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# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

6 NOV 1946

Date of writing Report... 12<sup>th</sup> October 1946 When handed in at Local Office... 11.11.46 Port of... GLASGOW

No. in Survey held at... PORT GLASGOW Date, First Survey... 21<sup>st</sup> JUNE Last Survey... 11<sup>th</sup> OCTOBER 1946 Reg. Book. (Number of Visits... 11...)

87554 on the 'JALARAJAN' Tons {Gross... 5085 Net...

Built at... PORT GLASGOW By whom built... LITHGOWS LTD Yard No... 1015 When built... 1946

Owners... SCINDIA STEAM NAVIGATION CO LTD Port belonging to... BOMBAY

Electrical Installation fitted by... CAMPBELL & ISHERWOOD Contract No... 1015 When fitted... 1946

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... 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 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... YES 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... ON STARBOARD SIDE OF 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... SINDANYO, 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...

300 AMP D.P. MAIN SWITCH WITH FUSES

and for each outgoing circuit... 60 AMP OR 30 AMP D.P.C.O SWITCHES WITH FUSES

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule... YES 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

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... W.E.,

state maximum fall of pressure between bus bars and any point under maximum load... 6.3 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 ends...

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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.....

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

are the frames effectually earthed....., are heaters in the accommodation of the convection type..... Motors, are all motors constructed and

steam and oil.....YES....., if situated near unprotected combustible material state minimum distance from same horizontally.....✓..... and vertically.....✓..... Are

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing..... Have certificates of test for motors under

fitted as per Rule.....YES..... Lightning Conductors, where required are they fitted as per Rule.....✓..... Ships carrying Oil having a Flash Point

are they of an approved type..... Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such

Rule.....YES....., are they suitably stored in dry situations.....YES..... Insulation Tests, has the insulation resistance of all circuits and apparatus been tested

and found satisfactory.....

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 ✓	20 ✓	110 ✓	182 ✓	600 ✓	STEAM ENGINE	✓	✓
EMERGENCY ...								
ROTARY TRANSFORMER								

DESCRIPTION.	KILOWATTS.	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.	Rule.			
MAIN GENERATOR ... ..	20	1	37/083	132	184	36	W.E.	L.C.
" " EQUALISER ... ..								
EMERGENCY GENERATOR ... ..								
ROTARY TRANSFORMER: MOTOR ... ..								
" " GENERATOR ... ..								

[illegible]

WIRELESS	1	7.064	15	46	340	W.E.	L.C.A.B.
NAVIGATION LIGHTS	1	7.029	7	15	340	W.E.	L.C.A.B.
LIGHTING AND HEATING							
SALOON ACCOMMODATION D.B.	1	7.064	38	46	300	W.E.	L.C.A.B.
ENGINEERS ACCOMMODATION D.B.	1	7.044	18.2	31	130	W.E.	L.C.A.B.
DET. ACCOMMODATION D.B.	1	7.064	22.9	46	300	W.E.	L.C.A.B.
ENGINE ROOM D.B.	1	7.036	17.3	24	30	W.E.	L.C.A.B.
VENT FAN D.B.	1	19.052	09	64	130	W.E.	L.C.A.B.
FORWARD CARGO D.B.	1	7.044	28.7	31	180	W.E.	L.C.A.B.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.							
AIR VENT FAN	1	3	1	7/052	26.3	37/	260	W.E.	L.C.B.
ENGINEERS ASSOM. VENT FAN.	1	1.5	1	7/029	13.6	15/	50	W.E.	L.C.B.
SALOMON ASSOM. VENT FAN.	1	1.5	1	7/029	13.6	15/	230	W.E.	L.C.B.
F.W. PUMP.	1	.5	1	3/036	6	10/	120	W.E.	L.C.B.



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.

CAMPBELL & JENNARD LTD

Electrical Engineers.

Date 21-10-1946

#### COMPASSES.

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

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

The nearest cables to the compasses are as follows:—

A cable carrying 7 Ampères TWELVE feet from standard compass ELEVEN feet from steering compass.

A cable carrying 23 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.

LITHGOWS LIMITED.

A. H. White Secretary

Builder's Signature.

Date 1/11/46

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 29<sup>TH</sup> JULY 1946

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. The materials and workmanship are good.

Noted 12.11.46

Total Capacity of Generators 40 Kilowatts.

The amount of Fee ... £ 32 : 10 : 00

Travelling Expenses (if any) £ : 16/2

When applied for,

When received,

19.....

Committee's Minute GLASGOW 5 NOV 1946

Assigned See First Entry Report (Ex. No. 23400)

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



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Foundation