

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

6 NOV 1946

Received at London Office

Date of writing Report... 30-10-46 When handed in at Local Office... 5 NOV 1946 Port of... Sunderland

No. in Survey held at... Sunderland... Date, First Survey... 3-6-46 Last Survey... 29-10-1946
Reg. Book. (Number of Volls... 18...)88852 on the M.V. "BRITISH ROSE" Tons {Gross... 610.1
Net... 323.2

Built at... Sunderland... By whom built... J. L. Thompson & Sons Ltd. Ward No. 646 When built... 1946

Owners... British Tanker Co. Ltd. Port belonging to... London.

Electrical Installation fitted by... Sunderland Forge & Engineering Ltd. Contract No. 646 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. No
RADAR... yes

Have plans been submitted and approved... yes System of Distribution... two-wire 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... Nos. 1 & 2. Engine Room Forward of Main Engine Room: No. 3.

on raised deck - 11 ft., 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... on raised platform above Nos. 1 & 2. 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... "Glas" "Amdenup" 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 (one pole

for equaliser) air-break circuit-breaker fitted with 0.1 s time lag, 7 R/V. current tripping devices.

and for each outgoing circuit... 2 double pole, double throw, quick-break 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... 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 Camps Coupled to E through 100 & 500

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... 257, 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... 107 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... yes

state maximum fall of pressure between bus bars and any point under maximum load... 6.1, 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 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. State how the cables are supported and protected. *In machinery spaces, along deck gangways & galleys V.C.L.C.P.B. cables fastened to the surface with galvanised clips. In accommodation L.C. cables clipped to the surface and protected as required by word or metal 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. *8-25 lights placed in engine room and boiler room and method of control. Battery with 25-volt relay operating on failure of main supply or E.C. 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 80 A.H.*

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. *"Wigan"* Nameproof lighting fittings as approved installed in accessible and where are the controlling switches fitted. *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. *—*, 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. *—*. 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, 'tween 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	640	Single Cylinder Vertical 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	No. 1. 30	1	37/083	273	296	40	V.C.	L.C.
" " EQUALISER	No. 2. 30	1	19/083	191	20	20	"	"
" " Equaliser	No. 2. 30	1	37/083	273	296	40	"	"
" " Equaliser	No. 3. 30	1	19/083	191	20	20	"	"
" " Equaliser	No. 3. 30	1	37/083	273	296	132	"	"
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							
Section Board No. 1 - Midship lighting	1	37/072	70	246	360	V.C.	L.C.A.B.
" " " " " "	1	19/064	54	135	360	"	"
" " " " " "	1	19/064	80	135	180	"	"
" " " " " "	1	19/064	55	87	160	"	"
" " " " " "	1	7/064	45	75	140	"	"
" " " " " "	1	7/064	52	75	90	"	"

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	19/064	10	135	420	V.C.	L.C.A.B.
NAVIGATION LIGHTS (D.R.1)	1	19/064	18	135	420	"	"
LIGHTING AND HEATING Emergency	1	7/036	17	24	36	V.I.R.	L.C.B.
Engine Room No. 1 - D.R.5 - off S.B. 1 - Main	1	7/044	22.6	31	30	"	"
Large D.B. - D.R.6	1	7/036	19.6	24	46	"	"
Engine Room No. 2 - D.R.4	1	7/044	25	31	64	"	"
Officers " D.R.3	1	7/044	12	24	72	"	"
Captain " D.R.2	1	7/036	4.8	46	100	"	L.C.A.B.
Engine Room No. 3 - D.B. Port	1	7/064	4.8	46	120	"	"
" " " " " "	1	7/064	10	46	100	"	L.C.B.
Engine Room No. 4 - D.R.6	1	3/036	1.8	10	140	"	L.C.A.B.
Off lighting D.B.1 R.	1	7/036	21.8	24	192	"	L.C.B.
" " D.D.2 S.	1	7/036	23.4	24	34	"	"
" " D.D.3 R.	1	7/036	17.5	24	132	"	"
" " D.D.4 S.	1	7/036	23.5	24	52	"	"
Off connection	1	37/083	—	296	100	"	L.C.A.B.
Radio supply	1	19/064	55	135	440	"	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Port Winch No. 1 - Port F.	1	2	1	7/036	18	24	116	V.I.R. L.C.B.
" " " " " "	1	2	1	7/036	18	24	100	"
" " " " " "	1	2	1	7/036	18	24	72	"
" " " " " "	1	2	1	7/036	18	24	200	"
Thermotank No. 1 - Port F.	1	3	1	7/044	26	31	80	"
" " " " " "	1	3	1	7/044	26	31	80	"
" " " " " "	1	3	1	7/044	26	31	48	"
" " " " " "	1	3	1	7/044	26	31	48	"
" " " " " "	1	1.5	1	7/036	16	24	48	"
Supply Fan	1	2	1	3/036	2.5	10	120	"
Exhaust Fan No. 1. Midship	1	5	1	3/036	10	10	180	"
" " " " " "	1	2	1	3/036	2.5	10	180	"
" " " " " "	1	2	1	3/036	2.5	10	260	"
Workshop Fan	1	4	1	7/044	35	31	N.Y.F.	"
Grinder	1	1	1	7/029	10	15	N.Y.F.	"
Crane	1	3	1	7/044	26	31	130	"
Oil Purifier - 1. off O.P.S.D.	1	3	1	7/044	26	31	30	"
" " " " " "	1	3	1	7/044	26	31	30	"
Fuel Pumping Pump	1	1.5	1	7/036	16	24	160	"
Air Conditioning Plant	1	1.5	1	7/036	16	24	60	"

Note N.Y.F. Motor Not yet fitted.

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.

Sunderland Forge & Eng Co Ltd Electrical Engineers. Date 31-10-1946
A P Gurney

COMPASSES.

Minimum distance between electric generators or motors and standard compass 22'

Minimum distance between electric generators or motors and steering compass 12'

The nearest cables to the compasses are as follows:—

A cable carrying 15 Ampères 10 feet from standard compass on the feet from steering compass.

A cable carrying 15 Ampères on the feet from standard compass 10 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 - 20 deg course in the case of the standard compass, and nil degrees on every course in the case of the steering compass.

FOR AND ON BEHALF OF
JOSEPH L. THOMPSON & SONS, LIMITED Builder's Signature. Date 4-11-1946

JOINT MANAGER DIRECTOR

Is this installation a duplicate of a previous case yes If so, state name of vessel M.V. "British Princess"

Plans. Are approved plans forwarded herewith no If not, state date of approval 8-5-46

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 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 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 all circuits was measured and found good. This equipment is in my opinion suitable for a classed vessel.

W. J. H.
10/11/46

Total Capacity of Generators. (3 x 30) 90 Kilowatts.

The amount of Fee ... £ 31. 10. 0. When applied for, 5 NOV 1946

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

S. S. Ward
Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 22 NOV 1946

Assigned See F.E. mchey rpt



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