

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 30 NOV 1949

Date of writing Report 14th NOVEMBER 1949 When handed in at Local Office 21st Nov. 1949 Port of NEWCASTLE-ON-TYNE
 No. in Survey held at NEWCASTLE-ON-TYNE Date, First Survey 27/6/49 Last Survey 7/11/49
 Reg. Book. (No. of Visits 16)
 92130 on the M.V. "BRITISH ARDOUR". Tons { Gross 8615.73
 Net 4981.78
 Built at NEWCASTLE-ON-TYNE By whom built SWAN HUNTER & WIGHAM RICHARDSON LTD. Yard No. 1866 When built 1949
 Owners BRITISH TANKER CO. LTD. Port belonging to LONDON
 Installation fitted by CAMPBELL & ISHERWOOD LTD. When fitted 1949
 Is vessel equipped for carrying Petroleum in bulk YES Is vessel equipped with D.F. YES E.S.D. YES Gy.C. YES RADAR YES

Plans, have they been submitted and approved YES System of Distribution Two WIRE Voltage of Lighting 110

Heating - 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 YES

Position of Generators IN ENGINE ROOM.

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 NEAR 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. MATT. FINISH "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. 750 AMPERE TRIPLE POLE CIRCUIT BREAKER WITH TWO OVERLOAD TRIPS WITH TIME

LAPS AND REVERSE CURRENT TRIPS.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit. DOUBLE POLE CHANGEOVER SWITCH WITH A FUSE ON EACH POLE.

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

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 LAMPS.

Switches, Circuit Breakers and Fuses, are they as per Rule YES, are the fuses an Approved Type YES

make of fuses "ZED" H.R.C. are all fuses labelled YES If circuit breakers are provided for the generators, at what

overload do they operate 120 % F.L. and at what current do the reversed current protective devices operate 150 % F.L.

Joint Boxes, Section Boards and Distribution Boards, is the construction as per Rule YES

Cables, are they insulated and protected as per Rule YES, if otherwise than as per Rule are they of an Approved Type YES

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 - LEAD COVERED ARMoured AND BRAIDED CLIPPED

TO STEEL TRAY. ACCOMMODATION CABLES - LEAD COVERED CLIPPED TO WOOD GROUNDS.

Are all lead sheaths, armoring 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

effectively 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



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 only 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

and where are the controlling switches fitted OFFICERS ACCOMMODATION ALLEYWAY Are all fittings suitably ventilated Yes

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

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 ZED HRC 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 VISAGRAPH location of transmitter CHARTROOM and receiver DITTO

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.	RATED AT				PRIME MOVER.	
			Kilowatts per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN ...	2	CAMPBELL & ISHERWOOD LTD.	75	110	681	500	STEAM	BELLISS & MORCOM LTD.
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 ...	75	1	91-103	681	738	120.	V.C.	L.C.A.B.
" " EQUALISER ...		1	37-103.	341	386	60.	V.C.	L.C.A.B.
EMERGENCY GENERATOR ...								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR...								

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

DESCRIPTION.								
MIDSHIP SWITCHBOARD.	RADAR & W.T.	1	37-083.	70	314.	420.	V.C.	L.C.A.B.
" " LIGHTING & POWER		1	37-083.	155	314	420	V.C.	L.C.A.B.
NAVIGATING BRIDGE LIGHTING	S.B. "A."	1	7-036.	19	30	15	V.C.	L.C.B.
BRIDGE DECK LIGHTING.	S.B. "E."	1	7-036.	16	30	15	V.C.	L.C.B.
UPPER BRIDGE DECK LIGHTING	S.B. "G."	1	7-052.	30	60	15	V.C.	L.C.B.
BRIDGE DECK LIGHTING.	S.B. "H."	1	7-052.	30	60	15	V.C.	L.C.B.
NAVIGATING BRIDGE LIGHTING	S.B. "O."	1	7-064.	22	80	45	V.C.	L.C.B.
ENGINE ROOM DIST. BOARD.		1	19-083.	154	202	60	V.C.	L.C.A.B.
UPPER DECK LIGHTING.	S.B. "K."	1	7-064.	52	80	180	V.C.	L.C.A.B.
POOP DECK Ltg.	S.B. "C."	1	7-064.	62	80	240	V.C.	L.C.A.B.
" " "	S.B. "D."	1	19-052	60	110	240	V.C.	L.C.A.B.
REFRIG. MACHY.	S.B. "J."	1	7-064.	44	80	90	V.C.	L.C.A.B.
ENGINE ROOM LIGHTING.	S.B. "G."	1	7-044.	33	92	60	V.C.	L.C.A.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.	
GYRO COMPASS.		1	7-036.	15	30	150 V.C. L.C.B.
ECHO SOUNDING.		1	7-036.	10	30	180 V.C. L.C.B.
BRIDGE DECK LIGHTING.	D.B. "E1"	1	7-036.	9	30	30 V.C. L.C.B.
WHEELHOUSE LIGHTING.	D.B. "E2"	1	7-036.	7	30	180 V.C. L.C.B.
" " "	D.B. "G1"	1	7-036.	5	30	180 V.C. L.C.B.
NAVIGATING BRIDGE LIGHTING.	D.B. "G2"	1	7-036.	10	30	210 V.C. L.C.B.
UPPER BRIDGE DECK LIGHTING.	D.B. "G3"	1	7-036.	15	30	150 V.C. L.C.B.
PORT BRIDGE DECK LIGHTING.	D.B. "H1"	1	7-036.	15	30	60 V.C. L.C.B.
STAR. " " "	D.B. "H2"	1	7-036.	15	30	60 V.C. L.C.B.
FORWARD ACCOMM. "	D.B. "J"	1	7-036.	5	30	330 V.C. L.C.B.
SUEZ CANAL PROJECTOR.		1	7-064.	40	80	450 V.C. L.C.B.
RADAR - MARCONI. RADIOLOCATOR.		1	7-064.	45	80	210 V.C. L.C.B.
WIRELESS.		1	7-064.	20	80	30 V.C. L.C.B.
BATTERY CHARGING.		1	7-036.	2	30	20 V.C. L.C.B.
POOP DECK LIGHTING.	D.B. "K1"	1	7-036.	4	30	90 V.C. L.C.B.
" " "	D.B. "K2"	1	7-036.	10	30	90 V.C. L.C.B.
" " "	D.B. "K3"	1	7-036.	10	30	90 V.C. L.C.B.
UPPER DECK LIGHTING.	D.B. "K4"	1	7-036.	14	30	30 V.C. L.C.B.
" " "	D.B. "K5"	1	7-036.	14	30	9 V.C. L.C.B.
GALLEY LIGHTING.	D.B. "C1"	1	7-052	10	60	60 V.C. L.C.B.
ENGINE ROOM LIGHTING.	D.B. "G1"	1	7-036	10	30	60 V.C. L.C.B.
" " "	D.B. "G2"	1	7-036	10	30	60 V.C. L.C.B.
BOILER ROOM LIGHTING.	D.B. "G3"	1	7-036	10	30	120 V.C. L.C.B.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	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.			
MIDSHIP ACCOMM. VENT. FAN MOTORS.	2	3	1	7-052.	26	60	90	V.C.	L.C.B.
BOAT WINCH MOTORS.	4	7 1/2	1	7-064.	60	80	90	V.C.	L.C.B.
AIR CONDITIONING UNIT.	1	-	1	7-036.	20	30	60	V.C.	L.C.B.
PRIMING PUMP MOTOR.	1	1 1/2	1	7-036.	14	30	90	V.C.	L.C.A.B.
CRANE MOTOR.	1	3	1	7-064.	26	80	60	V.C.	L.C.A.B.
LATHE MOTOR.	1	3 1/2	1	7-064.	30	80	120	V.C.	L.C.A.B.
GRINDER MOTOR.	1	2	1	7-036.	18	30	90	V.C.	L.C.A.B.
CENTRIFUGE MOTORS.	2	3	1	7-064.	26	80	120	V.C.	L.C.A.B.
ENGINE ROOM VENT. FAN MOTOR.	1	1 1/2	1	7-036.	14	30	60	V.C.	L.C.A.B.
ACCOMM. VENT. FAN MOTORS.	2	3	1	7-052.	26	60	90	V.C.	L.C.B.
DOM. FRIG. COMPRESSOR MOTORS.	2	4	1	7-052.	34	60	90	V.C.	L.C.B.
" " CIRC. PUMP. MOTOR.	1	1	1	7-052	10	60	30	V.C.	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 & ISHERWOOD, LTD.

PER

Electrical Contractors.

Date

15th Nov 1949

COMPASSES.

Have the compasses been adjusted under working conditions.....

Yes.

FOR

SWAN, HUNTER

TECHNICAL MANAGER.

Builder's Signature.

Date

17th Nov 1949

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..... Yes If not, state date of approval.....

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 equipment of this ship has been installed in accordance with the Society's Rules and Regulations 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, the generators operated on load and governing tests with satisfactory results, and the circuit breakers were tested for protective devices and found to be satisfactory.

The equipment, as installed, is, in my opinion, suitable for a classed ship.

Noted SW 14/12/49

Total Capacity of Generators..... 150 Kilowatts.

The amount of Fee ... £ 62 : 10. : When applied for,

29 NOV 1949

When received,

Travelling Expenses (if any) £ : : 19

Surveyor to Lloyd's Register of Shipping.

Committee's Minute.....

TUES. 20 DEC 1949

Assigned.....

In amli see J.E. Rpt