

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

120 NOV 1942

Received at London Office.....

Date of writing Report.....19..... When handed in at Local Office.....19..... Port of Hull

No. in Survey held at Hull Date, First Survey 8.9.42 Last Survey 9.10.1942
Reg. Book. (Number of Visits.....19.....)on the Tug "EMPIRE TITAN" Tons { Gross 242
Net 110Built at HESSLE By whom built HENRY SCARR Yard No. S423 When built 1942
10

Owners MINISTRY OF WAR TRANSPORT Port belonging to

Electrical Installation fitted by Wm. Broady & Son Ltd Contract No. ✓ When fitted 1942
10

Is vessel fitted for carrying Petroleum in bulk No. Is vessel equipped with D.F. No. E.S.D. No. Gy.C. No. Sub.Sig. No.

Have plans been submitted and approved. yes System of Distribution Parallel Constant Pressure Voltage of supply for Lighting 110V.

Heating Power ✓ Direct or Alternating Current, Lighting DC Power ✓ If Alternating Current state periodicity ✓ 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. ✓ Generators, are they compound wound. yes, are they level compounded under working conditions. yes

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 Starboard side, 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 adjoining generators, starboard side

of engine room.

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. Sindano, 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. P.P. switches and

fuses, with D.P. change over switch to each generator.

and for each outgoing circuit D.P. switches (change over) and D.P. fuses.

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

ammeters. Two voltmeters. no 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 and switches

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. ✓, 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. yes, 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. 2.5V, are the ends of all cables having a sectional area of 0.04

square inch and above provided with soldering sockets. yes Are paper insulated and varnished cambric insulated cables sealed at the ends. ✓

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 ☒ yes, are 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 ☒ no State how the cables are supported and protected ☒ clipped to steel bulkheads, or on steel trays, & protected through bunkers by solid drawn steel pipe, and by steel plating through stow etc.

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 ☒ lead Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule ☒ yes Emergency Supply, state position ☒ and method of control ☒

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 ☒ no Secondary Batteries, are they constructed and fitted as per Rule ☒ V.T. only, are they adequately ventilated ☒ yes what is the battery capacity in ampère 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 ☒ no, if so, how are they protected ☒

and where are the controlling switches fitted ☒ are all fittings suitably ventilated ☒ are all fittings and accessories constructed and installed as per Rule ☒ yes Searchlight Lamps, No. of ☒ none, whether fixed or portable ☒ 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 ☒ yes, 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	each 4 kw	110	36.5	500	Steam engine (each separate)		
EMERGENCY ...								
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel For Each.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	4	one	7/064	36.5	46	26	V.I.R.	L.C. & Armoured
" " EQUALISER								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

[illegible]

LIGHTING AND HEATING, ETC., CABLES.

[illegible]

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	REMARKS
1. 1000	1	10	1000
2. 1000	2	10	1000
3. 1000	3	10	1000
4. 1000	4	10	1000
5. 1000	5	10	1000
6. 1000	6	10	1000
7. 1000	7	10	1000
8. 1000	8	10	1000
9. 1000	9	10	1000
10. 1000	10	10	1000
11. 1000	11	10	1000
12. 1000	12	10	1000
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93. 1000	93	10	1000
94. 1000	94	10	1000
95. 1000	95	10	1000
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97. 1000	97	10	1000
98. 1000	98	10	1000
99. 1000	99	10	1000
100. 1000	100	10	1000

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 14.11.42.

COMPASSES.

Minimum distance between electric generators or motors and standard compass.

50 ft.

Minimum distance between electric generators or motors and steering compass.

50 ft.

The nearest cables to the compasses are as follows:—

A cable carrying 4 Ampères 4 feet from standard compass 4 feet from steering compass.

A cable carrying " Ampères " feet from standard compass " 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 nil degrees on any course in the case of the standard compass, and nil degrees on any course in the case of the steering compass.

SECRETARY.

Builder's Signature.

Date 18/11/42.

Is this installation a duplicate of a previous case.

yes

If so, state name of vessel.

Emp. Race Emp. Sparte.

Plans. Are approved plans forwarded herewith.

no

If not, state date of approval.

26-8-41

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith.

yes

General Remarks (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.)

This installation has been fitted on board in accordance with the approved plans, the Specification and the Society's Rules.

The workmanship and material are good, and when tried under working conditions, and tested as required by the Rules, the installation was found satisfactory in all respects.

Noted

28/11/42.

Total Capacity of Generators

8

Kilowatts.

The amount of Fee ...

£ 8 : 0 : 0

25% for Spec.

2 - 0 - 0

Travelling Expenses (if any) £

When received.

19.

W. Shields & John Douglas.
Surveyor to Lloyd's Register of Shipping

FRI. 27 NOV 1942

Committee's Minute

Assigned

See Sub 56. 51812



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