

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

18 MAY 1949

Date of writing Report 5.5.1949 When handed in at Local Office 19 Port of *Sunderland*
No. in Survey held at *Sunderland* Date, First Survey 5.2.49 Last Survey 5.5.1949
Reg. Book. (No. of Visits 16)
on the M.V. "BRITISH LIBERTY"
Built at *Sunderland* By whom built *Wm. Dore & Sons Ltd* Yard No. 765 When built 1949
Owners *British Tanker Co.* Port belonging to *London*
Installation fitted by *Campbell & Selwood 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* Sub.Sig. *—* Radar *yes*
Plans, have they been submitted and approved *yes* System of Distribution *2-Wire ins.* 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 on raised deck at stern*
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 *Heavy "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 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 O/C & R/V current 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. lamp*
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 *12%*, 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 *2 C.V.*, 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 feeders along passageway
gangway 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 yes Emergency Supply, state position 5 lights in machinery spaces, Battery-fed, spaced on failure of ship's supply or 3 hr. fuse.

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 2 of 20 AH.

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 "Wigan" Lamproom lighting fittings as approved in Calcutta and where are the controlling switches fitted in Officer's quarters 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 1 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 1 Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing 1

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 1 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" 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 Marine Electric Co. location of transmitter E.R. No. 1 and receiver E.R. No. 2

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	Samuel & Howard.	75	110	682	500	Steam	Rolling Mill Co.
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	9/1.103	682	782	140	V.C.	L.C.A.B.
" " EQUALISER ...		1	6/1.093		464	70	"	"
" " ...	75	1	9/1.103	682	782	190	"	"
" " EQ. ...		1	6/1.093		464	60	"	"
EMERGENCY GENERATOR ...								
ROTARY TRANSFORMER: MOTOR ...								
" " GENERATOR...								

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

DESCRIPTION.								
Middle's Sub. Switchboard	1	37/083	70	296	420	V.C.	L.C.A.B.	
ditto.	1	37/083	155	296	420	"	"	
Upper Deck Section Box 'K'	1	7/064	52	75	60	"	"	
Loop " " 'C'	1	7/064	62	75	240	"	"	
Engine Room " " 'G'	1	7/064	33	66	60	V.I.R.	"	
Navigation Bridge " " 'A'	1	7/036	19	28	66	V.I.R.	"	
Bridge Deck " " 'E'	1	7/036	16	28	18	"	"	
Upper Bridge " " 'G'	1	7/052	30	57	70	"	"	
Bridge Deck " " 'H'	1	7/052	30	57	20	"	"	
Navigation Bridge " " 'L'	1	19/052	22	104	116	"	"	

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/L Off Deck Switchboard	1	19/052	20	104	180	V.C.	L.C.B.
Bridge 2 R.D.B. 'E.1' - off 'E'	1	7/036	9	24	32	V.I.R.	"
" " " 'E.1' - off 'E'	1	"	7	"	110	"	"
Intermediate D.B. 'G.1' off 'G'	1	"	5	"	170	"	"
Navigation Bridge 'G.2' "	1	"	10	"	80	"	"
Upper " " 'G.3' "	1	"	15	"	35	"	"
Port Bridge 5 R.D.B. 'H.1' off 'H'	1	"	15	"	62	"	"
" " " 'H.2' "	1	"	5	"	60	"	"
End. 1 R.D.B. 'K.1' off 'K'	1	"	14	"	340	"	L.C.R.B.
Port 5 R.D.B. 'K.1' "	1	"	13	"	90	"	L.C.B.
" " " 'K.2' "	1	"	10	"	90	"	"
" " " 'K.3' "	1	"	14	"	90	"	"
Upper 2 R.D.B. 'K.4' "	1	"	15	"	34	"	"
" " " 'K.5' "	1	"	10	"	12	"	"
Engine Room D.B.'s 'G.1' P.S. off 'G'	1	"	15	"	64	"	L.C.A.B.
Port " " 'G.3' "	1	"	10	"	124	"	"
Port 4 Battery " 'G.1'	1	7/052	10	57	120	V.C.	L.C.B.
Navigation " " 'G.1'	1	7/036	10	24	182	V.I.R.	"
Intermediate D.B.	1	"	4	"	6	"	"
Radar Supply	1	19/052	45	104	40	V.C.	"
Battery Charging	1	7/029	2	15	48	V.I.R.	"
Hydro Supply	1	7/036	15	24	32	"	"
Wing Gunst. P.M. Supply	1	19/052	40	104	240	V.C.	L.C.A.B.
Auto Braking	1	7/036	10	24	184	V.I.R.	L.C.B.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Bridge 2 R.D.B. Port P.	2	3	1	7/052	26	57	2/100	V.C. L.C.B.
Port Winches P & S.	2	7 1/2	1	19/052	61	104	2/90	" "
Priming Pump	1	1-5	1	7/036	14	28	95	" "
Cause	1	3	1	7/052	26	57	60	" "
Water	1	3	1	7/052	26	57	120	" "
Grinder	1	2	1	7/036	18	24	90	V.I.R. "
Scrubber	2	3	1	7/052	26	57	60/120	V.C. "
Deck Fan G. Rev.	1	1-5	1	7/036	14	24	60	V.I.R. "
" " "	2	3	1	7/052	26	57	2/90	V.C. "
" " "	2	7 1/2	1	19/052	61	104	2/100	V.C. "
Off Boat Winches P & S.	1	4	1	7/044	34	42	90	" "
Ref. Comp. Rev.	1	4	1	7/044	34	42	30	" "
" " Pump	1	1	1	7/052	10	57	30	" "
Scrubber	1	3	1	7/052	26	57	2/100	" "

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 Contractors.

Date 6th May 1949

COMPASSES.

Have the compasses been adjusted under working conditions.

For and on behalf of

WILLIAM DOXFORD & SONS, LIMITED.

Builder's Signature.

Date 9/5/49

John Gelling
Managing Director

Have the foregoing descriptions and schedules been verified and found correct. *Yes*

Is this installation a duplicate of a previous case. *Yes*

If so, state name of vessel. *M.V. "British Fortune"*

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. Upon completion trials of the equipment were witnessed as satisfactory and the insulation resistance of all circuits was measured and found good. This equipment is in my opinion suitable for a classed vessel.

Noted Ent 31/5/49

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

The amount of Fee ... £62. 10. 0.

When applied for,
MAY 17 1949

When received,

Travelling Expenses (if any) £

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19

S.D. Wain
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI, 3 JUN 1949

Assigned

In unile ee J.E. Rlt