

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 9 Dec 1937 When handed in at Local Office 10 Dec 1937 Port of Philadelphia Received at London Office JAN 20 1938

No. in Survey held at Leicester Pa Date, First Survey 20 Sept Last Survey 27 Nov 1937  
Reg. Book. SS (Number of Visits.....)

on the SS ESSO-BAYTOWN

Tons { Gross 7991.81  
Net 4774

Built at Leicester Pa By whom built Sum Bros & Co Yard No. 162 When built 1937

Owners Standard Oil Co of New Jersey Port belonging to Wilmington Del

Electric Light Installation fitted by Sum Bros & Co Contract No. 1739116 When fitted 1937

Is the Vessel fitted for carrying Petroleum in bulk Yes Generator Serial No. 1739116  
1739117

## System of Distribution

Pressure of supply for Lighting 120 volts, Heating 240 volts, Power 240 volts.

Direct or Alternating Current, Lighting Direct Power Direct

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. Flat, 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 Located on flat in engine room, starboard side, Are the lubricating arrangements of the generators as per Rule Yes

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 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 same flat with generators

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 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 micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework

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 There is a 2 pole

1600 ampere circuit breaker for each generator, and a 3 pole 1600 ampere

knife switch non fused, the center blade is the equalizer.

Instruments on main switchboard 2 ammeters 2 voltmeters Yes 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

Yes

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 *3 mts*

**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 *yes*

**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 *cables are supported in metal pans, and carried in conduit for mechanical protection*

If cables are run in wood casings, are the casings and caps secured by screws *yes*, are the cap screws of brass *yes*, are the cables run in separate grooves *yes*. 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 *joints are made in watertight brass junction boxes, soldered joints are used, well insulated*

**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 *Bushes with lead*

**Earthing Connections,** state what earthing connections are fitted and their respective sectional areas *system ungrounded*

are their connections made as per Rule *yes*

**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 *steam turbine located above water line*

**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* Tell tale panel located in wheel house *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 *None*

how are the cables led *yes*

where are the controlling switches situated *yes*

**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 *yes*, are their live parts insulated from the frame or case *yes*, are their fittings as per Rule *yes*

**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 *yes* and *yes*

**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 *No portable lamps to be used in dangerous places*

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	240	1200	1200	Steam turbine			
AUXILIARY ...									
EMERGENCY GENERATOR	2	20	120	160	1750	Motor (electric)			
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	1.49	182	.103	1200	1325	50	Varnish Cambric	Leads & links weave heavy armor
EQUALISER CONNECTIONS	2	1.49	182	.103			50	"	"
AUXILIARY GENERATOR...									
EMERGENCY GENERATOR									
ROTARY MOTOR	1	.10	19	.083	120	172	50	"	"
TRANSFORMER GENERATOR...	1	.2	37	.083	160	266	50	"	"
ENGINE ROOM...lighting	1	.04	19	.082	62	94	60	"	"
BOILER ROOM... "	1	.014	7	.082	21	51	100	"	"
AUXILIARY SWITCHBOARDS									
Tell tale panel	1	.008	7	.044	5	38	350	"	"
Shift pump room	1	.003	1	.064	8	11.6	150	"	"
ACCOMMODATION									
Forecastle	1	.008	7	.044	15	38	450	"	"
Midship qts	1	.04	19	.082	78	94	300	"	"
Shift qts upper deck	1	.02	7	.064	34	68	200	"	"
" " prop "	1	.02	7	.064	48	68	180	"	"
WIRELESS	1	.02	7	.064	20	68	300	"	"
SEARCHLIGHT	1	.008	7	.044	9	38	360	"	"
MASTHEAD LIGHT	1	.003	1	.064	1	11.6	300	"	"
SIDE LIGHTS	1	.003	1	.064	1	11.6	80	"	"
COMPASS LIGHTS	1	.003	1	.064	1/2	11.6	20	"	"
POOP LIGHTS									
CARGO LIGHTS									
ARC LAMPS									
HEATERS									

MOTOR CONDUCTORS.										
DESCRIPTION.	No. of Motors.	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.			
BALLAST PUMP	1	1	.02	7	.064	39	68	40	Varnish Cambric	Leads & links weave heavy armor
MAIN CONDENSER CIRCULATING PUMP	1	1	.2	37	.083	220	266	50	"	"
MAIN BLOW LINE PUMPS	2	1	1.18			847	1131	80	"	"
CARGO PUMP	1	1	.4	61	.093	332	417	84	"	"
GENERAL SERVICE PUMP	1	1	.008	7	.044	12.6	38	60	"	"
CARGO STRIPPER PUMP	1	1	.008	7	.044	12.6	38	60	"	"
EMERGENCY BLOW PUMP	1	1	.008	7	.044	12.6	38	60	"	"
SANITARY PUMP	1	1	.008	7	.044	12.6	38	60	"	"
FUEL OIL SERVICE PUMP	2	1	.008	7	.044	12.6	38	60	"	"
CIRC. SEA WATER PUMPS	1	1	.008	7	.044	12.6	38	60	"	"
CIRC. FRESH WATER PUMPS...	1	1	.008	7	.044	12.6	38	60	"	"
AIR COMPRESSOR	1	1	.003	1	.064	2.4	11.6	60	"	"
DRINKING WATER PUMP	1	1	.02	7	.064	38.0	68	70	"	"
FRESH WATER PUMP	1	1	.02	7	.064	38.0	68	70	"	"
ENGINE TURNING GEAR...	2	1	.10	19	.083	94.0	172	100	"	"
FORCED DRAFT FAN	1	1	.02	7	.064	39.0	68	80	"	"
ENGINE REVERSING GEAR	1	1	.02	7	.064	39.0	68	80	"	"
LUBRICATING OIL PUMPS	1	1	.008	7	.044	12.6	38	60	"	"
LUBRICATING OIL SEPARATOR	1	1	.008	7	.044	12.6	38	60	"	"
OH FRESH TRANSFER PUMP	2	1	.02	7	.064	30.0	68	60	"	"
MAIN CONDENSATE PUMP	1	1	.02	7	.064	39.0	68	40	"	"
WINDLASS	1	1	.02	7	.064	39.0	68	40	"	"
AUX. CONDENSER CIRC.	1	1	.008	7	.044	12.6	38	60	"	"
WINCHES, FORWARD	1	1	.02	7	.064	30.0	68	90	"	"
REFRIGERATING MACH	1	1	.02	7	.064	30.0	68	90	"	"
WATER BOOSTER PUMP	1	1	.02	7	.064	30.0	68	90	"	"
WINCHES, AFT	1	1	.04	19	.083	72	94	200	"	"
ELECTRIC RANGE										
STEERING GEAR										
(a) MOTOR GENERATOR...										
(b) MAIN MOTOR										
WORKSHOP MOTOR	1	1	.008	7	.044	23	38	100	"	"
VENTILATING FANS	2	1	.01	7	.082	22	87	200	"	"
GYRO PLOT	1	1	.008	7	.044	15	38	200	"	"
WASHING WATER PUMP	1	1	.003	1	.064	2.4	11.6	70	"	"
SHORE LINES	1	1	.2	37	.083		266	100	"	"

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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* Electrical Engineers. Date *Dec 9-37*

#### COMPASSES.

Distance between electric generators or motors and standard compass

*200 ft*

Distance between electric generators or motors and steering compass

*200 ft*

The nearest cables to the compasses are as follows:—

A cable carrying *1/2* Ampères *3* feet from standard compass *4* feet from steering compass.

A cable carrying *6* Ampères *10* feet from standard compass *14* feet from steering compass.

A cable carrying *4* Ampères *10* feet from standard compass *15* 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.

*T.M. Jackson* Builder's Signature. Date *Dec 9-37*  
*Sun Shipbuilding & Dry Dock Co.*

Is this installation a duplicate of a previous case

*Yes*

If so, state name of vessel

*WALLACE. E. PRATT.*

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

*This installation has been satisfactorily installed on board the vessel, tried out under full power & found satisfactory.*

Total Capacity of Generators *600* Kilowatts.

The amount of Fee

*(See Hull Report)*

When applied for,

19

Travelling Expenses (if any)

When received,

19

*W.D. Runkham*  
Surveyor to Lloyd's Register of Shipping.

NEW YORK JAN 5 - 1938

Committee's Minute

Assigned *Elec. light*

1m 9, 30. — Transfer.  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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