

Rpt. 13.

No. 45490

**REPORT ON ELECTRICAL EQUIPMENT.**

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

8 JUN 1950

Received at London Office

Date of writing Report 23<sup>RD</sup> MAY 1950 When handed in at Local Office \_\_\_\_\_ 19\_\_\_\_ Port of GLASGOWNo. in Survey held at GLASGOW & PORT GLASGOW Date, First Survey \_\_\_\_\_ Last Survey 27<sup>TH</sup> APRIL 1950  
Reg. Book. (No. of Visits \_\_\_\_\_)40957 on the M.V. 'WAZIRISTAN' Tons } Gross \_\_\_\_\_  
Net \_\_\_\_\_Built at PORT GLASGOW By whom built LITHGONS LTD Yard No. 1051 When built 1950Owners HINDUSTAN STEAM SHIPPING CO LTD Port belonging to SUNDERLANDInstallation fitted by MESSRS CAMPBELL & ISHERWOOD LTD When fitted 1950Is vessel equipped for carrying Petroleum in bulk YES Is vessel equipped with D.F. YES E.S.D. YES Gy.C. YES Sub.Sig. YES Radar YESPlans, have they been submitted and approved YES System of Distribution TWO WIRE Voltage of Lighting 110Heating 110 Power 110 D.C. or A.C., Lighting D.C. Power D.C. If A.C. state frequency ✓Prime Movers, has the governing been found as per Rule when full load is thrown on and off YES Are turbine emergency governors fitted with a trip switch ✓ Generators, are they compound wound YES, and level compounded under working conditions YES, if not compound wound state distance between generators ✓ and from switchboard ✓ Are the generators arranged to run in parallel YES, 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 YESPosition of Generators STEAM SETS, STARBOARD SIDE OF ENGINE ROOM, DIESEL SET, IN DECKHOUSE ON 7<sup>FT</sup> BOAT DECK, is the ventilation in way of generators satisfactory YES are they clear of inflammable material and protected from mechanical injury and damage from water, steam and oil YES Switchboards, where are main switchboards placed ADJACENT TO GENERATORS,are they in accessible positions, free from inflammable gases and acid fumes and protected from mechanical injury and damage from water, steam and oil YES, what insulation 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 construction as per Rule, including locking of screws and nuts YES Description of Main Switchgear for each generator and arrangement of equaliser switches 400 AMP. TRIPLE POLE CIRCUIT BREAKER FITTED WITH OVERLOAD, REVERSE CURRENT, PREFERENCE TRIPS AND UNDERVOLTAGE RELEASEand the switch and fuse gear (or circuit breakers) for each outgoing circuit D.P. KNIFE PATTERN SWITCHES WITH 'ZED' TYPE FUSESAre compartments containing switchboards composed of fire-resisting material or lined as per Rule YES Instruments on main switchboard THREE ammeters TWO voltmeters ✓ synchronising devices. For compound machines in parallel are the ammeters and reversed current protection devices connected on the pole opposite to the equaliser connection YES Earth Testing, state means provided EARTH LAMPSSwitches, Circuit Breakers and Fuses, are they as per Rule YES, are the fuses an Approved Type YES, make of fuses SIEMENS 'ZED' TYPE, are all fuses labelled YES If circuit breakers are provided for the generators, at what overload do they operate 150% FULL LOAD, and at what current do the reversed current protective devices operate 10% - 15% FLJoint Boxes, Section Boards and Distribution Boards, is the construction as per Rule YESCables, are they insulated and protected as per Rule 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 6 VOLTS, are the ends of all cables having a sectional area of 0.01 square inch and above provided with soldering sockets YES Are all paper insulated and varnished cambric insulated cables sealed at the ends 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 any 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 ✓ or of the "HR" type ✓ State how the cables are supported or protected MAINS - L.C.A.B. CABLES CLIPPED TO STEELWORK, MACHINERY SPACE - L.C.A.B. CABLES CLIPPED TO STEELWORK, ACCOMMODATION - L.C. CABLE CLIPPED TO WOODWORKAre all lead sheaths, armouring and conduits effectually bonded and earthed 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 effectually bushed YES Refrigerated chambers, are the cables and fittings as per Rule ✓

Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule YES Emergency Supply, state position YES

Navigation Lamps, are they separately wired YES controlled by separate double pole switches and fuses YES Are the switches and fuses in a position accessible YES to the officers on watch YES, is an automatic indicator fitted YES Is an alternative supply provided YES

Secondary Batteries, are they constructed and fitted as per Rule YES, are they adequately ventilated YES state battery capacity in ampere hours YES

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof YES

Are any 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 FLAMEPROOF FITTINGS INSTALLED IN CENTRECASTLE SPACE. PUMPROOM FITTINGS COMPLY WITH RULE REQUIREMENTS.

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

Searchlight Lamps, No. of 1, whether fixed or portable YES, are they of the carbon arc or of the filament type YES

Heating and Cooking, is the general construction as per Rule YES, 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 and placed in well-ventilated compartments in which inflammable gases cannot accumulate and protected from damage from water, steam and oil YES

Are motors coupled to oil fuel transfer and pressure pumps capable of being stopped from a position accessible in the event of fire in the pump compartment YES Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing YES

Have certificates of test for motors under 100 BHP intended for essential sea services been supplied and the results found as per Rule YES

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 an Approved Cartridge Type YES, make of fuse SIEMENS 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

E.S.D., if fitted state maker MARCONI location of transmitter FRAME SPACE 39-40. and receiver FRAME SPACE 39-40.

Spare Gear, if the vessel is for open sea service have spares been provided as per Rule and suitably stored in dry situations YES

Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory YES

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	MAKER.	GENERATED AT				PRIME MOVER.	
			Kilowatts per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN ...	2	CAMPBELL & ISHERWOOD.	40	110	364	600	STEAM	READER.
EMERGENCY ...	1	CAMPBELL & ISHERWOOD.	40	110	364	600	DIESEL	RUSTON & HORNSBY.
EMERGENCY ... ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR ...	40	2	19/083	364	404	124	V.C.	L.C.F.B.
" " EQUALISER ...		1	19/083	-	202	62	V.C.	L.C.F.B.
EMERGENCY GENERATOR.	40	2	37/103	364	816	300	V.C.	L.C.F.B.
" " EQUALISER		1	37/103	-	408	150	V.C.	L.C.F.B.
EMERGENCY GENERATOR ...								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR...								

MAIN DISTRIBUTION CABLES (to Section Boards, Distribution Fuse Boards, etc.).

DESCRIPTION.	No.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
MIDSHIP SECTION BOARD	1	37/093	303	363	560	V.C.	L.C.F.B.
MIDSHIP LIGHTING SECTION BOARD.	1	19/044	62	92	40	V.C.	L.C.
AFT LIGHTING SECTION BOARD.	1	19/052	79	110	80	V.C.	L.C.B.
ENGINEER ROOM LIGHTING SECTION BOARD.	1	7/052	34	60	80	V.C.	L.C.F.B.

LIGHTING, HEATING, WIRELESS, NAVIGATION LIGHTS, ETC., CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
WIRELESS	1	7/052	10	37	650	RUBBER	L.C.F.B.
NAVIGATION.	1	7/036	3	24	650	RUBBER	L.C.F.B.
BRIDGE DECK LIGHTING.	1	7/044	25	31	30	RUBBER	L.C.
LOWER BRIDGE LIGHTING.	1	7/044	18	31	60	RUBBER	L.C.
FORECASTLE LIGHTING.	1	7/036	6	24	318	RUBBER	L.C.F.B.
AFT LIGHTING. POOP DECK.	1	7/044	21	31	100	RUBBER	L.C.
AFT LIGHTING UPPER DECK.	1	7/044	19	31	80	RUBBER	L.C.
ENGINEER ROOM LIGHTING.	1	7/044	18	31	80	RUBBER	L.C.F.B.
MAST FLOODLIGHTS.	1	7/044	20	31	120	RUBBER	L.C.
SUEZ CANAL PROJECTOR (WIRING ONLY)	1	7/064	40	80	480	V.C.	L.C.F.B.
GYRO COMPASS.	1	7/036	10	24	20	RUBBER	L.C.
RADAR.	1	7/064	42	45	120	RUBBER	L.C.
ENGINEER ROOM AUXILIARIES (Non Ess.)	1	19/064	122	143	150	V.C.	L.C.F.B.
ENGINEER ROOM AUXILIARIES (ESSENTIAL)	1	19/064	110	143	120	V.C.	L.C.F.B.
VENT FAN D.B.	1	7/064	57	80	120	V.C.	L.C.F.B.
REFRIG. MACHINERY D.B.	1	19/044	45	92	300	V.C.	L.C.F.B.
GALLEY RANGE	1	37/072	232	260	216	V.C.	L.C.B.
SHORE CONNECTION	1	19/083	202	202	270	V.C.	L.C.F.B.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	No.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
STEERING GEAR MOTORS	2	25	1	19/083	194	202	200	V.C.	L.C.
FIRE PUMP	1	20	1	37/093	159	363	948	V.C.	L.C.F.B.
REFRIG. COMPRESSOR.	1	4	1	7/044	35	45	8	V.C.	L.C.F.B.
REFRIG. CIRCULATING PUMP.	1	1	1	7/029	10	15	90	RUBBER	L.C.F.B.
VENTILATION FANS	3	2.75	1	7/044	25.5	31	128	RUBBER	L.C.
CRANE	1	3	1	7/044	26	31	100	RUBBER	L.C.F.B.
WORKSHOP	1	3	1	7/044	26	31	75	RUBBER	L.C.F.B.
ENGINEER ROOM VENT FANS	2	2.6	1	7/044	22	31	108	RUBBER	L.C.F.B.
PURIFIERS	3	2.5	1	7/044	21	31	100	RUBBER	L.C.F.B.
PRIMING PUMP	1	1.5	1	7/036	13	24	68	RUBBER	L.C.F.B.
FRESH WATER PUMP	1	1.5	1	7/036	15	24	30	RUBBER	L.C.F.B.
FRESH WATER PUMP	1	1	1	7/029	10	15	15	RUBBER	L.C.

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 & ISHERWOOD LTD. Electrical Contractors. Date  
*H. K. Schofield* Manager

COMPASSES.

Have the compasses been adjusted under working conditions. YES

LITHGOWS LIMITED.

*H. A. White* Builder's Signature. Date 31/5/50  
Director & Secretary.

Have the foregoing descriptions and schedules been verified and found correct. YES

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. 4/2/49; 9/2/50; 12/4/50.

Certificates. Are certificates of test for motors engaged on essential sea 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 installation of this vessel has been fitted on board under Special Survey tested under working conditions and found satisfactory. The quality of materials and workmanship is good.

Noted *EW* 13/6/50.

Total Capacity of Generators 120 Kilowatts.

The amount of Fee ... £ 58: 0: When applied for, *work* 19.

Travelling Expenses (if any) £ 1: 2: When received, 19.

Committee's Minute GLASSGOW 7 JUN 1950

Assigned See F.E. Machy R/F Grk 24104

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

2m. 9. 46. - Trade Mark. (MADE AND PRINTED IN ENGLAND.)  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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