

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 22 MAY 1947

Date of writing Report 7.5.47 When handed in at Local Office 5.6.47 Port of MIDDLESBROUGH.

No. in Survey held at MIDDLESBROUGH Date, First Survey 18.12.46 Last Survey 1-5-47

Reg. Book. 85996 on the "BRITISH ENSIGN" Tons { Gross 8680 Net 4970

Built at HAYERTON HILL. By whom built FURNESS S.B.CO.LTD. Yard No. 393 When built 1946

Owners BRITISH TANKER CO.LTD. Port belonging to LONDON.

Electrical Installation fitted by FURNESS SHIP BUILDING CO.LTD. Contract No. 393 When fitted 1947.

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. - 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 DC. Power DC 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 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 ON GALLERY.

AUX. SWITCHBOARD IN MIDSHIP ACCOMMODATION.

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 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 TRIPLE POLE

CIRCUIT BREAKERS WITH OVERLOAD, NO VOLT, AND REVERSE CURRENT PROTECTION.

and for each outgoing circuit. DOUBLE POLE Q.B. SWITCH AND DOUBLE POLE FUSES.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule YES. Instruments on main switchboard 3

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 EARTH THROUGH SWITCHES & 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

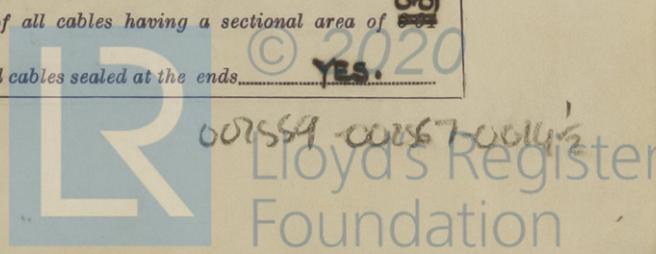
protection devices connected on the pole opposite to the equaliser connection YES, have they been tested under working conditions, and at what current

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 < 6V, 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.



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 —. Are cables in machinery spaces, galleys, laundries, etc., lead covered YES, or run in conduit —. State how the cables are supported and protected LEAD COVERED ARMOURD & BRAIDED CABLES CLIPPED TO TRAY PLATES

LEAD COVERED CABLES CLIPPED TO WOOD GROUNDS IN ACCOMMODATION.

MAINS FROM ENGINE RM. TO MIDSHIPS CLIPPED TO STEEL PLATES ON UNDERSIDE OF FORE & AFT GANGWAY.

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 bashed 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 LAMP

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

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 —, are they adequately ventilated —

what is the battery capacity in ampere hours —

Fittings, are all fittings on weather decks, in stokholds 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 NICKEL FLAMEPROOF FITTINGS.

and where are the controlling switches fitted IN SALOON DECKHOUSE, 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	Amperes		Revs. per Min.	Fuel Used.
MAIN	3	30	110	273	640	STEAM ENGINE	—
EMERGENCY							
ROTARY TRANSFORMER							

GENERATOR CABLES.

DESCRIPTION	KILOWATTS	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (load 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	37/000	273	296	12/60/70	VC	LC+B
" " EQUALISER		1	19/000		191		VC	LC+B
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (load 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 ...							
AUX SWITCHBOARD MIDSHIPS	1	37/072	125	246	520	VC	LC+B
" " " "	1	37/072	125	246	520	VC	"
POOP DECK SECTION BOARD	1	19/052	96	104	150	VC	"
WORK SHOP	1	7/044	36	42	80	VC	"

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION.	No.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (load plus return feet).	INSULATED WITH.	HOW PROTECTED.
WIRELESS	1	19/064	30	185	460	VC LC+B
NAVIGATION LIGHTS	1	7/036	2	24	460	VIR
LIGHTING AND HEATING	ALTERNATIVE SUPPLY FROM WHEELHOUSE DIS FUSE BOARD.					
WHEELHOUSE LIGHTING DIS. FUSE BOARD	1	7/044	7	42	130	VC LC+B
CAPTAINS ACCOM	1	7/036	9	24	130	VIR
SALOON & OFFICERS ACCOM LIGHTING	INCORPORATED IN AUX. SWITCHBOARD					
EMERGENCY LIGHTING	1	7/029	15	15	35	VIR LC+B
ENGINE ROOM LIGHTING DIS. FUSE BOARD	1	7/044	22	42	170	VC
" " " " " "	1	7/044	25	42	170	VC
AFT ACCOM " " " " PORT	1	7/064	35	75	150	VC
" " " " " " STARB	1	7/064	34	75	140	VC
FORECASTLE " " " " " "	1	7/044	3	42	400	VC
ECHO SOUNDING EQUIPMENT.	1	7/029	8	15	150	VIR LC+B
RADAR	1	7/044	40	42	160	VC
SUEZ CANAL PROJECTOR.	1	7/064		75	1210	VC LC+B
SHORE SUPPLY.	1	19/083		191	170	VC

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (load plus return feet).	INSULATED WITH.	HOW PROTECTED.
DRIVING PUMP MOTOR	1	1 1/2	7/029	10	15	140	VIR LC+B
LATHE MOTOR	1	3	7/036	20	24	90	VIR
GRINDER MOTOR	1	1 1/2	7/029	10	15	72	VIR
No 1 OIL PURIFIER MOTOR	1	2	7/036	14	24	150	VIR
No 2 " " " "	1	2	7/036	14	24	140	VIR
CRANE MOTOR	1	3	7/044	21	42	100	VC
BOAT HOIST MOTOR PORT	1	2	7/036	15	24	70	VIR LC+B
" " " " STARB	1	2	7/036	15	24	170	VIR
HOSPITAL FAN.	1	2 1/4	7/036	17	24	100	VIR
GYRO COMPASS	1		7/036	8	24	160	VIR
AFT BOAT HOIST MOTOR PORT	1	2	7/036	15	24	160	VIR
" " " " STARB	1	2	7/036	15	24	80	VIR
VEG. ROOM FAN.	1	1/4	3/029	2	5	90	VIR LC+B
GALLEY BLOWER.	1	1/4	3/029	2	5	70	VIR
REFRIG VENT FAN.	1	1/4	3/029	2	5	180	VIR
GALLEY VENT FANS.	2	0.2	3/029	2	5	120	VIR
ENGINE ROOM SUPPLY FAN.	1	1/2	7/029	10	15	150	VIR
AFT ACCOM VENT FAN PORT.	1	2 3/4	7/036	20	24	120	VIR LC+B
" " " " STARB	1	2 3/4	7/036	20	24	120	VIR
MIDSHIP ACCOM VENT FAN PORT	1	2	7/036	14	24	100	VIR
" " " " STARB	1	2	7/036	14	24	100	VIR

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. LTD.

[Signature]

Electrical Engineer.

Date 16.5.47

COMPASSES.

Minimum distance between electric generators or motors and standard compass 16'-0"

Minimum distance between electric generators or motors and steering compass 10'-0"

The nearest cables to the compasses are as follows:—

A cable carrying 0.14 Ampères INSIDE standard compass 10'-0" feet from steering compass.

A cable carrying 0.14 Ampères 10'-0" feet from standard compass INSIDE 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.

[Signature]

Builder's Signature.

Date 16.5.47

Is this installation a duplicate of a previous case YES If so, state name of vessel "BRITISH ADMIRAL"

Plans. Are approved plans forwarded herewith If not, state date of approval.

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith YES - 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 UNDER SPECIAL SURVEY AND THE ARRANGEMENTS ARE IN ACCORDANCE WITH OR EQUIVALENT TO THOSE SHOWN ON THE APPROVED PLANS AND THE SOCIETY'S REQUIREMENTS. THE MATERIALS USED ARE OF GOOD QUALITY AND THE WORKMANSHIP IS GOOD.

ON COMPLETION THE EQUIPMENT WAS OPERATED UNDER WORKING CONDITIONS, THE PROTECTIVE DEVICES OF THE CIRCUIT BREAKERS WERE ADJUSTED AND OPERATED. THE INSULATION RESISTANCE OF ALL CIRCUITS WAS MEASURED AND FOUND GOOD.

THIS INSTALLATION IS IN MY OPINION SUITABLE FOR A CLASSED VESSEL INTENDED FOR THE CARRIAGE OF PETROLEUM IN BULK.

Total Capacity of Generators 3 x 30 = 90 Kilowatts.

The amount of Fee ... £ 31 : 10 : When applied for, 21 : 5 : 1947.

Travelling Expenses (if any) £ : : When received, 1947.

[Signature]

Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRE 13 JUN 1947

Assigned Suf. E. mchy. opt.

5m. 4.30.—Transfer. (MADE AND PRINTED IN ENGLAND.) (The Surveyors are requested not to write on or below the space for Committee's Minutes.)



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