

Kpt. 13.

No. 7993

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 12 NOV 1941

Date of writing Report 3rd Feb. 1941 When handed in at Local Office 7th Feb. 1941 Port of Philadelphia

No. in Survey held at Chester, Pa. Date, First Survey 4 Oct. Last Survey 20th Dec. 1940
 Reg. Book. on the S/S "OKLAHOMA" (Number of Visits 6)

Built at Chester, Pa. By whom built Sum S.B. & D.D. Co. Yard No. 198 When built 1940
 Owners The Texas Co. Port belonging to Wilmington, Del.

Electric Light Installation fitted by Sum S.B. & D.D. Co. Contract No. 198 When fitted 1940

System of Distribution Two wire system undergrounded
 Pressure of supply for Lighting 110 volts, Heating None volts, Power 230 volts.

Direct or Alternating Current, Lighting Direct Power Direct
 If alternating current system, state frequency of periods per second ✓

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off Yes

Generators, do they comply with the requirements regarding rating Yes, are they compound wound Yes
 are they over compounded 5 per cent. ✓, if not compound wound state distance between each generator

Where more than one generator is fitted are they arranged to run in parallel Yes, is an adjustable regulating resistance fitted in series with each shunt field Yes

Are all terminals accessible, clearly marked, and furnished with sockets Yes, are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched Yes Are the lubricating arrangements of the generators as per Rule Yes

Position of Generators On flat stb. side of engine room
 is the ventilation in way of the generators satisfactory Yes, are they clear of all inflammable material Yes

if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators ✓ and ✓, are the generators protected from mechanical injury and damage from water, steam or oil Yes

are their axes of rotation fore and aft Yes
 Earthing, are the bedplates and frames of the generating plant efficiently earthed ✓ are the prime movers and their respective generators in metallic contact Yes

Main Switch Boards, where placed Same compartment
 If the generators and main switchboard are not placed in the same compartment, is each generator provided with a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard ✓

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes Yes
 are they protected from mechanical injury and damage from water, steam or oil Yes, if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards ✓ and ✓

are they constructed wholly of durable, non-ignitable non-absorbent materials Yes, is all insulation of high dielectric strength and of permanently high insulation resistance Yes, if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micaite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework ✓

and is the frame effectively earthed ✓. Are the fittings as per Rule regarding:— spacing or shielding of live parts Yes, accessibility of all parts Yes, absence of fuses on back of board Yes, proportion of omnibus bars Yes, individual fuses to voltmeter, pilot or earth lamp Yes, connections of switches Yes

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches 1200 Amp. 2 Pole circuit breaker, 3 Pole 1600 Amp Knife switch for main generators, 2 Pole 2-25 Amp. circuit breaker & 400 Amp. Knife switch for aux. generator & each motor

Instruments on main switchboard 5 ammeters 4 voltmeters ✓ synchronising device for paralleling purposes Ground lamps

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system Ground lamps

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules Yes

Joint Boxes Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule Yes

Cables: Single, twin, concentric, or multicore Single twin are the cables insulated and protected as per Tables IV or V of the Rules Yes

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 2%

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets Yes

Paper Insulated Cables. If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound Yes

Cable Runs, are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage Yes

Support and Protection of Cables, state how the cables are supported and protected cables are supported on stools with straps

If cables are run in wood casings, are the casings and caps secured by screws Yes, are the cap screws of brass Yes, are the cables run in separate grooves Yes. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII Yes

Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements Yes

Joints in Cables, state if any, and how made, insulated, and protected None

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands Yes

Bushes in Beams and Non-watertight Partitions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed Yes state the material of which the bushes are made Lead

Earthing Connections, state what earthing connections are fitted and their respective sectional areas None

are their connections made as per Rule Yes

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule Yes

Emergency Supply, state position and method of control of the emergency supply and how the generator is driven Yes

Navigation Lamps, are these separately wired Yes, controlled by separate switch and separate fuses Yes, are the fuses double pole Yes, are the switches and fuses grouped in a position accessible only to the officers on watch Yes, has each navigation lamp an automatic indicator as per Rule Yes

Secondary Batteries, are they constructed and fitted as per Rule None

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight Yes, are any fittings placed in spaces in which goods are liable to be stowed in close proximity to them; if so, how are they protected None

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected Explosion proof fixtures, how are the cables led In watertight terminal tubes packed with flax

where are the controlling switches situated In open atmosphere on main deck

Searchlight Lamps, No. of 1, whether fixed or portable Fixed, are their fittings as per Rule Yes

Are Lamps, other than searchlight lamps, No. of None, are their live parts insulated from the frame or case Yes, are their fittings as per Rule Yes

Motors, are their working parts readily accessible Yes, are the coils self-contained and readily removable for replacement Yes, are the brushes, brush holders, terminals and lubricating arrangements as per Rule Yes, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material Yes, are they protected from mechanical injury and damage from water, steam or oil Yes, are their axes of rotation fore and aft Yes, if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated forced draught, drip or flame proof type Drip proof, if not of this type, state distance of the combustible material horizontally or vertically above the motors and

Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule Yes

Lightning Conductors, where lightning conductors are required, are these fitted as per Rule Yes

Ships carrying Oil having a Flash Point less than 150° F. Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings Yes

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office 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	250	240	1000	1200	Steam turbine		
AUXILIARY	1	50	240	200	3600	"		
EMERGENCY								
MIG	2	25	120	200	1750	Electric motor		
ROTARY TRANSFORMER								

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	Approximate Length. (Lead and Return). Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	2	1.6918	254	.093	1000	75	Varnish & Cambria	Lead covered & encased in 1200 Amp. CB
	EQUALISER CONNECTIONS	1	8459	127	"	932	40	"	"
	AUXILIARY GENERATOR	1	1964	37	.083	218	100	"	225 " "
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER	1	1478	37	.072	112	40	"	180 Amp. Fuse
	AUXILIARY SWITCHBOARDS	1	2465	37	.093	218	40	"	275 A. CB
	ENGINE ROOM								
	BOILER ROOM	1	.06	19	.064	63	40	"	70 A Fuse
	ACCOMMODATION								
	Midship	1	1964	37	.083	90	600	"	100 Amp. Fuses
	Upper deck aft	1	.06	19	.064	64	200	"	70 " "
	POOP	1	.06	19	.064	65	200	"	70 " "
	pump room	1	.0104	7	.044	9	500	"	20 " "
	WIRELESS	1	.0284	19	.044	5.7	800	Varnish & Cambria	56 Amp. Fuse
	SEARCHLIGHT	1	.0032	1	.064	9	100	"	10 " "
	MASTHEAD LIGHT	1	.0032	1	.064	5	200	"	5 " "
	SIDE LIGHTS	1	.0032	1	.064	5	100	"	5 " "
	COMPASS LIGHTS	1	.0032	1	.064	5	100	"	5 " "
	POOD LIGHTS	1	.0146	7	.052	20	800	"	20 " "
	CARGO LIGHTS	1	.0284	19	.044	21	950	"	45 " "
	ARC LAMPS Shore line	1	1964	37	.083	175	300	"	175 " "
	HEATERS	1	.0146	7	.052	15	380	"	30 " "

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	Approximate Length. (Lead and Return). Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP	1	.0221	7	.064	30	150	Varnish & Cambria	35 AMP. Fuse
	MAIN BRIDGE LAMP PUMPS	2	0.346	19	.052	58	100	"	70 " "
	GENERAL SERVICE PUMP	1	"	"	"	"	80	"	" " "
	ATMOSPHERIC DRAIN EMERGENCY BILGE PUMP	1	.0032	1	.064	3.5	150	"	10 " "
	SANITARY PUMP	1	.0221	7	.064	30	150	"	35 " "
	AUX. CIRC. FRESH WATER PUMPS	1	.4985	61	.103	450	160	"	475 " C.B.
	CIRC. FRESH WATER PUMPS	1	.06	19	.064	76	100	"	70 " FUSES.
	AIR COMPRESSOR PORTABLE	1	.0104	7	.044	12.6	170	"	15 " "
	FRESH WATER PUMP	1	.0032	1	.064	2.4	50	"	10 " "
	ENGINE TURNING GEAR	1	.0396	19	.052	39	50	"	70 " "
	REFRIG. CONDENSER GEAR	1	.0032	1	.064	3.5	190	"	10 " "
	LUBRICATING OIL PUMPS	1	.0396	19	.052	58	180	"	70 " "
	OIL FUEL TRANSFER PUMP	2	.0284	19	.044	39	180	"	50 " "
	WINDLASS WASH WATER	1	.0032	1	.064	4.6	100	"	10 " "
	LUB. OIL PUMPS	1	"	1	.064	8.6	200	"	10 " "
	WINDLASS	2	.2465	37	.093	296	300	"	316 " CB
	WINDLASS	2	.4064	61	.093	440	300	"	400 " CB
	STEERING GEAR	2	1478	37	.072	112	110	"	150 fuses
	(b) MAIN MOTOR	2	.0146	7	.052	20	120	"	30 " "
	REFRIG. COMPRESSOR	1	.0284	7	.064	39	130	"	45 " "
	WORKSHOP MOTOR	1	.0032	1	.064	4.6	150	"	10 " "
	SEPARATE BILGE DRAIN VENTILATING FANS	1	.01462	7	.052	8.6	500	"	30 " "
	Pump room	2	.00701	7	.036	4.6	200	"	20 " "
	quarter aft	2	"	7	.036	4.6	200	"	20 " "
	engine room	1	"	7	.036	3.5	200	"	20 " "
	Wash room	1	"	1	.064	1.2	10	"	10 " "
	Bench lathe	1	"	1	.064	4.6	50	"	10 " "
	Grinder	1	"	1	.064	12.6	30	"	20 " "
	Shaper	1	.0146	7	.044	20.2	30	"	30 " "
	Lathe	1	.0146	7	.052	20.2	30	"	30 " "

All Conductors are of annealed copper conforming to British Standard Specification No. 7. *Yes.*
 The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules. *Yes.*
 The foregoing is a correct description.

Electrical Engineers. Date _____

COMPASSES.

Distance between electric generators or motors and standard compass *200 ft.*
 Distance between electric generators or motors and steering compass *200 ft.*

The nearest cables to the compasses are as follows:—

A cable carrying *.5* Ampères *6* feet from standard compass *5* feet from steering compass.
 A cable carrying *.5* Ampères *6* feet from standard compass *7* feet from steering compass.
 A cable carrying *10* Ampères *12* feet from standard compass *12* 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 *✓* degrees on *✓* course in the case of the standard compass, and *✓* degrees on *✓* course in the case of the steering compass.

(ORIGINAL. SIGNED) *H.M. JACKSON:* Builder's Signature. Date *1/29/41.*

Is this installation a duplicate of a previous case *Yes.* If so, state name of vessel *"OHIO"*

General Remarks (State quality of workmanship, opinions as to class, &c. *This electrical installation has been under Special Survey and in accordance with the approved plans, the workmanship and materials are good. The installation has been tested out under full power and found satisfactory. Every effort has been made to make this installation as safe as possible.*)

Noted
L.J.
25/11/41.

Total Capacity of Generators *550* ~~300~~ Kilowatts.

The amount of Fee ... *\$100.-* : { When applied for, *16-1-1941*
 Travelling Expenses (if any) £ : { When received, *29-1-1941*

W. R. Penham
 Surveyor to Lloyd's Register of Shipping.

NEW YORK OCT 15 1941

Committee's Minute _____

Assigned *Elec. light*

Im. 126.—Transfer.
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

