

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

14 JUL 1948

Received at London Office

Date of writing Report... 21.6.48 When handed in at Local Office... 10.7.48 Port of... GLASGOW

No. in Survey held at... Ardrossan Date, First Survey (1948) Jan 9 Last Survey 4th June 1948
Reg. Book... 38244 on the "BALTIC COAST" (Number of Visits... 19)Built at... Ardrossan By whom built... Ardrossan Dockyard Ltd Yard No. 404 When built... 1948
Owners... Messrs Coast Lines, Ltd Port belonging to... Liverpool

Electrical Installation fitted by... Messrs Campbell & Isherwood Co., Ltd Contract No. 404 When fitted... 1948

Is vessel fitted for carrying Petroleum in bulk... No Is vessel equipped with D.F. Yes E.S.D. Yes Radar Yes Decca Nav.

Have plans been submitted and approved... Yes System of Distribution... Two-wire Voltage of supply for Lighting... 220

Heating... Power... 220 Direct or Alternating Current, Lighting... D.C. Power... D.C. If Alternating Current state periodicity... Prime Movers,

has the governing been tested and found as per Rule when full 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 (10 kW Aux. Gen. on separate Bus-bar) 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 Are the lubricating arrangements and the construction

of the generators as per rule... Yes Position of Generators... In Engine Room

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... Platform at After end Engine Room

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... "Sindanyo" if of synthetic insulating material is it an Approved Type... Yes, if of

semi-insulating material (stone or marble) are all conducting parts insulated therefrom as per Rule... 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... Triple pole circuit -

breaker with one pole arranged as equaliser switch, fitted with overload, no-volt, and reverse

current trips. (10 kW Generator fitted with D.P. circuit-breaker and D.P. fuses)

and for each outgoing circuit... D.P. switch and fuses.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule... Instruments on main switchboard... 4

ammeters... 2 voltmeters... synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the

equaliser connection... Yes Earth Testing, state means provided... Earth Lamps

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 If circuit breakers are provided for the generators, at what overload current did they open when tested... Full load are the reversed current

protection devices connected on the pole opposite to the equaliser connection... Yes have they been tested under working conditions, and at what current

did they operate... 40 amps 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... 4.3 Volts 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 ends... Yes

supported and protected. **MACHINERY SPACE:-** L.C. & B. cables clipped to steel tray or structure

ACCOMMODATION:- L.C. clipped to structure

WINDLASS & WINCHES:- V.I.R. in galvanised pipe

Are all lead sheaths, armouring and conduits effectually bonded and earthed.....Yes..... Refrigerated chambers, are the cables and fittings as per Rule.....—.....

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.....Secondary battery in.....

compartment forward end E.R. casing: control panel near Main Switchboard. and method of control: Lighting circuits supplied either from Main

Switchboard or Battery via C.O. switch..... 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

what is the battery capacity in ampère hours..... 146 at 10hr. rate.

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. No, if so, how are they protected. —

and where are the controlling switches fitted....., are all fittings suitably ventilated. **Yes**

are all fittings and accessories constructed and installed as per Rule... Yes... Searchlight Lamps, No. of —, whether fixed or portable —

....., are their fittings as per Rule..... Heating and Cooking, is the general construction as per Rule.....

are the frames effectually earthed....., are heaters in the accommodation of the convection type..... 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.....—..... and vertically.....—..... Are

motors coupled to oil fuel transfer and unit pressure pumps capable of being stopped from a position accessible in the event of fire in the pump compartment. Yes

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing — 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 — 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? are all types of the cartridge type

are they of an approved type. Are the fittings for munn rooms, 'tween deck spaces, etc. in accordance with the special requirements for such

ships..... Are the cables lead covered as per Rule..... 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 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 ...	3	64	220	290	800	I.C. Engine	Diesel Oil	Above 150°F
	1	10	220	45.5	1000	" "	" "	" "
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 Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	64	2	37.083	290	296	146	Y.C	L.C.
" " EQUALISER		1	19.083	-	191	70	"	"
AUXILIARY GENERATOR	10	1	21.064	45.5	46	124	VIR	"
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT		APPROX.	INSULA- TED WITH.	HOW PROTECTED.
	No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	IN AMPERES.		LENGTH (lead plus return feet).		
			In the Circuit.	Rule.			
AUX. SWITCHBOARDS AND SECTION BOARDS ...							
Winches Aft (One-hour rating)	1	37.083	183 ✓	204	194	V.I.R	Conduit
" Midship (Half-hour rating)	1	37.083	225 ✓	247	140	"	"
" Forward (" " ")	1	37.083	225 ✓	247	386	"	"
General Lighting	1	34.072	101 ✓	152	122	"	L.C.B.
Engine Room Aux. D.B. 1	1	37.083	145 ✓	184	132	"	"
" " " D.B. 2	1	37.103	205 ✓	240	205	"	"
Refrigerator Machinery	1	7.036	11 ✓	24	40	"	"
Pantry Power	1	10.052	59 ✓	64	40	"	"
Radar	1	7.064	21 ✓	46	120	"	"

LIGHTING AND HEATING, ETC., CABLES.

	WIRELESS	NAVIGATION LIGHTS	LIGHTING AND HEATING	Engine Room Lighting	Hold	Poop	Upper Deck	Boat Deck Accom.	Aft	Forward
1	7/052	15 ✓	37	120	V.I.R.	L.C.B.				
1	7/029	3 ✓	15	120	"	"				
1	7/036	10 ✓	24	50	"	"				
1	7/036	7 ✓	24	40	"	"				
1	7/036	11 ✓	24	80	"	"				
1	7/036	16 ✓	24	60	"	"				
1	7/036	7 ✓	24	60	"	"				
1	3/036	3 ✓	10	200	"	"				
1	3/036	3 ✓	10	386	"	"				

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.							
Air Compressors	✓ 2	35	1	34/042	132	✓ 152	74	V.I.R.	L.C.B.
S.W. Circulating Pumps	✓ 2	5	1	7/036	21	✓ 24	28	"	"
F.W. " "	✓ 1	5	1	7/036	21	✓ 24	56	"	"
Aux. F.W. " "	✓ 1	3	1	7/029	13	✓ 15	40	"	"
L.O. Oil Pumps	✓ 2	18 1/2	1	19/064	73	✓ 83	44	"	"
F.O. Transfer Pump	✓ 1	1 1/2	1	3/036	7.5	✓ 10	46	"	"
Generator Circ. Pump	✓ 1	1 1/2	1	3/036	7.5	✓ 10	136	"	"
Windlass	✓ 1	36	1	37/072	136	✓ 152	12	V.I.R.	Conduit
Steering Gear	✓ 1	10	1	7/064	40	✓ 46	206	"	"
Winch, Boat Dk.	✓ 1	36 1/2	1	37/072	141	✓ 184	54	V.I.R.	Conduit
Bilge & Ballast Pump.	✓ 1	7	1	7/052	30	✓ 37	34	"	L.C.B.
G.S. Pump	✓ 1	12	1	19/044	48	✓ 50	50	"	"

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.

MAGANPSEBET ISHCHENSKI LTD

Electrical Engineers.

Date 5. 7. 48

COMPASSES.

Minimum distance between electric generators or motors and standard compass 15 ft.

Minimum distance between electric generators or motors and steering compass 12 ft.

The nearest cables to the compasses are as follows:—

A cable carrying 0.01 Ampères led into feet from standard compass led into feet from steering compass.

A cable carrying 21 Ampères 12 feet from standard compass 9 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 BRIDGESAN DOCKYARD, LIMITED

Builder's Signature.

Date 9th July 1948

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 6. 8. 48

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith Yes (Fuel Oil Pump Certificate to follow when received).

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, tried under full working conditions and found satisfactory. The materials and workmanship are good.

Total Capacity of Generators 202 Kilowatts.

The amount of Fee ... £ 40 : 6 : 30.6. 48

Travelling Expenses (if any) £ 6 : 0 : 7.7. 48

Committee's Minute GLASGOW 13 JUL 1948

Assigned See First Entry Machinery Report

B. Haffner.

Surveyor to Lloyd's Register of Shipping.