

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report..... 15.9.1942 When handed in at Local Office..... 29 SEP 1942 Port of Hull

No. in Survey held at Selby Hull Date, First Survey 10.8.42 Last Survey 3.9.42
Reg. Book. (Number of Visits..... 12.....)

on the single screw tug "EMPIRE SAM" Tons {Gross... 275
Net... Nil

Built at Selby Hull By whom built Buchanan & Son Ltd. Yard No. 1250 When built 1942

Owners Ministry of War Transport Port belonging to

Electrical Installation fitted by Wm Broady & Son Ltd. Contract No. ✓ When fitted 1942

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

Have plans been submitted and approved Yes System of Distribution Parallel Condenser Pressure Voltage of supply for Lighting 110

Heating ✓ Power 110 Direct or Alternating Current, Lighting DC Power DC 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 ✓, 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 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 Engine room, adjacent to generator

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 (slate 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.

D.P. switches and fuses

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

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 Earth lamps & switches.

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 ✓, are the reversed current

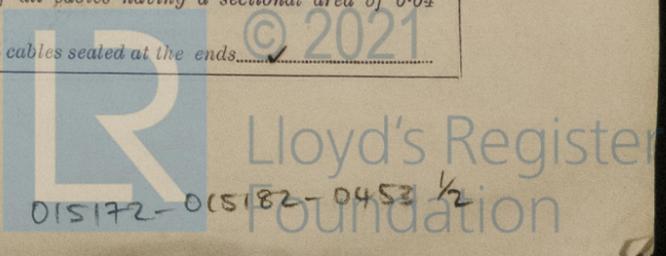
protection devices connected on the pole opposite to the equaliser connection ✓, have they been tested under working conditions, and at what current

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

state maximum fall of pressure between bus bars and any point under maximum load 2 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 ✓



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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 . Are cables laid under machines or floorplates . If so, are they adequately protected . Are cables in machinery spaces, galleys, laundries, etc., lead covered or run in conduit . State how the cables are supported and protected clipped to trays or bulkheads as required

Are all lead sheaths, armoring and conduits effectually bonded and earthed . 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 . Where unarmoured cables pass through beams, etc., are the holes effectually bushed and with what material lead. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule . Emergency Supply, state position None and method of control

Navigation Lamps, are they separately wired controlled by separate double pole switches and fuses . Are the switches and fuses in a position accessible only to the officers on watch . Is an automatic indicator fitted . Secondary Batteries, are they constructed and fitted as per Rule . Are they adequately ventilated . What is the battery capacity in ampere hours

Fittings, are all fittings on weather decks, in stowholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof . Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present . If so, how are they protected

and where are the controlling switches fitted . Are all fittings suitably ventilated

are all fittings and accessories constructed and installed as per Rule . Searchlight Lamps, No. of None, whether fixed or portable

are their fittings as per Rule . Heating and Cooking, is the general construction as per Rule . None

are the frames effectually earthed . Are heaters in the accommodation of the convection type . 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 . Are they suitably stored in dry situations . Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory

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.
MAIN	1	6	110	55	500	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	6	1	19/052	40	64	24	VIR	L.C. rotol cover as required
" " EQUALISER								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

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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 D.G.	1	7/064	22	46	20	VIR	Lead covered
W/T	1	7/036	5	24	160		
Accommodation	1	7/036	10	24	140		
Navigation	1	7/029	3	15	160		

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION.	No.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
			In the Circuit.	Rule.			
WIRELESS direct from switchboard	1	7/036	5	24	160	VIR	L.C. & armoured
NAVIGATION LIGHTS sub-circuits	1	1/044	0.6	5	90		L.C. or L.C. arm'd.
LIGHTING AND HEATING do.	1	1/044	2	5	110		L.C. arm'd.
E & B.R. direct from switchboard	1	1/044	2	5	60		do.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
				In the Circuit.	Rule.			
Refrigerator	1	1/3	1	3/029	2.5	5	70	VIR L.C. & wood casing as req'd.
Ventilating fan	1	3/4	1	3/036	5	10	50	do.

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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.

J. Buchan

Electrical Engineers.

Date 18.9.42

COMPASSES.

Minimum distance between electric generators or motors and standard compass 75 ft

Minimum distance between electric generators or motors and steering compass 70 ft

The nearest cables to the compasses are as follows:—

A cable carrying .05 Ampères led into feet from standard compass led into feet from steering compass.

A cable carrying .1 Ampères 4 feet from standard compass 2 feet from steering compass.

A cable carrying .5 Ampères 4 feet from standard compass 4 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 COCHRANE & SONS LTD.

J. Gray

Builder's Signature.

Date

Is this installation a duplicate of a previous case Yes If so, state name of vessel EMPIRE PAT

Plans. Are approved plans forwarded herewith No If not, state date of approval 16.4.42

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.)

This installation has been fitted on board in accordance with the approved Admiralty plans and requirements and the Society's Rules. The workmanship and materials are good and when tried under working conditions and tested as prescribed by the Admiralty and the Rules the installation was found satisfactory in every respect.

Noted
L. J.
6/10/42

Total Capacity of Generators 6 Kilowatts.

The amount of Fee £ 3: - : 29 SEP 1942
25% Spec. . 15: -

Travelling Expenses (if any) £ : : When received. . 19: -

W. S. Shields

Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRM 9 OCT 1942

Assigned

See Bul 26. 51748

5m. 1.30.—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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