

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 26 OCT 1944

Date of writing Report 23rd August, 1944 When handed in at Local Office 23rd August, 1944 Port of Vancouver, B. C.

No. in Survey held at Vancouver, B. C. Date, First Survey 29th May, 1944 Last Survey 23rd August 1944 Reg. Book. (Number of Visits 14)

on the Steel Single Screw Steamer "FORT ALABAMA" - Refrigerated Victualling Ship Tons { Gross 7201.75 Net 4006.91

Built at Vancouver, B. C. By whom built Burrard Dry Dock Co. (South) Ltd. Yard No. 211 When built 1944

Owners Minister of Munitions & Supply of Canada. Port belonging to -

Electric Light Installation fitted by Burrard Dry Dock Co. Ltd. Contract No. - When fitted 1944

Is the Vessel fitted for carrying Petroleum in bulk No

System of Distribution Constant pressure two wire direct current.

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

Direct or Alternating Current, Lighting Direct Power Direct

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 (50 K.W. stabilized shunt)

are they over compounded 5 per cent. 15 K.W. - No if not compound wound state distance between each generator

Where more than one generator is fitted are they arranged to run in parallel 2 = 50 K.W. Generators 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 approved Attached. Also Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing Under 100 K.W. ship's Trial results attached. V1

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 2 = 50 KW Generators: Engine Room Generator Platform first grating level starboard aft port, 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 - 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 Aft end of Starboard Generator Platform, control panel for 50 K.W. Generators at Port Generator platform

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 - and - are they constructed wholly of durable, non-ignitable non-absorbent

materials Ebony Asbestos, 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 micanite or other

non-hygroscopic insulating material, and the slab similarly insulated from its framework - is the non-hygroscopic insulating material of an approved

type - 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

150 ampere D.P. linked circuit breakers on separate panels with overload & reverse current fuses & a three pole isolating switch for each 15 K.W. generator, 450 amp. D.P. linked circuit breaker

used front panel type with overload and reverse current trip relays, and a three pole isolating switch for each 50 K.W. generator. D.P. D.T. linked selector switches with a fuse for each outgoing circuit.

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

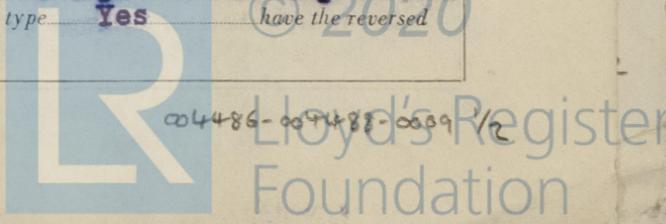
fire-resisting material or lined with approved material Yes Instruments on main switchboard 5 ammeters 4 voltmeters

Selector switch on centre 15 K.W. generator voltmeter meters synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connection

Yes Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system

Centre 15 K.W. generator voltmeter has a selector switch Switches, Circuit Breakers and Fusible Cut-outs, wired to give ground readings in addition to generator and Bus Bar readings. Also Earth lamps & Switch.

do these comply with the requirements of the Rules Yes, are the fusible cutouts of an approved type Yes, have the reversed



204486-004488-0009/6

current protection devices been tested under working conditions **Yes** Joint Boxes, Section and Distribution Boards, is the construction, protection, insulation material, and position of these as per rule **Yes**

Single and twin on high pressure **Yes**
Multicore on telephones **Yes**
 Cables: Single, twin, concentric, or multicore are the cables insulated and protected as per Tables IV, V, X or XI of the Rules **Approved**
 If the cables are insulated otherwise than as per Rule, are they of an approved type **Yes** **Wartime Cables**
 any point of the installation under maximum load **5.5 volts** **Wartime Cables**
 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 in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit **Both**

Support and Protection of Cables, state how the cables are supported and protected **In accommodation spaces clipped to**
woodwork, steel structure, and perforated tray by brass or galvanized steel clips spaced as
per Rule, elsewhere and through 60°F - 70°F air conditioned rooms run in conduit. All cables
protected by metal guards where liable to damage.
 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 (P.V.C. cables fitted)**

Joints in Cables, state if any, and how made, insulated, and protected **None except at Junction boxes**

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 and hardwood collars**

Earthing Connections, state what earthing connections are fitted and their respective sectional areas **Lead covered cables, conduit and metal trays effectively earthed**
 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 **17 in number 4.5 volt Hulsst Emergency**

Hand Lamps fitted throughout the ship.

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 **Wheelhouse**
 has each navigation lamp an automatic indicator as per Rule **Yes** Secondary Batteries, are they constructed and fitted 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 **Cast metal**
guards
 are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected **Yes, in**
Magazines. (Russell Stoll No. 4521 Explosion Proof Fittings) and in Forepeak Store in and
adjacent to gasoline tank space (approved pump room fittings in Forepeak
Bulkhead)
 how are the cables led **Cables run in conduit.**
 where are the controlling switches situated **Outside compartments**
 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 **1 - 12" - 1000** whether fixed or portable **Spigot on** are their fittings as per Rule **Yes**
Watt Metal Filament Lamp **both sides of Flying Bridge**

Are Lamps, other than searchlight lamps, No. of **1**, are their live parts insulated from the frame or case **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 **Where possible** 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 **drip proof**
 if not of this type, state distance of the combustible material horizontally or vertically above the motors **Under**
 have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing **100** Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule **Yes** **B.H.P.** **Lightning Conductors**, where lightning conductors are required, are these fitted as per Rule **Heavy** **Ships carrying Oil having a Flash Point less than 150°F. Have the special requirements of**
derricks and telescopic mast bonded to deck
 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 filled 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 type approved by the Home Office **Yes**

Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule **Yes**

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amperes.	Rev. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	3	15	110	136	575	Steam Reciprocating	-	-
AUXILIARY	2	50	110-120	416	1200	Heavy Oil Engines	Diesel Oil	Above 150°F
EMERGENCY								
ROTARY TRANSFORMER								

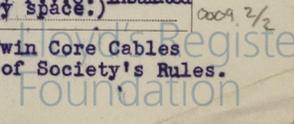
GENERATOR, LIGHTING AND HEATING CONDUCTORS.

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.	Bulk.				
MAIN GENERATOR No. 12 & 3	1	.166	19	.105	136	162	30	Rubber	In conduit	
EQUALISER CONNECTIONS	1	.166	19	.105	-	162	15	"	"	
AUXILIARY GENERATOR	1	1.0	127	.103	416	595	30	"	Lead covered	
Degaussing	1	.3	37	.103	-	240	15	"	"	
Refrigerator P5	1	.131	19	.094	125	225	30	Varnished Cambric	In conduit	
Boiler & Lighting L.1	1	.082	19	.074	61	113	200	Varnished Cambric	Lead covered	
Low Power Panel	1	.052	7	.097	47.5	75	30	Rubber	In conduit	
Panel to Main	1	.008	7	.038	20	27	20	"	Switchboard Wiring	
SWITCHBOARDS	2	2.0	127	.103	832	1190	90	"	Lead covered	
Engineers	1	.082	19	.074	76	102	100	Rubber	In conduit	
Lighting House	1	.082	19	.074	77	102	375	V.C./L.C. &	Rubber in conduit	
Lighting Aft	1	.082	19	.074	79	102	425	Rubber	In conduit	
"	1	.082	19	.074	67	102	200	"	"	
Navigation	1	.032	7	.077	18	55	425	P.V.C.-L.C. &	Rubber in conduit	
WIRELESS	1	.052	7	.097	25	75	400	V.C.-L.C. &	Rubber in conduit	
Gyro	1	.032	7	.077	5	55	400	P.V.C.-L.C. "	" " "	
SEARCHLIGHT	1	.003	7	.024	.5	10	358	P.V.C.-L.C. "	" " "	
MASTHEAD LIGHT	1	.003	7	.024	.5	11.5	74	P.V.C.	Lead covered	
SIDE LIGHTS	1	.003	7	.024	.3	11.5	20	P.V.C.	"	
COMPASS LIGHTS	1	.003	7	.024						
POOP LIGHTS	1	.020	7	.061	22	43	225	Rubber	In conduit	
CARGO LIGHTS										
ARC LAMPS										
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.	Bulk.				
Final Distribution				7	.024	Insulated with either rubber or synthetic resin lead covered or in conduit.					
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	1	1	.005	7	.030	6.5	16	10	Rubber	In conduit	
WATER PUMP	3	1	.032	7	.077	15	55	50	Rubber	In conduit	
VENT FANS No. 1 Hold	2	1	.032	7	.077	40	55	425	"	"	
VENT FANS No. 2 Hold	4	1	.020	7	.061	20	43	250	"	"	
VENT FANS No. 3 Hold	6	1	.032	7	.077	30	55	200	"	"	
WINDLASS											
WINCHES, FORWARD											
WINCHES, AFT...											
STEERING GEAR—											
(a) MOTOR GENERATOR											
(b) MAIN MOTOR											
WORKSHOP MOTOR...											
VENTILATING FANS											
Refrigerator	6	1	.082	19	.074	65	102	220	Rubber	In conduit	
Refrigerator	7	1	.082	19	.074	90	102	220	"	"	
Refrigerator	8	1	.082	19	.074	100	102	360	"	"	
Refrigerator	9	1	.082	19	.074	100	102	360	"	"	
Power Surgery	26	1	.032	7	.077	15	56	100	P.V.C. Lead covered	In conduit	

x American Institute of Electrical Engineers Current Carrying Capacity for Twin Core Cables Table No. 10, Single Core Cables by interpolation from Tables No. 1 and 2 of Society's Rules.



All Conductors are of annealed copper conforming to British Standard Specification No. 7 (or International Electro-technical Commission Publication No. 28).

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

Burrard Dry Dock Company, Limited

Electrical Engineers.

Date 23rd August, 1944

M. Davie
Sec'y-Treas.

COMPASSES.

Distance between electric generators or motors and standard compass 19 Feet (Wireless Alternator)

Distance between electric generators or motors and steering compass 16 Feet (" ")

The nearest cables to the compasses are as follows:—

A cable carrying .3 Ampères 9 inches feet from standard compass 9 inches feet from steering compass. (Compass Light)

A cable carrying .3 Ampères 1'-4" feet from standard compass 1'-4" feet from steering compass. (Compass Correction Coils)

A cable carrying .3 Ampères 7 feet from standard compass 3 feet from steering compass. (Wheelhouse Light)

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 All courses in the case of the standard compass, and Nil degrees on All course in the case of the steering compass.

Burrard Dry Dock Company, Limited

Builder's Signature.

Date 23rd August, 1944.

Is this installation a duplicate of a previous case Yes If so, state name of vessel S.S. "FORT KILMAR" Vancouver Report No. 6216.

General Remarks (State quality of workmanship, opinions as to class, &c. The Electrical Equipment of this ship

has been installed under Special Survey in accordance with the approved plans, New York letters and Society's Rules. The material and workmanship are good, and special attention has been given to the installation of synthetic resin insulated cables, and in the Machinery spaces they have been kept at least 1" clear of all steelwork to allow for air circulation. The installation has been examined under full working conditions, tested as per Rule and found satisfactory, and in our opinion is eligible to have the Society's Classification without Special Notation, subject to the Masthead and Sidelight wiring and all other P.V.C. Cables fitted on deck, being examined within two years before the end of 8,46. Copies of particulars of ship's Trials on Generators attached. Makers' Certificates covering Steam Auxiliary Engines (driving 15 K.W. Generators) and Generators attached. As fitted plan of Electrical Wiring attached. The Electrical Equipment has also been surveyed during construction and installation on behalf of Wartime Shipbuilding Ltd., to ensure that the Terms of the Specification have been fully complied with and this work has been satisfactorily carried out.

Total Capacity of Generators 145 Kilowatts.

Noted
Flu 31.10.44

The amount of Fee ... \$125.00

When applied for,

23d Aug. 19 44

Travelling Expenses (if any) \$ 10.00

When received,

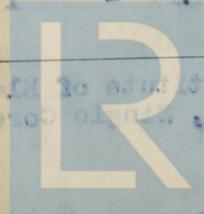
19

W. G. Donald & A. B. M. Coleman
Surveyors to Lloyd's Register of Shipping. (Acting.)

Committee's Minute

Assigned

Im-4-42—Transfer. Printed in U.S.A.
(The Surveyors are requested not to write on or below the space for Committee's Minute)



© 2020

Lloyd's Register Foundation