

Rpt. 13.

No. 65528

## REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

27 MAY 1942

Date of writing Report. 25<sup>th</sup> APRIL 42 When handed in at Local Office. 25.5.42 Port of. GLASGOWNo. in Survey held at. PORT GLASGOW. Date, First Survey. 1.4.42 Last Survey. 1<sup>st</sup> MAY 1942  
Reg. Book. (Number of Visits. 6)36457 on the. S.S. "EMPIRE AUSTEN" Tons { Gross. 7057  
Net.

Built at. PORT GLASGOW By whom built. LITHGOWS LTD. Yard No. 969 When built. 1942

Owners. HIS MAJESTY REPRESENTED BY THE MINISTER OF WAR TRANSPORT. Port belonging to. GREENOCK.

Electrical Installation fitted by. THE SUNDERLAND FORGE &amp; ENG. CO LTD. Contract No. 969. When fitted. 1942.

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

Have plans been submitted and approved. yes System of Distribution. Two wire. Voltage of supply for Lighting. 110

Heating. - Power. 110 Direct or Alternating Current, Lighting. D.C. Power. D.C. If Alternating Current state frequency. - Prime Movers,

has the governing been tested and found efficient when the whole 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. yes and the results found as per rule. yes Are the lubricating arrangements and the construction

of 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

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. near generators

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. Sindango, 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.

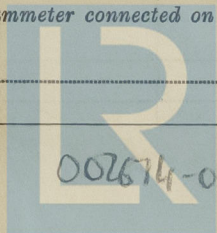
D.P. Switch + Fuses

and for each outgoing circuit. D.P. 90 Switch + Fuses.

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

ammeters. 2 voltmeters. - 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



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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 4.9 Volts 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 exposed ends Yes 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 —, if so, are they adequately protected —. Are cables in machinery spaces, galleys, laundries, etc., lead covered — or run in conduit Yes. State how the cables are supported and protected Mains V.I.R. in galvanised steel pipe or conduit, Machinery

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

and where are the controlling switches fitted \_\_\_\_\_, are all fittings suitably ventilated. yes,  
are all fittings and accessories constructed and installed as per Rule. yes Searchlight Lamps, No. of \_\_\_\_\_, 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. 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 \_\_\_\_\_

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....., are all fuses of the cartridge type..... are they of an approved type..... If portable lamps for use in dangerous spaces are supplied, are they of a self-contained battery-fed flameproof type..... 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 megger tested and found satisfactory yes.....

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN ...	2	15	110	135	850	Steam engine		
EMERGENCY ...								
ROTARY TRANSFORMER								

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULA- TED WITH.	HOW PROTECTED.
		No. in Parallel For Tole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR ... ..	15	1	19/064	136	135	60	R.C.	L.C.
" " EQUALISEE ... ..								
EMERGENCY GENERATOR ... ..								
ROTARY TRANSFORMER: MOTOR ...								
" " GENERATOR ... ..								

[illegible][illegible][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.

Electrical Engineers.

Date 11th May 1942.

#### COMPASSES.

Minimum distance between electric generators or motors and standard compass

40 feet

Minimum distance between electric generators or motors and steering compass

35 feet

The nearest cables to the compasses are as follows:—

A cable carrying 18 Ampères led into feet from standard compass led into feet from steering compass.

A cable carrying 8 Ampères 6 feet from standard compass 6 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.

LITHGOWS LIMITED.

John M. Jones Secretary

Builder's Signature.

Date

18/5/42

Is this installation a duplicate of a previous case

yes

If so, state name of vessel

SS "EMPIRE SPARTAN"

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

The electrical equipment of the 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. specifications have been carried out.

The materials and workmanship are good.

25/5/42

Noted  
28/5/42

Total Capacity of Generators 30 Kilowatts.

The amount of Fee ...	£ 22 : 10 :	When applied for,
M.O.W.T. spec.	5 : 12 : 6	At G.R. 19.....
Travelling Expenses (if any) £	: 11/-:	When received.
		.....19.....

N. Alexander  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW 26 MAY 1942

Assigned

See Price Entry Report



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