

Rpt. 13.

No. 125226

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 19 MAR 1947

Date of writing Report 22.2.1947 When handed in at Local Office 19. Port of LIVERPOOL

No. in Survey held at BIRKENHEAD. Date, First Survey 6/1/47 Last Survey 19/2/1947
Reg. Book. (Number of Visits 8)85978 on the M.V. "BRITISH BARON" Tons { Gross 8556
Net 4948

Built at BIRKENHEAD. By whom built CANNELL LADD & CO. LTD. Yard No. 1177 When built 1947

Owners BRITISH TANKER CO. LTD. Port belonging to LONDON.

Electrical Installation fitted by CANNELL LADD & CO. LTD. Contract No. 1177 When fitted 1947

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 wire Voltage of supply for Lighting 110

Heating — Power 110 Direct or Alternating Current, Lighting D.C. Power D.C. If Alternating Current state frequency — Prime Movers,

has the governing been tested and found efficient when the whole load is suddenly thrown on and off. YES Are turbine emergency governors fitted with a

trip switch as per Rule. YES 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 In main 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 In engine room adjacent to 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. Sindango, 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. Triple-pole circuit

breakers (one pole equalisers) fitted with overload and reverse current trips.

and for each outgoing circuit Double-pole switch 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. 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, are the reversed current protection devices connected on the pole opposite to the equaliser connection Yes, have they been tested under working conditions Yes.

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 4.2646, 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 exposed 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 —. Are cables in machinery spaces, galleys, laundries, etc., lead covered Yes or run in conduit Yes. State how the cables are supported and protected have L.C.A.B. clipped to steel plating on fire safe gangways;

machinery spaces. L.C.A.B.; Accommodation L.C.B. clipped cables protected from mechanical damage where necessary.

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 — 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 Yes, are they adequately ventilated Yes.

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 Yes, if so, how are they protected in.

pump rooms - lamps installed in flameproof compartments. In engine room in flameproof fittings.

and where are the controlling switches fitted in accommodation bulkheads, are all fittings suitably ventilated Yes, are all fittings and accessories constructed and installed as per Rule Yes. Searchlight Lamps, No. of 2 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 —.

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. If portable lamps for use in dangerous spaces are supplied, are they of a self-contained battery-fed flameproof type 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 megger 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	640	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 ✓	60	V.C.	L.C.A.B.
" " EQUALISER ...	—	1	19/083	—	191 ✓	30	"	"
EMERGENCY GENERATOR ...								
ROTARY TRANSFORMER: MOTOR ...								
" " GENERATOR ...								

MAIN DISTRIBUTION CABLES.

AUX. SWITCHBOARDS AND SECTION BOARDS								
MIDSHIP SECTION BOARD	S.B. 1.	1	37/083	100	296 ✓	500	V.C.	L.C.A.B.
AFT " "	S.B. 2	1	19/083	122	191 ✓	180	"	"
ENGINE ROOM " "	S.B. 3	1	19/052	83	104 ✓	30	"	"
" " "LIGNING" "	S.B. 4	1	7/064	36	75 ✓	30	"	"
SHORE CONNECTION BOARD		1	37/083	-	296 ✓	180	"	"

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS ...	1	7/064	20	76 ✓	100	V.C.	L.C.A.B. - L.C.B.
NAVIGATION LIGHTS D.B. MAIN SUPPLY	1	7/044	2	31 ✓	500	V.I.R.	"
LIGHTING AND HEATING BRIDGE D.B. 1, 2, 2A.	1	7/044	25	31 ✓	100	"	L.C.B.
UPPER BRIDGE DECK LIGHTING D.B.3	1	7/044	18	31 ✓	70	"	"
BRIDGE DECK LIGHTING PORT. D.B.4	1	7/044	20	31 ✓	60	"	"
CARGO LIGHTING D.B.6	1	7/044	21	31 ✓	70	"	"
AFT LIGHTING PORT D.B.7 POOP DECK	1	7/044	17	31 ✓	300	"	"
" " STAR D.B.8	1	7/044	16	31 ✓	90	"	"
" " UPPER DECK PORT D.B.9	1	7/044	15	31 ✓	220	"	"
" " " STAR D.B.10.	1	7/044	12	31 ✓	40	"	"
ENGINE ROOM PORT SECOND DECK D.B.12	1	7/044	9	31 ✓	160	"	L.C.A.B.
" " " STAR D.B.13	1	7/044	9	31 ✓	160	"	"
" " " STAR D.B.14	1	7/044	9	31 ✓	160	"	"
SEARCHLIGHT PROTECTOR CONNECTION	1	7/064	—	75 ✓	1040	V.C.	"
RADAR INSTALLATION	1	7/052	27	104 ✓	120	"	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
CRANE MOTOR	1	3	1	7/044	25	31 ✓	70	V.I.R.
OIL PURIFIERS	2	2	1	7/044	18	31 ✓	50	"
WORKSHOP MOTOR	1	3	1	7/044	25	31 ✓	60	"
GRINDER "	1	1	1	7/044	9	31 ✓	46	"
ACCOMMODATION VENT FANS	2	2	1	7/064	17	75 ✓	48	V.C.
" " " AFT	2	2.75	1	7/044	23	31 ✓	100	V.I.R.
ENG. ROOM VENT FAN	1	1.5	1	7/044	14	31 ✓	90	"
PRIMING PUMP MOTOR.	1	1.5	1	7/044	14	31 ✓	90	"

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 27 FEB 1947

COMPASSES.

Minimum distance between electric generators or motors and standard compass 200 ft

Minimum distance between electric generators or motors and steering compass 192 ft

The nearest cables to the compasses are as follows:—

A cable carrying 0.18 Ampères 6 feet from standard compass 6 ft from steering compass.

A cable carrying 0.18 Ampères 6 ft from standard compass 8 feet from steering compass.

A cable carrying 25 Ampères 9 feet from standard compass 7 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 1/2 degrees on any course in the case of the standard compass, and 1/2 degrees on any course in the case of the steering compass.

CAMMELL LAIRD & CO. LIMITED.

Builder's Signature.

Date 27 FEB 1947

TECHNICAL MANAGER
SHIPBUILDING DEPT.

Is this installation a duplicate of a previous case No If so, state name of vessel

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 on board under special survey in accordance with the approved plans & the Rules for Electrical Equipment. The installation has been tested under full working conditions and found satisfactory. The materials & workmanship are good.

Noted and 24/3/47

Total Capacity of Generators 90 Kilowatts.

The amount of Fee ... £ 39 : 0 : 0 When applied for, 14 MAR 1947
Travelling Expenses (if any) £ : : When received, 19

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned See Minute of Liverpool S.E. Machinery Report



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Foundation