

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 24-1-1949 When handed in at Local Office 3rd February 1949 Port of Sunderland  
 No. in Survey held at Sunderland Date, First Survey 4-10-48 Last Survey 28.1.1949  
 Reg. Book. (No. of Visits 16)

on the M.V. "BRITISH FORTUNE" Tons { Gross 6108  
 Net 3334  
 Built at Sunderland By whom built Wm. Doxford & Sons Ltd Yard No. 763 When built 1948  
 Owners British Tanker & Company Port belonging to London  
 Installation fitted by Hamphill & Fetherwood 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 Sub.Sig. No Radar Yes

Plans, have they been submitted and approved Yes System of Distribution 2-Wire m.s. 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 engine room p. & s.  
 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 on raised platform  
End of main engine  
 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 Stony "Sindacup", 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 a triple pole (one pole for equaliser) air break circuit  
breaker with open & R.V. contact tripping devices.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit a double pole knife switch and double  
pole fuse.

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 E. lamps

Switches, Circuit Breakers and Fuses, are they as per Rule Yes, are the fuses an Approved Type Yes  
 make of fuses H.R.C. "ZED", are all fuses labelled Yes If circuit breakers are provided for the generators, at what  
 overload do they operate 5%, and at what current do the reversed current protective devices operate 10%

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 -  
 state maximum fall of pressure between bus bars and any point under maximum load > 6.0", 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 main cables along fore & aft  
gangways in steel trough with cover plate. In accommodation L.C.B. on  
the surface and protected as required by wood or metal guards.

Are all lead sheaths, armouring 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 Yes



Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule. 440 Emergency Supply, state position 8 lights in Main Spaces: Battery-fed, Stand-by on failure of Ship's Supply or E.S. fuse.

Navigation Lamps, are they separately wired 440 controlled by separate double pole switches and fuses. 440 Are the switches and fuses in a position accessible only to the officers on watch 440, is an automatic indicator fitted 440 Is an alternative supply provided 440

Secondary Batteries, are they constructed and fitted as per Rule 440, are they adequately ventilated 440 state battery capacity in ampere hours 2 x 80 A.H.

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof 440 Are any fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present 440 if so, how are they protected "Wiper" lamps for lighting fittings as approved in Certificate

and where are the controlling switches fitted in officer's quarters Are all fittings suitably ventilated 440 Searchlight Lamps, No. of -, whether fixed or portable -, are they of the carbon arc or of the filament type -

Heating and Cooking, is the general construction as per Rule 440, are the frames effectually earthed 440, are heaters in the accommodation of the convection type - 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 440

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 - 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 sea services been supplied and the results found as per Rule 440 Control Gear and Resistances, are they constructed and fitted as per Rule 440 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 440 are all fuses of an Approved Cartridge Type 440, make of fuse "ZED" Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships 440 Are the cables lead covered as per Rule 440

E.S.D., if fitted state maker Waring Brothers Ltd. location of transmitter E.H. Star and receiver E.H. Star Spare Gear, if the vessel is for open sea service have spares been provided as per Rule and suitably stored in dry situations 440

Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory 440

#### 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	Waring Brothers Ltd.	75	110	682	500	Steam	Waring & Morris 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 ...	No. 1. 75	1	91/103	682	782	120	V.C.	L.C.B.
" " EQUALISE ...		1	61/093	464	60	60	"	"
" " No. 2. 75		1	91/103	682	782	120	"	"
" " No. 3. 75		1	61/093	464	60	60	"	"
EMERGENCY GENERATOR ...								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR...								

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

DESCRIPTION.								
Midship Sub. Hatchboard	1	37/083	70	296	420	V.C.	L.C.B.	
data	1	37/083	155	296	420	"	"	
Upper Deck Section Panel	1	7/064	52	75	60	"	"	
Post	1	7/064	62	75	240	"	"	
Engine Room	1	7/064	33	46	60	V.C.	"	
Navigation Bridge	1	7/036	19	28	65	V.C.	L.C.B.	
Bridge 8R	1	7/036	16	28	15	"	"	
Upper Bridge	1	7/052	30	57	65	"	"	
Bridge 8R	1	7/052	30	57	15	"	"	
Navigation Bridge	1	19/082	22	104	115	"	"	

#### 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.			
W.T. off Sub. Hatchboard 7 S.B.	1	19/052	20	104	160	V.C.	L.C.B.
Bridge 8R DB 'E.1'	1	7/036	9	24	30	V.C.	"
" " " 'E.2'	1	"	7	"	180	"	"
Warehouse DB 'G.1'	1	"	5	"	180	"	"
Navigation Bridge 'G.2'	1	"	10	"	80	"	"
Upper Bridge 'G.3'	1	"	15	"	30	"	"
Post Bridge 8R 'H.1'	1	"	15	"	60	"	"
" " " 'H.2'	1	"	5	"	60	"	"
Feed DB 'J'	1	"	4	"	330	"	L.C.B.
Post 8R DB 'K.1'	1	"	10	"	90	"	L.C.B.
" " " 'K.2'	1	"	10	"	90	"	"
" " " 'K.3'	1	"	14	"	90	"	"
Upper 8R 'K.4'	1	"	14	"	30	"	"
" " " 'K.5'	1	"	10	"	9	"	"
Engine Room DBs 'G.1.2' R.5. off 'G'	1	"	15	"	60	"	"
Boiler " " 'G.8'	1	"	10	"	120	"	L.C.B.
Post 8R DB 'C.1'	1	7/052	10	57	120	V.C.	L.C.B.
Navigation	1	7/036	10	24	180	V.C.	"
Alternative Navigation	1	"	4	24	6	"	"
Radar Supply	1	19/052	45	104	40	V.C.	"
Battery Charging	1	7/029	2	15	40	V.C.	"
Up to Compass Supply	1	7/036	15	24	30	"	"
Long Coast Port Supply	1	19/052	40	104	200	V.C.	L.C.B.
Radio Sounding	1	7/036	10	24	180	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.			
Bridge Deck Vent Fan P.	2	3	1	7/052	26	57	2/90	V.C.	L.C.B.	
Bridge Winches R.5.	2	7 1/2	1	19/052	60	104	2/90	"	"	
Trimming Pump	1	15	1	7/036	14	28	90	V.C.	"	
Crank	1	3	1	7/052	26	57	60	"	"	
Boiler	1	3	1	7/052	26	57	120	"	"	
Grinder	1	2	1	7/036	18	28	90	V.C.	"	
Centrifuge	2	3	1	7/052	26	57	60.120	V.C.	"	
Deck Fan 4.10m	1	1.5	1	7/036	14	28	60	V.C.	"	
" " 4.10m	2	3	1	7/052	26	57	2/90	V.C.	"	
Up to Port Winch. 4.10m	2	7 1/2	1	19/052	60	104	2/90	"	"	
Trig. Compressor off Main P.	1	4	1	7/044	34	42	90	"	"	
" " Emergency	1	4	1	7/052	34	57	30	"	"	
" Water Pump	1	1	1	7/052	10	57	30	"	"	



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.

For and on behalf of  
WILLIAM DOXFORD & SONS, LIMITED.  
Electrical Contractors.

Date 25th Jan 1949

#### COMPASSES.

Have the compasses been adjusted under working conditions.

For and on behalf of

WILLIAM DOXFORD & SONS, LIMITED.

Builder's Signature.

Date 1/2/49

Managing Director.

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. No If not, state date of approval. 20-9-48

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 vessel has been installed under special survey in accordance with the approved plans and the "Rules for Electrical Equipment". The materials and workmanship are good: on completion the equipment was satisfactorily operated on load and the insulation resistance of each circuit was measured and found good. This equipment is in my opinion suitable for a classed vessel.

Noted sent 23/2/49

Total Capacity of Generators. (2x75) 150 Kilowatts.

The amount of Fee ... £ 62: 10 : When applied for, FEB - 8 1949

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

Committee's Minute. Fri. 25 FEB 1949

Assigned. For minute see J.S. Rpt

B. S. Mann

Surveyor to Lloyd's Register of Shipping.