

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office SEP - 6 1938

Date of writing Report 29th March 1938 When handed in at Local Office July 19th 1938 Port of Baltimore, Maryland.

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  
Tons { Gross 7989  
Net 4738

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. -

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. 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.

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 ✓



Handwritten notes: 7/10, 9/8/38

3030  
**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 resistive 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.  
 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 ---  
**Arc 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, bush holes, 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	Amps.	Rvts. 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 Amps.	Approximate Length (Lead and Return) Feet	Insulated with	HOW PROTECTED
				No.	Diameter				
2	MAIN GENERATORS	2	19860	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								
2	Eng. & Boiler Space	2	75850	37	.045"	75	180' 0"	Var. Cam.	
2	Midship & For'd	2	125050	61	.045"	70	500' 0"	" "	
2	Pump Rooms	2	9030	7	.036"	10	80' 0"	" "	
2	After Qtrs.	2	75850	37	.045"	60	120' 0"	" "	enc'd
2	Running Lts.	2	9030	7	.036"	2.5	500' 0"	" "	
2	Cargo Circuit	2	49020	19	.050"	15	500' 0"	" "	
2	Cyrc Compass	2	59940	37	.040"	20	500' 0"	" "	
2	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								

Generators run in parallel - stop button pressed to one generator with paralleling switch closed & reverse current circuit breaker observed under function.

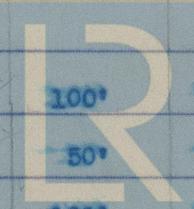
MOTOR CONDUCTORS. 240 Volt System

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				
	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, Cembric	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.

x  
See How  
York letter  
28/4/39  
L.B.  
4-5-39

	Main Gen. Arm		2,087,880	127	.064"	1300	100'	" "	1600 Amp. Cir. Bkr.
	Main Gen. Equal	x	2,000,000	127	.064"	650	50'	" "	None
	Main Gen. Sh.		18,060	7	.050"	-	100'	" "	None



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Lloyd's Register  
Foundation

W1131-0096 3/3

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 size .7085~~ ~~of~~ **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. O. Thomas Builder's Signature. Date March 29, 1938  
 BETHLEHEM SHIPBUILDING CORP., LTD.  
 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 ... .. £	:	:	When applied for,
<u>Inclusive fee charged on machinery</u>	:	:	<u>19</u>
Travelling Expenses (if any) £	:	:	When received,
	:	:	<u>19</u>

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

Committee's Minute NEW YORK AUG 24 1938 *My*

Assigned Elec. light

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