

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report June 3<sup>rd</sup> 1935 When handed in at Local Office June 22<sup>nd</sup> 1935 Port of PHILADELPHIA, PA.  
 No. in Survey held at Camden, N.J. Date, First Survey Nov 25<sup>th</sup> Last Survey May 8<sup>th</sup> 1935  
 Reg. Book. (Number of Visits.....10.....)  
 on the S.S. "MAGNOLIA" Tons { Gross 9511  
 Net 5894  
 Built at Camden, N.J. By whom built New York Shipbuilding Corp. Yard No. 415 When built 1935  
 Owners Socony-Vacuum Oil Co., Inc. Port belonging to New York  
 Electric Light Installation fitted by New York Shipbuilding Corp. Contract No. 415 When fitted 1935  
 Is the Vessel fitted for carrying Petroleum in bulk Yes

System of Distribution 2 wires for lighting and power  
 Pressure of supply for Lighting 115 volts, Heating - volts, Power 115 volts.  
 Direct or Alternating Current, Lighting Direct current Power Direct current  
 If alternating current system, state frequency of periods per second none  
 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 Located in upper engine room, port 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 none and yes, 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 in upper engine room, port 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 in 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 none and 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 micanite 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 except instrument yes proportion of omnibus bars yes accessibility of all parts yes absence of fuses on back of board yes connections of switches yes individual fuses to voltmeter, pilot or earth lamp yes  
 Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches 2 MAIN GEN. CIR. BR. - 600 A., 1- PORT GEN. CIR. BR. 200 A., EQUALIZER POLE INCLUDED WITH GEN. CIR. BR., 2 MAIN GEN. DISCONNECT SWITCHES D.P.S.T. UNFUSED 800 A., 1 PORT GEN. DISCONNECT SWITCH D.P.S.T. UNFUSED 200 A., 1- SHORE CONNECTION & SHIP'S POWER SWITCH D.P.D.T. UNFUSED - 200 A., SWITCH FOR STEERING GEAR D.P.S.T. UNFUSED 200 A., POWER & LIGHTING FEEDER SWITCHES AS FOLLOWS:— 2- D.P.S.T. FUSED SWITCHES 200 A., 14- D.P.S.T. FUSED SWITCHES 100 A., 9- D.P.S.T. FUSED 60 A., 5- D.P.S.T. FUSED 30 A.  
 Instruments on main switchboard 3 ammeters 4 voltmeters Field rheostats 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 indicating lamps and voltmeter with selector switch  
 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 single & twin 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 power 1.82%, lighting 2.9% to extreme outlet

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 no paper insulated cable 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 Braided wire run in conduit, lead covered steel basket weave cable, screwed metal straps, conduit protection where subject to mechanical injury.

If cables are run in wood casings, are the casings and caps secured by screws no wood casing, 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, 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 on lighting & power feeder cables

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 lead

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

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 lights in pump rooms - gas tight construction, how are the cables led through conduits

where are the controlling switches situated in an enclosed case outside of each pump room

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

## PARTICULARS OF GENERATING PLANT.

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 ...	2	75	120 D.C.	625	1800	Steam Turbine		
AUXILIARY ...	1	20	120 D.C.	167	450	" Engine		
EMERGENCY ...								
ROTARY TRANSFORMER								

## GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.	
	No. per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.				
MAIN GENERATOR ... ..	2	.86500	(2) 61	.095	625	790 ABS	80	rubber	lead & armored	
EQUALISER CONNECTIONS	1	.58900	61	.111	100	485 "	40	"	"	"
AUXILIARY GENERATOR ...	1	.19690	37	.082	167	233 "	90	"	"	"
EMERGENCY GENERATOR										
ROTARY } MOTOR	none									
TRANSFORMER } GENERATOR...	"									
ENGINE ROOM... ..	1	.02060	7	.061	26	44 "	160	"	"	"
BOILER ROOM... ..	1	.01300	7	.049	20	33 "	80	"	"	"
AUXILIARY SWITCHBOARDS	none									
ACCOMMODATION ... ..										
Forecastle Quarters	1	.08290	19	.075	36	132 "	900	"	"	"
Amidship "	1	.16590	19	.106	92	209 "	540	"	"	"
Upper Dk. Aft "	1	.05210	7	.097	54	96 "	150	"	"	"
Poop Deck "	1	.02610	7	.069	24	52 "	200	"	"	"
WIRELESS ... ..	1	.02060	7	.061	15	44 "	560	"	"	"
SEARCHLIGHT ... ..	1	.02060	7	.061	9	44 "	720	"	"	"
MASTHEAD LIGHT ... ..	1	.00320	7	.024	1	13 "	450	"	"	"
SIDE LIGHTS ... ..	1	.00320	7	.024	1	13 "	60	"	"	"
COMPASS LIGHTS	1	.00320	7	.024	.5	13 "	30	"	"	"
Nav. POOP LIGHTS ... ..	1	.05210	7	.097	16	96 "	700	"	"	"
CARGO LIGHTS	1	.00320	7	.024	9	13 "	120	"	"	"
ARC LAMPS ... ..	none									
HEATERS ... ..	"									

## MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
		No. per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP ...	none									
MAIN BILGE LINE PUMPS	1	1	.08290	19	.075	74	132 ABS	150	rubber	lead armored
GENERAL SERVICE PUMP	none									
EMERGENCY BILGE PUMP	none									
SANITARY PUMP	1	1	.04140	7	.087	58	70 "	80	"	"
CIRC. SEA WATER PUMPS	none									
DRINKING WATER PUMPS	1	1	.02610	7	.069	40	52 "	160	"	"
AIR COMPRESSOR										
FRESH WATER PUMP	1	1	.02610	7	.069	40	52 "	120	"	"
ENGINE TURNING GEAR	1	1	.06580	19	.066	74	112 "	120	"	"
ENGINE REVERSING GEAR	none									
LUBRICATING OIL PUMPS (ea.)	1	1	.08290	19	.075	74	132 "	100	"	"
OIL FUEL TRANSFER PUMP	none									
WINDLASS	"									
WINCHES, FORWARD	"									
lub. oil purifier	1	1	.08290	19	.075	95	132 "	120	"	"
WINCHES, AFT	none									
Evaporator feed pump	1	1	.00510	7	.030	8	18 "	120	"	"
STEERING GEAR—										
(a) MOTOR GENERATOR	none									
(b) MAIN MOTOR	1	1	.19690	37	.082	145	233 "	300	"	"
WORKSHOP MOTOR	4	1	.08290	19	.075	97	18 "	100	"	"
VENTILATING FANS	none									
Forced Draft Blower #1	1	1	.04140	7	.087	58	70 "	150	"	"
" " " #2	1	1	.04140	7	.087	58	70 "	70	"	"
" " " #3	1	1	.04140	7	.087	58	70 "	130	"	"
Ice machine motor	1	1	.02610	7	.069	40	52 "	100	"	"
Condensate pump #1	1	1	.08290	19	.075	74	132 "	150	"	"
" " " #2	1	1	.08290	19	.075	74	132 "	150	"	"



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.

*A. Campbell*

Electrical Engineers.

Date

#### COMPASSES.

Distance between electric generators or motors and standard compass 280 ft.

Distance between electric generators or motors and steering compass 280 ft.

The nearest cables to the compasses are as follows:—

A cable carrying .5 Amperes 2 feet from standard compass 2 feet from steering compass.

A cable carrying .5 Amperes 4 feet from standard compass 5 feet from steering compass.

A cable carrying Amperes feet from standard compass 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 degrees on course in the case of the standard compass, and degrees on course in the case of the steering compass.

*A. Campbell*

Builder's Signature.

Date

Is this installation a duplicate of a previous case

*Yes*

If so, state name of vessel

*SOCONY VACUUM.*

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

*This installation has been satisfactorily installed on board the vessel, and in accordance with the approved plans, the workmanship & materials are good. The installation has been tested out under full load & found satisfactory.*

*W. A. D.*

*L. H.*

*15/7/35.*

Total Capacity of Generators

*170*

Kilowatts.

The amount of Fee

*\$ 198.25*

When applied for,

*21<sup>st</sup> June 35*

When received,

*22.7.35*

Travelling Expenses (if any) £

Committee's Minute

*NEW YORK JUL 3 - 1935*

Assigned

*Transmit to London*

*W. A. D.*

Surveyor to Lloyd's Register of Shipping.