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REPORT ON ELECTRICAL EQUIPMENT.

No. 34325

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 27th Oct. 1945 When handed in at Local Office - 2 NOV 1945 Received at London Office 3 NOV 1945

No. in Survey held at Sunderland and Date, First Survey 20th Aug. Last Survey 31st Oct. 1945
Reg. Book. Suppl. 37454 on the S.S. "EMPIRE HONDURAS" (Number of Visits... 8)

Built at Sunderland By whom built Short Bros. Ltd. Tons {Gross 782.0
Net 517.6
Yard No. 486 When built 1945

Owners Ministry of War Transport Port belonging to Sunderland
Electrical Installation fitted by Campbell & Johnson, Ltd. Contract No. 486 When fitted 1945

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 insulated Voltage of supply for Lighting 110

Heating Power 110 Direct or Alternating Current, Lighting No Power No 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. 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 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. No 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 starboard side aft on

starboard side, 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 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 starboard side

forward of operating site. No 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 and vertically. No what insulation material is used for the panels. "Wonylin" 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

quick break knife switches and double pole fuse. No 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. 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. Etamp connected to E through two 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. No 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. 6.6v. No 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

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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 *Yes*, if so, are they adequately protected. _____ Are cables in machinery spaces, galleys, laundries, etc., lead covered *Yes* or run in conduit *Yes*. State how the cables are supported and protected. *W.E. cables run in heavy galvanized screwed conduit in turn disk. M.I.C.C. cables strapped to surface or template in machinery spaces. L.C. cables strapped to wood grounds or to surface in access spaces.*

Are all lead sheaths, armouring 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 _____ and method of control _____.

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 _____, are they adequately ventilated _____ what is the battery capacity in ampere hours _____.

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 *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 _____ 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 _____.

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 *Yes*. Lighting 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				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	15	110	136	600	Single expansion steam engines		
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 GENERATORS	2 x 15	1	19/083	136	191	60/60	V.C.	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							
Assom. Eq. tb. "C"	1	19/052	61	64	240	W.E.	In Conduit
Assom. Eq. tb. "D"	1	7/064	19	46	240	W.E.	In Conduit
Aft Assom. Eq. tb.	1	19/052	48	64	296	W.E.	In Conduit
Comp. Eq. tb.	1	19/052	62	64	128	W.E.	In Conduit

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	19/052	25	64	240	W.E.	In Conduit + L.C.
NAVIGATION LIGHTS D.B.	1	7/064	9	31	240	W.E.	In Conduit + L.C.
LIGHTING AND HEATING	All. Supd. to Nav. Eq. tb. from Assom. Eq. tb. "D"						
Traps. Port. tb.	1	7/064	20	46	126	W.E.	L.C.
Traps. Star. tb.	1	7/064	20	46	18	W.E.	L.C.
Comp. tb.	1	7/064	7	31	126	W.E.	L.C.
Boat. tb.	1	7/064	14	31	84	W.E.	L.C.
P. tb.	1	7/064	10	31	160	W.E.	L.C.
Alt. Truss. tb.	1	7/064	9	31	150	W.E.	L.C.
Upper. tb.	1	7/064	10	31	140	W.E.	L.C.
Lower. tb.	1	7/064	12	31	12	W.E.	L.C.
Dist. Comp. tb.	1	7/064	41	46	378	W.E.	In Conduit
M. Comp. tb.	1	7/064	21	31	66	W.E.	In Conduit
Truss. Row. Eq. tb.	1	.04	24	104	100	M.I.	C.C.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.					
Refining. tb.	1	5	1	19/052	42	64	265 W.E. In Conduit
Vent. Fan (off aft tb.)	1	3	1	7/064	26	31	140 W.E. L.C.

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.

Thomas Meade Electrical Engineers. Date 24th Oct 1945

COMPASSES.

Minimum distance between electric generators or motors and standard compass 86 feet

Minimum distance between electric generators or motors and steering compass 80 feet

The nearest cables to the compasses are as follows:—

A cable carrying 0.14 Ampères on the feet from standard compass 7 feet from steering compass.

A cable carrying 0.14 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.

FOR SECRETARY, BROTHERS LIMITED
Thomas Meade Builder's Signature. Date 1. Nov 1945

Is this installation a duplicate of a previous case Yes If so, state name of vessel "Empire Kirovi"

Plans. Are approved plans forwarded herewith No If not, state date of approval 13/3/43

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 material

equipment of this vessel has been installed under special survey in accordance with the approved plans and with the Secretary's letters. The materials used are of good quality and the workmanship is good. On completion the equipment was run under working conditions with satisfactory results and the insulation resistance of all circuits was measured and found good. This equipment is in my opinion suitable for a closed vessel.

HOLID
Plus 20.11.45

Total Capacity of Generators 30 Kilowatts.

The amount of Fee ... £ 28 : 2/6 :—
 (Incl. Specifn.)
 Travelling Expenses (if any) £ : :
 When applied for, 2 NOV 1945
 When received, 19

Garrison
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 30 NOV 1945
 Assigned See F.E. machy - rpt.

5m. 4. 39. — Transfer. (MADE AND PRINTED IN ENGLAND.)
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

