

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report... 2. 9. 1947 When handed in at Local Office... 8. 9. 1947 Port of... MIDDLESBROUGH.

No. in Survey held at... MIDDLESBROUGH. Date, First Survey... 25-4-47 Last Survey... 6. 8. 1947
Reg. Book. (Number of Visits.....)

86061 on the "BRITISH ISLES" Tons {Gross... 8680
Net... 4970.

Built at... HAVERTON HILL. By whom built... FURNESS S.B.CO.LD. Yard No... 394 When built... 1947.

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

Electrical Installation fitted by... FURNESS SHIPBUILDING CO. LTD. Contract No... 394 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, FOR'D 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 FOR'D BULKHEAD ON

GALLERY, AUXI SWITCHBOARD IN MIDSHIPS 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... 400 AMPERE TRIPLE

POLE CIRCUIT BREAKERS WITH OVERLOAD, NO VOLT AND REVERSE CURRENT

PROTECTION.

and for each outgoing circuit... DOUBLE POLE QUICK BREAK 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 'E' THRO 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 0.2

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 ARMOURED & BRAIDED CABLES CLIPPED TO TRAY PLATES. LEAD COVERED CABLES CLIPPED TO WOOD 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 & 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. - , are they adequately ventilated. -

what is the battery capacity in ampere hours. -

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, 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	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 ...	3 x 30	9	37/083	273	296	52/60/70	YC	LCA+B.
" " EQUALISER ...		1	19/083		191	52/60/70	YC	LCA+B.
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 ...							
AUX. SWITCHBOARD MIDSHIPS.	1	37/072	125	246	520	YC	L.C.A+B.
" " " "	1	37/072	125	246	520	YC	L.C.A+B.
POOP DECK SECTION BOARD.	1	19/052	96	104	150	YC	L.C.A+B.
WORKSHOP " " "	1	7/044	36	42	80	YC	L.C.A+B.

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS ...	1	19/064	30	135	460	Y.C.	L.C.A+B.
NAVIGATION LIGHTS ...	1	7/036	2	24	460	V.I.R.	L.C.A+B.
LIGHTING AND HEATING ...	ALTERNATIVE SUPPLY FROM WHEELHOUSE DIST. FUSE BOARD.						
WHEELHOUSE LIGHTING DIST. FUSE BD.	1	7/044	7	42	130	YC	L.C.A+B.
CAPTAINS ACCOM.	1	7/036	9	24	130	VIR.	L.C.A+B.
SALOON & OFFICERS ACCOM. LGHTG. INCORPORATED IN AUXILIARY SWITCHBOARD.	1	7/029	15	15	35	VIR.	L.C.A+B.
EMERGENCY LIGHTING.	1	7/044	22	42	170	YC	L.C.A+B.
ENGINE RM. LIGHTING DIST. FUSE BOARD	1	7/044	25	42	170	YC	L.C.A+B.
" " " " " " " "	1	7/044	25	42	170	YC	L.C.A+B.
AFT ACCOM. " " " " "PT.	1	7/064	35	75	150	YC	L.C.A+B.
" " " " " " "STB	1	7/064	34	75	140	YC	L.C.A+B.
FORECASTLE " " " " " "	1	7/044	3	42	400	YC	L.C.A+B.
ECHO SOUNDING EQUIPMENT.	1	7/029	8	15	150	VIR.	L.C.A+B.
RADAR.	1	7/044	40	42	160	YC	L.C.A+B.
SUEZ CANAL PROJECTOR.	1	7/064		75	1210	YC	L.C.A+B.
SHORE SUPPLY.	1	19/083		191	170	YC	L.C.A+B.

MOTOR CABLES ACCOMMODATION.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
PRIMING PUMP MOTOR.	1	1/2	1	7/029	10	15	140	VIR. L.C.A+B.
LATHE MOTOR.	1	3	1	7/036	20	24	90	VIR. L.C.A+B.
GRINDER MOTOR.	1	1/2	1	7/029	10	15	72	VIR. L.C.A+B.
Nº1 OIL PURIFIER MOTOR.	1	2	1	7/036	14	24	150	VIR. L.C.A+B.
Nº2 OIL PURIFIER MOTOR.	1	2	1	7/036	14	24	140	VIR. L.C.A+B.
CRANE MOTOR.	1	3	1	7/044	21	42	100	YC. L.C.A+B.
BOAT HOIST MOTOR PORT.	1	2	1	7/036	15	24	70	VIR. L.C.A+B.
BOAT HOIST MOTOR STBD.	1	2	1	7/036	15	24	170	VIR. L.C.A+B.
HOSPITAL FAN.	1	2 1/4	1	7/036	17	24	100	VIR. L.C.A+B.
GYRO COMPASS.	1	3	1	7/036	8	24	160	VIR. L.C.A+B.
AFT. BOAT HOIST MOTOR PORT.	1	2	1	7/036	15	24	160	VIR. L.C.A+B.
AFT. BOAT HOIST MOTOR STBD.	1	2	1	7/036	15	24	80	VIR. L.C.A+B.
VEG. ROOM FAN.	1	1/4	1	3/029	2	5	90	VIR. L.C.A+B.
GALLEY BLOWER.	1	1/4	1	3/029	2	5	70	VIR. L.C.A+B.
REFRIG. VENT FAN.	1	1/4	1	3/029	2	5	180	VIR. L.C.A+B.
GALLEY VENT FANS.	2	0.2	1	3/029	2	5	120	VIR. L.C.A+B.
ENGINE RM. SUPPLY FAN.	1	1/2	1	7/029	10	15	150	VIR. L.C.A+B.
AFT ACCOM. VENT FAN PORT.	1	2 3/4	1	7/036	20	24	120	VIR. L.C.A+B.
AFT. ACCOM. VENT FAN STBD.	1	2 3/4	1	7/036	20	24	120	VIR. L.C.A+B.
MIDSHIPS. ACCOM. VENT FAN PT	1	2	1	7/036	14	24	100	VIR. L.C.A+B.
MIDSHIPS ACCOM. VENT FAN STB	1	2	1	7/036	14	24	100	VIR. L.C.A+B.

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.

FOR FURNESS SHIPBUILDING CO. LIMITED

W. Suttewick *Whofen*

Electrical Engineers.

Date 3-9-47

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 feet from steering compass.

A cable carrying 0.14 Ampères 10 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.

W. Suttewick

Builder's Signature.

Date 5-9-47

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

Plans. Are approved plans forwarded herewith NO. If not, state date of approval.

Certificates. Are certificates of test for 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 AND THE ARRANGEMENTS ARE IN ACCORDANCE WITH OR EQUIVALENT TO THOSE SHOWN ON THE APPROVED PLANS AND THE SOCIETY'S REQUIREMENTS FOR ELECTRICAL EQUIPMENT. 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 AND THE INSULATION RESISTANCE OF ALL CIRCUITS MEASURED AND FOUND GOOD.

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

Noted
6.10.47

Total Capacity of Generators 3 x 30 = 90 Kilowatts.

The amount of Fee ... £ 31 : 10 : { When applied for, 9/9/1947.

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

Quito
Surveyor to Lloyd's Register of Shipping.

Committee's Minute FM 10 OCT 1947

Assigned See F.E. mch. rpt.

5m.4.39.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)

ML-D



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