

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 31 JUN 1946

Date of writing Report 26-5-46 When handed in at Local Office 1 JUN 1946 Port of Sunderland

No. in Survey held at Sunderland Date, First Survey 5-4-46 Last Survey 27-5-1946
Reg. Book. 36934 on the M.V. "BRITISH MARQUIS" (Number of Vols. 15)Built at Sunderland By whom built John W. & Sons Ltd Yard No. 735 When built 1946
Owners British Tanker Co. Ltd Port belonging to London Tons { Gross 8563
Net 4908

Electrical Installation fitted by Campbell & Spence Ltd Contract No. 735 When fitted 1946

Is vessel fitted for carrying Petroleum in bulk Yes Is vessel equipped with D.F. Yes E.S.D. Yes Gy.C. Yes Sub.Sig. Yes

Have plans been submitted and approved Yes System of Distribution Two Wires insulated Voltage of supply for Lighting 110

Heating Power 110 Direct or Alternating Current, Lighting Yes Power Yes 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 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 This 12 engine on floor level forward on C/Line No. 3. in

main hull 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 in main grating in engine room above No. 3

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 Thermoplastic, 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 2 triple pole, air-break

circuit breaker (one pole for equaliser) fitted with 2 R.V. current tripping devices

and for each outgoing circuit 2 double-pole, double-throw quick-break knife with 2 double-pole fuses

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 3

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 E lamps connected to E through sub & 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 15% 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 15% 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 are the ends of all cables having a sectional area of 0.01

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. — or waterproof insulating tape. 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 cables laid under machines or floorplates. yes, if so, are they adequately protected. yes. Are cables in machinery spaces, galleys, laundries, etc., lead covered. yes or run in conduit. — State how the cables are supported and protected. all cables are V.C.L.C. P.B. clipped to solid or perforated metal trays in accommodation L.C. cables on the surface & protected where desirable by metal or wooden guards.

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. lead. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule. yes. Emergency Supply, state position. 8-12V. light house in engine & boiler room. and method of control. Battery with 12-15V. relay operating on failure of main supply or E.R. fuses. 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. yes, are they adequately ventilated. yes what is the battery capacity in ampere hours. 2 of 80AH.

Fittings, are all fittings on weather decks, in stowholds and engine rooms and where 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. yes, if so, how are they protected. Wigan flameproof lighting fittings installed in combustible & about decks in officers quarters, 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. —. 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. yes, are all fuses of the cartridge type. yes are they of an approved type. yes. Are the fittings for pump rooms, deck spaces, etc., in accordance with the special requirements for such ships. yes. Are the cables lead covered as per Rule. yes. 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	3	30	110	273	685	Single Cylinder Vertical Steam Engines		
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	30	1	37/083	273	296	46	V.C.	L.C.A.B.
" " EQUALISER		1	19/083	191	23		"	"
" " Equaliser	30	1	37/083	273	296	48	"	"
" " Equaliser		1	19/083	191	24		"	"
" " Equaliser	30	1	37/083	273	296	136	"	"
" " Equaliser		1	19/083	191	68		"	"
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							
Midship Section Board "A"	1	37/072	65	246	560	V.C.	L.C.A.B.
Aft "B"	1	19/044	50	87	134	"	"
Port "C"	1	19/064	76	135	204	"	"
" " "D"	1	19/083	76	191	560	"	"
Engine Room Lighting S.B. "C"	1	19/044	50	87	70	"	"
Workshop S.B. "E"	1	19/052	56	104	156	"	"
Oil Store S.B. "D"	1	19/044	48	87	132	"	"

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	19/044	25	87	560	V.C.	L.C.A.B.
NAVIGATION LIGHTS	1	7/044	8	42	560	"	"
LIGHTING AND HEATING							
Gen. Accommodation Light Port. off "B"	1	7/044	11.6	42	78	V.C.	L.C.
" " " " " " " " " "	1	7/044	10.5	42	70	"	"
Galley & Hospital Light " " " "	1	7/044	4	42	230	"	"
Gen. Accom. Light Port. " " " "	1	7/044	14.2	42	70	"	"
" " " " " " " " " "	1	7/044	14	42	60	"	"
Forecastle Light off Section Bld. "A"	1	7/044	2.5	42	300	"	L.C.A.B. & L.C.
Engine Room Light " " " "	1	7/044	12	42	40	"	L.C.
" " " " " " " " " "	1	7/044	12.9	42	30	"	"
Galley Light " " " "	1	7/044	6.5	42	60	"	"
Upper Bridge Light " " " "	1	7/044	17.2	42	92	"	"
Bridge Light " " " "	1	7/044	8.3	42	120	"	"
Workshop Light " " " "	1	7/044	10.8	42	150	"	"
Workshop " " " "	1	7/044	6.5	42	150	"	"
Machinery Space Light off Main Port	1	19/044	39	87	48	"	L.C.A.B.
Galley Light & Store	1	7/036	12	25	200	"	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	H.P.						
E.R. Vent Fan Port.	1	3	1	7/044	26	42	32	V.C. L.C.B.
" " " " " " " " " "	1	3	1	7/044	26	42	72	" "
" " " " " " " " " "	1	3	1	7/044	26	42	120	" "
Port Winch Port.	1	2	1	7/044	18	42	60	" "
" " " " " " " " " "	1	2	1	7/044	18	42	132	" "
Vent Fan Port.	1	3	1	7/044	26	42	40	" "
" " " " " " " " " "	1	3	1	7/044	26	42	40	" "
" " " " " " " " " "	1	1/2	1	3/029	5	5	40	V.I.R.
Port Winch Port.	1	2	1	7/044	18	42	140	V.C.
" " " " " " " " " "	1	2	1	7/044	18	42	64	" "
" " " " " " " " " "	1	2	1	7/044	18	42	240	" "
Crane Motor	1	1.75	1	7/044	13/20	42	380	" "
Priming Pump	1	2	1	7/044	18	42	36	" "
Oil Pump No. 1	1	2	1	7/044	18	42	36	" "
" " " " " " " " " "	1	2	1	7/044	18	42	36	" "
Grounded	1	1.5	1	7/044	16	42	65	" "
Workshop Motor	1	1/2	1	7/044	35	75	50	" "
Acc. Compressor	1	1/2	1	3/029	5	5	50	V.I.R.
Compressor	1	1/2	1	7/044	15	42	40	V.C.
Galley Motor	1	.5	1	3/002 P/10	4	5	60	V.I.R.

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 27th May 1946

COMPASSES.

Minimum distance between electric generators or motors and standard compass 25'

Minimum distance between electric generators or motors and steering compass 15'

The nearest cables to the compasses are as follows:—

A cable carrying 1/5 Ampères on the feet from standard compass 10 feet from steering compass.

A cable carrying 1/5 Ampères 10 feet from standard compass on the 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 4.00

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.

WILLIAM DOXFORD & SONS, Limited,

Builder's Signature.

Date 29/5/46.

Is this installation a duplicate of a previous case yes

If so, state name of vessel M/V. "British Major"

Plans. Are approved plans forwarded herewith No. "as fitted" 1946

If not, state date of approval 0.28.2.46 - 5.12.3.46

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith 4.00

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 installed under special survey in accordance with the approved plans and amendments thereto. The materials used are of good quality and design and the workmanship is good. Upon completion the equipment was operated on load with satisfactory results and the insulation resistance of each circuit was measured and found good. This equipment is in my opinion suitable for a classed vessel.

Noted

Thru 11.6.46

Total Capacity of Generators (3x30) 90 Kilowatts.

The amount of Fee ... £31. 10. 0.

When applied for,

29.6.1946

Travelling Expenses (if any) £ :

When received,

19.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 14 JUN 1946

Assigned See F.E. machy. rpt



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