

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

JUL 18 1940

Received at London Office.....

Date of writing Report... 9th July 1940... When handed in at Local Office... 19... Port of... Harlepool

No. in Survey held at... Harlepool... Date, First Survey... 3rd May... Last Survey... 10th July 1940...
 Reg. Book... 21667 on the... S.S. "CAPE BRETON" Tons { Gross... Net... }

Built at... Harlepool... By whom built... Wm. Sney & Co. Ltd. Yard No. 1101 When built 1940

Owners... Bowring & Co. Ltd. Port belonging to... London

Electrical Installation fitted by... Wm. Sney & Co. Ltd. Contract No. 1101 When fitted 1940

Is vessel fitted for carrying Petroleum in bulk... Is vessel equipped with D.F. Yes E.S.D. Yes Gy.C. No Sub.Sig. No

Have plans been submitted and approved... Yes System of Distribution... Double wire Voltage of supply for Lighting... 110

Heating... Power... 110 Direct or Alternating Current, Lighting... Yes Power... Yes If Alternating Current state frequency... Prime Movers,

has the governing been tested and found efficient when the whole 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

Positive 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... Main: E.R. side aft. Auxiliary: E.R. side aft. at main deck level, 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 starboard side aft on raised platform near stow

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... Slate, if of synthetic insulating material is it an Approved Type... 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... Double pole double throw knife switch and double pole fuse

and for each outgoing circuit... Double pole knife switch and double pole fuse

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule... Instruments on main switchboard... One ammeters... One voltmeters... synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the equaliser connection... Earth Testing, state means provided... 2 lamps coupled to 2. Thompson & Co. Huses.

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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, are the reversed current protection devices connected on the pole opposite to the equaliser connection Yes, have they been tested under working conditions Yes. 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 Yes, state maximum fall of pressure between bus bars and any point under maximum load 5.3 mts, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets Yes. Are paper insulated and varnished cambric insulated cables sealed at the exposed ends Yes with insulating compound Yes 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 floor plates Yes, if so, are they adequately protected Yes. Are cables in machinery spaces, galleys, laundries, etc., lead covered Yes or run in conduit Yes. State how the cables are supported and protected L.C.A.B. cables run in hardwood clutis along with scammings and on deck covered with chymum plate: L.C.A.B. cables clipped to surface in machy. spaces: L.C. cables clipped to surface or to wood frames in accom. 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 effectively 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 Yes and method of control Yes. 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 Yes, are they adequately ventilated Yes. 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 Yes. and where are the controlling switches fitted Yes, are all fittings suitably ventilated Yes. are all fittings and accessories constructed and installed as per Rule Yes. Searchlight Lamps, No. of Yes, whether fixed or portable Yes. are the fittings as per Rule Yes. Heating and Cooking, is the general construction as per Rule Yes. are the frames effectually earthed Yes, are heaters in the accommodation of the convection type Yes. 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 Yes and vertically Yes. Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing Yes. Have certificates of test for motors under 100 BHP intended for essential 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 Yes. 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. If portable lamps for use in dangerous spaces are supplied, are they of a self-contained battery-fed flameproof type 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 megger 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	1	17.5	110	159	500	Single cylinder steam engine		
Auxiliary	1	5	110	45.5	1000	Two cylinder diesel engine	Gas Oil	Above 150°F
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 For Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	17.5	1	37/0.13	159	296	50	Paper	L.C.
EQUALISER								
Auxiliary Generator	5	1	7/0.04	45.5	46	80	V.I.R.	L.C.A.B.
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

AUX. SWITCHBOARDS AND SECTION BOARDS ...							
Saloon & Fwd. Section Board	1	19/0.04	46	13	365	V.I.R.	L.C.A.B.
Engg. Saloon S.B.	1	7/0.04	38	46	4	V.I.R.	L.C.
Navigation S.B.	1	7/0.04	10	31	90	V.I.R.	L.C.
Forward S.B.	1	7/0.04	3	24	300	V.I.R.	L.C.A.B.

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	19/0.04	25	64	440	V.I.R.	L.C.A.B. & L.C.
NAVIGATION LIGHTS	1	7/0.04	1.5	as detailed above			
LIGHTING AND HEATING	1	19/0.04	25+31	83	110+320	V.I.R.	L.C.A.B.
Engg. & aft S.B.	1	7/0.04	36	46	12	V.I.R.	L.C.A.B.
Engine Room S.B.	1	7/0.04	20+12	46	100+320	V.I.R.	L.C.A.B.
Cargo Ltg. S.B.							

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Refrig. Mfr.	1	2.5	1	7/0.04	20	46	360	V.I.R. L.C.A.B.
Water	1	1.5	1	7/0.04	14	31	80	V.I.R. 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.

WILLIAM GRAY & CO. LIMITED.
Wm. S. Simpson
GENERAL MANAGER.

Electrical Engineers.

Date 13th July 1940

COMPASSES.

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

Minimum distance between electric generators or motors and steering compass 112 feet

The nearest cables to the compasses are as follows:—

A cable carrying 14 Amperes on the feet from standard compass 7 feet from steering compass.

A cable carrying 14 Amperes 7 feet from standard compass on the feet from steering compass.

A cable carrying Amperes 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 1/2 degrees on Every course in the case of the

standard compass, and 1/2 degrees on Every course in the case of the steering compass.

WILLIAM GRAY & CO. LIMITED.
Wm. S. Simpson
GENERAL MANAGER.

Builder's Signature.

Date 13th July 1940

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

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 in accordance with approved plans and the 1938/39 Rules for Electrical Equipment. The materials used and the workmanship are good. On completion the equipment was operated under working conditions with satisfactory results, the governing, regulation and commencing of the generating sets were tested, the insulation resistance of all circuits was measured and the open gear was examined. This equipment is in my opinion suitable for a classed vessel.

Noted
L.H.
19/7/40.

Total Capacity of Generators 22.5 Kilowatts.

The amount of Fee £ 19 : - : When applied for, 19.....

Travelling Expenses (if any) £ : : When received, 13th Aug. 1940

Santimon
Surveyor to Lloyd's Register of Shipping.

TUE 28 JUL 1940

Committee's Minute

Assigned

See Hpl. No. 18060