

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 28 FEB 1944

Date of writing Report 1 FEB 1944 When handed in at Local Office 1 FEB 1944 Port of NEWCASTLE-ON-TYNE

No. in Survey held at NEWCASTLE-ON-TYNE Date, First Survey 6/9/1943 Last Survey 25-1-1944 Reg. Book. (Number of Visits 8)

on the S/S "UMTATA" Tons Gross 7288 Net 3799

Built at WALKER-ON-TYNE By whom built SWAN HUNTER & WILKINSON YARD No. 1440 When built 1944

Owners BULLARD KING & CO LTD Port belonging to LONDON

Electrical Installation fitted by CAMPBELL & ISHERWOOD LTD Contract No. 1440 When fitted 1944

Is vessel fitted for carrying Petroleum in bulk Is vessel equipped with D.F. YES E.S.D. 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 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, PORT IN AND OUT BOARD, NEAR AFT BULKHEAD

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 PORT IN DYNAMO ROOM

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, 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 400 AMPERE CIRCUIT BREAKERS WITH TWO OVERLOAD TRIPS, TIME LAGS AND NO VOLT RELEASE

and for each outgoing circuit DOUBLE POLE DOUBLE THROW G.B. SWITCHES AND DOUBLE POLE 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 YES

Earth Testing, state means provided EARTH LAMPS CONNECTED TO E THROUGH SWITCHES AND FUSES

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

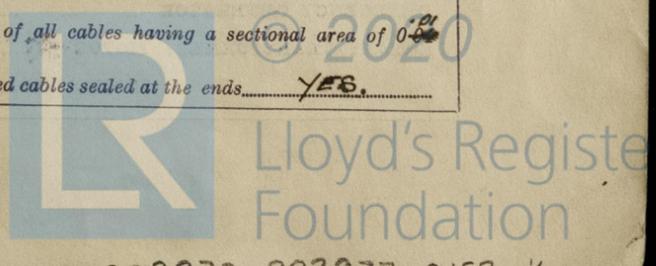
If circuit breakers are provided for the generators, at what overload current did they open when tested 25% are the reversed current protection devices connected on the pole opposite to the equaliser connection

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

state maximum fall of pressure between bus bars and any point under maximum load 414V are the ends of all cables having a sectional area of 0.25

square inch and above provided with soldering sockets YES Are paper insulated and varnished cambric insulated cables sealed at the ends YES



with insulating compound YES or waterproof insulating tape. — 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 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. — State how the cables are supported and protected. LEAD COVERED AND BRAIDED CABLES CLIPPED TO PERFORATED TRAY PLATES.

LEAD COVERED CABLES CLIPPED TO WOOD GROUNDS IN ACCOMMODATION.

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. — 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. —

what is the battery capacity in ampere hours. —

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. —, 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. YES and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil. YES, if situated near unprotected combustible material state minimum distance from same horizontally. — and vertically. — Are

motors coupled to oil fuel transfer and unit pressure pumps capable of being stopped from a position accessible in the event of fire in the pump compartment. —

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. YES Control Gear and Resistances, are they constructed and fitted as per Rule. YES 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. — Are the fittings for pump rooms, tween deck spaces, etc., in accordance with the special requirements for such ships. — Are the cables lead covered as per Rule. — 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 tested and found satisfactory. YES

PARTICULARS OF GENERATING PLANT.

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	95	220	387	450	STEAM ENGINE.		
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR CABLES.

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	2 x 95	1	37/103	387	385	45/48	Y.C.	L.C. & B.
" EQUALISER								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	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.			
AUX. SWITCHBOARDS AND SECTION BOARDS							
WORKSHOP SECTION BOARD	1	7/036	10	24	120	V.I.R.	L.C. & B.
BOAT DECK	1	7/036	19	24	72	V.I.R.	L.C. & B.
BRIDGE DECK	1	7/064	26	46	72	V.I.R.	L.C. & B.
ENGINEERS ACCOM.	1	7/064	28	46	75	V.I.R.	L.C. & B.
MAST HOUSE	1	7/064	24	46	72	V.I.R.	L.C. & B.

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	7/052	18	37	195	V.I.R.	L.C. & B.
NAVIGATION LIGHTS	1	7/036	3	24	210	V.I.R.	L.C. & B.
LIGHTING AND HEATING	ALTERNATE SUPPLY FROM SALOON LIGHTING DIS. BOARD.						
WHEEL HOUSE LIGHTING DIS. FUSE BOARD	1	7/036	8	24	60	V.I.R.	L.C. & B.
FORWARD	1	7/036	18	24	300	V.I.R.	L.C. & B.
OFFICERS ACCOM.	1	7/036	12	24	12	V.I.R.	L.C. & B.
"	1	7/036	14	24	60	V.I.R.	L.C. & B.
BOAT DECK	1	7/036	11	24	150	V.I.R.	L.C. & B.
ENGINEERS ACCOM	1	7/036	9	24	24	V.I.R.	L.C. & B.
"	1	7/036	8	24	30	V.I.R.	L.C. & B.
"	1	7/036	10	24	90	V.I.R.	L.C. & B.
MAIN MAST	1	7/056	12	24	150	V.I.R.	L.C. & B.
FORE	1	7/036	12	24	240	V.I.R.	L.C. & B.
POOP DECK	1	7/044	9.5	31	30	V.I.R.	L.C. & B.
AFT ACCOM	1	7/064	9	46	288	V.I.R.	L.C. & B.
ENGINE ROOM	1	7/064	24	46	15	V.I.R.	L.C. & B.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.		No.	B.H.P.						
COOLER FAN MOTOR	No 1	1	6.75	1	7/044	27	31	120	V.I.R. L.C. & B.
"	No 2	1	11	1	7/044	44	46	120	V.I.R. L.C. & B.
"	No 3	1	11	1	7/064	44	46	120	V.I.R. L.C. & B.
"	No 4	1	6.75	1	7/044	27	31	120	V.I.R. L.C. & B.
BRINE PUMP MOTOR	No 1	1	6	1	7/036	24	24	162	V.I.R. L.C. & B.
"	No 2	1	6	1	7/036	24	24	135	V.I.R. L.C. & B.
"	No 3	1	6	1	7/036	24	24	135	V.I.R. L.C. & B.
REFRIGERATOR		1	4	1	7/036	16	24	135	V.I.R. L.C. & B.
LATHE MOTOR		1	1	1	7/036	4	24	60	V.I.R. L.C. & B.
GRINDER MOTOR		1	1.5	1	7/036	6	24	50	V.I.R. L.C. & B.
THERMOTANKS BOAT DECK		3	1.5	1	7/036	6	24	60/100	V.I.R. L.C. & B.
THERMOTANK AFT		1	1.5	1	7/036	6	24	40	V.I.R. L.C. & B.
ENGINE ROOM VENT FAN.		1	1.5	1	7/036	6	24	50	V.I.R. 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.

Electrical Engineers.

Date 18th Jan 1944

COMPASSES.

Minimum distance between electric generators or motors and standard compass 30 FEET

Minimum distance between electric generators or motors and steering compass 22 FEET

The nearest cables to the compasses are as follows:—

A cable carrying 1/4 Ampères ^{INSIDE} feet from standard compass feet from steering compass.

A cable carrying 1/4 Ampères feet from standard compass ^{INSIDE} 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.

SWAN, HUNTER & WIGHAM RICHARDSON, LTD.

Builder's Signature.

Date 25th January 1944

Thos. Morrison

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 23-10-43.

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 Equipment of this vessel was installed under special survey, in conformity with the Society's Rules and Regulations, and the arrangements are in accordance with, or equal to those shown on the approved plans.

Materials used are of good quality and the workmanship is good.

On completion, the insulation resistance of all circuits and motors was measured and found satisfactory, and the generators operated, under normal working conditions, with satisfactory results.

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

Total Capacity of Generators 140 Kilowatts.

The amount of Fee ... £ 39 : 10 : When applied for, 2 FEB 1944

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

A. A. R. ...
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute THURS 9 MAR 1944

Assigned *See JE made, rpt.*

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.)

