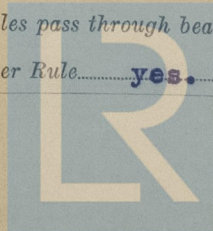


REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report **7.6.51** 19... When handed in at Local Office **JUN 18 1951** Received at London Office **22 JUN 1951**
 Port of **Sunderland**
 No. in Survey held at **Sunderland** Date, First Survey **2. 1. 51** Last Survey **14.6.51** 19...
 Reg. Book. (No. of Visits **18**)
91157 on the **m.v. "BRITISH BIRCH"** Tons **8688**
 Built at **Sunderland** By whom built **Sir J. Laing & Sons Ltd** Yard No. **791** When built **1951**
 Owners **British Tanker Company** Port belonging to **London**
 Installation fitted by **Sunderland Forge & Engineering Co. Ltd** When fitted **1951**
 Is vessel equipped 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**
 Plans, have they been submitted and approved **yes** System of Distribution **Two Wire Insd.** Voltage of Lighting **110**
 Heating **Power 110** D.C. or A.C., Lighting **D.C.** Power **D.C.** If A.C. state frequency **-**
 Prime Movers, has the governing been found as per Rule when full load is thrown on and off **yes** Are turbine emergency governors fitted with a trip switch **-** Generators, are they compound wound **yes**, and level compounded under working conditions **yes**, if not compound wound state distance between generators **-** and from switchboard **-** Are the generators 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**
 Position of Generators **Nos. 1 & 3, Starb. No. 2 Port, Engine Room on raised stools.**
 is the ventilation in way of generators satisfactory **yes** are they clear of inflammable material and protected from mechanical injury and damage from water, steam and oil **yes** Switchboards, where are main switchboards placed **on raised deck at engine room starboard, fwd bulkhead.**
 are they in accessible positions, free from inflammable gases and acid fumes and protected from mechanical injury and damage from water, steam and oil **yes**, what insulation 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 construction as per Rule, including locking of screws and nuts **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/L & R/V current tripping devices.**
 and the switch and fuse gear (or circuit breakers) for each outgoing circuit **a double-pole knife switch and fuses.**
 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 are the ammeters and reversed current protection devices connected on the pole opposite to the equaliser connection **yes** Earth Testing, state means provided **3 lamps**
 Switches, Circuit Breakers and Fuses, are they as per Rule **yes**, are the fuses an Approved Type **yes**, make of fuses **"ZED"**, are all fuses labelled **yes** If circuit breakers are provided for the generators, at what overload do they operate **20%**, and at what current do the reversed current protective devices operate **15%**
 Joint Boxes, Section Boards and Distribution Boards, is the construction as per Rule **yes**
 Cables, are they insulated and protected as per Rule **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 **less than 6 in.** the ends of all cables having a sectional area of 0.01 square inch and above provided with soldering sockets **yes** Are all paper insulated and varnished cambric insulated cables sealed at the ends **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 any 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 **-** or of the "HR" type **-** State how the cables are supported or protected **V.C.L.C.A.B. cables for feeders along fore and aft gangways clipped to solid steel troughings Accommodation, L.C.B. cables clipped to wooden grounds and protected where necessary by wood or metal guards.**
 Are all lead sheaths, armouring and conduits effectually bonded and earthed **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** Refrigerated chambers, are the cables and fittings as per Rule **yes.**



Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule... **yes**... Emergency Supply, state position Battery-fed skeleton lighting system in machy spaces operating on failure of E.R.fuses.

Navigation Lamps, are they separately wired... **yes**... controlled by separate double pole switches 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**... Is an alternative supply provided... **yes**

Secondary Batteries, are they constructed and fitted as per Rule... **yes**... are they adequately ventilated... **yes**... state 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 any fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present... **yes**... "Wigan" & "Victor" flameproof lighting fittings as approved installed in if so, how are they protected... **centre-castle and pump rooms (see Secy's letter I4.II.50)**

and where are the controlling switches fitted... **in officers quarters**... Are all fittings suitably ventilated... **yes**

Searchlight Lamps, No. of... **2**... whether fixed or portable... **2**... are they of the carbon arc or of the filament type... **2**

Heating and Cooking, is the general construction as per Rule... **2**... are the frames effectually earthed... **2**... are heaters in the accommodation of the convection type... **2**... Motors, are all motors constructed and installed as per Rule and placed in well-ventilated compartments in which inflammable gases cannot accumulate and protected from damage from water, steam and oil... **yes**

Are motors coupled to oil fuel transfer and pressure pumps capable of being stopped from a position accessible in the event of fire in the pump compartment... **2**... Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing... **2**

Have certificates of test for motors under 100 BHP intended for essential sea 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... **2**

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 an Approved Cartridge Type... **yes**... make of fuse... **"ZEP"**... Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships... **no**... Are the cables lead covered as per Rule... **yes**

E.S.D., if fitted state maker... **Marconi**... location of transmitter... **Eng. Room Coffin**... and receiver... **ditto, starb.**

Spare Gear, if the vessel is for open sea service have spares been provided as per Rule and 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	MAKER.	RATED AT				PRIME MOVER.	
			Kilowatts per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN	2	S.F.Co.Ltd Nos.40949, 40950	75	110	682	500	Diesel	British Polar Engrs. Nos.PU.165, PU.166.
	1	S.F.Co.Ltd No.40946	30	110	273	500	Steam	S.F.Co.No.40945.
EMERGENCY ... ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULA-TION.	PROTECTIVE COVERING.
		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. 75	2	37/.103	682	816	88	V.C.	L.C.B.
" " EQUALISER ...	No.2 75	1	"	408	44	44	"	"
" " eq. ...	No.2 75	2	"	682	816	34	"	"
" " eq. ...	No.3. 30	2	19/.083	273	404	80	"	"
" " eq. ...		1	"	202	40	40	"	"
EMERGENCY GENERATOR ...								
ROTARY TRANSFORMER: MOTOR ...								
" " GENERATOR...								

MAIN DISTRIBUTION CABLES (to Section Boards, Distribution Fuse Boards, etc.).

DESCRIPTION.								
Midship Section Board	I	37/.103	244	408	454	V.C.	L.C.A.B.	
W/T & Radar Supply	I	37/.103	75	408	454	"	"	
Aft Lighting & Power Section Board	I	37/.072	197	260	130	"	"	
Refrigeration Machy. Section Board	nI	19/.064	72	143	244	"	"	
Shore Connection	I	37/.103	-	408	70	"	"	
Engine Room Auxillary Section I.	I	7/.064	62	80	60	"	"	
" " " " 2.	I	7/.064	68	80	120	"	"	
" " Lighting	I	7/.064	60	80	16	"	"	

LIGHTING, HEATING, WIRELESS, NAVIGATION LIGHTS, ETC., CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULA-TION.	PROTECTIVE COVERING.
	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
Navigation - main supply	I	7/.064	30	80	120	V.C.	L.C.B.
" - alt. from DB, 2	I	7/.064	-	80	48	"	"
Upper Bridge Ltg. DB, 2	I	7/.064	24	80	62	"	"
Port Bridge Dk. Ltg. DB, 3	I	7/.064	23	80	58	"	"
Starb " " DB, 4	I	7/.064	23	80	32	"	"
Mid. " " DB, 5	I	7/.044	12	31	32	V.I.R.	"
Radar Supply	I	7/.064	45	80	102	V.C.	"
Gyro Compass Supply	I	7/.029	10	15	128	V.I.R.	"
W/T Supply	I	7/.064	30	80	108	V.C.	"
Suez Canal Projector(wiring only)	I	19/.083	-	202	640	"	L.C.A.B.
Aft Boat Lights DB, 6, Port	I	7/.036	18	24	106	V.I.R.	L.C.B.
" " " " 7, Star.	I	7/.036	15	24	60	"	"
Galley Range Blowers DB, 8	I	7/.064	30	80	52	V.C.	"
Aft Lighting Port, DB, 9	I	7/.064	26	46	108	V.I.R.	"
" " Star. DB, 10	I	7/.064	26	46	40	"	"
Engine Room Lighting DBs (4)	I	7/.036	4/15	24	2/130	"	L.C.A.B.
Foremast Floods DB.	I	7/.036	4	24	500	"	"
Mainmast Floods DB,	I	7/.036	4	24	530	"	"
Forecastle Lighting	I	3/.036	4	10	520	"	"
Echo Sounding Supply	I	3/.036	5	10	92	"	L.C.B.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.		No.	B.H.P.						
Forced Draught Fan	I	7	I	7/.064	58	80	230	V.C.	L.C.A.B.
Boiler Oil Calorifier	I	7.5	I	7/.064	61	80	60	"	"
" " Purifier	I	7.5	I	7/.064	61	80	60	"	"
Lub Oil Purifiers	2	2	I	7/.036	18	24	52	V.I.R.	"
Generator Circulating Pump	I	1.5	I	7/.036	16	24	144	"	"
Priming Pump	I	1.5	I	7/.036	16	24	150	"	"
Diesel Oil Purifier	I	2	I	7/.036	18	24	50	"	"
Universal M/c Tool Motor	I	3	I	7/.044	26	31	50	"	"
Grinder Motor	I	1	I	7/.036	10	24	66	"	"
Crane Motor	I	3	I	7/.044	26	31	140	"	"
Bridge Thermotanks	2	2.5	I	7/.044	23.7	31	96	"	L.C.B.
Bridge Boat Winches	2	7.5	I	7/.064	61	80	72.144	V.C.	"
Exhaust Fan	I	0.2	I	3/.029	1.8	5	180	V.I.R.	"
Supply Fan	I	0.5	I	3/.036	5.7	10	98	"	"
Air Conditioning Unit	I		I	7/.044	14	31	48	"	"
Aft Boat Winches	2	7.5	I	7/.064	61	80	200.68	V.C.	"
Aft Thermotanks	2	2.5	I	7/.036	23.7	24	2/140	V.I.R.	"
Engine Room Vent Fans	2	1.5	I	7/.036	16	24	2/160	"	"
Galley Exhaust Fans	2	0.2	I	3/.029	1.9	5	90.140	"	L.C.A.B.
Fridge Exhaust Fans	1	0.5	I	7/.036	1.9	5	60	"	"
Galley Range Blowers	I	0.5	I	3/.036	5.7	10	2/70	"	"
Refrig. Compressors	2	4	I	7/.064	35	80	56	V.C.	"
" Fan	I	0.125	I	3/.029	2	5	66	V.I.R.	"
" Circ. Pump	I	1	I	7/.029	10	15	160	"	"
Mono Pumps	2	0.75	I	7/.029	10	15	52.64.	"	"

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.

P. PRO THE SUNDERLAND ENGINE & ENGINEERING CO. LTD.

Electrical Contractors.

Date

4/6/51

COMPASSES.

Have the compasses been adjusted under working conditions

yes

Builder's Signature

Date

Have the foregoing descriptions and schedules been verified and found correct

yes

Is this installation a duplicate of a previous case

no

If so, state name of vessel

-

Plans. Are approved plans forwarded herewith

no

If not, state date of approval

13.12.50

Certificates. Are certificates of test for motors engaged on essential sea 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 Pump Room lighting arrangements are in accordance with the Secretary's letter of 14.11.50. The electrical equipment of this vessel has been installed under special survey and with the above qualification, complies with the special requirements of Section 15 of the Electrical Rules. The arrangements in general principle accord with those shown on the approved plans. The materials and workmanship are good. On completion, satisfactory trials of the equipment were witnessed and the insulation resistance of all circuits was measured and found good.

This equipment is in my opinion suitable for a classed vessel.

Notes Ent 26/7/51

(2 x 75, 1 x 30)

180

Total Capacity of Generators

Kilowatts.

The amount of Fee ...

£69. 0. 0:

When applied for,

JUN 25 1951

When received,

Travelling Expenses (if any) £

19

Surveyor to Lloyd's Register of Shipping.

FRI. 27 JUL 1951

Committee's Minute

Assigned

See F.E. mch, opt.



© 2020

Lloyd's Register
Foundation