

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office... 16 MAR 1949  
 Date of writing Report... 3<sup>RD</sup> MARCH 1949... When handed in at Local Office... 9 - MAR 1949... Port of... NEWCASTLE-ON-TYNE

No. in Survey held at... WALKER-ON-TYNE... Date, First Survey... 29<sup>TH</sup> OCT 1948... Last Survey... 28<sup>TH</sup> FEBRUARY 1949  
 Reg. Book. (Number of Visits... 10...)

on the... S.S. "SHILLONG" Tons { Gross... 8033.68... Net... 4816.33

Built at... NEWCASTLE-ON-TYNE... By whom built... VICKERS ARMSTRONGS LTD... Yard No... 10H... When built... 1948/49

Owners... P. & O. STEAM NAV. CO... Port belonging to... LONDON

Electrical Installation fitted by... VICKERS ARMSTRONGS LTD... Contract No... -... When fitted... 1948/49

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

Have plans been submitted and approved... YES... System of Distribution... TWO WIRE - INSULATED... Voltage of supply for Lighting... 220

Heating... -... Power... 220... 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... -... 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... 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... YES... Have certificates of test for machines under 100 kw. been supplied... -... and the results found as per rule... -... 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... SANDANTO... 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... 2000 AMPS - TRIPLE POLE CIRCUIT BREAKER WITH TWO OVERLOADS, UNDERVOLTAGE, REVERSE CURRENT AND PREFERENCE TRIPS... and for each outgoing circuit... DOUBLE POLE CIRCUIT BREAKER WITH OVERLOADS OR DOUBLE POLE QUICK BREAK SWITCH WITH A FUSE ON EACH INSULATED POLE... Are compartments containing switchboards composed of fire-resisting material or lined as per Rule... YES... Instruments on main switchboard... 11 ammeters... 3... voltmeters... -... synchronising devices... For compound machines in parallel is the ammeter connected on the pole opposite to the equaliser connection... YES... 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... 120% FL... are the reversed current protection devices connected on the pole opposite to the equaliser connection... YES... have they been tested under working conditions, and at what current did they operate... YES / 120 AMPS... 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... -... state maximum fall of pressure between bus bars and any point under maximum load... 12 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... YES



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.

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. If so, state name of vessel

Plans. Are approved plans forwarded herewith. If not, state date of approval

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith

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

Total Capacity of Generators Kilowatts.

The amount of Fee £ : : When applied for, : :  
 Travelling Expenses (if any) £ : : When received, : :  
 .....19.....  
 .....19.....

Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI 29 APR 1943**

Assigned

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX LENGTH (lead plus return feet).	INSULA-TED 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.			
ENGINE ROOM MOTORS S.B. 42. S1	1	7-064	40	75	180	V.C.	L.C.A.R.B.
AUX. SWITCHBOARDS AND SECTION BOARDS	1	7-064	50	75	200	V.C.	L.C.A.R.B.
ENGINE ROOM LIGHTING S.B. 41. S1	1	7-064	50	75	200	V.C.	L.C.A.R.B.
ENGINE ROOM MOTORS S.B. 16. S1	1	19-083	110	191	120	V.C.	L.C.A.R.B.
ENGINE ROOM VENT FAN MOTORS S.B. 12. S1	1	7-064	60	75	100	V.C.	L.C.A.R.B.
MAIN GALLEY SUB. SWITCHBOARD	1	37-072	186.9	246	350	V.C.	L.C.A.R.B.
TWEEN DECK LIGHTING, NOS. 1-5, HODDS S.B. 9. S1	1	19-083	40.4	191	450	V.C.	L.C.A.R.B.
ACCOMMODATION LIGHTING, MIDSHIPS S.B. 8. S1	1	19-083	88	191	300	V.C.	L.C.A.R.B.
FOR WINCHES, POWER, CARGO LGA. SUB. SWITCHBOARD	1	61-103	471	540	600	V.C.	L.C.A.R.B.
REFRIGERATION MACHINERY SUB. SWITCHBOARD	2	61-103	1068	1080	500	V.C.	L.C.A.R.B.
APT. WINCHES, LIGHTING & POWER SUB. SWITCHBOARD	1	91-103	627	738	600	V.C.	L.C.A.R.B.
MIDSHIP WINCHES, CARGO LIGHTING SUB. SWITCHBOARD	1	61-093	345	464	350	V.C.	L.C.A.R.B.
INDIAN CREW GALLEYS (2 OFF)	1	19-052	68	104	200	V.C.	L.C.A.R.B.
SUEZ CANAL SEARCHLIGHT	1	19-064	60	135	240	V.C.	L.C.A.R.B.
SHORE CONNECTION BOX	1	37-103	300	385	350	V.C.	L.C.A.R.B.

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	7-064	15	75	450	V.C.	L.C.A.R.B.
NAVIGATION LIGHTS	1	7-064	23	75	450	V.C.	L.C.A.R.B.
LIGHTING AND HEATING ER, BR. LGA. D.B. 41. S1. D1.	1	7-064	20	46	20	V.I.R.	L.C.A.R.B.
ENGINE-BOILER ROOMS LIGHTING D.B. 41. S1. D2.	1	7-064	20	46	20	V.I.R.	L.C.A.R.B.
ENGINE-BOILER ROOMS LIGHTING D.B. 41. S1. D3.	1	7-064	10	46	20	V.I.R.	L.C.A.R.B.
HEATING COILS FOR OIL BURNING PLANT	1	19-052	82	104	300	V.C.	L.C.A.R.B.
OIL BURNING EQUIPMENT AUX. BOILER	1	7-064	34	75	200	V.C.	L.C.A.R.B.
Nº1 HOLD TWEEN DECK LIGHTING D.B. 9. S1. D1.	1	7-036	3.5	24	450	V.I.R.	L.C.A.R.B.
Nº2 HOLD TWEEN DECK LIGHTING D.B. 9. S1. D2.	1	7-044	9.5	31	450	V.I.R.	L.C.A.R.B.
Nº3 HOLD TWEEN DECK LIGHTING D.B. 9. S1. D3.	1	7-036	7.4	24	320	V.I.R.	L.C.A.R.B.
Nº4 HOLD TWEEN DECK LIGHTING D.B. 9. S1. D4.	1	7-052	12.5	37	630	V.I.R.	L.C.A.R.B.
Nº5 HOLD TWEEN DECK LIGHTING D.B. 9. S1. D5.	1	7-036	3.5	24	680	V.I.R.	L.C.A.R.B.
ACCOMMODATION LIGHTING MIDSHIPS D.B. 8. S1. D1.	1	7-044	25	31	20	V.I.R.	L.C.A.R.B.
ACCOMMODATION LIGHTING MIDSHIPS D.B. 8. S1. D2.	1	7-044	15	31	160	V.I.R.	L.C.A.R.B.
ACCOMMODATION LIGHTING MIDSHIPS D.B. 8. S1. D3.	1	7-044	20	31	100	V.I.R.	L.C.A.R.B.
ACCOMMODATION LIGHTING MIDSHIPS D.B. 8. S1. D4.	1	7-044	16	31	240	V.I.R.	L.C.A.R.B.
ACCOMMODATION LIGHTING MIDSHIPS D.B. 8. S1. D5.	1	7-044	12	31	240	V.I.R.	L.C.A.R.B.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
STEERING GEAR MOTORS	2	30	1	37-072	114	246	600	V.C.
WORKSHOP MOTOR	1	3	1	7-036	13	24	200	V.I.R.
MAIN CIRCULATING PUMP MOTORS	2	25/195	1	37-103	350	385	240	V.C.
FORCED LUBRICATION PUMP MOTORS	2	22/28	1	19-064	108	125	240	V.C.
EXTRACTION PUMP MOTORS	2	18	1	7-064	70	75	230	V.C.
OIL FUEL PRESSURE PUMP MOTORS	2	65	1	7-064	26	46	320	V.I.R.
INDUCED DRAUGHT FAN MOTORS	2	54	1	37-072	210	246	240	V.C.
FORCED DRAUGHT FAN MOTORS	2	45	1	19-083	170	191	260	V.C.
OIL FUEL TRANSFER PUMP MOTOR	1	10	1	7-064	40	75	280	V.C.
SANITARY + FIRE PUMP MOTOR	1	20/25	1	19-052	95	104	200	V.C.
BILGE + FIRE PUMP MOTOR	1	20/25	1	19-052	95	104	180	V.C.
BALLAST + FIRE PUMP MOTOR	1	30/35	1	19-064	132	135	180	V.C.
AIR COMPRESSOR MOTOR	1	12	1	7-064	48	75	180	V.C.
FRESH WATER PUMP MOTORS	2	5/12	1	7-064	30	46	200	V.I.R.
CARGO CARE UNITS	2	6	1	7-052	24	37	50	V.I.R.
OILY BILGE PUMP MOTOR	1	4	1	7-044	16	31	180	V.I.R.
WOOD OIL PUMP MOTOR	1	6	1	7-064	25	46	200	V.I.R.
DIESEL OIL PURIFIER MOTORS	2	0.5	1	3-036	2.8	10	180	V.I.R.
DISTILLED WATER PUMP MOTORS	2	3.5	1	7-036	15	24	160	V.I.R.
DIESEL OIL TRANSFER PUMP MOTOR	1	2	1	7-029	9	15	220	V.I.R.
LUB. OIL PURIFIER MOTOR	1	2.5	1	7-036	11	24	160	V.I.R.
FRESH WATER DISCHARGE PUMP	1	12/16	1	7-064	64	75	260	V.C.
TURNING GEAR MOTOR	1	30	1	19-064	114	135	180	V.C.
LUB. OIL PURIFIER FOR DIESEL GENERATORS	1	0.5	1	3-036	2.8	10	180	V.I.R.
BOILER ROOM VENT. FAN MOTORS	2	8	1	7-064	32	46	280	V.I.R.
ENGINE ROOM VENT. FAN MOTORS	4	3.5	1	7-036	15	24	280	V.I.R.
OVEN AND BOILER PLATES	2	16KWS	1	7-064	73	75	80	V.C.
BREAD OVEN	1	5KWS	1	7-052	22.5	37	100	V.I.R.
TOASTER	1	3KWS	1	7-036	13.5	24	100	V.I.R.

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.)

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.  
**FOR VICKERS-ARMSTRONGS LIMITED,**  
 The foregoing is a correct description.

*J. M. Dunstan*  
 DIRECTOR

Electrical Engineers.

Date 4/3/49

COMPASSES.

Minimum distance between electric generators or motors and standard compass 50 FEET.

Minimum distance between electric generators or motors and steering compass 60 FEET.

The nearest cables to the compasses are as follows:—

A cable carrying 0.07 Ampères 6 feet from standard compass INSIDE feet from steering compass.

A cable carrying 0.07 Ampères INSIDE 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 EVERY course in the case of the standard compass, and Nil degrees on EVERY course in the case of the steering compass.

*J. M. Dunstan*  
 DIRECTOR

Builder's Signature.

Date 4/3/49

Is this installation a duplicate of a previous case YES. If so, state name of vessel SS. "SURAT."

Plans. Are approved plans forwarded herewith YES. If not, state date of approval —

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 SHIP HAS BEEN INSTALLED IN ACCORDANCE WITH THE SOCIETY'S RULES AND REGULATION AND THE ARRANGEMENTS ARE IN ACCORDANCE WITH OR EQUIVALENT TO THOSE SHOWN ON THE APPROVED PLANS.

THE MATERIALS USED ARE OF GOOD QUALITY AND THE WORKMANSHIP IS SATISFACTORY.

ON COMPLETION THE INSULATION RESISTANCE OF ALL CIRCUITS WAS ABOVE RULE REQUIREMENTS AND THE GENERATORS OPERATED ON LOAD AND GOVERNING TEST WITH SATISFACTORY RESULTS.

THE EQUIPMENT AS INSTALLED, IS, IN MY OPINION, SUITABLE FOR A CLASSED SHIP.

*Noted.  
 J.S. 21/4/49.*

Total Capacity of Generators 1050 Kilowatts.

NEW CASTLE ACCOUNT.	£ 69-0-0	When applied for,
The amount of Fee ...	£ 17-5-0	<u>15 MAR 1949</u>
LONDON ACCOUNT.		
LONDON ACCOUNT.	£ 15/5-0	When received,
Travelling Expenses (if any)		.....19.....

*J.C. Wright and self.*  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 29 APR 1949

Assigned See F.E. mchly. rpt

5m. 4.39.—Transfer. (MADE AND PRINTED IN ENGLAND.)  
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