

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

8-MAR-1949

Date of writing Report..... 24.1.1949 When handed in at Local Office..... 25/1/49 Port of..... Liverpool

No. in Survey held at..... Birkenhead Date, First Survey..... Last Survey..... 23-1-1949
Reg. Book.....
(Number of Visits.....)

55123 on the..... S.S. 'CHISHOLM TRAIL' Tons { Gross 10660
Net 6322

Built at..... Portland Or. By whom built..... Kainer Co. Inc. Yard No. - When built..... 1945

Owners..... British Overseas Co. Port belonging to..... London.

Electrical Installation fitted by..... Presumed by Builder. 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..... No

Have plans been submitted and approved..... Typical plan of 12 Tachos approved System of Distribution..... Voltage of supply for Lighting..... 120 AC.

Heating..... 220 AC Power..... 440 AC or Alternating Current, Lighting..... A.C. Power..... AC If Alternating Current state periodicity..... 60 Hz 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..... Yes, 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..... 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.

....., 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.

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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 applied to the American type, 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..... 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. Generators. Double pole circuit breakers for D.C. Generators

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and for each outgoing circuit..... Triple or double pole circuit breakers.

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

ammeters..... 5 voltmeters..... 1 and 1 frequency 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 A.C. & D.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

did they operate..... 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..... Cables, 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..... Are paper insulated and varnished cambric insulated cables sealed at the ends.....

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* Generating sets comprise 400 KVA Alternator, 75 Kw. Exciter (Shunt Wound) and 55 Kw. D.C. Generator (Comp. Wound) All mounted on common bedplate and driven by steam

turbine

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 (500 KVA)	450	642	1200	Steam Turbines		
MAIN PRODUCTION ENGINE →	2	75	110	682				
	2	55	120	458				
EMERGENCY ...	1	75 (93.7 KVA)	450	120.5	1200	Oil Engine	Diesel Oil	Above 150°F
ROTARY TRANSFORMER								

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (load plus return feet).	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel For Poles.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	400	1	1,000,000	642	725	40	V.C.	L.C.A.
" " EQUALISER	75	1	1,000,000	682	725	45	"	"
" "	55	1	750,000	458	592	45	"	"
EMERGENCY GENERATOR	75	1	106,000	120	150	30	"	"
ROTARY TRANSFORMER: MOTOR								
GENERATOR								

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.	In the Circuit.	Rate.			
AUX. SWITCHBOARDS AND SECTION BOARDS ...		C. leads		Amperes Rating			
Machine Shop. Power Panel (440v. v.)	1	10,400	9.3	25 ✓	120	V.C.	L.C.A
Galley Power (440v. main to 15 KVA Transformer)	1	66,400		83 ✓	45	"	"
" (230v. main from Transformer)	1	300,000	185	234 ✓	150	"	"
Motor Connection	1	650,000		392 ✓	45	"	"
Main from 440v. Gen. Bus to 15 KVA (by Transformer)	1	66,400		83 ✓	180	"	"
" (by Transformers to Gen. Switch 230v. 120v.)	1	450,000		308 ✓	15	"	"
Relay connection, A.C. Gen. Bus to Bus in Deck Board	1	16,500		34 ✓	80	"	"

WIRELESS	1	33100	15	35 ✓	300	V.C.	L.C.A
NAVIGATION LIGHTS	1	10400	15	25 ✓	250	"	"
LIGHTING AND HEATING							
Bridge & Forecastle Lighting	1	66400	30	83 ✓	400	"	"
Upper Boat Deck Accommodation Lighting	1	33100	20	55 ✓	70	"	"
Upper Deck Lighting	1	66400	25	83 ✓	100	"	"
Engine Room	1	66400	15	83 ✓	40	"	"
Ball's Room	1	26300	12	47 ✓	80	"	"
Cubicle Messes	1	6530	3.4	18 ✓	75	"	"
Main Mess	1	6530	13	18 ✓	24	"	"
Gymnasium	1	6530	13	18 ✓	30	"	"
Battery Charge Room	1	4100	5	15 ✓	60	"	"
Gun Room Lighting from 120V. A.C. Gun Bus	1	4100	4	15 ✓	120	"	"
Eng Room " " 115V. D.C. Bus.	1	10400	15	25 ✓	100	"	"

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.							
Engine Room Vent Fan	4	2	1	6530	3.19	18	60	V.C.	L.C.A.
Air Compressor	1	5	1	6530	7.2	18	30	"	"
Motion Turning Gear	1	3	1	6530	4.5	18	20	"	"
Eng. Room Relief Pump	2	10	1	10,400	13.7	25	110	"	"
Main Condenser Circ.	1	125	1	200,000	158	234	60	"	"
Main Shaft Turning Gear	1	5	1	6530	8.5	18	100	"	"
Main Propulsion Motor Fan	1	15	1	16500	21	34	75	"	"
Sub. Oil Service Pumps	2	5	1	6530	7.1	18	60	"	"
" Separators	1	2	1	6530	3.18	18	120	"	"
Gen. Butterwood Pumps	2	50	1	66,400	63	83	60	"	"
Steering Gear Motor	2	50	1	33,000	59	55	165	"	"
Main Condenser Pumps	2	25	1	26300	32	47	50	"	"
Aux. Circulating	1	30	1	32000	39	55	90	"	"
" Condensate "	1	15	1	16500	21	34	60	"	"
Boiler Circulating	1	10	1	10,400	13.7	25	60	"	"
Fuel Oil "	1	7.5	1	6530	10.5	18	45	"	"
Forced Draft Fan	3	50/20	1	66400	63/29	83	50	"	"
Refrigerator Fan Pumps	2	1	1	6530	1.5	18	90	"	"
Accumulation Vent Fan	2	2	1	6530	3.1	18	50	"	"
Heat Water Pumps	2	2	1	6530	3	18	90	"	"
Rising Compressor	1	7.5	1	6530	10	18	125	"	"
" Circulating Pumps	1	1	1	6530	1.5	18	150	"	"
Smoking Pump	1	7.5	1	6530	10.3	18	125	"	"
Drinking Water	2	1	1	6530	1.5	18	90/200	"	"
Barge Pumps	3	200	1	450,000	243	208	60	"	"
Shipping "	2	50	1	66,400	63	83	45	"	"
Fuel Oil Pumps	2	20	1	16500	25	34	50	"	"
S.H. Service	1	10.5	1	6530	10.3	18	150	"	"

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 ~~10~~ feet from standard compass ~~10~~ 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

Is this installation a duplicate of a previous case? Generally similar to other T. Tanker If so, state name of vessel 'H.M. Steamer, 'Lignosomus' etc

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 the typical approved plans. The details of this report were obtained from these plans and personal observation. A number of repairs & alterations have been effected including the installation of flameproof fittings in carbide castle space in lieu of non-flameproof type originally fitted and the removal of remote control equipment for cargo pumps etc from position near pump room skylight to new location in poop. The generators, motor, control gear, transformer, switch gear, cables etc have been examined, tested, necessary repairs effected, insulation tests carried out and found satisfactory.

The equipment appears to be in good efficient condition & whilst not strictly in accordance with the Society's Rules, in my opinion it is eligible to be accepted for classification.

Noted

Total Capacity of Generators 985 Kilowatts.

(2 at 400 kts, 2 at 55, and 1 at 75 kts)
(The 2 at 75 kts Exclusion are not included in total)

The amount of Fee £ 30 : 0 : 0

When applied for,

3 MAR 1949

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

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Surveyor to Lloyd's Register of Shipping.

LICENCE CASE

Committee's Minute

Assigned

See Minute on Machinery Report.



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