

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report..... 26th May 43 When handed in at Local Office..... 21 JUL 1943 Port of..... Sunderland

No. in Survey held at..... Sunderland Date, First Survey 20th April Last Survey 17th July 1943  
Reg. Book..... Supp. (Number of Visits..... 7)

86400 on the M.V. "EMPIRE CHEER" Tons { Gross 729.7  
Net 493.6

Built at Sunderland By whom built Wm. Delford & Co., Ltd. Yard No. 702 When built 1943

Owners Ministry of War Transport Port belonging to Sunderland

Electrical Installation fitted by Campbell & Rhewood, Ltd. Contract No. 702 When fitted 1943

Is vessel fitted for carrying Petroleum in bulk. Is vessel equipped with D.F. E.S.D. Gy.C. Sub.Sig.

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

Heating. Power 110 Direct Alternating Current, Lighting. Power 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. Are turbine emergency governors fitted with a

trip switch as per Rule. Generators, are they compound wound. are they level compounded under working conditions.

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. are shunt field regulators provided. 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. and the results found as per rule. Are the lubricating arrangements and the construction

of the generators as per rule. Position of Generators. Engine room situated forward on

main deck, is the ventilation in way of generators satisfactory. are they clear of inflammable material. 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. are the bedplates and frames earthed. and the prime movers and generators in metallic

contact. Switchboards, where are main switchboards placed. Engine room situated forward on

main deck, are they in accessible positions, free from inflammable gases and acid fumes. are they protected from mechanical injury and damage from water, steam

and oil. if situated near unprotected combustible material state distance from same horizontally. and vertically. what insulation

material is used for the panels. "Elongated Linsimp", if of synthetic insulating material is it an Approved Type. if of

semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule. Is the frame effectually earthed.

Is the construction as per Rule. including accessibility of parts. absence of fuses on the back of the board. individual fuses

to pilot and earth lamps, voltmeters, etc. locking of screws and nuts. labelling of apparatus and fuses. fuses on the "dead"

side of switches. Description of Main Switchgear for each generator and arrangement of equaliser switches. Double pole

switches with overload trip and time lag device

on each pole.

and for each outgoing circuit. Double pole double throw quick break knife

switch and double pole fuse.

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

ammeters. Two 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. Elamps compound G.E. Thompson's fuses.

Switches, Circuit Breakers and Fuses, are they as per Rule. are the fuses an approved type. are all fuses labelled as

per Rule. If circuit breakers are provided for the generators, at what overload current did they open when tested. 200A, are the reversed current

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

did they operate. Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule.

Cables, are they insulated and protected as per the appropriate Tables of the Rules. if otherwise than as per Rule are they of an approved type.

state maximum fall of pressure between bus bars and any point under maximum load. 44.44, are the ends of all cables having a sectional area of 0.01

square inch and above provided with soldering sockets. Are paper insulated and varnished cambric insulated cables sealed at the ends.



PARTICULARS OF GENERATING PLANT.								
DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amperes.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN ... ..	2	15	110	186	600	Single engines steam engines		
EMERGENCY ...								
ROTARY TRANSFORMER								

## PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.		
		Kilowatts.	Volts.	Amperes.	Revs. per Min.	DRIVEN BY	Fuel Used.	Flash Point of Fuel.
MAIN ... ..	2	15	110	186	600	Single cylinder 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.	Rate.			
MAIN GENERATORS ... ..	2 x 15	1	19/083	136	19/	30 x 40	V.C.	L.C.R.B.
" " EQUALISER ... ..								
EMERGENCY GENERATOR ... ..								
ROTARY TRANSFORMER: MOTOR ... ..								
" " GENERATOR ... ..								

### MAIN DISTRIBUTION CABLES.

[illegible]

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	NAVIGATION LIGHTS	LIGHTING AND HEATING	1	0225	25/30	25/75	270+80	Papstman + V.C.L.C.B.
			1	007	7	25/42	270+80	Papstman + V.C.L.C.B.
								acc. paid to Nav. Dept. 25. paid from Harbours Dept.
Sailor Lig. 25			1	7/044	19	42	10	V.C. L.C.B.
Capt. Lig. 25			1	7/044	6	42	50	V.C. L.C.B.
Harbours 25			1	7/044	12	42	80	V.C. L.C.B.
Port Lig. 25			1	7/044	17	42	60	V.C. L.C.B.
Star. Lig. 25			1	7/044	24	31	30	W.E. L.C.B.
Sailing Broom			1	3/036	3	10	50	W.E. L.C.B.
Sailing Broom			1	3/036	3	10	50	W.E. L.C.B.
Imag. W.T.			1	3/036	10	10	50	W.E. L.C.B.
Aft Lig. 25			1	7/044	7+12	46	600+40	W.E. In amount
Star. Lig. 25			1	7/036	14	24	8	W.E. In amount
Aft Lig. 25			1	7/036	14	24	160	W.E. In amount

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Oil Burning Engine	1	5	1	0222	42	75	90	Papillon
3 phase 4 wire engine	1	3.5	1	01	297	42	146	Papillon
Oil Engine	2	3	1	7/0.04	251	31	200	W.E. to engine
Appl. Eng.	2	3.1	1	0222	264.9	75	270	Papillon
Crushing Pump	1	1.5	1	7/0.04	125	31	140	W.E. to engine
Crane	1	3	1	7/0.04	27	31	140	W.E. to engine
Workshop	1	2	1	7/0.04	17	31	180	W.E. to engine
3.8 Tonne (off E.R. 4.8)	2	1.5	1	7/0.06	12	24	150/200	W.E. to engine



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.

CAMPBELL & ISHERWOOD, LTD.

Electrical Engineers.

Date 27<sup>th</sup> May 1943

#### COMPASSES.

Minimum distance between electric generators or motors and standard compass 98 feet

Minimum distance between electric generators or motors and steering compass 98 feet

The nearest cables to the compasses are as follows:—

A cable carrying 144 Ampères on the feet from standard compass 7 feet from steering compass.

A cable carrying 144 Ampères 7 feet from standard compass on the 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.

WILLIAM DOXFORD & SONS, Limited.

Builder's Signature.

Date 3/6/43

Is this installation a duplicate of a previous case *Yes* If so, state name of vessel *English Prince*

Plans. Are approved plans forwarded herewith *Yes* If not, state date of approval *26/1/43*

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 in accordance with the Rules. The materials used are of good quality and the workmanship is good. On completion the equipment was operated under working conditions with satisfactory results. The protective devices of the circuit breakers were adjusted and operated and the insulation resistance of all circuits was measured and found good. This equipment is in my opinion suitable for a classed vessel.

*Holia*

*L. Y.*

*28/7/43.*

Total Capacity of Generators 30 Kilowatts.

The amount of Fee ... £ 28 : 2/6 : When applied for, 16 June 1943

Travelling Expenses (if any) £ : : When received, 23 June 1943 *Apv.*

*G. Cameron*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

*see minute on*  
*J.E. Rph.*