

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

23 JUN 1941

Date of writing Report 14th June, 1941 When handed in at Local Office 16 June, 1941 Port of Sunderland

No. in Survey held at Sunderland Date, First Survey 25th Apr., Last Survey 10th June, 1941
Reg. Book. Suppl. (Number of Visits.....)

87545 on the S.S. "CAPITOL" Tons { Gross 1558
Net 885

Built at Sunderland By whom built S.P. Austin & Son Ltd. Yard No. 355 When built 1941

Owners Gas, Light & Coke Co. Port belonging to London

Electrical Installation fitted by The Sunderland Eng. & Eng. Co. Ltd. Contract No. 355 When fitted 1941

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

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

Heating Power Direct Alternating Current, Lighting Yes Power Prime Movers,
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 Yes Generators, are they compound wound Yes, are they level compounded under working conditions Yes,
if not compound wound state distance between generators Yes and from switchboard Yes Where more than one generator is fitted are they
arranged to run in parallel only one fitted, 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 none fitted 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 engine room starboard side aft
Yes 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 Yes and vertically Yes, 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
inside generating set
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 Yes and vertically Yes, what insulation
material is used for the panels "Economy Linsimp", if of synthetic insulating material is it an Approved Type Yes, if of
semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule Yes 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
quick break knife switch and double pole fuse
and for each outgoing circuit double pole quick break knife switch and
double pole fuse
Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard one
ammeters one voltmeters one 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 Edamps coupled to E through rods & fuses
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 none fitted, are the reversed current
protection devices connected on the pole opposite to the equaliser connection none fitted, have they been tested under working conditions, and at what current
did they operate 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 4.4V, 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

with insulating compound... or waterproof insulating tape... 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 floorplates... *Yes*... if so, are they adequately protected... Are cables in machinery spaces, galleys, laundries, etc., lead covered... *Yes*... or run in conduit... State how the cables are supported and protected... *L.C.B. & L.C. cables clipped in wood casing through holds; L.C.A.B. cables clipped to surface in machinery spaces; L.C. cables clipped to surface or to wood grounds in accommodation spaces.*

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 or fibre*... Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule... *Yes*... Emergency Supply, state position... and method of control...

Navigation Lamps, are they separately wired... *Yes*... controlled by separate... 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... what is the battery capacity in ampere hours... 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... 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... Motors, are all motors constructed and installed as per Rule... and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil... 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... 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... Control Gear and Resistances, are they constructed and fitted as per Rule... 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 fuses of the cartridge type... are they of an approved type... Are the fittings for pump 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			Revs. per Min.	DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.			Fuel Used.	Flash Point of Fuel.
MAIN	1	12.5	110	114	850	Single expanded steam engine		
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	12.5	1	19.08	114	118	14	V.I.R.	L.C.B.
" " EQUALISER								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	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.			
AUX. SWITCHBOARDS AND SECTION BOARDS							
Navigation Ltg. A.B. feed	1	7.064	16	46	340	V.I.R.	L.C.B.

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION.	No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
WIRELESS							
NAVIGATION LIGHTS	1	7.064	6	31	70	V.I.R.	L.C.B.
LIGHTING AND HEATING							
Saloon Ltg. A.B. (off mid. A.B.)	1	7.064	18	31	4	V.I.R.	L.C.B.
Engine Room Ltg. A.B.	1	7.064	9	15	80	V.I.R.	L.C.B.
Shore Connection	1	7.064	20	31	110	V.I.R.	L.C.B.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.
<i>no more fitted</i>		

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.

M^{rs} Sunderland Forge & Eng Works
H. J. Ganev

Electrical Engineers.

Date *6-6-1941*

COMPASSES.

Minimum distance between electric generators or motors and standard compass *137 feet*

Minimum distance between electric generators or motors and steering compass *131 feet*

The nearest cables to the compasses are as follows:—

A cable carrying *.14* Ampères *on the* standard compass *6* feet from steering compass.

A cable carrying *.14* Ampères *6* feet from standard compass *on the* 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 *Every* course in the case of the standard compass, and *Nil* degrees on *Every* course in the case of the steering compass.

FOR & PAULSTON & SON, LIMITED

F. W. Paulstun

Builder's Signature.

Date *9/11/41*

MANAGING DIRECTOR

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 *10.2.41 and 18.2.41*

Certificates. Are certificates of test for ~~motors engaged on essential services~~ and generators forwarded herewith *Yes*

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 in accordance with the approved plans. The materials used and the workmanship are good. On completion trials of the equipment were witnessed and found satisfactory and the insulation resistance of all circuits was measured and found good. This equipment is in my opinion suitable for a classed vessel.

Noted
L.P.
24/6/41

Total Capacity of Generators *12.5* Kilowatts.

The amount of Fee ... £ *13* - - : When applied for *16 JUN 1941*

Travelling Expenses (if any) £ : When received19.....

Banterson

Surveyor to Lloyd's Register of Shipping.

31. 4 JUL 1941

Committee's Minute

Assigned *See Atd. JE 33126*

