

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report 26th May 43 1943 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 Suppt. (Number of Visits.....)

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

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

Owners Ministry of War Transport Port belonging to Sunderland

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

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 no System of Distribution Two wire unarmoured Voltage of supply for Lighting 110

Heating no Power 110 Direct no Alternating Current, Lighting no Power no If Alternating Current state periodicity no Prime Movers,

has the governing been tested and found as per Rule when full load is suddenly thrown on and off no Are turbine emergency governors fitted with a trip switch as per Rule no Generators, are they compound wound no, are they level compounded under working conditions no, if not compound wound state distance between generators no and from switchboard no Where more than one generator is fitted are they arranged to run in parallel no, are shunt field regulators provided no 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 no Have certificates of test for machines under 100 kw. been supplied no and the results found as per rule no Are the lubricating arrangements and the construction of the generators as per rule no Position of Generators Engine room situated forward on raised steel, is the ventilation in way of generators satisfactory no are they clear of inflammable material no, if situated near unprotected combustible material state distance from same horizontally no and vertically no, are the generators protected from mechanical injury and damage from water, steam and oil no, are the bedplates and frames earthed no and the prime movers and generators in metallic contact no Switchboards, where are main switchboards placed Engine room situated forward on raised platform over operating site

are they in accessible positions, free from inflammable gases and acid fumes no, are they protected from mechanical injury and damage from water, steam and oil no, if situated near unprotected combustible material state distance from same horizontally no and vertically no, what insulation material is used for the panels "Elong laminar", if of synthetic insulating material is it an Approved Type no, if of semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule no Is the frame effectually earthed no

Is the construction as per Rule no, including accessibility of parts no, absence of fuses on the back of the board no, individual fuses to pilot and earth lamps, voltmeters, etc. no locking of screws and nuts no, labelling of apparatus and fuses no, fuses on the "dead" side of switches no Description of Main Switchgear for each generator and arrangement of equaliser switches Double pole circuit breakers 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 fuses

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule no Instruments on main switchboard Two ammeters Two voltmeters no synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the equaliser connection no Earth Testing, state means provided Elamps complex U.S. Thompson's fuses

Switches, Circuit Breakers and Fuses, are they as per Rule no, are the fuses an approved type no, are all fuses labelled as per Rule no 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 no, have they been tested under working conditions, and at what current did they operate no Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule no

Cables, are they insulated and protected as per the appropriate Tables of the Rules no, if otherwise than as per Rule are they of an approved type no, 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 no Are paper insulated and varnished cambric insulated cables sealed at the ends no



with insulating compound 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 floorplates. No, 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. Peperlinas cables carried to underside of longitudinal girders in fwd. trunk and to engine in tray in machinery spaces. W.E. cables run in screwed conduit in aft. trunk and in machinery spaces. L.C.B. in arrow.

Are all lead sheaths, armoring 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 effectually 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 what is the battery capacity in ampere hours. 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. No, 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 their 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 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. 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 Are the fittings for pump rooms, tween deck spaces, etc., in accordance with the special requirements for such ships. Yes Are the cables lead covered as per Rule. 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 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	2	15	110	186	600	Single expansion steam engines		
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (load 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 GENERATORS	2 x 15	1	19/0.88	136	191	300 x 40	V.C.	L.C.B.
" EQUALISER								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (load 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 ...							
Saloon Section Board	1	.04	44	104	272	Peperlinas	
Engine Room Section Board	1	19/0.88	57	88	128	W.E. in conduit	
Engine Room Section Board	1	.04	52	104	50	Peperlinas	

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 (load plus return feet).	INSULATED WITH.	HOW PROTECTED.
WIRELESS	1	.0225	25/30	75/75	270 x 80	Peperlinas & V.C.L.C.B.	
NAVIGATION LIGHTS	1	.007	7	25/42	270 x 80	Peperlinas & V.C.L.C.B.	
LIGHTING AND HEATING							
Saloon Lig. ab.	1	7/0.24	19	42	10	V.C. L.C.B.	
Captain's Cab. ab.	1	7/0.24	6	42	50	V.C. L.C.B.	
Steward's Cab. ab.	1	7/0.24	12	42	80	V.C. L.C.B.	
Port Stg. ab.	1	7/0.24	17	42	60	V.C. L.C.B.	
Aft Stg. ab.	1	7/0.24	24	31	30	W.E. L.C.B.	
Saloon Binow ab.	1	3/0.26	3	10	50	W.E. L.C.B.	
Saloon Binow ab.	1	3/0.26	3	10	50	W.E. L.C.B.	
Improv. W.T.	1	3/0.26	10	10	50	W.E. L.C.B.	
Aft Stg. ab.	1	7/0.26	7+12	46	600 x 40	W.E. in conduit	
Port Stg. ab.	1	7/0.26	14	24	8	W.E. in conduit	
Aft Stg. ab.	1	7/0.26	14	24	160	W.E. in conduit	

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (load plus return feet).	INSULATED WITH.	HOW PROTECTED.
Oil Boreing Pump	1	5	1	.0225	42	75	90	Peperlinas	
Forward Trampet Pump	1	3.5	1	.01	29.7	42	146	Peperlinas	
Oil Purifiers	2	3	1	7/0.24	25.1	31	200	W.E. in conduit	
Roping Pump	2	3.1	1	.0225	26+9	75	270	Peperlinas	
Pressing Pump	1	1.5	1	7/0.24	12.5	31	140	W.E. in conduit	
Crane	1	3	1	7/0.24	27	31	140	W.E. in conduit	
Workshop	1	2	1	7/0.24	17	31	180	W.E. in conduit	
E.R. Pump (off E.R. ab.)	2	1.5	1	7/0.26	12	24	150/200	W.E. in conduit	

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 & FISHERWOOD, LTD.
Electrical Engineers.

Date 27th 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 94 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 every course in the case of the standard compass, and Nil degrees on every course in the case of the steering compass.

WILLIAM DOXFORD & SONS, Limited.

Builder's Signature: W. H. Hatchley

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 resistances of all circuits was measured and found good. This equipment is in my opinion suitable for a classed vessel.

W. H. Hatchley
28/7/43

Total Capacity of Generators 30 Kilowatts.

The amount of Fee £ 28 : 2/6 : (incl. Expn.)

Travelling Expenses (if any) £ : : When received. 23. June 19. 43

Surveyor to Lloyd's Register of Shipping.

FRI. 6 AUG 1943

Committee's Minute

Assigned see minute on J.E. Rpt.

5m. 4.30.—Transfer. (MADE AND PRINTED IN ENGLAND.) (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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