

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 2nd August 42 When handed in at Local Office 19 Port of Portland, Maine (New York) U.S.A.

No. in Survey held at So. Portland, Maine Date, First Survey 29th March Last Survey 20th July 19 42
Reg. Book. (Number of Visits Continuous)

on the "OCEAN STRENGTH" Tons { Gross 7173
Net 4278

Built at So. Portland, Maine By whom built Todd-Bath Iron S.B. Corp Yard No. 12 When built 1942-7

Owners British Ministry of War Transport Port belonging to London

Electrical Installation fitted by Todd-Bath Iron Shipbuilding Corporation Contract No. 12 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. x

Have plans been submitted and approved Yes System of Distribution 2 Wire D. C. Voltage of supply for Lighting 110 V

Heating None Power none Direct or Alternating Current, Lighting D.C. Power x If Alternating Current state periodicity x 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 x Generators, are they compound wound yes, are they level compounded under working conditions yes,

if not compound wound state distance between generators x and from switchboard x 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

Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing none Have certificates of test for machines under 100 kw. been supplied x Yes, but w/ temperature test and the results found as per rule x Are the lubricating arrangements and the construction of the generators as per rule yes Position of Generators Star. E. R. Lower Platform.

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 x and vertically 7 ft., 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 Star. E. R. Lower Platform.

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 x and vertically 7 ft., what insulation material is used for the panels Ebony Asbestos, 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 x Is the frame effectually earthed yes

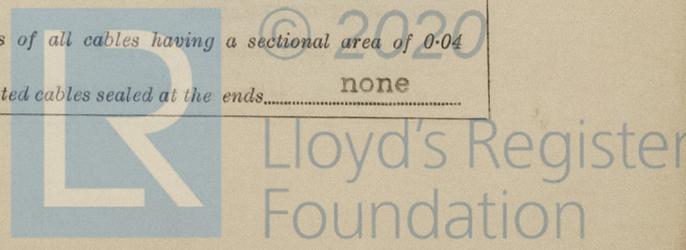
Is the construction as per Rule yes, including accessibility of parts yes, absence of fuses on the back of the board yes, individual fuses to pilot and earth lamps, voltmeters, etc., yes locking of screws and nuts yes, labelling of apparatus and fuses yes, fuses on the "dead" side of switches yes Description of Main Switchgear for each generator and arrangement of equaliser switches Double Pole Switches and Double Pole 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 yes Instruments on main switchboard 2 ammeters 2 voltmeters x synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the equaliser connection x Earth Testing, state means provided Earth lamp and voltmeters.

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 x, are the reversed current protection devices connected on the pole opposite to the equaliser connection x, have they been tested under working conditions, and at what current did they operate x 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 x, state maximum fall of pressure between bus bars and any point under maximum load 2.8 V, 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 none



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. Yes, are cables laid under machines or floorplates No, if so, are they adequately protected. Are cables in machinery spaces, galleys, laundries, etc., lead covered Yes or run in conduit X. State how the cables are supported and protected. Steel hangers and clips, open ducts or led through pipes or steel casings where protection is necessary.

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 effectively bushed Yes and with what material All cables armoured. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule Yes. Emergency Supply, state position none and method of control X.

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 None, are they adequately ventilated X what is the battery capacity in ampere hours X.

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 in stokehold, are all fittings suitably ventilated Yes.

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

Heating and Cooking, is the general construction as per Rule X, are the frames effectually earthed X, are heaters in the accommodation of the convection type X.

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 X and vertically X.

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 None.

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing X. Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule X.

Control Gear and Resistances, are they constructed and fitted as per Rule X. Lightning Conductors, where required are they fitted as per Rule X.

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 X, are all fuses of the cartridge type X.

are they of an approved type X. Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships X.

Are the cables lead covered as per Rule X. 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	136	450	Steam Engine	X	
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	15 each	1	168000	136.	139.	40'	V.I.B.	L.C.A.
" " EQUALISER								
EMERGENCY GENERATOR	X							
ROTARY TRANSFORMER: MOTOR	X							
" " GENERATOR	X							

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 ...		C.M.					
D. G. Stiwchboard (E.R. Star. Side)	1	168000	98	138	20	V.I.B.	L.C.A.

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	165000	22	33	360	V.I.B.	L.C.A.
NAVIGATION LIGHTS L 7	1	26300	7.67	45	370	V.I.B.	L.C.A.
LIGHTING AND HEATING							
Engine & Fire Rooms L1	1	26300	29.38	45	80	V.I.B.	L.C.A.
Crews Quarters Aft. Dk. House L2	1	66400	19.26	74	430	V.I.B.	L.C.A.
Stores, Floodlights, Etc. For'd L3	1	66400	24.15	74	450	V.I.B.	L.C.A.
Officers Quarters L4A	1	41700	29.19	53	290	V.I.B.	L.C.A.
Bridge Deck, Etc. L4B	1	16500	10.53	33	80	V.I.B.	L.C.A.
Engineers Quarters L5	1	41700	28.86	53	170	V.I.B.	L.C.A.
Paint Rm & Floodlights, Aft. L6	1	41700	18.51	53	300	V.I.B.	L.C.A.
Emergency W. T. Feeder P8	1	16500	---	33	170	V.I.B.	L.C.A.
Fathometer Feeder S	1	16500	10.00	33	260	V.I.B.	L.C.A.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Domestic Refrigerator	1	2	1	10,400	18.63	27	300	V.I.B. L.C.A.
Engine Rm. Fan	1	--	1	10,400	8.	27	200	V.I.B. L.C.A.

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. E. Trott
 TODD BATH IRON SHIPBUILDING CORP.

Electrical Engineers.

Date *8/15/42*

COMPASSES.

Minimum distance between electric generators or motors and standard compass *10 feet (Wireless Transformer)*

Minimum distance between electric generators or motors and steering compass *6 feet.*

The nearest cables to the compasses are as follows:—

A cable carrying *2.15* Ampères *10* feet from standard compass *6* feet from steering compass.

A cable carrying *.43* Ampères *3* feet from standard compass *3* feet from steering compass.

A cable carrying *.43* Ampères *3* feet from standard compass *3* 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 *3* degrees on *South West* course in the case of the standard compass, and *3* degrees on *North East* course in the case of the steering compass.

Paul S. Kilgus
 TODD BATH IRON SHIPBUILDING CORP.

Builder's Signature.

Date *8/18/42*

Is this installation a duplicate of a previous case *yes* If so, state name of vessel *"OCEAN LIBERTY" "FREEDOM" "PEACE", Etc.*

Plans. Are approved plans forwarded herewith *No* If not, state date of approval *5th May, 1941*

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith

General Remarks (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.)

The Electrical Installation of this vessel has been fitted in accordance with the Rules and approved plans. The materials and workmanship are good and the whole has been tested as required by the Rules with good results.

*Noted
 J.H.
 16/8/42*

Total Capacity of Generators *30* Kilowatts.

The amount of Fee *\$65.16* £ *See Machinery Report* When applied for, *2-9-42* from London. When received, *19*

Deffaskill & Rodger
 Surveyors to Lloyd's Register of Shipping.

Committee's Minute *NEW YORK AUG 26 1942*

Assigned *Elec light*

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



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