

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office FEB 17 1941

Date of writing Report 5 Dec 40 When handed in at Local Office 18 Dec 40 Port of Philadelphia

No. in Survey held at Chester Pa Date, First Survey 6 Aug Last Survey 10 Nov 1940  
Reg. Book. (Number of Visits 4)

on the MV. AMERICA SUN. Tons { Gross Net

Built at Chester Pa By whom built Em SB 9 D D Co Yard No. 196 When built 1940

Owners Em Gil Co Port belonging to Philadelphia

Electric Light Installation fitted by Em SB 9 D D Co Contract No. 196 When fitted 1940

System of Distribution Two wire mains Two wire branches.  
Pressure of supply for Lighting 110 volts Heating - 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. Yes, 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

Position of Generators Engine Room Machinery flat stb side. Are the lubricating arrangements of the generators as per Rule Yes

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 Yes are the prime movers and their respective generators in metallic contact Yes

Main Switch Boards, where placed Engine room Machinery flat stb side

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 Same flat

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

with mica or mica-nite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework Yes

and is the frame effectively earthed Yes. 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

Main generator 2 - 1600 Amp 3 pole non-fused line switch

Aux generator 1 - 400 amp 2 pole Reverse current & overload trip.

1 - 400 amp 2 pole non fused line switch.

1 - 400 amp 3 pole Reverse current & overload trip.

Instruments on main switchboard 3 ammeters 3 voltmeters - synchronising device for paralleling purposes.

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 Yes 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 5%

**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 None used.

**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 laid in channel along fore & aft walkway. elsewhere on cable racks.

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 Continuous lengths

**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~~ all cables are armoured. cables pass through beams and non-watertight partitions, are the holes efficiently bushed Yes state the material of which the bushes are made Cast 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 None

**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 stacked 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 None

how are the cables led None

where are the controlling switches situated None

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

**Arc 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 Yes, if not of this type, state distance of the combustible material horizontally or vertically above the motors Yes and Yes

**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 None

POOF LIGHTS ... ..

ARKO LAMPS ... ..

HEATERS ... ..

## MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. am. amp.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	<del>DRILL PRESS</del> LATHE	1	.0032	1	.064	8.6 ✓	30	Varnished Cambria	10 A fuse
	<del>DRILL PRESS</del>	1	.0032	1	.064	4.6 ✓	20	"	10 A "
	<del>MAIN BELGE LINE PUMPS</del>	1	.0032	1	.064	4.6 ✓	20	"	10 A "
	<del>GRINDER</del>	1	.007	7	.036	12.6 ✓	40	"	15 A "
	<del>GENERAL SERVICE PUMP</del>	1	.0032	1	.064	2 ✓	40	"	10 A "
	<del>BENCH LATHE</del>	1	.0032	1	.064	2 ✓	40	"	10 A "
	<del>EMERGENCY BELGE PUMP</del>	1	.007	7	.036	12.6 ✓	40	"	15 A "
	<del>SHAPER</del>	1	.007	7	.036	12.6 ✓	40	"	15 A "
	<del>SANITARY PUMP</del>	1	.0032	1	.064	3.5 ✓	40	"	10 A "
	<del>VENT. BLOWER</del>	1	.0032	1	.064	3.5 ✓	40	"	10 A "
	<del>CIRC. SEA WATER PUMPS</del>	6	.0284	19	.044	43.9 ✓	150	"	40 A "
	<del>MAC. SHOT. POWER PANEL</del>	6	.0284	19	.044	43.9 ✓	150	"	40 A "
	<del>CIRC. FRESH WATER PUMPS</del>	6	.0284	19	.044	43.9 ✓	150	"	40 A "
	<del>COFFEE URN.</del>	1	.0032	1	.064	10. ✓	80	"	10 A "
	<del>AIR COMPRESSOR</del>	1	.0032	1	.064	8 ✓	80	"	10 A "
	<del>COFFEE URN</del>	1	.0032	1	.064	8 ✓	80	"	10 A "
	<del>FRESH WATER PUMP</del>	1	.007	7	.036	18.2 ✓	40	"	20 A "
	<del>GRIDDLE</del>	1	.007	7	.036	18.2 ✓	40	"	20 A "
	<del>ENGINE TURNING GEAR</del>	1	.0032	1	.064	8 ✓	60	"	10 A "
	<del>COFFEE URN</del>	1	.0032	1	.064	8 ✓	60	"	10 A "
	<del>ENGINE REVERSING GEAR</del>	1	.0032	1	.064	8 ✓	60	"	10 A "
	<del>WATER HEATER</del>	1	.0032	1	.064	8 ✓	60	"	10 A "
	<del>LUBRICATING OIL PUMPS</del>	1	.0146	7	.052	22.7 ✓	40	"	25 A "
	<del>STEAM KETTLE</del>	1	.0146	7	.052	22.7 ✓	40	"	25 A "
	<del>OIL PUMP TRANSFER PUMP</del>	1	.0146	7	.052	22.7 ✓	40	"	25 A "
	<del>BAKE OVEN</del>	1	.0146	7	.052	22.7 ✓	40	"	25 A "
	<del>WINDLASS</del>	1	.0396	19	.052	65.0 ✓	40	"	70 A "
	<del>RANGE NO 1</del>	1	.0396	19	.052	65.0 ✓	40	"	70 A "
	<del>WINCHES FORWARD</del>	1	.0396	19	.052	65.0 ✓	40	"	70 A "
	<del>RANGE NO 2</del>	1	.0396	19	.052	65.0 ✓	40	"	70 A "
	<del>WINCHES AFT</del>	1	.0396	19	.052	65.0 ✓	40	"	70 A "
	<del>DISH WASHER</del>	1	.0032	1	.064	3.5 ✓	40	"	10 A "
	<del>STEERING GEAR</del>	1	.0032	1	.064	2.0 ✓	60	"	10 A "
	<del>BLOWERS</del>	2	.0032	1	.064	2.0 ✓	60	"	10 A "
	(a) MAIN GENERATOR	2	.0032	1	.064	2.0 ✓	60	"	10 A "
	(b) MAIN MOTOR	3	.1964	37	.064	233.0 ✓	160	"	200 A "
	WORKSHOP MOTOR								
	VENTILATING FANS								

*Lead covered & grounded.*

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Lloyd's Register  
Foundation

0113 2/3

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PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT			Revs. per Min.	DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.			Fuel Used.	Flash Point of Fuel.
MAIN	2	75 each	240	1250	1750	Steam Turbine	Bunker C	240 lbs.
AUXILIARY	1	75	240	312		Diesel Engine		
EMERGENCY								
ROTARY TRANSFORMER	2	25 each	120	208	1750	Electric motor		

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	2.0	254	.103	1250	60	Varnish & Cambie	1600 A Cir Break
	EQUALISER CONNECTIONS	1	1.0	127	.103	625	60	"	"
	AUXILIARY GENERATOR	1	.40	61	.903	312	80	"	375 A Cir Break
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER... MOTOR	1	.150	37	.072	147	80	"	175 A Fuse
	GENERATOR	1	.250	37	.093	208	80	"	275 A Cir Break
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM LIGHTING	1	.060	19	.064	80	60	"	100 A Fuse
	POOP DECK	1	.040	19	.062	70	100	"	60A "
	BOILER ROOM	1	.040	19	.062	86	100	"	60A "
	UPPER DECK	1	.075	19	.072	100	550	"	60A "
	ACCOMMODATION MID SHIPS.	1	.010	7	.044	315	150	"	20A "
	NAVIGATION	1	.022	7	.064	10	550	"	30A "
	FATHOMETER.	1	.0145	7	.062	6	550	"	30A "
	GYRO COMPASS.								
	WIRELESS	1	.0225	7	.064	40	550	"	40A Fuse
	SEARCHLIGHT								
	MASTHEAD LIGHT								
	SIDE LIGHTS								
	COMPASS LIGHTS								
	POOP LIGHTS								
	CARGO LIGHTS								
	ARC LAMPS								
	HEATERS								

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Am. are.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	GENERAL SERVICE	1	.0221	7	.064	32	60	Varnish Cambie	40 A Fuse
	BALLAST PUMP	1	"	7	.064	20	200	"	" "
	REFRIGERATOR	1	"	7	.064	2.4	180	"	10A "
	MAIN BILGE PUMP	1	.0032	1	.064	2.4	180	"	" "
	REPAIR COIL CIRC.	1	"	1	.064	2.4	180	"	" "
	GENERAL SERVICE PUMP	1	"	1	.064	2.4	180	"	" "
	WASH WATER	1	"	1	.064	2.4	180	"	" "
	EMERGENCY BILGE PUMP	1	.01462	7	.082	20	130	"	40A "
	SANITARY PUMP	2	.4064	61	.093	360	160	"	375 A Cir brs.
	CIRC. SEA WATER PUMPS	2	.1964	37	.083	184	160	"	200 A Fuses
	CIRC. FRESH WATER PUMPS	3	.246	37	.093	275	140	"	275 A Cir brs
	AIR COMPRESSORS	1	.0032	1	.064	2.4	100	"	10 A Fuses
	FRESH WATER PUMP	1	.100	19	.083	112	180	"	125 A "
	ENGINE TURNING GEAR	1	.0759	19	.072	76	160	"	90 A "
	FORCED DRAFT	1	.0145	7	.082	20	130	"	30 A "
	ENGINE DEPRESSING GEAR	1	"	7	.082	20	100	"	" "
	SHIP SERVICE AIR COMP	2	"	7	.082	20	100	"	" "
	LUBRICATING OIL PUMPS	2	"	7	.082	20	100	"	" "
	OIL FUEL TRANSFER PUMP	2	.0104	7	.044	12.6	86	"	20 A "
	CONDENSATE	1	.060	19	.064	18	130	"	70 A "
	STAND BY AIR COMPRESSOR	1	.060	19	.064	18	130	"	60 A "
	WITCHES FORWARD	4	.02214	7	.064	39	160	"	30 A "
	BOILER BURNER BLOWER	1	.0145	7	.062	20	190	"	" "
	PERMIT MAKEUP PUMP								
	STEERING GEAR								
	(a) MOTOR GENERATOR	2	.3025	37	.103	184	180	"	400 A Cir brs.
	(b) MAIN MOTOR	2	.0145	7	.082	20	100	"	30 A Fuses
	Lub. oil separator	2	.0146	7	.082	8.6	150	"	25 A "
	Workshop Motor	2	.0146	7	.082	8.6	150	"	30 A "
	VENTILATING FANS	2	.0145	7	.082	20	160	"	10 A "
	FUEL OIL SEPARATOR	1	.007	7	.036	3.5	80	"	20 A "
	Atmospheric main pump	1	.0104	7	.044	8.6	80	"	20 A "
	Starve F.O. Starling	1	.0146	7	.082	20	150	"	30 A "
	Engine room Crane	1	.1478	37	.072	184	180	"	200 A "
	Capstan	2	.1478	37	.072	184	180	"	200 A "
	Blue gas blow	1	.100	19	.083	94	100	"	125 A "
	Shore line	1	.1964	37	.083	280	200	"	250 A Cir brs.



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

T. M. Jackson Electrical Engineers. Date 12/2/40  
Sun Shipbuilding & Dry Dock Co.

COMPASSES.

Distance between electric generators or motors and standard compass 30 ft  
 Distance between electric generators or motors and steering compass 30 ft  
 The nearest cables to the compasses are as follows:—  
 A cable carrying .09 Amperes m feet from standard compass m feet from steering compass.  
 A cable carrying .9 Amperes 6 feet from standard compass 6 feet from steering compass.  
 A cable carrying 1.3 Amperes 6 feet from standard compass 6 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 0 degrees on NW course in the case of the standard compass, and 0 degrees on NW course in the case of the steering compass.

Sun Shipbuilding & D. D. Co Builder's Signature. Date 12/2/40  
T. M. Jackson S.S.

Is this installation a duplicate of a previous case No If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.)

This electric lighting installation has <sup>been</sup> satisfactorily installed on board the vessel, all in accordance with the approved plans. The workmanship & materials are good. The installation has been tried out under full power and found satisfactory.

Plans to be forwarded with sister vessel.

Noted  
24/2/41

Total Capacity of Generators 675 Kilowatts.

The amount of Fee ... \$ 247.00 : { When applied for, 4<sup>th</sup> Jan 1941  
 Travelling Expenses (if any) £ 4.00 : { When received, Jan 29  
 19.....

W. W. Pumphrey  
 Surveyor to Lloyd's Register of Shipping.

NEW YORK JAN 8 - 1941

Committee's Minute JJK

Assigned Elec. light

Im. 1.26.—Transfer.  
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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