

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 29th March 1938 When handed in at Local Office July 19th 1938 Port of Baltimore, Maryland Received at London Office SEP - 6 1938

No. in Survey held at Baltimore, Maryland Date, First Survey 30th September 1937 Last Survey 29th March 1938
Reg. Book. 38042 on the "ESSO BATON ROUGE" (Number of Visits 6)

Built at Sparrows Point, Maryland By whom built Bethlehem Shipbuilding Co. Yard No. 4306 When built 1937 - 8
Owners Standard Oil Company of New Jersey, U.S.A. Port belonging to Wilmington

Electric Light Installation fitted by Bethlehem Shipbuilding Co., Sparrows Point, Maryland Yard No. 4306 When fitted June, 1937 to March, 1938

System of Distribution Two wire, two conductor ✓
Pressure of supply for Lighting 110 volts, Heating None volts, Power 220 volts.
Direct or Alternating Current, Lighting Direct Current ✓ Power Direct Current ✓
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 ✓ Are the lubricating arrangements of the generators as per Rule Yes ✓
Position of Generators 26' 0" Flat, Starboard Side, Between Frame #25 and Frame #41 ✓
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 26' 0" Flat, Starboard Side, Between Frame #35 and Frame #40 ✓
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 compartment ✓
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 micawite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework None used ✓
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 Each generator is provided with trip free, overload reverse current type two pole circuit breakers, and three pole knife switch. Equalizer is connected through the center blade of the three pole switch. Outgoing circuits are provided with either trip-free circuit breakers or fused knife switches according to load. ✓
Instruments on main switchboard Four ammeters Four voltmeters None synchronising device for paralleling purposes. 2/4
Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system Ground-Detector lamps are fitted on each system (Power and Lighting). ✓
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 Twin are the cables insulated and protected as per Tables IV or V of the Rules Five

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 1 1/2 volts

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 excepting resistor leads which are fitted with solderless lugs.

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 ---

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 All cables are leaded and armored and are supported by means of mild steel insul. straps.

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 armored 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 chemically pure lead

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

are their connections made as per Rule ---

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 Emergency lighting in engine room only. Connected through switch to generator leads directly.

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 Yes (Radio batteries - No others used).

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 No - pump rooms are illuminated by through bulkhead type fixtures

Entirely outside the pump rooms. --- how are the cables led ---

where are the controlling switches situated On deck.

Searchlight Lamps, No. of One (incandescent), whether fixed or portable Fixed, are their fittings as per Rule ---

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

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

are the bearings, bushings, 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 ---

if not of this type, state distance of the combustible material horizontally or vertically above the motors None 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 None fitted

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 supplied

PARTICULARS OF GENERATING PLANT.									
DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.		
		Kilowatts.	Volts.	Amperes.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN	2	300	240	1250	1200	Geared Turbine	---	---	
AUXILIARY									
EMERGENCY									
Motor Gen. ROTARY TRANSFORMER	2	20	120	165	1750	230 V. 30HP Motor			

LIGHTING AND HEATING CONDUCTORS. 120 Volt System									
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.				
2	MAIN GENERATORS.	2	109860	61	.057"	165	50' 0"	Var. cam.	Cir. Brkr.
1	EQUALISER CONNECTIONS	1	125050	61	.045"	85	25' 0"	" "	None
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER.								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM								
	BOILER ROOM								
	ACCOMMODATION								
	Eng. & Boiler Space	2	75850	37	.045"	75	150' 0"	Var. Cam.	
	Midship & For'd	2	125050	61	.045"	70	500' 0"	" "	
	Pump Rooms	2	9030	7	.036"	10	80' 0"	" "	
	After Qtrs.	2	75850	37	.045"	60	120' 0"	" "	
	Running Lts.	2	9030	7	.036"	2.5	500' 0"	" "	
	Cargo Circuit	2	49020	19	.050"	15	500' 0"	" "	
	Cyrc Compass	2	59940	37	.040"	20	500' 0"	" "	
	Fathometer	2	11340	7	.040"	9	500' 0"	" "	
	WIRELESS								
	SEARCHLIGHT	2	9030	7	.036"			Var. Cam.	
	MASTHEAD LIGHT	2	4494	7	.025"			" "	
	SIDE LIGHTS	2	4494	7	.025"			" "	
	COMPASS LIGHTS	2	4494	7	.025"			" "	
	POOP LIGHTS								
	CARGO LIGHTS								
	ARC LAMPS								
	HEATERS								

MOTOR CONDUCTORS. 240 Volt System									
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.				
	BALLAST PUMP								
	MAIN BILGE LINE PUMPS								
	GENERAL SERVICE PUMP								
	EMERGENCY BILGE PUMP								
	SANITARY PUMP								
	CIRC. SEA WATER PUMPS								
	CIRC. FRESH WATER PUMPS								
	AIR COMPRESSOR								
	FRESH WATER PUMP								
	ENGINE TURNING GEAR								
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS								
	OIL FUEL TRANSFER PUMP								
	WINDLASS								
	WINCHES, FORWARD								
	WINCHES, AFT								
	STEERING GEAR								
	(a) MOTOR GENERATOR								
	(b) MAIN MOTOR								
	WORKSHOP MOTOR								
	VENTILATING FANS								

P 1	Port Cargo Pump	1	1,565,910	127	.064"	930	340'	Varn, Cambric	1000 Amp. Cir. Bkr.
P 2	Stbd " "	1	1,565,910	127	.064"	930	400'	" "	1000 Amp. Cir. Bkr.
P 3	Cargo Stripping	1	657,860	127	.072"	338	360'	" "	400 Amp. Cir. Bkr.
P 4	Main Circulating	1	157,380	61	.050"	188	160'	" "	200 Amp. Fuse
P 5	For'd M.G. Motor	1	98,820	61	.040"	110	180'	" "	150 Amp. Fuse
P 6	After M.G. Motor	1	98,820	61	.040"	110	180'	" "	150 Amp. Fuse
P 7	For'd F.D. Blower	1	22,820	7	.057"	38	230'	" "	40 Amp. Fuse
P 8	After F.D. Blower	1	22,820	7	.057"	38	250'	" "	40 Amp. Fuse
P 9	Aux. Cond. Circ.	1	22,820	7	.057"	38	140'	" "	40 Amp. Fuse
P10	Turbine Turning	1	38,950	19	.045"	46	130'	" "	60 Amp. Fuse
P11	Main Condensate #1	1	59,940	37	.040"	74	170'	" "	75 Amp. Fuse
P12	Main Condensate #2	1	59,940	37	.040"	74	170'	" "	75 Amp. Fuse
P13	Lab. Oil Service	1	22,820	7	.057"	38	180'	" "	40 Amp. Fuse
P14	Spare								
P15	Workshop	3	22,820	7	.057"	38	180'	" "	40 Amp. Fuse
P16	Gen. Service	1	22,820	7	.057"	38	130'	" "	40 Amp. Fuse
P17	Refrig. Comp.	1	11,340	7	.040"	19	210'	" "	25 Amp. Fuse
P18	Fuel Oil Service #1	1	9,030	7	.036"	14	220'	" "	20 Amp. Fuse
P19	Fuel Oil Service #2	1	9,030	7	.036"	14	220'	" "	20 Amp. Fuse
P20	Sanitary Pump	1	11,340	7	.040"	14	110'	" "	20 Amp. Fuse
P21	Air Compressor	1	9,030	7	.036"	12	180'	" "	20 Amp. Fuse
P23	Gyro Pilot Motor	1	11,340	7	.040"	12	220'	" "	20 Amp. Fuse
P24	L.O. Purifier	1	4,494	7	.025"	8	220'	" "	10 Amp. Fuse
P25	Pump Room Vent	1	4,494	7	.025"	8	120'	" "	10 Amp. Fuse
P26	Gland Exhauster	1	4,494	7	.025"	4	150'	" "	10 Amp. Fuse
P27	Crews Qtrs. Vent	6	11,340	7	.040"	16	280'	" "	25 Amp. Fuse
P28	Fresh Water Pump	1	4,494	7	.025"	2	200'	" "	10 Amp. Fuse
P29	Wash Water Pump	1	4,494	7	.025"	2	240'	" "	10 Amp. Fuse
P30	Radio Feeder	-	30,780	19	.040"	12	540'	" "	20 Amp. Fuse
P32	Galley Range	-	30,780	19	.040"	40	100'	" "	40 Amp. Fuse
P34	Shore Line	-	521,970	127	.064"	400	100'	" "	400 Amp. Cir. Bkr.

	Main Gen. Arm	2,087,880	127	.064"	1300	100'	" "	1600 Amp. Cir. Bkr.
	Main Gen. Equal	1,043,940	127	.064"	650	50'	" "	None
	Main Gen. Sh.	18,060	7	.050"	-	100'	" "	None

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equal
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.

Same as below ~~total side .Y 088~~ Electrical Engineers. Date March 29, 1938

COMPASSES.

Distance between electric generators or motors and standard compass 18' 0" to Master Gyro Compass
Distance between electric generators or motors and steering compass 20' 0" " " "

The nearest cables to the compasses are as follows:—

A cable carrying .125 Ampères 0' 6" feet from standard compass 0' 6" feet from steering compass. (Binnacle Lts. 15W).
A cable carrying .42 Ampères 4' 6" feet from standard compass 3' 4" feet from steering compass. (Wheel house Lt. 50W)
A cable carrying .01 Ampères 4' 0" feet from standard compass 4' 6" feet from steering compass. (Engine R.P.M. indicator)

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 None degrees on course in the case of the standard compass, and None degrees on course in the case of the steering compass.

D. D. Thomas
BETHLEHEM SHIPBUILDING CORP., LTD. Builder's Signature. Date March 29, 1938
SPARROWS POINT PLANT

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. The electric generating machinery of this vessel has not been built under Special Survey but has been examined and complies with the Society's rules and the workmanship and material are good. The generating units and fittings, stated to have been tested and certified at the manufacturers' works by the Surveyors to the American Bureau of Shipping.

The generators and all electrical equipment, cables and conduit have been installed in compliance with the rules of this Society, the material used and workmanship throughout is of good quality and having been thoroughly tested out under full working conditions is eligible in our opinion to be classed and duly recorded.

Noted
L. J.
9/9/38

Total Capacity of Generators 600 Kilowatts.

The amount of Fee ... £ : :
Inclusive fee charged on machinery ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 19
When received, 19

C. H. Heston
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned Elec. light