

Rpt. 13.

No. 41921

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

21 MAY 1941

Date of writing Report Dec 12 1941 When handed in at Local Office

Received at London Office

Port of New York

No. in Survey held at Quincy, Mass.
Reg. Book.

Date, First Survey Aug 23 Last Survey Sept 18 1941

(Number of Vols. 4)

on the Steel Single Screw Tanker "SINCLAIR RUBINENE"

Tons { Gross 7874
Net 4596

Built at Quincy, Mass.

By whom built

Bennett & Co.

Yard No. 1489 When built 1941

Owners

Sinclair Refining Co.

Port belonging to

Baltimore, Md.

Electric Light Installation fitted by

Bennett & Co.

Contract No. 1489 When fitted 1941

Is the Vessel fitted for carrying Petroleum in bulk

YES

System of Distribution Two wire - DIRECT CURRENT

Pressure of supply for Lighting 120 Volts

volts, Heating

volts, Power 240

volts.

Direct or Alternating Current, Lighting

DIRECT CURRENT

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 temperature rise

YES

, are they compound wound

YES

are they over compounded 5 per cent.

, 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

Have certificates of test results for machines under 100 kw. been submitted and

approved

YES

Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing

YES

not received

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

ON FLAT IN ENGINE ROOM ON STARBOARD SIDE OF VESSEL

, 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

ON FLAT OUTBOARD OF GENERATORS STARBOARD 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

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

is it of an approved type

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

, is the non-hygroscopic insulating material of an approved

type

YES

, 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

NO

, temperature rise of

omnibus bars

YES

, individual fuses to voltmeter, pilot or earth lamp

, 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 of

switches

NO

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches

GENERATORS CONNECTED TO MAIN SWITCHBOARD BY DIRECT CONNECTION

Are turbine driven generators fitted with emergency trip switch as per rule

YES

Are cupboards or compartments containing switchboards composed of

fire-resisting material or lined with approved material

ALL OPEN

Instruments on main switchboard

FOUR

ammeters

FOUR

voltmeters

synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connection

YES

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system

GROUND LAMPS AND MINUTARY VOLTAGE READING

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



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003611-003619-0108 1/4

current protection devices been tested under working conditions YES

construction, protection, insulation, material, and position of these as per rule YES

Cables: Single, twin, concentric, or multicore YES are the cables insulated and protected as per Tables IV, V, X or XI of the Rules YES - AND A.I.E.E.

If the cables are insulated otherwise than as per Rule, are they of an approved type YES

any point of the installation under maximum load 5% POWER 3% LIGHTING

area of 0.04 square inch and above provided with soldering sockets YES

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 insulation tape YES

Joint Boxes, Section and Distribution Boards, is the YES

Fall of Pressure, state maximum between bus bars and YES

Cable Sockets, are the ends of all cables having a sectional YES

Paper Insulated and Varnished Cambric Insulated Cables.

Cable Runs, are the cables fixed as far as possible in accessible positions YES

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 LEAD COVERED

Support and Protection of Cables, state how the cables are supported and protected SINGLE CABLES SUPPORTED BY SCREWED CAPS

CABLE RUNS BY WOOD CASINGS WITH GLASS CAPS AND SILENT CAPS.

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, are the cables and fittings in accordance with the special requirements YES

Joints in Cables, state if any, and how made, insulated, and protected ALL JOINTS MADE IN ST. MATH. BOXES.

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 ALUMINUM

Earthing Connections, state what earthing connections are fitted and their respective sectional areas ALL OF ALL CABLES.

ALL OF ALL WIRING, LIGHTING, AND MOTORS.

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 EMERGENCY GENERATOR LOCATED IN MAIN HALL AND POWER ROOM - MANUAL CONTROL - DIESEL POWERED.

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 - ON PANEL IN PILOT HOUSE

has each navigation lamp an automatic indicator as per Rule YES

Secondary Batteries, are they constructed and fitted as per Rule YES (LADY 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 NO - METAL

WALLS ON ALL WATERTIGHT DECK SPACES

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 - FITTINGS

ALL OF THE EXHAUST PIPES CONSTRUCTED IN PUMP ROOMS, how are the cables led YES

where are the controlling switches situated OUTSIDE OF COMPARTMENT

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 YES, are air heaters constructed and fitted as per Rule NOT INSTALLED

Searchlight Lamps, No. of ONE, whether fixed or portable FIXED, are their fittings as per Rule YES

Arc Lamps, other than searchlight lamps, No. of ONE, 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 - VERTICAL, 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 NOT SO INSTALLED

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

have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing 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

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 YES

Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule 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	200	240	2080		TURBINE DRIVEN		
AUXILIARY	2	20	240	416		240V MOTOR		
EMERGENCY	1	15	240	78		DIESEL		
	1	10	120	104				
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 Nominal Area per Pole Sq. Ins.	No.	Diameter.	Circuit.	Rule.			
MAIN GENERATOR	2	650,000			1040	1060 ✓	70	VARN-CONDENS	LEAD-ROCK-ROCK
EQUALISER CONNECTIONS	1	650,000				530 ✓	35	"	"
AUXILIARY GENERATOR	1	212,000			208	251 ✓	60		
EMERGENCY GENERATOR	1	106,000			78	125 ✓	60		
ROTARY TRANSFORMER MOTOR GENERATOR		106,000			104	125 ✓	60		
ENGINE ROOM									
BOILER ROOM	1	113,000			73	184 ✓	240		
AUXILIARY SWITCHBOARDS									
ANCHORS	41	600,000			132	501 ✓	640		
PROP. LIGHTS	12	83,700			104	134 ✓	120		
... ..	23	66,400			69	83 118	100		
ACCOMMODATION									
WIRELESS	1	66,400			30	83 118	660		
SEARCHLIGHT									
MASTHEAD LIGHT									
SIDE LIGHTS									
COMPASS LIGHTS									
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 Nominal Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP	1	1	41,200			38	63 95	160	VARN-CONDENS	LEAD-ROCK-ROCK
MAIN BILGE LINE PUMPS										
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
SANITARY PUMP	1	1	10,400			20	25.5 31	140		
CIRC. SEA WATER PUMPS	1	1	212,000			188	251 ✓	80		
CIRC. FRESH WATER PUMPS										
AIR COMPRESSOR	1	1	212,000			178	251 ✓	200		
FRESH WATER PUMP	1	1	4110			5	13 ✓	180		
ENGINE TURNING GEAR	1	1	26,300			19	46.5 74	140		
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS	1	1	66,400			57	83 118	140		
OIL FUEL TRANSFER PUMP										
WINDLASS										
WINCHES, FORWARD										
WINCHES, AFT										
STEERING GEAR—										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR	2	1	212,000			128	251 ✓	120		
WORKSHOP MOTOR	4	1	66,400			68	83 118	180		
VENTILATING FANS										
ENGINE ROOM FANS	2	1	83,700			91	98 140	220		



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All Conductors are of annealed copper conforming to British Standard Specification No. 7 (or International Electro-technical Commission Publication No. 28).

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

Electrical Engineers.

Date

COMPASSES.

Distance between electric generators or motors and standard compass Twenty Feet to Motor Generator for Gyro Compass

Distance between electric generators or motors and steering compass Twenty Feet

The nearest cables to the compasses are as follows:—

A cable carrying _____ Amperes _____ feet from standard compass _____ feet from steering compass.

A cable carrying _____ Amperes _____ feet from standard compass _____ 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 2 1/2 degrees on _____ course in the case of the standard compass, and _____ degrees on _____ course in the case of the steering compass.

Bethlehem Steel Company, Shipbuilding Division, Fore River Yard.

L. S. Currier.
General Manager

Builder's Signature.

Date Nov 24, 1941

Is this installation a duplicate of a previous case YES If so, state name of vessel "SINCLAIR OAKLINE"

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

THE ELECTRICAL MAINTENANCE AND EQUIPMENT OF THIS VESSEL HAS BEEN BUILT UNDER SPECIAL SURVEY IN ACCORDANCE WITH THE REGULATIONS AND REQUIREMENTS OF THE SOCIETY. THE ELECTRICAL UNITS WITH ALL FITTINGS, CABLES, AND FASTENINGS HAVE BEEN CAREFULLY INSTALLED ON BOARD THE VESSEL IN COMPLIANCE WITH THE RULES. THE MATERIALS AND WORKMANSHIP ARE GOOD. THE ENTIRE ELECTRICAL SYSTEM HAS SATISFACTORILY TESTED UNDER FULL WORKING LOAD CONDITIONS AND FOUND SATISFACTORY. IN MY OPINION THE ELECTRICAL EQUIPMENT IS ELIGIBLE TO BE CLASSED AND RECORDED. FOR FURTHER PARTICULARS SEE BOSTON REPORT NO. 3668 AND 3669; ALSO CLEVELAND REPORTS C-2798 AND C-2799.

not received

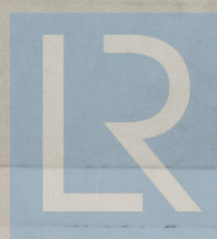
Total Capacity of Generators 425 Kilowatts.

The amount of Fee ... \$ 215.25 When applied for, Dec 31, 1941
When received, 19
Travelling Expenses (if any) £ : : 19

Committee's Minute.

Assigned Elec. light.

P. J. Anderson Jr.
Surveyor to Lloyd's Register of Shipping.



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