

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

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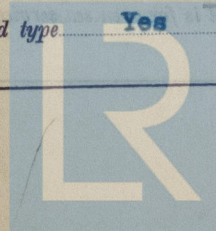
No. in Survey held at Sparrows Point, Maryland Date, First Survey February 3rd Last Survey June 29th 1939
 Reg. Book. 69138 on the Steel Single Screw Oil Tank Steamship "MOBILUEE" (Number of Visits 13)

Built at Sparrows Point, Md. By whom built Bethlehem Steel Company Yard No. 4333 When built 1938-9

Owners Socony-Vacuum Oil Company, Inc. Port belonging to New York

Electric Light Installation fitted by Bethlehem Steel Co. - Shipbuilding Div. Contract No. 4333 When fitted 1938-9

Is the Vessel fitted for carrying Petroleum in bulk Yes

System of Distribution Two Wire - (Direct) CurrentPressure of supply for Lighting 110 volts, Heating None volts, Power 220 volts.Direct or Alternating Current, Lighting Direct Power DirectIf 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 YesGenerators, do they comply with the requirements regarding temperature rise Yes, are they compound wound Yesare 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 YesHave certificates of test results for machines under 100 kw. been submitted and approved Yes (N.Y.) Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing Yes - reports attachedAre 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 YesPosition of Generators Fore & Aft on generator flat (23' - 9") at Port 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 unprotectedwoodwork or other combustible material, state distance of same horizontally from or vertically above the generators no wood or combustible materialare the generators protected from mechanical injury and damage from water, steam or oil Yes, are their axes of rotation fore and aft YesEarthing, are the bedplates and frames of the generating plant efficiently earthed Yes are the prime movers and their respective generatorsin metallic contact Yes Main Switch Boards, where placed Situated at aft end of generators on the generator flat in E.R.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 samehorizontally 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 Yesis it of an approved type Yes, if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework not used, is the non-hygroscopic insulating material of an approvedtype -, and is the frame effectively earthed - Are the fittings as per Rule regarding: - spacing or shielding of live partsYes, accessibility of all parts Yes, absence of fuses on back of board Yes, temperature rise ofomnibus bars Yes, individual fuses to voltmeter, pilot or earth lamp Yes, are moving parts of switches alive in the"off" position No are all screws and nuts securing connections effectively locked Yes are any fuses fitted on the live side ofswitches No Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switchesGenerators: 3 - Pole, 1600 Amp. A C B and 3 Pole, 1600 Amp knife switch equalizer broken by above A C B and knife switches. Circuits; A C B or knife switches.Are turbine driven generators fitted with emergency trip switch as per rule Yes Are cupboards or compartments containing switchboards composed offire-resisting material or lined with approved material Yes Instruments on main switchboard 3 ammeters 2voltage meters No synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connectionYes Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the systemTwo ground detector lamps across main bus. Switches, Circuit Breakers and Fusible Cut-outs,do these comply with the requirements of the Rules Yes are the fusible cutouts of an approved type Yes have the reversed

current protection devices been tested under working conditions full working conditions 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 Twin & Single are the cables insulated and protected as per Tables IV, V, X or XI of the Rules Yes

If the cables are insulated otherwise than as per Rule, are they of an approved type Yes A.I.P.E Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 3.41 volts Cable Sockets, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets Yes Paper Insulated and Varnished Cambric Insulated Cables.

If conductors are paper or varnished cambric insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound Yes, or waterproof insulating tape Yes (both) 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 Are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit Yes (lead)

Support and Protection of Cables, state how the cables are supported and protected Cable straps & hangers. Protected at deck with kick pipes and with conduit along gangway.

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 Yes

Refrigerated Chambers, are the cables and fittings in accordance with the special requirements (Domestic) - 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 None state the material of which the bushes are made -

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 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 Radio only

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 Yes

Explosion proof fixtures as per Rule. Outside of gaseous chambers where are the controlling switches situated outside of spaces.

are all fittings suitably ventilated Yes, are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials Yes

Heating and Cooking Appliances, are they constructed and fitted as per Rule - are air heaters constructed and fitted as per Rule None

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

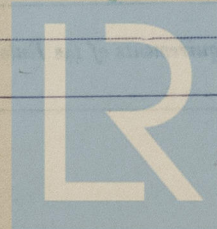
Arc Lamps, other than searchlight lamps, No. of None, are their live parts insulated from the frame or case -, are their fittings as per Rule -

Motors, are their working parts readily accessible Yes, are the coils self-contained and readily removable for replacement Yes are the 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 - if not of this type, state distance of the combustible material horizontally or vertically above the motors - and -

have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing - 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 required 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 are all fuses of the filled cartridge type Yes are they of an approved type Yes

If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed type approved by the Home Office No Portables

Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule Yes



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PARTICULARS OF GENERATING PLANT.

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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 ...	Two	300	240	1250	1200	Steam geared turbine	-	-
	One	50	240	208	3600	Steam turbine	-	-
AUXILIARY ...								
EMERGENCY ...								
ROTARY TRANSFORMER	Two	25	120	208	1750	Motor	-	-

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

Ref. No.	Description	CONDUCTORS		COMPOSITION		TOTAL MAX. CURRENT		APPROX.	INSULATED	HOW
		No. per pole	Effective Area Cir. Mils	Nc	Dia. Mils	Circuit	Rule	RUN L & R FEET	WITH	PROTECTED
G1	#1 Main Generator	4	2,000,000	3	116.2	1250	1676	100'	Varnished Cambric	1600 A.A.C.B.
G2	#2 " " "	4	2,000,000	3	116.2	1250	1676	100'	"	1600 A.A.C.B.
G3	Auxil. " "	1	250,000	3	82.2	208	280	200'	"	275 A.A.C.B.
G4	Lighting " " #1	1	250,000	3	82.2	208	280	140'	"	275 A.A.C.B.
G5	" " " " #2	1	250,000	3	82.2	208	280	140'	"	275 A.A.C.B.
	Equalizer (Main Gen.)	2	1,000,000	3	116.2		888	50'	"	Above 1600 A.A.C.B.
	" " (Auxil. Gen.)	1	133,000	19	83.7		184	100'	"	Above 1600 A.A.C.B.
	" " (Light. Gen.)	1	133,000	19	83.7		184	70'	"	Above 1600 A.A.C.B.
	(Panel)									
L1	Navigation Lights	1	10,400	7	38.5	4.8	25.5	610'	"	25 A. Fuse
L2	Engine & Blr. Space	1	83,700	19	66.4	69.	134	160'	"	100 A. "
L3	After Quarters	1	133,000	19	83.7	132.	184	210'	"	150 A. "
L4	Midship & For'd Space	1	212,000	19	105.5	121.	251	580'	"	150 A. "
L5	Cargo Circuit	1	66,400	7	97.4	33.	83	640'	"	50 A. "
L6	Fathometer	1	33,100	7	68.8	10.5	54.5	610'	"	30 A. "
L7	Pump Room Lights	1	6,530	7	30.5	10.5	18.5	350'	"	15 A. "
L8	Spare									
L9	Spare									
L10	Shore Line (L'tg)	1	168,000	19	94.0	200	215	130'		

L10	Shore Line (L'tg)		1		188,000		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1</	
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All Conductors are of annealed copper conforming to British Standard Specification No. 7 (or International Electro-technical Commission Publication No. 128).

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

Electrical Engineers.

Date BELOW

COMPASSES.

Distance between electric generators or motors and standard compass. **Twenty-four feet**

Distance between electric generators or motors and steering compass. **Eighteen feet**

The nearest cables to the compasses are as follows:—

A cable carrying **.68** Ampères **9** feet from standard compass **4** feet from steering compass.

A cable carrying **4.0** Ampères **8** feet from standard compass **10** feet from steering compass.

A cable carrying **5.5** Ampères **10** feet from standard compass **8** 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 **Nil** degrees on **-** course in the case of the standard

compass, and **Nil** degrees on **-** course in the case of the steering compass.

J. A. Arden

Builder's Signature.

Date **July 25, 39.**

Bethlehem Steel Company, Shipbuilding Division, Sparrows Point, Md.

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

General Remarks (State quality of workmanship, opinions as to class, &c. **The electrical machinery, equipment etc. of this**

vessel has been built under Special Survey in accordance with the regulations and requirements of this Society

Please refer to Boston Report No. 3407 (Rpt. 4A & Rpt. 4C) and Cleveland Report No. 924 also test certificates

etc. all attached hereto. The electric units with all fittings, appliances, cables & fastenings have been

carefully installed on board the vessel in compliance with the Rules and the workmanship and materials

throughout are good. Upon completion of survey the entire electrical system as a whole tested out under full

working load conditions, also in accordance with Section 17 of the Rules observed and found entirely

satisfactory. The spare gear conforms to Section 18 of the Rules. In regard to the reverse current safety

device the generators were paralleled adjusted to normal voltage with moderate load and the emergency governor

of one machine tripped leaving the set to its own device, the system observed with full vacuum maintained on

turbine., the reverse current trip protection element functioning entirely satisfactory. In my opinion the

electrical equipment eligible to be classed and recorded.

Total Capacity of Generators **650** Kilowatts.

The amount of Fee ... £ **\$241.00** : When applied for, **July 26, 1939**

Travelling Expenses (if any) £ **\$ 27.50** : When received, **19.9.39**

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Elec. light.



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