

No. 70044

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

of writing Report... 12TH NOVEMBER 1945. When handed in at Local Office... 3 12 1945. Port of... GLASGOWin Survey held at... GREENOCK Date, First Survey... 23RD JULY Last Survey... 15TH NOVEMBER 1945
Reg. Book. (Number of Visits.....)No. and d... 447 on the 'EMPIRE TRINIDAD' Tons { Gross... 8217
Net... 4766

ilt at... GLASGOW By whom built... BLYTHWOOD SHIPBUILDING CO. Yard No. 80 When built... 1945

mers... MINISTRY OF WAR TRANSPORT Port belonging to... GLASGOW

ctrical Installation fitted by... MESSRS SUNDERLAND FORGE & ENGINEERING CO. LTD Contract No. 80 When fitted... 1945

vessel fitted for carrying Petroleum in bulk... YES Is vessel equipped with D.F. YES E.S.D. YES Gy.C. YES Sub.Sig. —

ve plans been submitted and approved... YES System of Distribution... TWO WIRE Voltage of supply for Lighting... 110

ating... 110 Power... 110 Direct or Alternating Current, Lighting... D.C. Power... D.C. If Alternating Current state periodicity... — Prime Movers,

s 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

p switch as per Rule... — Generators, are they compound wound... YES are they level compounded under working conditions... YES

not compound wound state distance between generators... — and from switchboard... — Where more than one generator is fitted are they

anged 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

t for machines under 100 kw. been supplied... YES and the results found as per rule... YES Are the lubricating arrangements and the construction

the generators as per rule... YES Position of Generators... IN ENGINE-ROOM

is the ventilation in way of generators satisfactory... YES are they clear of inflammable material... YES, if situated

ar unprotected combustible material state distance from same horizontally... — and vertically... — are the generators protected from mechanical

jury and damage from water, steam and oil... YES are the bedplates and frames earthed... YES and the prime movers and generators in metallic

ntact... YES Switchboards, where are main switchboards placed... IN ENGINE-ROOM ABOVE GENERATORS

e they in accessible positions, free from inflammable gases and acid fumes... YES are they protected from mechanical injury and damage from water, steam

d oil... YES, if situated near unprotected combustible material state distance from same horizontally... — and vertically... —, what insulation

aterial is used for the panels... SINDARYO, if of synthetic insulating material is it an Approved Type... YES, if of

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... YES, 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"

de of switches... YES Description of Main Switchgear for each generator and arrangement of equaliser switches...

300 AMP. D.P. KNIFE PATTERN SWITCH WITH ZED TYPE FUSES.

nd for each outgoing circuit... 300, 200, 100, 60 OR 30 AMP D.P. CHANGE-OVER SWITCHES WITH ZED TYPE FUSES

re compartments containing switchboards composed of fire-resisting material or lined as per Rule... YES Instruments on main switchboard... 2

mmeters... 2 voltmeters... — synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the

qualiser connection... — Earth Testing, state means provided... EARTH LAMPS.

witches, Circuit Breakers and Fuses, are they as per Rule... YES are the fuses an approved type... YES are all fuses labelled as

er 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

ables, 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... —

tate maximum fall of pressure between bus bars and any point under maximum load... 6.6 Volts are the ends of all cables having a sectional area of 0.04

quare inch and above provided with soldering sockets... YES Are paper insulated and varnished cambric insulated cables sealed at the ends... YES

supported and protected. MAINS: L.C. S.W. 18 CABLES CLIPPED TO GALVANISED CHANNEL UNDER GANTRY.

MACHINERY SPACE : L.C. SWAB CABLE CLIPPED TO STEEL TRAY.
ACCOMMODATION : V.C. L.C. CABLE CLIPPED TO WOODWORK.

Are all lead sheaths, armouring and conduits effectually bonded and earthed.....YES..... Refrigerated chambers, are the cables and fittings as per Rule.....

4. " " " passing through decks and watertight bulkheads provided with deck tubes or watertight glands YES where unarmoured cables pass through

Are all cables passing through decks and watertight bulkheads provided with deck plates or watertight glands..... Yes Five Alternative Lighting, are

beams, etc., are the holes effectively bused..... YES..... and with what material..... NOT..... Alternative lighting, are

the groups of lights in the engine and boiler rooms arranged as per Rule..... ES..... 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.....YES..... Secondary Batteries, are they constructed and fitted as per Rule.....—....., are they adequately ventilated.....—.....

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. YES if so, how are they protected.....

FLAME PROOF FITTINGS

LEADLE FAVORITE MISS

In [unclear] YES

and where are the controlling switches fitted, IN ACCOMMODATION, are all fittings suitably ventilated, YES.

are all fittings and accessories constructed and installed as per Rule 45. Searchlight Lamps, No. of -, whether fixed or portable -

....., are their fittings as per Rule..... Heating and Cooking, is the general construction as per Rule..... £s

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.....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.....

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..... YES..... 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. YES 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

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 ✓	30 ✓	110 ✓	273 ✓	580 ✓	STEAM ENGINE	—	—
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 Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	30	1	37'083	273	296	30	V.C.	L.C. S.W.F.B.
" " EQUALISER								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

[illegible]

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	7.064	35	75	132	V.C.	L.C.
NAVIGATION LIGHTS	1	7.044	19	42	132	V.C.	L.C.
LIGHTING AND HEATING							
UPPER BRIDGE DECK LIGHTING D.B.	1	7.044	14.2	42	108	V.C.	L.C.
BRIDGE DECK LIGHTING D.B. PORT	1	7.044	15.6	42	84	V.C.	L.C.
BRIDGE DECK LIGHTING D.B. STBD.	1	7.044	18	42	54	V.C.	L.C.
MID. CARGO LIGHTING D.B.	1	7.029	10	15	10	V.C.	L.C.
CREW LIGHTING D.B. PORT.	1	7.044	7.2	42	78	V.C.	L.C.
CREW LIGHTING D.B. STBD.	1	7.044	7.2	42	180	V.C.	L.C.
CREW LIGHTING D.B. AFT.	1	7.044	15	42	204	V.C.	L.C.
POOP DECK LIGHTING D.B. PORT	1	7.044	20	42	102	V.C.	L.C.
POOP DECK LIGHTING D.B. STARBOARD	1	7.044	8.9	42	150	V.C.	L.C.
ENGINE ROOM LIGHTING D.B. N°1	1	7.029	9	15	54	V.C.	L.C. SWAB
ENGINE ROOM LIGHTING D.B. N°2	1	7.029	9	15	126	V.C.	L.C. SWAB
ENGINE ROOM LIGHTING D.B. N°3	1	7.029	12.5	15	108	V.C.	L.C. SWAB
ENGINE ROOM LIGHTING D.B. N°4	1	7.029	12.5	15	188	V.C.	L.C. SWAB
GYRO.	1	7.029	10	15	50	V.C.	L.C.

MOTOR CABLES.

[illegible]

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.

P.Pro. THE SUNDERLAND FORGE & ENGINEERING CO. LTD. *J. Shanks* Electrical Engineers. Date 26/11/45

COMPASSES.

Minimum distance between electric generators or motors and standard compass..... TWENTY FEET.

Minimum distance between electric generators or motors and steering compass..... TWENTY FEET.

The nearest cables to the compasses are as follows:—

A cable carrying 19 Ampères 9 feet from standard compass 7 feet from steering compass.

A cable carrying 28 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 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.

BLITHWOOD SHIPBUILDING CO., LTD.

A. J. Brown SECRETARY

Builder's Signature.

Date 28/1/45

Is this installation a duplicate of a previous case..... No If so, state name of vessel.....

Plans. Are approved plans forwarded herewith..... No If not, state date of approval..... 12TH JUNE 1945

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.).....

The electrical equipment of this vessel has been fitted on board under Special Survey, tested under working conditions and found satisfactory. All the requirements of the approved plans and M.O.W.T. Specification have been carried out. The materials and workmanship are good.

Noted

L.F.

10/1/46

Total Capacity of Generators..... 60 Kilowatts.

The amount of Fee ...	£ 28 : 10 :	When applied for, 29.11.1945
SPECIFICATION FEE	£ 7 : 2/6	
Travelling Expenses (if any)	£ - : - :	When received, 19.....

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

Committee's Minute

GLASSGOW 28 DEC 1945

Assigned

SEE ACCOMPANYING MACHINERY REPORT



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5m.4.30.—Transfer. (MADE AND PRINTED IN ENGLAND.)
(The Surveyors are requested not to write on or below the space for Committee's Minute.)