

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 8-MAR-1949

Date of writing Report 4th March, 1949. When handed in at Local Office 4th March, 1949. Port of NAPLES.

No. in Survey held at Palermo Date, First Survey 10th Jan. Last Survey 20th Febr. 1949
Reg. Book. (Number of Visits ten)

5524 on the Single Sc. Stm Tanker "CLEVELAND" ex "Forbes Road" Tons { Gross 10667
Net 6313.89

Built at Portland Or. By whom built Kaiser Corp. Inc. Yard No. 57 When built 1944

Owners Cleveland Petroleum Co. Ltd. Port belonging to London

Electrical Installation fitted by Presumed by Builders 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. no

Have plans been submitted and approved Typical plans of 12 tanker approved System of Distribution Itg. (Main 3 phase 3 wire Voltage of supply for Lighting 120 AC
Galley 440 AC Circuit=Single phase 2 wire

Leating 220 Power Direct or Alternating Current, Lighting A.C. Power A.C. If Alternating Current state periodicity 60 Prime Movers,
Radio etc. 115 D.C. D.C.

as 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

rip switch as per Rule yes Generators, are they compound wound see note below, are they level compounded under working conditions =

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 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 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 at 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 appears to be American if of synthetic insulating material is it an Approved Type =, if of

Ebony Asbestos type mi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule. Is the frame effectually earthed. yes

the construction as per Rule. yes, including accessibility of parts. yes, absence of fuses on the back of the board. at back of board individual fuses

pilot and earth lamps, voltmeters, etc., yes locking of screws and nuts. yes, labelling of apparatus and fuses. yes, fuses on the "dead"

of switches. yes Description of Main Switchgear for each generator and arrangement of equaliser switches. Triple pole circuit breaker

for A.C. Generators. D.P. circuit breaker for D.C. Generators

used for each outgoing circuit. triple pole or double pole circuit breakers

are compartments containing switchboards composed of fire-resisting material or lined as per Rule. yes Instruments on main switchboard. 14

meters 5 voltmeters 1 frequency-meter 1 watt-meter 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 indicating lamps on D.C. A.C. systems

switches, Circuit Breakers and Fuses, are they as per Rule. American type, are the fuses an approved type. American type, 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

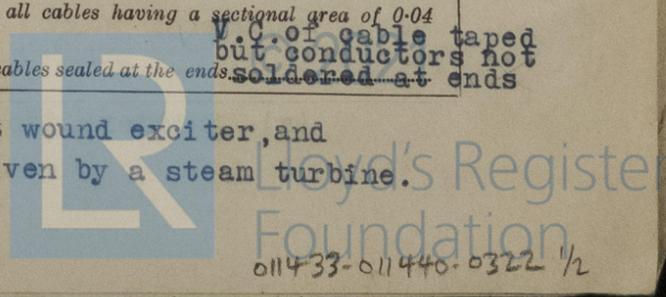
they operate. Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule. all American type

cables, are they insulated and protected as per the appropriate Tables of the Rules. American Standard cables, if otherwise than as per Rule are they of an approved type. =

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 0.04

square inch and above provided with soldering sockets. Mechanical clamps Are paper insulated and varnished cambric insulated cables sealed at the ends. V.C. of cable taped but conductors not soldered at ends

sets consist of 400 K.V.A. alternator, 75 K.W. Shunt wound exciter, and 55 Kw D.C. Comp. wound Generator mounted on one bedplate, driven by a 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 saddles, to trays, cleats or direct to structure; in accommodation etc. clipped to saddles or direct to structure.

Are all lead sheaths, armouring 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 yes and with what material Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule. yes. Emergency Supply, state position. Emergency Generator switchboard at top of E.R. 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.hours

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 (except in bridge space)

and where are the controlling switches fitted in accommodation alleyway 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 none. 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 no. Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule no. 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 American 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				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	400(500KVA)	450	642	1200			
(x)	2	75	110	682	"	Steam turbine		
	2	55	120	458	"			
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR CABLES.

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

(x) Exciters for propulsion units.

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES. In the American Rating	APPROX. LENGTH (in feet).	INSULATED WITH.	HOW PROTECTED.
	No. in Parallel For Pole.	Sectional Area or No. and Dia. of Strands.				
AUX. SWITCHBOARDS AND SECTION BOARDS						
Machine Shop Power Panel (440 V)	1	10.400	9.3	25	120	V.C.
Galley Power(440 V.Mains to 15 KVA transformer)	1	66.400	83	45	"	"
do (220 V.Mains from Transformer)	1	300.000	185	234	150	"
Shore Connection	1	650.000	392	45	"	"
Mains from 440 V Em bus to 15 KVA Lighting transformer	1	66.400	83	180	"	"
do do Lighting transformer to Em.Switch board (120V)	1	450.000	308	15	"	"
Interconnection A.C. Em. Bus to main section box	1	16.500	34	80	"	"

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (in feet).	INSULATED WITH.	HOW PROTECTED.	
						No. in Parallel For Pole.
WIRELESS	1	33.100	15	55	300	V.C.
NAVIGATION LIGHTS	1	2. sq. mm	1.5	10	500	L+Rt
LIGHTING AND HEATING						
Midship & Forecastle Lighting	1	66.400	30	83	400	V.C.
Poop & Boat Deck accommodation Ltg.	1	33.100	20	55	70	"
Upper deck accommodation	1	66.400	25	83	100	"
Engine Room Lighting	1	66.400	15	83	40	"
Boiler Room Lighting	1	26.300	12	47	80	"
Cubicle Heaters	1	6.530	3.4	18	75	"
Main Motor Heaters	1	6.530	13	18	24	"
Generator Heaters	1	6.530	13	18	30	"
Generator Room Ltg from 120 V.AC	1	4.100	4	15	120	"
E.R. Em. Ltg from 115 V.D.C. Bus	1	10.400	15	25	100	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (in feet).	INSULATED WITH.	HOW PROTECTED.	
								No. in Parallel For Pole.
Eng. Room Vent. Fans	4	2	1	6530	3.19	18	60	V.C.
Air compressor	1	5	1	6530	7.2	18	30	"
do	1	15	1	16500	19	34	16	"
Turbine turning gear	1	3	1	6530	4.5	18	20	"
Engine Room Bilge Pumps	2	10	1	10400	13.7	25	110	"
Main Condenser Circ. Pump	1	125	1	300.000	160	234	60	"
Main shaft turning gear	1	5	1	6530	7.2	18	100	"
Main Propulsion Motor Fan	1	15	1	16500	21	34	75	"
Lub Oil Service Pump	2	5	1	6530	7.2	18	60	"
Lub Oil Separators	1	2	1	6530	3.1	18	120	"
Fire & Butterworth pumps	2	50	1	66400	60.5	83	60	"
Steering gear motors	2	30	1	33100	39	45.5	165	"
Main Condensate Pumps	2	25	1	26300	32	47	50	"
Aux Circ Pump	1	30	1	33100	38.9	55	90	"
Aux Condensate Pump	1	15	1	16500	19	34	60	"
Cooler Circ Pump	1	10	1	10400	13.7	25	60	"
Fuel Oil Circ Pump	1	7.5	1	6530	10.5	18	45	"
Forced Draught Fans	3	50/20	1	64400	63/29	83	80	"
Evaporator Feed Pump	1	1	1	6530	1.7	18	90	"
Accommodation Vent Fans	2	2	1	6530	3.1	18	50	"
Fresh Water Pumps	2	2	1	6530	3.1	18	90	"
Refrig Compressor	1	7.5	1	6530	9.8	18	125	"
do Circ Pump	1	1	1	6530	1.55	18	150	"
Salt Water Service Pump	1	7.5	1	6530	10.3	18	150	"
Sanitary Pump	1	7.5	1	6530	10.3	18	125	"
Drinking Water Pumps	2	15	1	16500	19.5	34	90	"
Cargo Pumps	3	200	1	450.000	243	308	60	"
Stripping pumps	2	50	1	66400	63	83	45	"

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 led into feet from standard compass led into 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

Installation generally similar to other T2 tankers

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 tankers. The details given in this report were obtained from these plans and from personal observation on board. It was noted that lighting sub-circuits are controlled by single pole switches and portable connections, switches now flameproof lighting fittings installed in the centercastle tween deck space. ~~The wiring in this space has now been altered to double-pole control with switches outside of space and all portable connections removed.~~

All generators, motors, control gear, transformers, switchboards, cables, etc have been examined tested, necessary repairs carried out, insulation test carried out and found satisfactory. The installation appears in good efficient condition and whilst not strictly in accordance with the Society's Rules, it is, in my opinion, eligible to be accepted for classification.

Notes sub 12/4/49

Total Capacity of Generator 910 Kilowatts.

(2 at 400 Kw. 2 @ 55 Kw.)
 (The 2=75 Kw exciters are not included in total)

The amount of Fee £ : : will be submitted from London.

Travelling Expenses (if any) £ : : When received. 19

F. N. Sutcliffe
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute WED 13 APR 1949

Assigned. See minute on file rpt

5011.4.30.—Transfer. (MADE AND PRINTED IN ENGLAND.)
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

