

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office MAR - 5 1941

Date of writing Report 28-2-1941 when handed in at Local Office 3-3-1941 Port of Leith
 No. in Survey held at Burntisland Date, First Survey 20-1-41 Last Survey 27-2-1941
 Reg. Book. 90218 on the S.S. "TUJOR QUEEN." (Number of Visits 6)
 Tons { Gross 1029
 Net 582
 Built at Burntisland By whom built Burntisland J. B. Co. Ltd. Yard No. 247 When built 1941
 Owners British Channel Islands Shipping Co. Ltd. Port belonging to London
 Electric Light Installation fitted by Burntisland J. B. Co. Ltd. Contract No. 247 When fitted 1941
 Is the Vessel fitted for carrying Petroleum in bulk No.

System of Distribution Two wire lead & return
 Pressure of supply for Lighting 110 volts, Heating / volts, Power / volts.

Direct or Alternating Current, Lighting Direct Power /

If alternating current system, state frequency of periods per second /

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off yes

Generators, do they comply with the requirements regarding temperature rise yes, are they compound wound yes
 are they over compounded 5 per cent. yes, if not compound wound state distance between each generator /

Where more than one generator is fitted are they arranged to run in parallel no, is an adjustable regulating resistance fitted in series with each shunt field yes
 Have certificates of test results for machines under 100 kw. been submitted and approved yes
 Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing yes

Are all terminals accessible, clearly marked, and furnished with sockets yes, are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched yes
 Are the lubricating arrangements of the generators as per Rule yes

Position of Generators Engineroom Starboard side, is the ventilation in way of the generators satisfactory yes
 are they clear of all inflammable material yes if situated near unprotected

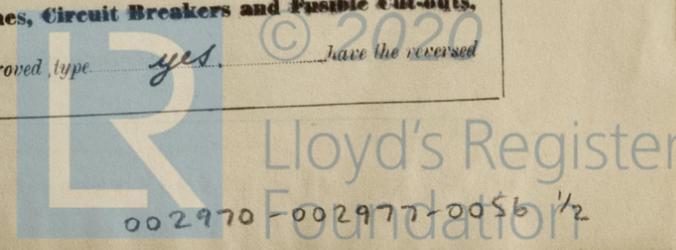
woodwork or other combustible material, state distance of same horizontally from or vertically above the generators none and /
 are the generators protected from mechanical injury and damage from water, steam or oil yes, are their axes of rotation fore and aft yes

Earthing, are the bedplates and frames of the generating plant efficiently earthed yes
 are the prime movers and their respective generators in metallic contact yes
 Main Switch Boards, where placed Engineroom Starboard side

If the generators and main switchboard are not placed in the same compartment, is each generator provided with a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard /

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes yes, are they protected from mechanical injury and damage from water, steam or oil yes
 if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards none and /
 are they constructed wholly of durable, non-ignitable non-absorbent materials yes
 is all insulation of high dielectric strength and of permanently high insulation resistance yes
 is it of an approved type yes, if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micaite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework Sandanyo Panels is the non-hygroscopic insulating material of an approved type yes
 and is the frame effectively earthed yes
 Are the fittings as per Rule regarding:— spacing or shielding of live parts yes
 accessibility of all parts yes, absence of fuses on back of board yes, temperature rise of omnibus bars yes
 individual fuses to voltmeter, pilot or earth lamp yes, are moving parts of switches alive in the "off" position no
 are all screws and nuts securing connections effectively locked yes
 are any fuses fitted on the live side of switches no
 Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches 1 DP 60amp main switch & fuses and 30 amp S.P. switches & D.P. fuses for outgoing circuits
 Are turbine driven generators fitted with emergency trip switch as per rule /
 Are cupboards or compartments containing switchboards composed of fire-resisting material or lined with approved material yes
 Instruments on main switchboard ammeters one
 voltmeters one synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connection /

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system Earth Lamps
 Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules yes
 are the fusible cutouts of an approved type yes have the reversed /



current protection devices been tested under working conditions. yes are all fuses labelled as per rule yes

Joint Boxes, Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule yes

Cables: Single, twin, ~~triple~~ are the cables insulated and protected as per Tables IV, V, X, XI, XII or XIII of the Rules yes

If the cables are insulated otherwise than as per Rule, are they of an approved type yes **Fall of Pressure,** state maximum between bus bars and any point of the installation under maximum load 2 1/2 + 3 **Cable Sockets,** are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets yes **Paper Insulated and Varnished Cambric Insulated Cables,** If conductors are paper or varnished cambric insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound yes, or waterproof insulating tape yes **Cable Runs,** are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable 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, bathrooms and lavatories lead covered or run in conduit yes

Support and Protection of Cables, state how the cables are supported and protected supported with screwed clips & armour protected If cables are run in wood casings, are the casings and caps secured by screws yes, are the cap screws of brass yes, are the cables run in separate grooves yes. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII yes

Refrigerated Chambers, are the cables and fittings in accordance with the special requirements yes

Joints in Cables, state if any, and how made, insulated, and protected none

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands yes **Bushes in Beams and Non-watertight Partitions,** where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed yes state the material of which the bushes are made lead

Earthing Connections, state what earthing connections are fitted and their respective sectional areas each end of all main circuits and one end of subsidiary circuits bonded to earth, are their connections made as per Rule yes

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule yes **Emergency Supply,** state position and method of control of the emergency supply and how the generator is driven yes

Navigation Lamps, are these separately wired yes, controlled by separate switch and separate fuses yes, are the fuses double pole yes, are the switches and fuses grouped in a position accessible only to the officers on watch yes has each navigation lamp an automatic indicator as per Rule yes **Secondary Batteries,** are they constructed and fitted as per Rule yes are they ventilated as per Rule yes

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight yes are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected none are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected none how are the cables led yes where are the controlling switches situated yes are all fittings suitably ventilated yes, are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials yes

Heating and Cooking Appliances, are they constructed and fitted as per Rule yes, are air heaters constructed and fitted as per Rule yes

Searchlight Lamps, No. of yes whether fixed or portable yes, are their fittings as per Rule yes

Motors, are their working parts readily accessible yes, are the coils self-contained and readily removable for replacement yes, are the brushes, brush holders, terminals and lubricating arrangements as per Rule yes, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material yes, are they protected from mechanical injury and damage from water, steam or oil yes are their axes of rotation fore and aft yes, if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type yes if not of this type, state distance of the combustible material horizontally or vertically above the motors yes and yes have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing yes have certificates for all motors for essential services been supplied and approved yes **Control Gear and Resistances,** are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule yes **Lightning Conductors,** where lightning conductors are required, are these fitted as per Rule yes **Ships carrying Oil having a Flash Point less than 150° F.** Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings yes are all fuses of the fitted cartridge type yes are they of an approved type yes If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed flameproof type approved for use in dangerous spaces yes **Spare Gear,** if the vessel is for open sea service have spares been supplied as per Rule yes are they suitably stored in dry situations 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 GENERATOR	one	6.5	110	59	650	Handley & Torry, Ltd. Eng. N° 17866	✓	✓
DE-AERATING GENERATOR	one	7.5	110	68	750	Blaise, Chapman, Ltd. Eng. N° 3897	✓	✓
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	Circuit.	Rule.			
MAIN GENERATOR	one	.04	19	.052	64	28	rubber	L.C. & W.A.	
EQUALISER CONNECTIONS									
DE-AERATING GENERATOR	one	.06	10	.064	43	83	rubber	Tubing	
EMERGENCY GENERATOR									
ROTARY TRANSFORMER MOTOR GENERATOR									
ENGINE ROOM	one	.0045	7	.029	7.5	17.5	rubber	L.C. & W.A.	
BOILER ROOM									
AUXILIARY SWITCHBOARDS									
ACCOMMODATION A.F.T.	one	.0045	7	.029	7.8	17.5	rubber	L.C. & W.A.	
" MIDSHIP	one	.0045	7	.029	11.9	17.5	"	"	
NAVIGATION	one	.0045	7	.029	2.5	17.5	"	"	
WIRELESS	one	.007	7	.036	12	22	"	"	
SEARCHLIGHT									
MASTHEAD LIGHT	one	.003	3	.029	.36	7.8	"	L.C. & W.A.	
SIDE LIGHTS	one	.003	3	.029	.36	7.8	"	L.C.	
COMPASS LIGHTS	one	.003	3	.029	.36	7.8	"	L.C.	
POOP LIGHTS									
CARGO LIGHTS									
HEATERS									

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP										
MAIN BILGE LINE PUMPS										
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
SANITARY PUMP										
CIRC. SEA WATER PUMPS										
CIRC. FRESH WATER PUMPS										
AIR COMPRESSOR										
FRESH WATER PUMP										
ENGINE TURNING GEAR										
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS										
OIL FUEL TRANSFER PUMP										
WINDLASS										
WINCHES, FORWARD										
WINCHES, AFT										
STEERING GEAR										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR										
WORKSHOP MOTOR										
VENTILATING FANS										

The Electrical Equipment is installed in accordance with the approved plans.
 All Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.
 The foregoing is a correct description.

FOR THE BURNTISLAND SHIPBUILDING COMPANY LTD.

M. D. Dushwate DIRECTOR

Electrical Engineers.

Date 28/2/41.

COMPASSES.

Minimum distance between electric generators or motors and standard compass 120'-0"
 Minimum distance between electric generators or motors and steering compass
 The nearest cables to the compasses are as follows:—
 A cable carrying .36 Ampères 7" ~~ft~~ from standard compass _____ feet from steering compass.
 A cable carrying _____ Ampères _____ feet from standard compass _____ 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 *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 *any* course in the case of the standard compass, and _____ degrees on _____ course in the case of the steering compass.

FOR THE BURNTISLAND SHIPBUILDING COMPANY LTD.

M. D. Dushwate DIRECTOR

Builder's Signature.

Date 28/2/41.

Is this installation a duplicate of a previous case *No*. If so, state name of vessel *✓*

General Remarks (State quality of workmanship, opinions as to class, &c. *This installation has been efficiently fitted on board in accordance with the rules. The materials and workmanship are sound and good and the installation was found satisfactory under full load and working conditions.*)

*Noted
 J.Y.
 6/3/41.*

Total Capacity of Generator *6 1/2* Kilowatts.

424th. 25-4-0

5619 1/2 1-6-0

The amount of Fee ... £ 6 : 10 : 0 *When applied for, 4-3-1941*

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

J. H. Campbell
 Surveyor to Lloyd's Register of Shipping

Committee's Minute *TUE. 11 MAR 1941*

Assigned *See Lth. P.O. 20330*

2m.12.36.—Transfer. The Surveyors are requested not to write on or below the space for Committee's Minute



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