

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 20 June 1941 When handed in at Local Office 5 May 1941 Port of Philadelphia Received at London Office 9 JUL 1941

No. in Survey held at Chester Pa Date, First Survey 7 Jan Last Survey 19 March 1941
Reg. Book. (Number of Visits 4)

on the M/V ATLANTIC SUN

Tons { Gross

Net

Built at Chester Pa By whom built Sum PB & DD Co Yard No. 212 When built 1941

Owners Sum Oil Co Port belonging to Philadelphia

Electric Light Installation fitted by Sum PB & DD Co Contract No. When fitted

System of Distribution

Two Wire Mains, Two wire branches

Pressure of supply for Lighting 110 volts, Heating Direct Power 230 volts.

Direct or Alternating Current, Lighting

Power

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

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 flat stb side

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 Yes

are the generators protected from mechanical injury and damage from water, steam or oil Yes

Earthling, are the bed-plates 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 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 Yes

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 miculate 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 " 2 " Reverse current overload trip.
non fused line switch.
Reverse current overload trip.

Instruments on main switchboard 3 ammeters 3 voltmeters Ground lamps 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



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

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 *Yps*

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 *Yps*

Support and Protection of Cables, state how the cables are supported and protected *Cables laid in channel along fore & aft walkways, on cable racks elsewhere.*

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

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

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 *Yps*

Bushes in Beams and Non-watertight Partitions, where *(All cables are armoured)* cables pass through beams and non-watertight partitions, are the holes efficiently bushed *Yps* 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 *Yps*

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

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 *Yps*, controlled by separate switch and separate fuses *Yps*, are the fuses double pole *Yps*

are the switches and fuses grouped in a position accessible only to the officers on watch *Yps*

has each navigation lamp an automatic indicator as per Rule *Yps*

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

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and where exposed to drip or condensed moisture, watertight *Yps*

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 *Yps*

where are the controlling switches situated *Yps*

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

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

Motors, are their working parts readily accessible *Yps*, are the coils self-contained and readily removable for replacement *Yps*

are the brushes, brush holders, terminals and lubricating arrangements as per Rule *Yps*, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material *Yps*

are they protected from mechanical injury and damage from water, steam or oil *Yps*, are their axes of rotation fore and aft *Yps*

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 *Yps*

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

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

Lighting Conductors, where lightning conductors are required, are these fitted as per Rule *Yps*

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 *Yps*

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office *None used*

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	300 each	240	1250	1200	Steam Turbine	Brunker C	350°
AUXILIARY ...	1	75	240	312	375	Revol Engine		
EMERGENCY ...								
ROTARY TRANSFORMER	2	25 each	110	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. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR...	2	3.0	254	103	1250	60	Kamish & Cambie	1600 A C. Breaker
	EQUALISER CONNECTIONS ...	1	1.0	127	103	625	60	"	
	AUXILIARY GENERATOR ...	1	1	61	093	312	80	"	375 A C. Breaker
	EMERGENCY GENERATOR ...	1	1.50	37	072	147	50	"	175 A Fuse
	ROTARY TRANSFORMER ...	1	250	37	093	208	80	"	275 A C. Breaker
	POP. DR. LED ...	1	0.40	19	052	70	150	"	60 A Fuse
	AUXILIARY SWITCHBOARDS ...	1	0.60	19	064	80	60	"	100 A "
	ENGINE ROOM ...	1	0.40	19	052	80	100	"	60 A "
	UPPER DR. LED ...	1	0.75	19	072	100	550	"	60 A "
	BOILER ROOM ...	1	0.10	7	044	3.15	550	"	20 A "
	ACCOMMODATION MIDSHP. Ltg.	1	0.22	7	064	10	550	"	30 A "
	Navigation Ltg.	1	0.145	7	052	6	500	"	30 A "
	Barometer								
	Gyro Compass								
	WIRELESS ...	1	0.225	7	064	40	500	Kamish & Cambie	45 A Fuse
	SEARCHLIGHT ...								
	MASTHEAD LIGHT ...								
	SIDE LIGHTS ...								
	COMPASS LIGHTS ...								
	DECK 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. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	LATHE	1	0.082	1	064	8.6	32	Kamish & Cambie	10 A Fuse
	DRILL PRESS	1	0.082	1	064	4.6	20	"	10 A "
	MAIN BILER LINE PUMPS	1	0.07	7	036	12.6	40	"	15 A "
	GRINDER	1	0.032	1	064	2	40	"	10 A "
	GEN. SERV. PUMP	1	0.032	1	064	2	40	"	10 A "
	SHAPER	1	0.07	7	036	12.6	40	"	15 A "
	SANITARY PUMP	1	0.032	1	064	3.5	40	"	10 A "
	VENT. BLOWER	1	0.032	1	064	3.5	40	"	10 A "
	GEN. SERV. PUMPS	6	0.284	19	044	43.9	150	"	40 A "
	MACHINE SHOP POWER								
	GEN. SERV. WATER PUMPS								
	COFFEE URN		0.032	1	064	10	80	"	10 A "
	AIR COMPRESSOR		0.032	1	064	8	80	"	10 A "
	COFFEE URN		0.032	1	064	8	80	"	10 A "
	GRIDDLE		0.07	7	036	18.2	40	"	20 A "
	ENGINE TURNING GEAR		0.032	1	064	8	60	"	10 A "
	COFFEE URN		0.032	1	064	8	60	"	10 A "
	ENGINE RUNNING GEAR		0.032	1	064	8	60	"	10 A "
	WATER HEATER		0.032	1	064	8	60	"	10 A "
	LUBRICATING OIL PUMPS		0.146	7	052	22.7	40	"	25 A "
	STEAM KETTLE		0.146	7	052	22.7	40	"	25 A "
	DIS. PUMP TRANSFER PUMP		0.396	19	052	65.0	40	"	70 A "
	RANGE NO. 1		0.396	19	052	65.0	40	"	70 A "
	RANGE NO. 2		0.396	19	052	65.0	40	"	70 A "
	DISH WASHER	1	0.032	1	064	3.5	40	"	10 A "
	BLOWERS	2	0.032	1	064	2.0	60	"	10 A "
	GALEY POWER PANEL	3	1.964	37	083	233	160	"	200 A "
	WORKSHOP MOTOR								
	VENTILATING FANS								

Cables: Single, twin, concentric, or multicore *Single Thin* are the cables insulated and protected as per Tables IV or V of the Rules *Yps*
Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *1%*

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 *Yps*

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 *Yps*

Support and Protection of Cables, state how the cables are supported and protected *Cables laid in Channel along fore & aft walkways, on cable racks elsewhere.*

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

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

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 *Yps*

Bushes in Beams and Non-watertight Partitions, where *unarmoured* cables pass through beams and non-watertight partitions, are the holes efficiently bushed *Yps* 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 *Yps*

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

Emergency Supply, state position and method of control of the emergency supply and how the generator is driven *None*

Navigation Lamps,

are the switches and fuses

has each navigation lamp

Secondary Batteries,

Fittings, are all fittings

are any fittings placed

are any fittings placed

are any fittings placed

are any fittings placed

are any fittings placed

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Total Capacity of Generators Kilowatts.

The amount of Fee ... £ : : When applied for, 19.....
 Travelling Expenses (if any) £ : : When received, 19.....

Committee's Minute NEW YORK MAY 28 1941

Assigned

Surveyor to Lloyd's Register of Shipping.

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE	
		Kilowatts.	Volts.	Amps.	Rev. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	300 each	240	1250	1200	Steam Turbine	Brunker C	350°
AUXILIARY	1	75	240	312	375	Revol Engine		
EMERGENCY								
ROTARY TRANSFORMER	2	25 each	110	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. Amps.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	2	3.0	254	103	1250	60	Kamish & Cambie	1600 A Cbr Breaker
	EQUALISER CONNECTIONS	1	1.0	127	103	625	60	"	
	AUXILIARY GENERATOR	1	1	61	093	312	80	"	375 A Cbr Breaker
	EMERGENCY GENERATOR	1	.150	37	072	147	50	"	175 A Fuse
	ROTARY TRANSFORMER	1	.250	37	093	208	80	"	275 A Cbr Breaker
	POOP DECK LED	1	.040	19	052	70	150	"	60 A Fuse
	AUXILIARY SWITCHBOARDS	1	.060	19	064	80	60	"	100 A "
	ENGINE ROOM	1	.040	19	052	80	100	"	60 A "
	UPPER DECK Ltg	1	.075	19	072	100	550	"	60 A "
	Navigation Ltg	1	.010	7	044	3.15	550	"	20 A "
	Pathometer	1	.022	7	064	10	550	"	30 A "
	Gyro Compass	1	.045	7	052	6	500	"	30 A "
									all the above cables protected with lead armour
	WIRELESS	1	.0225	7	064	40	580	Kamish & Cambie	45 A 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. Amps.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	General Service	1	.0221	7	064	32	60	Kamish & Cambie	40 A Fuse
	BALAST PUMP	1	.0221	7	064	20	200	"	40 A "
	REFRIG COMPRESSOR	1	.0221	7	064	20	180	"	10 A "
	MAIN BILGE LINE PUMPS	1	.0032	1	064	2.4	180	"	10 A "
	REFRIG CONDENSER CIRC	1	.0032	1	064	2.4	180	"	10 A "
	GENERAL SERVICE PUMP	1	.0032	1	064	2.4	180	"	10 A "
	WASH WATER PUMP	1	.0032	1	064	2.4	180	"	10 A "
	EMERGENCY BILGE PUMP	1	.0142	7	052	20	130	"	40 A "
	SANITARY PUMP	2	.0064	61	093	360	160	"	375 A Cbr Breaker
	CIRC. SEA WATER PUMPS	2	.1964	37	083	184	160	"	200 A Fuse
	CIRC. FRESH WATER PUMPS	3	.246	37	093	275	140	"	275 A Cbr Breaker
	AIR COMPRESSOR	1	.0032	1	064	2.4	100	"	10 A Fuse
	FRESH WATER PUMP	1	.100	19	083	112	180	"	125 A "
	ENGINE TURNING GEAR	1	.0759	19	072	76	160	"	90 A "
	FORCED DRAFT FAN	1	.0145	7	052	20	130	"	30 A "
	ENGINE REVERSING GEAR	1	.0145	7	052	20	100	"	30 A "
	SHIP SERVICE AIR COMPRESSOR	2	.0145	7	052	20	100	"	30 A "
	LUBRICATING OIL PUMPS	2	.0145	7	052	20	100	"	30 A "
	OIL FUEL TRANSFER PUMP	2	.0104	7	044	12.6	86	"	20 A "
	WINDMILL CONDENSATE	1	.060	19	064	58	130	"	20 A "
	STEAM BY AIR COMPRESSOR	1	.02214	7	064	39	160	"	60 A "
	WINDMILL FORWARD	1	.0145	7	052	20	190	"	30 A "
	WINDMILL AFT	1	.0145	7	052	20	160	"	30 A "
	PERMIT MAKE-UP PUMP	1	.0145	7	052	20	160	"	30 A "
	STEERING GEAR	2	.0145	7	052	20	160	"	30 A "
	FUEL OIL SEPARATOR	2	.0145	7	052	20	160	"	30 A "
	(a) MOTOR GENERATOR	2	.3025	37	103	184	180	"	400 A Cbr Breaker
	(b) MAIN MOTOR	2	.0145	7	052	20	100	"	30 A Fuse
	LUB. OIL SEPARATOR	2	.0145	7	052	20	100	"	20 A "
	WINDMILL MOTOR	2	.0145	7	052	20	100	"	20 A "
	VENTILATING FANS	1	.007	7	036	3.1	80	"	10 A "
	Atmospheric Drain Pump	1	.0104	7	044	8.6	80	"	20 A "
	Aux F.O. Starting	1	.0146	7	052	20	180	"	30 A "
	Engine Room Alarm	2	.1478	37	072	184	180	"	200 A "
	Capstan	1	.100	19	083	94	100	"	125 A "
	Blue gas blow	1	.1964	37	083	250	200	"	250 A "
	Shore line								all cables protected with lead armour

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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.
Sun Shipbuilding & Dry Dock Co.
Electrical Engineers.

Date *May 5-41*

COMPASSES.

Distance between electric generators or motors and standard compass

30'

Distance between electric generators or motors and steering compass

30'

The nearest cables to the compasses are as follows:—

A cable carrying *.09* Amperes *on* feet from standard compass *on* 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.

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted

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.

T. M. Jackson.
Sun Shipbuilding & Dry Dock Co.
Builder's Signature.

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

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

This installation has been satisfactorily installed on board the vessel, in accordance with the approved plan. The workmanship & materials are good. The installation has been tried out under full power & found satisfactory.

Noted

L. J.

14/7/41.

Total Capacity of Generators *675* Kilowatts.

The amount of Fee ... *\$247:00* : { When applied for, *15-1941*
Travelling Expenses (if any) *\$4:00* : { When received, *19*

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

Committee's Minute *NEW YORK MAY 28 1941*

Assigned *Elec. light.*

Im. 128.—Transfer.
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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