

## REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

27 JAN 1942

Received at London Office.....

Date of writing Report.....19..... When handed in at Local Office.....24 JAN 1942..... Port of.....HULL

No. in Survey held at.....Hull & Hesse..... Date, First Survey.....19.9.41..... Last Survey.....10.12.1941.....  
Reg. Book..... (Number of Visits.....)on the.....Le Tig..... **EMPIRE BIRCH.** Tons {Gross.....229.....  
Net.....Nil.....

Built at.....Hesse..... By whom built.....Hy Scarr &amp; Co..... Yard No.....418..... When built.....1941-12.....

Owners.....The Ministry of War Transport..... Port belonging to.....Hull.....

Electrical Installation fitted by.....The Humber Electrical Engineering Co..... Contract No..... When fitted.....1941-12.....

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

Have plans been submitted and approved.....Yes..... System of Distribution.....Parallel Constant Current Voltage of supply for Lighting.....110.....  
- 2 Wre -

Heating.....Power.....Direct or Alternating Current, Lighting.....D.C.....Power.....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.....Engine room, starboard side.....

....., 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.....Engine room, adjacent to 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.....Sundango....., 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. Switches &amp; fuses with bus bars arranged one pair for each.....

.....Dynamo.....

and for each outgoing circuit.....D.P. Change over switches &amp; D.P. 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 &amp; switches.....

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

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 effectively 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. 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. Yes, 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. ✓ 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. ✓

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. ✓ 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

PARTICULARS OF GENERATING PLANT.						WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.		
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.	4.	110	36.5	500.	Steam Engine	✓	✓
EMERGENCY ...								
ROTARY TRANSFORMER								

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (feet plus return feet).	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel Per Fold.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rate.			
MAIN GENERATOR ... ..	4	Gnc	7/0G4	36.5	46	26	V.I.R.	L.C. + Arm.
" " EQUALISER ... ..	✓							
EMERGENCY GENERATOR ... ..	✓							
ROTARY TRANSFORMER: MOTOR	✓							
" " GENERATOR ... ..	✓							

AUX. SWITCHBOARDS AND SECTION BOARDS ...							
DG	One	7/064	95	46	✓	—	V.1 R Special braided cable
- Accommodation	"	7/029	10	15	✓	160	" no conductor
Navigation.	"	3/036	4	10	✓	160	" do
Note Engine Room from main board.							

[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.

*W. E. Sturges*

Electrical Engineers.

Date

#### COMPASSES.

Minimum distance between electric generators or motors and standard compass

Minimum distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

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

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted

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

*Yes*

If so, state name of vessel

*1st Class*

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

*This Electric installation has been fitted on board in accordance with the Rules, the approved plans, & the specifications. The materials & workmanship are good & when tested under working conditions & tested as prescribed in the Rules it was found satisfactory in every respect.*

*Noted  
L.Y.  
10/2/42.*

Total Capacity of Generators ..... *8* ..... Kilowatts.

The amount of Fee ..... £ *8* : *0* : .....  
*+ 25% for Spec* ..... £ *2* : *0* : .....  
Travelling Expenses (if any) £ ..... : ..... : .....  
When applied for, ..... 23 JAN 1942 .....  
When received, ..... 19.....

Surveyor to Lloyd's Register of Shipping.

FRI, 13 FEB 1942

Committee's Minute

Assigned

*See H.L. 2E 51472*