

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

20 APR 1942

Received at London Office.....

Date of writing Report: 13th Apr 42 When handed in at Local Office: 17 APR 1942 Port of Sunderland

No. in Survey held at Sunderland Date, First Survey 3rd Mar Last Survey 14th Apr 1942  
Reg. Book. Suppt. (Number of Ticks.....)

36424 on the S.S. "EMPIRE BARRIE" Tons { Gross 716.8  
Net 435.3

Built at Sunderland By whom built J. L. Thompson & Co. Ltd. Yard No. 615 When built 1942

Owners Ministry of War Transport Port belonging to Sunderland

Electrical Installation fitted by The Sunderland Eng. Co. Ltd. Contract No. 615 When fitted 1942

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

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

Heating Power 110 Direct or Alternating Current, Lighting Yes Power Yes 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

not compound wound state distance between generators and from switchboard Where more than one generator is fitted are they

arranged to run in parallel No 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 starboard side

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 starboard side

on aft bulkhead

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 "Ebony Linsamp" 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 Double pole knife

switch and double pole fuse

and for each outgoing circuit Double pole double throw 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 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 E lamps coupled to E through two 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 are the reversed current

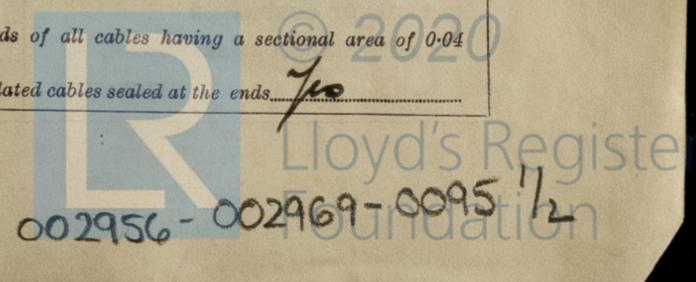
protection devices connected on the pole opposite to the equaliser connection have they been tested under working conditions, and at what current

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 4.44 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



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with insulating compound or waterproof insulating tape Yps. 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 Yps, are cables laid under machines or floorplates Yps, if so, are they adequately protected Yps. Are cables in machinery spaces, galleys, lavatories, etc., lead covered Yps or run in conduit Yps. State how the cables are supported and protected V.I.R. cables run in heavy galvanized or painted pipe in foredeck and 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 Yps. Refrigerated chambers, are the cables and fittings as per Rule Yps. Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands Yps, where unarmoured cables pass through beams, etc., are the holes effectively bushed Yps and with what material Lead or fibre. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule Yps. Emergency Supply, state position Yps and method of control Yps.

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

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof Yps. 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 Yps.

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

are all fittings and accessories constructed and installed as per Rule Yps. Searchlight Lamps, No. of Yps, whether fixed or portable Yps, are their fittings as per Rule Yps. Heating and Cooking, is the general construction as per Rule Yps.

are the frames effectually earthed Yps, are heaters in the accommodation of the convection type Yps. Motors, are all motors constructed and installed as per Rule Yps and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil Yps, if situated near unprotected combustible material state minimum distance from same horizontally Yps and vertically Yps. 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 Yps.

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing Yps. Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule Yps. Control Gear and Resistances, are they constructed and fitted as per Rule Yps. Lightning Conductors, where required are they fitted as per Rule Yps. 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 Yps, are all fuses of the cartridge type Yps are they of an approved type Yps. Are the fittings for pump rooms, tween deck spaces, etc., in accordance with the special requirements for such ships Yps. Are the cables lead covered as per Rule Yps. Spare Gear, if the vessel is for open sea service have spares been provided as per Rule Yps, are they suitably stored in dry situations Yps. Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory Yps.

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	12.5	110	113.5	850	Single cylinders	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 12.5	1	19/064	113.5	135	60180	V.C.	L.C. in pipe
" " 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							
Saloon S.B.	1	19/083	40	118	320	V.I.R.	In pipe
Engine S.B.	1	19/083	42	118	94	No.	No.

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	19/064	15	83	320	V.I.R.	In pipe & L.C.
NAVIGATION LIGHTS	1	7/064	6	31	60	No.	L.C.
LIGHTING AND HEATING							
Abt. Fore. Feed	1	7/064	6	31	60	No.	No.
Offici'g. ab.	1	7/064	14	31	6	No.	No.
Fore. Cargo. ab.	1	7/064	20	46	260	No.	In pipe
Engin'g. ab.	1	7/036	12	24	8	No.	L.C.
Twin. Cargo. ab.	1	7/064	8	24	12	No.	No.
Aft. Cargo. ab.	1	7/064	22	46	190	No.	In pipe
Aft. Eng. ab.	1	7/064	10	46	320	No.	No.
Engin'g. Rm. Eng. ab.	1	7/064	20	31	30	No.	No.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Refrig. mtr.	1	2	1	7/064	17.9	31	360	V.I.R. In pipe

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.



Electrical Engineers

Date 14-9-1942

COMPASSES.

Minimum distance between electric generators or motors and standard compass 100 feet

Minimum distance between electric generators or motors and steering compass 100 feet

The nearest cables to the compasses are as follows:-

A cable carrying 14 Ampères 7 feet from standard compass 7 feet from steering compass

A cable carrying 14 Ampères 7 feet from standard compass 7 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.

JOSEPH L. THOMPSON & CO. LTD. BUILDERS

Builder's Signature

Date 16/4/42

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

Plans. Are approved plans forwarded herewith Yes If not, state date of approval 1/8/41; 14/8/41

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 and in accordance with the approved plans and with the specification. 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 standard vessel.

Noted L.H. 22/4/42

Total Capacity of Generators 25 Kilowatts.

The amount of Fee £ 25 : - : 16 APR 1942

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

Ganterson Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 28 APR 1942

Assigned See Ord. No. 53374

501439-Transfer. (MADE AND PRINTED IN ENGLAND.) (The Surveyors are requested not to write on or below the space for Committee's Minute.)

