steam wound exciter and 55kw. Comp. wound generator mounted on common bedplate and driven by steam turbine.



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 L.C.A. - on deck installed under gangway in conduits, in machinery spaces clipped to paddles, bays, direct to structure or on chocks; in accommodation etc clipped to paddles or direct to structure.

Are all lead sheaths, armoring 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 effectually bushed — and with what material hot galvanized steel. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule Yes. Emergency Supply, state position Emergency generator

on bulkhead at top of Engine Room. and method of control Generator starts automatically on failure of main supply. 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 approx 200 amp hr

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 flameproof fittings. (Criticizable from deck space)

and where are the controlling switches fitted In accommodation alleyway on deck above, 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 Low. 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 —. 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 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 Yes

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.

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT			Revs. per Min.	DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE	
		Kilowatts.	Volts.	Amps.			Fuel Used.	Flash Point of Fuel.
MAIN	2	400 (500 KW)	450	642	1200	Steam Turbine		
	2	75	110	682				
	2	55	120	458				
EMERGENCY	1	75 (93.8 KW)	450	120.5	900	Oil Engine	Diesel Oil	above 150° F
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (feet)	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands.	In the Circuit.	Rule			
MAIN GENERATOR	400	1	1,000,000	642	725	40	V.C.	L.C.A.
" " BEARING	75	1	1,000,000	682	725	45	"	"
" " "	55	1	750,000	458	592	45	"	"
EMERGENCY GENERATOR	75	1	106,000	120	150	50	"	"
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

* EXCITERS FOR PROPULSION UNITS

By BUREAU OF SHIPPING RATINGS

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (feet)	INSULATED WITH.	HOW PROTECTED.
	No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands.	In the Circuit.	Rule			
AUX. SWITCHBOARDS AND SECTION BOARDS							
MACHINE SHOP POWER PANEL (440V) P11	1	104,000	9.3	25	120	V.C.	L.C.A.
GALLEY POWER (440V. MAINS TO 120V TRANSFORMER)	1	66,400		83	45	"	"
" PANEL (220V MAINS FROM TRANSFORMER)	1	300,000	18.5	234	150	"	"
SHORE CONNECTION	1	650,000		392	45	"	"
MAINS FROM 440V. EM. BUS TO 15 KVA. LIGHTING TRANSFORMER	1	66,400		83	180	"	"
" LIGHTING TRANSFORMER TO EM. SWITCHBOARD (200V)	1	450,000		308	15	"	"
INTERCONNECTED AC EM. BUS TO MACHINERY SECT BD (220V)	1	16,500		34	80	"	"

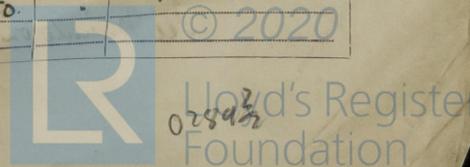
LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION.	No.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (feet)	INSULATED WITH.	HOW PROTECTED.
WIRELESS	1	33,100	15	55	300	V.C. L.C.A.
NAVIGATION LIGHTS	1	10,400	1.5	25	270	"
LIGHTING AND HEATING	1	66,400	30	83	400	"
POP. BOAT DECK ACCOMMODATION	4	33,100	20	55	70	"
UPPER DECK ACCOMMODATION	5	66,400	25	83	105	"
ENGINE ROOM LIGHTING	6	66,400	15	83	40	"
BOILER ROOM	7	26,300	12	47	80	"
2300 VOLT CUBICLE HEATERS	9	6530	3.4	18	75	"
MAIN MOTOR	11	6530	13	18	24	"
MAIN GENERATOR	12	6530	13	18	30	"
BATTERY CHARGER GEN. ROOM	13	4800	5	15	60	"
GEN. RM. LTG. FROM 120V AC EMERGENCY BUS	19	4100	4	15	150	"
ENG. RM. EM. LTG. FROM 115V. D.C. BUS.	DC3	10,400	16	25	100	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (feet)	INSULATED WITH.	HOW PROTECTED.
ENG. ROOM VENT FANS P34/35	4	2	1	6530	3.19	18	60 V.C. L.C.A.
AIR COMPRESSOR P40	1	5	1	6530	7.2	18	30
TURBINE TURNING GEAR P48	1	3	1	6530	4.5	18	20
ENG. ROOM BILGE PUMPS P43/44	2	10	1	10,400	13.7	25	110
MAIN CONDENSER CIRC. PUMPS P6	1	125	1	300,000	160	234	60
MAIN SHAFT TURNING GEAR	1	5	1	6530	7.2	18	100
MAIN PROPULSION MOTOR FAN P47	1	15	1	16,500	21	34	75
LUB. OIL SERVICE PUMPS P20/21	2	5	1	6530	7.2	18	60
LUB. OIL SEPARATOR P22	1	2	1	6530	3.1	18	120
FIRE & BUTTERNORTH PUMPS P7/8	2	50	1	66,400	60.5	83	60
STEERING GEAR MOTORS P9/10	2	30	1	33,100	39	55	165
MAIN CONDENSATE PUMPS P12/13	2	25	1	26,300	32	47	50
AUX. CIRCULATING PUMPS P14	1	30	1	33,100	37.9	55	90
AUX. CONDENSATE PUMP. P15	1	15	1	16,500	19	34	60
COOLER CIRCULATING PUMP	1	10	1	10,400	13.7	25	60
FUEL OIL	1	7.5	1	6530	10.5	18	45
FORCED DRAUGHT FANS P23/24/25	3	50/20	1	66,400	63.29	83	40
EVAPORATOR FEED PUMPS P26/27	2	1	1	6530	1.7	18	90
ACCOMMODATION VENT FANS P28/29	2	2	1	6530	3.1	18	50
FRESH WATER PUMPS P31/32	2	2	1	6530	3.1	18	90
REFRIG. COMPRESSOR P38	1	7.5	1	6530	10.5	18	125
" CIRCULATING PUMP P38	1	1	1	6530	1.7	18	150
SALT WATER SERVICE PUMP P41	1	7.5	1	6530	10.5	18	150
SANITARY PUMP P42	1	7.5	1	6530	10.5	18	125
DRINKING WATER PUMP P43	1	15	1	16,500	19.5	34	90
CARGO PUMPS P45/46	3	200	1	450,000	243	308	60
STRIPPING PUMPS P47/48	2	50	1	66,400	63	83	45
FUEL OIL TRANSFER PUMPS P49/50	2	20	1	16,500	25	24	60

AMERICAN RATINGS.



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 6 ft 10 in feet from standard compass 6 ft 10 in 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

Generally similar to other T2. Tenders.

Is this installation a duplicate of a previous case _____ If so, state name of vessel _____

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 have been installed in accordance with American practice and with the typical plans of T2. Tenders. The details of this report were obtained from plans on board and from personal observation. It was noted that lighting sub-circuits are controlled by single-pole switches and portable connections, switches and non-flameproof fittings installed in cubicles between deck spaces. The wiring fittings in this space together with portable connections have now been removed and flameproof lighting fittings installed with switches (DP) outside of space. All motors, control gear, transformer, generator, panel boards, cables etc. have been examined, insulation test carried out & a number of minor repairs effected. The installation appears to be in good and efficient condition & whilst not strictly in accordance with the Society's Rules, it is, in my opinion, eligible to be accepted for classification.

Notes sent 19/12/48

Total Capacity of Generators 995 Kilowatts.

(2 x 400 kw, 2 x 500 kw, 1 x 75 kw (Emergency))
(2 x 75 kw Excitation not included)

The amount of Fee ... £ 30 : 0 : 0 When applied for, 30 DEC 1947

Travelling Expenses (if any) £ 0 : 0 : 0 When received, _____

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

LICENCE CASE.
Committee's Minute

6 JAN 1948

Assigned See Minute on Machinery Report.

