

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

19 DEC 1946

Received at London Office.....

Date of writing Report. 13.12.46 When handed in at Local Office. 18 DEC 1946 Port of Sunderland.

No. in Survey held at Sunderland. Date, First Survey 23-8-46 Last Survey 13.12.1946
Reg. Book. (Number of Vicks. 17.)

on the M.V. "BRITISH HOLLY" Tons { Gross 8582
Net 4919

Built at Sunderland. By whom built Sir James Laing & Sons Ltd Yard No. 770 When built 1946

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

Electrical Installation fitted by Sunderland Forge & Engineering Co. Ltd Contract No. 770 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
RADD - Yes

Have plans been submitted and approved Yes System of Distribution Bus-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

Generators 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 in Forward Hold - No 3 in Mid Hold

Eng. Room Starboard, 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 angle framework 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. Heavy "Kindamiso" 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 a triple-pole (one

pole for equaliser) air-break circuit-breaker, fitted with O/P & time lag and R/O

Current Tripping Devices

and for each outgoing circuit a double-pole, double-throw quick-break fuse 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 lamps coupled to E through bus & 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 20%, 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

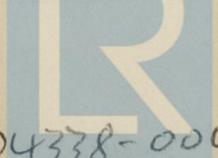
did they operate 35 A Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule Yes

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 > 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 paper insulated and varnished cambric insulated cables sealed at the ends Yes

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Lloyd's Register

004338-004350 Foundation

004558-004550-0010

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 No, if so, are they adequately protected Yes. Are cables in machinery spaces, galleys, laundries, etc., lead covered Yes or run in conduit Yes. State how the cables are supported and protected In machinery spaces, along deck gangways & galleys, V.L.L.C.A.B ladders fastened to the surface with galvanised clips: in accommodation L.C. cables clipped to the surface and protected as required by wood 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 effectually 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 lights placed in machinery spaces and method of control Battery with two Volt relay operating on failure of ship's supply or S.H. fuse. 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 B.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 Wagon flameproof lighting fittings as approved installed in stokeholds and where are the controlling switches fitted In upper 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 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, '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	243	640	Single Cylinder 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			
" " EQUALISER	No. 2	30	1	19/083	191	125	"	"
" " E.R.	No. 3	30	1	37/083	273	296	42	"
" " E.Q.	No. 3	30	1	19/083	191	131	"	"
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 ...						
Auxiliary Board 'A' Middelship Lighting	1	37/072	70	246	516	V.C.	L.C.A.B.
" " 'B' " " " "	1	19/083	54	191	516	"	"
" " 'C' Off Power	1	19/064	50	135	216	"	"
" " 'D' " Lighting	1	19/044	55	84	216	"	"
" " 'E' " Workshop Motors	1	7/064	45	75	138	"	"
" " 'F' " Bil Pumps	1	7/064	52	75	108	"	"
" " Engine Room Lighting	1	7/064	51	75	36	"	"

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION.	No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
WIRELESS	1	19/064	10	135	654	V.C.	L.C.A.B.
NAVIGATION LIGHTS "D.R.I."	1	19/064	15	135	656	"	"
Emergency - from S.B.R. through C.O.S. in Middelship	1	7/036	17	24	440	V.I.R.	L.C.B.
Engine Room D.R. 5 - off S.B.R. - 5/11	1	7/044	22.6	31	56	"	"
Large DB - D.A. 6	1	7/036	19.6	24	84	"	"
Engine Room D.R. 4 - " Port	1	7/044	25	31	90	"	"
Large DB - D.A. 3 - " "	1	7/036	12	24	104	"	"
Engine Room D.R. 2 - " "	1	7/036	10	24	120	"	L.C.A.B.
" " " " " "	1	7/036	14	24	168	"	"
Large DB - D.A. 6	1	7/064	10	46	150	"	L.C.B.
Engine Room D.R. 1 - off D.R. 6	1	3/036	1	10	90	"	L.C.B.
Off Log - D.D. 1	1	7/036	21.8	24	120	"	L.C.B.
" " 2	1	7/036	23.4	24	84	"	"
" " 3	1	7/036	17.5	24	102	"	"
" " 4	1	7/036	23.5	24	66	"	"
Short Connection	1	37/083	—	296	188	"	L.C.A.B.
Radar	1	19/064	55	135	660	"	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	In the Circuit.	Rule.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.	
Port Winch 1. Port	1	2	1	7/036	18	24	144	V.I.R. L.C.B.
" " 2 Star	1	2	1	7/036	18	24	84	"
" " 3 P. off	1	2	1	7/036	18	24	84	"
" " 4 S. "	1	2	1	7/036	18	24	148	"
Thermocouple No. 1. Port	1	3	1	7/044	26	31	90	"
" " 2 Star	1	3	1	7/044	26	31	72	"
" " 3 P. off	1	3	1	7/044	26	31	85	"
" " 4 S. "	1	3	1	7/044	26	31	146	"
Supply Fan	1	1.5	1	7/036	16	24	104	"
Exhaust Fan 1. Middelship	1	2	1	3/036	2.5	10	132	"
" " 2. Workshop	1	2	1	3/036	10	10	90	"
" " 3 " "	1	2	1	3/036	2.5	10	90	"
" " 4 Workshop Motors	1	2	1	3/036	2.5	10	86	"
Workshop Motor	1	4	1	7/044	35	31	54	"
Crane	1	1	1	7/029	10	16	54	"
Crane	1	3	1	7/044	26	31	114	"
Coal Pumps (No. 1) off P.S.B.	1	3	1	7/044	26	31	42	"
" " 2 " "	1	3	1	7/044	26	31	54	"
Fresh Water Pump	1	1.5	1	7/036	16	24	192	"
Air Conditioning Plant	1	1.5	1	7/036	16	24	54	"

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.
W. J. Gurney

Electrical Engineers.

Date 14.12.1946

COMPASSES.

Minimum distance between electric generators or motors and standard compass 14'

Minimum distance between electric generators or motors and steering compass 16'

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 4/4

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted 4/0

The maximum deviation due to electric currents was found to be Nil degrees on West course in the case of the standard compass, and Nil degrees on West course in the case of the steering compass.

SIR JAMES LAING & SONS LIMITED

Managing Director

Builder's Signature.

Date 17-12-46

Is this installation a duplicate of a previous case 4/0 If so, state name of vessel M.V. "British Princess"

Plans. Are approved plans forwarded herewith No. If not, state date of approval 2.12.46 (revised) 5.8.5.46.

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith 4/0

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. On completion the equipment was operated under 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 TRM 1.1.47

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

The amount of Fee ... £ 31. 10. 0. When applied for, 17 Dec 1946

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

H. S. Gurney

Surveyor to Lloyd's Register of Shipping.

Committee's Minute Fri. 10 JAN 1947

Assigned See F.E. Welch rpt.