

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

3 - AUG 1948

Received at London Office.

Date of writing Report 18<sup>TH</sup> JUNE 19 48 When handed in at Local Office 19<sup>TH</sup> JUNE 19 48 Port of GALVESTON TEXAS

No. in Survey held at GALVESTON TEXAS Date, First Survey 26<sup>TH</sup> MAY 48 Last Survey 12<sup>TH</sup> JUNE 19 48  
Reg. Book. (No. of Visits CONTINUOUS)

29246 on the SS MESA VERDE Tons { Gross 10640 Net 6313

Built at PORTLAND OREGON By whom built KAISER CO INC Yard No. 99 When built 1944

Owners BRITISH TANKERS CO Port belonging to LONDON

Installation fitted by KAISER CO INC 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. YES Radar -

Plans, have they been submitted and approved. TYPE VESSEL System of Distribution AC 3PH. 3WIRE Voltage of Lighting 115

COOKING Heating 230 Power 450 D.C. or A.C., Lighting AC Power AC If A.C. state frequency 60/62

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 ONLY, and level compounded under working conditions. ✓

if not compound wound state distance between generators 8 FEET and from switchboard 30 FEET. Are the generators arranged to run

in parallel YES 400KWS SETS, are shunt field regulators provided YES EXCITERS 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 ABS Have certificates of

test for machines under 100 kw. been supplied ✓ and the results found as per Rule ✓

Position of Generators IN ENGINE ROOM STARBOARD SIDE GENERATOR FLAT

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 IN ENGINE ROOM ON

GENERATOR FLAT THWARTSHIP FORWARD.

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 EBONY ASBESTOS AND AIEE APPROVED MATERIAL 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 construction as per Rule, including locking of screws and nuts YES Description of Main Switchgear

for each generator and arrangement of equaliser switches 400 KWS GENERATORS. THREE POLE LINKED CIRCUIT BREAKERS

WITH OVERLOADS AND REVERSE POWER TRIPS AND THREE POLE ISOLATING SWITCHES. 55 KWS EXCITERS

D.P. LINKED BREAKER WITH OVERLOADS AND SELECTOR SWITCH; 75 KWS EXCITERS D.P. DT SWITCH

and the switch and fuse gear (or circuit breakers) for each outgoing circuit TWO AND THREE POLE LINKED CIRCUIT

BREAKERS

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule YES Instruments on main switchboard 7

ammeters 5 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 YES Earth Testing, state means provided EARTH

LAMPS

Switches, Circuit Breakers and Fuses, are they as per Rule AIEE STANDARDS, are the fuses an Approved Type AIEE STANDARD,

make of fuses (RENEWABLE TYPE), are all fuses labelled ✓ If circuit breakers are provided for the generators, at what

overload do they operate 120% and at what current do the reversed current protective devices operate 25 Kws

Joint Boxes, Section Boards and Distribution Boards, is the construction as per Rule AIEE STANDARDS

Cables, are they insulated and protected as per Rule ✓, if otherwise than as per Rule are they of an Approved Type YES AIEE,

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. YES 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 No, if so, are they

adequately protected ✓ 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 MAIN FEEDER CABLES LEAD COVERED AND

BASKET WEAVE ARMOURED RUN IN CONDUIT ON DECK SUPPORTED BY STRAPS UNDER FORE AND AFT WALKWAY.

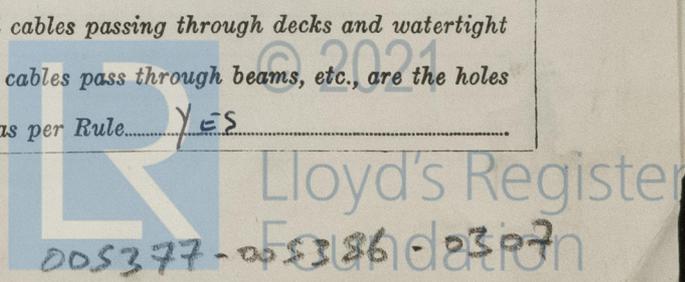
CABLES IN ACCOMMODATION AND ENGINE ROOM CLIPPED TO BRACKETS AND BULKHEADS. MAIN

PROPULSION CABLES SUPPORTED ON CLEATS

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 YES Refrigerated chambers, are the cables and fittings as per Rule YES



Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule. YES Emergency Supply, state position PORT SIDE BOAT DECK LEVEL DIESEL DRIVEN GENERATOR SUPPLYING 440V BUS BARS

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. YES

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. BULKHEAD FITTINGS IN RUMPROOMS

and where are the controlling switches fitted. OUTSIDE COMPARTMENTS Are all fittings suitably ventilated. YES

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

Heating and Cooking, is the general construction as per Rule. ALICE STANDARDS, are the frames effectually earthed. YES, are heaters in the accommodation of the convection type. YES 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 EXCEPT O.F. TRANSFER Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing. ABS

Have certificates of test for motors under 100 BHP intended for essential sea services been supplied and the results found as per Rule. ALICE STANDARDS

Control Gear and Resistances, are they constructed and fitted as per Rule. ALICE Lightning Conductors, where required are they fitted as per Rule. YES EXCEPT WOOD SIGNAL MAST (SEE RPT) 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. PARTLY, make of fuse. ALICE STANDARD 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. YES location of transmitter. ER FORE END and receiver. BRIDGE

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.	Amps.	Revs. per Min.	TYPE.	MAKER.
MAIN ...	2	GENERAL ELECTRIC CO	400	450	642	1200	TURBINE	GENERAL ELECTRIC CO
EXCITERS	2	"	75	110	682	1200	"	"
EXCITERS	2	"	55	120	458	1200	"	"
EMERGENCY ROTARY TRANSFORMER	1	IDEAL ELECTRIC MHY CO	75	450	120.5	900	DIESEL	VENN-SEVERN MHY CO

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
		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	.7854	642	864		VC	LC + BASKET WEAVE ARMOUR
" EQUALISER	75	1	.7854	682	864		VC	" " " "
EXCITERS	55	1	.5890	458	705		VC	" " " "
PROPULSION GENERATOR	5400	2	2.3562	1315	2272		VC	BRONZE TAPE
" MOTOR	6600	2	2.3562	1160	2272		VC	" " " "
EMERGENCY GENERATOR	75	1	.1318	151	185		VC	LC + B W ARMOUR
ROTARY TRANSFORMER: MOTOR 2300/450V		1	.1318	151	185		VC	BRONZE TAPE
" GENERATOR...								

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

DESCRIPTION.								
Emergency switchboard P55	1	.0829	121	134		VC	LC + BW ARMOUR	
Lighting transformer 450/120V	1	.1318	151	185		"	"	"
Cargo pumps	1	.3922	243	390		"	"	"
Shoe connection box P52	1	.8100	400	466		"	"	"
Machine shop panel P11	1	.0082	10	30		"	"	"
Galley transformers P33	1	.0521	58	99		"	"	"

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

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
Navigation L1	1	.0829	25	30		VC	LC + BASKET WEAVE ARMOUR
Machine shop lights L3	1	.0829	70	99		"	"
Port & Boat deck quarters L4	1	.0261	50	65		"	"
Upper deck L5	1	.0621	70	99		"	"
General room lights L14	1	.0031		11.5		"	"
Engine room lights L6	1	.0521	70	99		"	"
Boiler room lights L7	1	.0206	35	55.5		"	"
Main generator heaters L12	1	.0051		22		"	"
Main motor heaters L11	1	.0087		22		RI	"
Switchboard heaters L9	1	.0051		22		"	"
Rudder angle indicator L10	1	.0032		11.5		"	"
ER telegraph L8	1	.0032		11.5		"	"
Fuel oil interlock L15	1	.0032		11.5		"	"
Radio DC1	1	.0261	50	65		VC	"
Searchlight 24L3	1	.0051	10	16.5		RI	"
Max head lights	1	.0032	45	11.5		"	"
Side lights	1	.0032	45	11.5		"	"
Compass lights	1	.0032	25	11.5		"	"
Gyro compass	1	.0082	15	30		VC	"
Galley ranges, each B	1	.0414	55	88		"	"
Baked oven	1	.013	24	41		"	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
			No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
Cargo pumps P1, 2, 3	3	200	1	.3535	243	367		VC	LC + BW ARMOUR
Stuffing pumps P4, 5	2	50	1	.0521	61	99		"	"
Main circulating pump P6	1	125	1	.2356	175	279		"	"
Auxiliary " P14	1	30	1	.0261	40	65		"	"
Main Condensate pumps P12 & 13	2	25	1	.0206	31	55.5		"	"
Auxiliary " P15	1	15	1	.03	20	41		"	"
Steering gear motors P9 & 10	2	30	1	.0261	40	65		"	"
Fire pumps P7 & 8	2	50	1	.0521	60.5	99		"	"
Forced draft fans P23, 24, 25	3	50	1	.0829	93	134		"	"
Fuel oil service P18 & 19	2	7 1/2	1	.0057	10	22		"	"
Lubrication service P21	1	5	1	.0051	7.5	22		"	"
Lubrication separator P22	1	2	1	.0051	3	22		"	"
Main motor cooling fan P47	1	15	1	.013	21	41		"	"
Cooler pumps P16	1	10	1	.008	13.7	30		"	"
ER & BR vent fans P34 & 37	4	2	1	.0051	3	22		"	"
Accommodation vent fan P27 & 28	2	1 1/2	1	.0051	2.5	22		"	"
Evaporator feed pump P26	1	1	1	.0051	1.6	22		"	"
Bilge pumps P43 & 44	2	10	1	.008	13.7	30		"	"
Sea water pumps P31 & 32	2	2	1	.0051	3	22		"	"
Drinking water pumps P45 & 46	2	1	1	.0051	1.6	22		"	"
Bathroom service pump P41	1	7 1/2	1	.0057	10.3	22		"	"
Sanitary pump P42	1	7 1/2	1	.0057	10.3	22		"	"
Ship's service pump P40	1	5	1	.0051	6.4	22		"	"
Combustion Control Air Pump P51	1	15	1	.013	19	41		"	"
Lubrication turning motor P48	1	3	1	.0057	3	22		"	"
Main shaft turning P49	1	5	1	.0051	8	22		"	"
Pump room exhaust P54	1	1 1/2	1	.0051	2	22		"	"
Refrig circulation P38	1	1	1	.0051	1.55	22		"	"
Refrig compressor P38	1	7 1/2	1	.0051	9.8	22		"	"
Drain & receiver pumps P29	1	2	1	.0051				"	"
Founding machine P45	1	1	1	.0032	1.6	11.5		RI	"
Lathe P11	1	2	1	.0057	3	22		VC	"
Drill 2P11	1	1	1	.0057	1.6	22		"	"
Grinder 4P11	1	3	1	.0051	4.5	22		"	"
Refrig power P38	2	-	1	.0051	20	22		"	"

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..... YES

..... 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..... SS ESSO NORMANDIE

Plans. Are approved plans forwarded herewith..... YES If not, state date of approval..... -

Certificates. Are certificates of test for motors engaged on essential sea 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 requirements of the American Bureau of Shipping has been in operation since November 1944. The condition and standard of materials and workmanship are considered good and satisfactory. The dimensions in this Report have been taken from the ABS approved plans. The dimensions have been checked as far as possible on the ship and found correct. and the installation has been examined under working conditions and found to be satisfactory. In my opinion the electrical installation is such as could be accepted by the Committee for classification.

Total Capacity of Generators..... 1185 Kilowatts.

The amount of Fee ...	... £	<u>\$150</u>	:	When applied for,
			:	..... 19.....
Travelling Expenses (if any) £		<u>-</u>	:	When received,
			:	..... 19.....

J. M. Bloomfield  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute..... NEW YORK JUL 14 1948

Assigned..... Elec. light

2m. 9. 46.—Transfer. (MADE AND PRINTED IN ENGLAND.)  
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

