

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

JAN 15 1940

Received at London Office

Date of writing Report 11-1-1940 when handed in at Local office 12-1-1940 Port of Leith

Survey held at Burntisland Date, First Survey 8-11-39 Last Survey 10-1-1940

Reg. Book. 3763 on the S.S. "JAN-Y-BRYN"

(Number of Visits 7)

Tons { Gross 5116.64 Net 3034.33

built at Burntisland By whom built Burntisland S. B. Co. Ltd. Yard No. 239 When built 1940

owners Brynmor Steamship Co. Ltd. Port belonging to London

Electric Light Installation fitted by Burntisland S. B. Co. Ltd. Contract No. 239 When fitted 1940

the Vessel fitted for carrying Petroleum in bulk No.

System of Distribution Two wire lead and return

Pressure of supply for Lighting 110 volts, Heating / volts, Power / volts.

Direct or Alternating Current, Lighting Direct Power /

alternating current system, state frequency of periods per second /

is 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

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 /, 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

Manufactured yes Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing /

Have certificates for generators under 100 kw. been supplied and approved 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 Engine room Starboard Recess, is the ventilation

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

Nothing, are the bedplates and frames of the generating plant efficiently earthed yes are the prime movers and their respective generators

metallic contact yes Main Switch Boards, where placed Engine Room Starboard Side

If the generators and main switchboard are not placed in the same compartment, is each generator provided with

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 Sindango Panel 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

bus 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

50 amp D.P. Main Switch & Fuses & 30 amp single pole switches & double pole fuses

turbine driven generators fitted with emergency trip switch as per rule / Are cupboards or compartments containing switchboards composed of

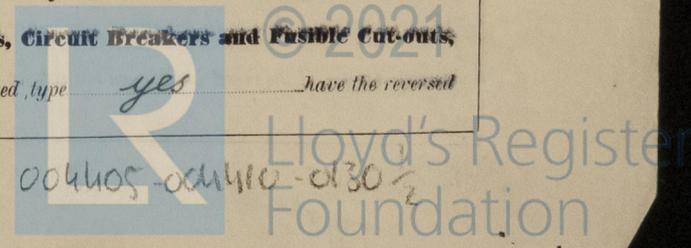
non-resisting material or lined with approved material / Instruments on main switchboard ammeters one

ammeters 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  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, concentric, or multicore 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  **Fall of Pressure**, state maximum between bus bars and any point of the installation under maximum load *2 7/8 + 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  or waterproof insulating tape  **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

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 *screwed clips & saddles & wire armour*

If cables are run in wood casings, are the casings and caps secured by screws , are the cap screws of brass , are the cables run in separate grooves . 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 *all main runs bonded at each end with screwed clamps and sub-circuits similarly at one end* 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

**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  are they ventilated as per Rule

**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  where are the controlling switches situated  are all fittings suitably ventilated  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  are air heaters constructed and fitted as per Rule

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

**Motors**, are their working parts readily accessible  are the coils self-contained and readily removable for replacement  are the brushes, brush holders, terminals and lubricating arrangements as per Rule  are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material  are they protected from mechanical injury and damage from water, steam or oil  are their axes of rotation fore and aft  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  if not of this type, state distance of the combustible material horizontally or vertically above the motors  and  have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing  have certificates for all motors for essential services been supplied and approved  **Control Gear and Resistances**, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule  **Lightning Conductors**, where lightning conductors are required, are these fitted as per Rule  **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  are all fuses of the fitted cartridge type  are they of an approved type  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  **Spare Gear**, if the vessel is for open sea service have spares been supplied as per Rule  are they suitably stored in dry situations

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT			Revs. per Min.	DRIVEN BY		WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amps.		Fuel Used.	Flash Point of Fuel.		
MAIN	<i>one</i>	<i>13</i>	<i>110</i>	<i>118</i>	<i>750</i>	<i>Lead, Lead</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
AUXILIARY						<i>Steam engine N° 18445.</i>			
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.	In Circuit.	Rule.				
MAIN GENERATOR	<i>one</i>	<i>.1000</i>	<i>19</i>	<i>.083</i>	<i>117.1</i>	<i>118</i>	<i>24</i>	<i>rubber</i>	<i>LC &amp; SWA.</i>	
EQUALISER CONNECTIONS										
AUXILIARY GENERATOR										
EMERGENCY GENERATOR										
ROTARY TRANSFORMER MOTOR GENERATOR										
ENGINE ROOM	<i>one</i>	<i>.0070</i>	<i>7</i>	<i>.036</i>	<i>10.54</i>	<i>22</i>	<i>90</i>	<i>rubber</i>	<i>LC &amp; SWA</i>	
BOILER ROOM										
AUXILIARY SWITCHBOARDS										
ACCOMMODATION SALOON	<i>one</i>	<i>.0100</i>	<i>7</i>	<i>.044</i>	<i>25.2</i>	<i>31</i>	<i>310</i>	<i>rubber</i>	<i>LC &amp; SWA</i>	
ENGINEERS	<i>one</i>	<i>.0100</i>	<i>7</i>	<i>.044</i>	<i>30.</i>	<i>31</i>	<i>140</i>	<i>rubber</i>	<i>LC &amp; SWA</i>	
CREWS	<i>one</i>	<i>.007</i>	<i>7</i>	<i>.036</i>	<i>8.72</i>	<i>22</i>	<i>420</i>	<i>rubber</i>	<i>LC &amp; SWA</i>	
NAVIGATION	<i>one</i>	<i>.0045</i>	<i>7</i>	<i>.029</i>	<i>4.73</i>	<i>17.5</i>	<i>340</i>	<i>rubber</i>	<i>LC &amp; SWA</i>	
REFRIGERATOR	<i>one</i>	<i>.0100</i>	<i>7</i>	<i>.044</i>		<i>26</i>	<i>31</i>	<i>320</i>	<i>rubber</i>	<i>LC &amp; SWA</i>
WIRELESS	<i>one</i>	<i>.007</i>	<i>7</i>	<i>.036</i>	<i>12</i>	<i>22</i>	<i>330</i>	<i>rubber</i>	<i>LC &amp; SWA</i>	
SEARCHLIGHT	<i>one</i>	<i>.002</i>	<i>3</i>	<i>.029</i>	<i>.36</i>	<i>7.8</i>	<i>240</i>	<i>rubber</i>	<i>LC &amp; SWA</i>	
MASTHEAD LIGHT	<i>one</i>	<i>.002</i>	<i>3</i>	<i>.029</i>	<i>.36</i>	<i>7.8</i>	<i>60</i>	<i>rubber</i>	<i>LC &amp; SWA</i>	
SIDE LIGHTS	<i>one</i>	<i>.002</i>	<i>3</i>	<i>.029</i>	<i>.36</i>	<i>7.8</i>	<i>30</i>	<i>rubber</i>	<i>LC &amp; SWA</i>	
COMPASS LIGHTS	<i>one</i>	<i>.002</i>	<i>3</i>	<i>.029</i>	<i>.36</i>	<i>7.8</i>		<i>rubber</i>	<i>LC &amp; SWA</i>	
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.

*J. J. Leake*

DIRECTOR

Electrical Engineers.

Date 11/1/40

COMPASSES.

Minimum distance between electric generators or motors and standard compass 110 feet

Minimum distance between electric generators or motors and steering compass 114 feet

The nearest cables to the compasses are as follows:—

A cable carrying 36 Ampères 7" feet from standard compass 7" 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 Nil degrees on any course in the case of the steering compass.

FOR THE BURNTISLAND SHIPBUILDING COMPANY LTD.

*J. J. Leake*

DIRECTOR Builder's Signature.

Date 11-1-40

Is this installation a duplicate of a previous case yes If so, state name of vessel "CFN-Y-BRYN"

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  
16/1/40*

Total Capacity of Generators 13 Kilowatts.

The amount of Fee ... £ 13 : 0 : 0  
4/8 LEITH. £ 10-8-0  
1/4 G.L.S. £ 2-12-0  
Travelling Expenses (if any) £ : :  
When applied for, 12-1-19 40  
When received, 23/1/19 40

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

Committee's Minute

Assigned

*See Lth. J.E. 20005*

The Surveyors are requested not to write on or below the space for Committee's Minute.



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