

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report... 31st Jan. 1947... When handed in at Local Office... 5th Feb. 1947... Port of... MIDDLESBROUGH

No. in Survey held at... HAVERTON HILL... Date, First Survey... 30-8-46... Last Survey... 18-12-46
Reg. Book... 35896... on the... M/V. "BRITISH ADMIRAL" (Number of Visits... 12...)

Built at... HAVERTON HILL... By whom built... FURNESS S.B. Co. LTD... Yard No... 390... When built... 1946
Owners... BRITISH TANKER Co. LTD... Port belonging to... LONDON, BRITISH.

Electrical Installation fitted by... FURNESS S.B. Co. LTD... Contract No... 390... 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... 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... Power... 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... 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... ENGINE ROOM, MIDSHIPS, FORD OF MAIN ENGINE.

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... ENGINE ROOM ON FORD BULKHEAD BY GALLERY. AUX SWITCHBOARD IN MIDSHIPS ACCOM.

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... EBONY SINDANYO... 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

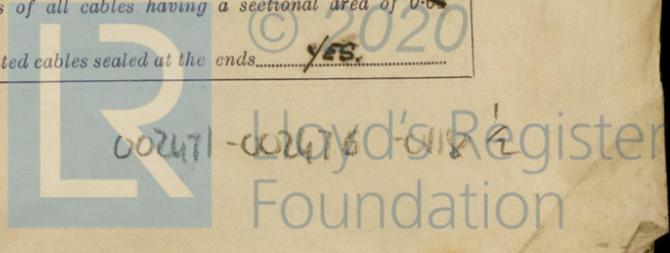
Is the construction as per Rule... YES... including accessibility of parts... YES... absence of fuses on the back of the board... YES... individual fuses to pilot and earth lamps, voltmeters, etc... YES... locking of screws and nuts... YES... labelling of apparatus and fuses... YES... fuses on the "dead" side of switches... YES... Description of Main Switchgear for each generator and arrangement of equaliser switches... 400 AMPERE T. CIRCUIT BREAKERS WITH OVERLOAD, NO VOLT AND REVERSE CURRENT PROTECTION.

and for each outgoing circuit... DOUBLE POLE G.B SWITCH AND DOUBLE POLE FUSE.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule... YES... Instruments on main switchboard... 8 ammeters... 4 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 CONNECTED TO "E" THROUGH SWITCHES AND 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... 50%... 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... 10%... 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... 64... are the ends of all cables having a sectional area of 0.84 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 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 LEAD COVERED ARMOURD AND BRAIDED CABLES CLIPPED TO TRAY PLATES

LEAD COVERED CABLES CLIPPED TO MOP GROUNDS IN ACCOMMODATION

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 LOW VOLTAGE LAMPS

IN ENGINE AND BOILER ROOMS, and method of control AUTOMATIC ON FAILURE OF MAIN SUPPLY

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

what is the battery capacity in ampere hours 220

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 FLAMEPROOF FITTINGS

and where are the controlling switches fitted AUX. SWITCHBOARD MIDSHIPS, are all fittings suitably ventilated YES, are all fittings and accessories constructed and installed as per Rule YES. Searchlight Lamps, No. of 1, whether fixed or portable

are their fittings as per Rule YES. 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 YES. 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 YES and vertically YES. 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 YES

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing YES. 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 YES. 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 spaces 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		Fuel Used	Flash Point of Fuel
MAIN	3	30	110	273	640	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	30	1	34/073	273	296	160/0	V.C.	L.C.A.+B
" EQUALISER		1	19/073		191		V.C.	"
EMERGENCY GENERATOR								
ROTARY TRANSFORMER MOTOR								
" GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION	No. in Parallel Per Pole	Sectional Area or No. and Dia. of Strands, Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES		APPROX. LENGTH (lead plus return feet)	INSULATED WITH	HOW PROTECTED
			In the Circuit	Rule			
AUX. SWITCHBOARDS AND SECTION BOARDS							
AUX. SWITCHBOARD MIDSHIPS	1	34/073	125	246	620	V.C.	L.C.A.+B
"	1	34/073	125	246	620	V.C.	"
POOP DECK SECTION BOARD	1	19/052	96	104	150	V.C.	"
WORKSHOP	1	4/044	36	42	80	V.C.	"

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION	No.	Sectional Area or No. and Dia. of Strands, Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES		APPROX. LENGTH (lead plus return feet)	INSULATED WITH	HOW PROTECTED
			In the Circuit	Rule			
WIRELESS	1	19/064	30	136	140	V.C.	L.C.A.+B
NAVIGATION LIGHTS	1	4/036	2	24	460	V.I.R.	"
LIGHTING AND HEATING							
WHEELHOUSE LIGHTING DIS. FUSE BD.	1	4/044	7	42	130	V.C.	L.C.A.+B
CAPT'S ACCOM.	1	4/036	9	24	130	V.I.R.	"
SALOON AND OFFICERS ACCOM. LIGHTING INCORPORATED IN AUX. SWITCHBOARD							
EMERGENCY LIGHTING	1	4/029	13	15	35	V.I.R.	L.C.A.+B
ENGINE ROOM LIGHTING DIS. FUSE BOARD	1	4/044	22	42	170	V.C.	"
"	1	4/044	25	42	170	V.C.	"
AFT ACCOM	1	4/064	35	45	180	V.C.	"
"	1	4/064	34	45	140	V.C.	"
FORCASTLE	1	4/044	8	42	400	V.C.	"
ECHO SOUNDING EQUIPMENT	1	4/029	8	15	180	V.I.R.	"
RADAR	1	4/044	4.0	42	160	V.C.	"
SUEZ CANAL PROJECTOR	1	4/064		45	1210	V.C.	"
SHORE SUPPLY	1	19/083		191	140	V.C.	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	No.	Sectional Area or No. and Dia. of Strands, Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES		APPROX. LENGTH (lead plus return feet)	INSULATED WITH	HOW PROTECTED
					In the Circuit	Rule			
PRIMING PUMP MOTOR	1	1/2	1	4/029	10	15	140	V.I.R.	L.C.A.+B
LATHE MOTOR	1	3	1	4/036	20	24	90	V.I.R.	"
GRINDER MOTOR	1	1/2	1	4/029	10	15	72	V.I.R.	"
NO. 1. OIL PURIFIER MOTOR	1	2	1	4/036	14	24	150	V.I.R.	"
NO. 2.	1	2	1	4/036	14	24	140	V.I.R.	"
CRANE MOTOR	1	3	1	4/044	21	42	100	V.C.	"
BOAT HOIST MOTOR	1	2	1	4/036	15	24	40	V.I.R.	L.C.A.+B
"	1	2	1	4/036	15	24	140	V.I.R.	"
HOSPITAL FAN	1	2 1/4	1	4/036	14	24	100	V.I.R.	"
GYRO COMPASS	1		1	4/036	8	24	160	V.I.R.	"
AFT BOAT HOIST MOTOR	1	2	1	4/036	15	24	160	V.I.R.	L.C.A.+B
"	1	2	1	4/036	15	24	70	V.I.R.	"
VEG ROOM FAN	1	1/4	1	3/029	2	5	90	V.I.R.	L.C.A.+B
GALLEY BLOWER	1	1/4	1	3/029	2	5	40	V.I.R.	"
REAR VENT FAN	1	1/4	1	3/029	2	5	150	V.I.R.	"
GALLEY VENT FAN	2	.2	1	3/029	2	5	120	V.I.R.	"
ENGINE ROOM SUPPLY FAN	1	1/2	1	4/029	10	15	150	V.I.R.	"
AFT ACCOM VENT FAN	1	2 3/4	1	4/036	20	24	120	V.I.R.	L.C.A.+B
"	1	2 3/4	1	4/036	20	24	120	V.I.R.	"
MIDSHIP ACCOM V. FAN	1	2	1	4/036	14	24	100	V.I.R.	"
"	1	2	1	4/036	14	24	100	V.I.R.	"

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.

FURNESS SHIPBUILDING CO. LIMITED

Whofers

Electrical Engineers.

Date

30.12.46

COMPASSES.

Minimum distance between electric generators or motors and standard compass.....

Minimum distance between electric generators or motors and steering compass.....

The nearest cables to the compasses are as follows:—

A cable carrying *1/4* Ampères *1/4* foot from standard compass feet from steering compass.

A cable carrying *1/4* Ampères feet from standard compass *1/4* foot 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 *EVERY* course in the case of the standard compass, and *NIL* degrees on *EVERY* course in the case of the steering compass.

W. Rutenick

Builder's Signature.

Date

30.12.46

Is this installation a duplicate of a previous case..... If so, state name of vessel.....

Plans. Are approved plans forwarded herewith..... If not, state date of approval *25-4-46.*

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith *GENERATORS.*

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 in conformity with the Society's Rules and Regulations, and the arrangements are in accordance with, or equivalent to those shown on the approved plans.

Materials used are of good quality and the workmanship is satisfactory.

On completion the insulation resistance of all circuits was above the Requirements, and the Generators operated on Load and Governor tests with satisfactory results.

The Equipment as installed is, in my opinion, suitable for a classed Vessel.

Noted E.H. 20/2/47

Total Capacity of Generators *90* Kilowatts.

The amount of Fee ... £ *31 : 10* : *5-2-1947*

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

A. H. Dineen
Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 28 FEB 1947*

Assigned *See E.H. mch. opt*

5m. 4.31.—Transfer. (MADE AND PRINTED IN ENGLAND.) (The Surveyors are requested not to write on or below the space for Committee's Minute.)

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