

FEB 11 1938

pt. 13.

No. 26504

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

FEB 11 1938

Received at London Office

Date of writing Report 13-1-1938 When handed in at Local Office 10 Port of ROTTERDAM.

No. in Survey held at ROTTERDAM, Date, First Survey 13-12-37 Last Survey 14-1-1938  
 Reg. Book. (Number of Visits 9)

on the S.S. "OJEDA" Tons { Gross 2815  
 Net 1542

Built at ROTTERDAM. By whom built ROTT. DROOGD. M.Y. Yard No. 199 When built 1937/38.

Owners THE CARIBBEAN PETROLEUM Co LTD Port belonging to MARICAIBO.

Electric Light Installation fitted by VAN RIETSCHOTEN & HOUWENS N.V. Contract No. \_\_\_\_\_ When fitted 1938.

Is the Vessel fitted for carrying Petroleum in bulk \_\_\_\_\_

System of Distribution two wire system ✓

Pressure of supply for Lighting 110 ✓ volts, Heating 110 ✓ volts, Power 110 ✓ 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 temperature rise 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 \_\_\_\_\_, 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 \_\_\_\_\_ Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing \_\_\_\_\_

Have certificates for generators under 100 kw. been supplied and approved 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 engine room S.B. ✓, is the ventilation 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 \_\_\_\_\_

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 engine room S.B. ✓

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 yes ✓, is the non-hygroscopic insulating material of an approved type \_\_\_\_\_, 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 ✓, temperature rise of main bus bars yes ✓, individual fuses to voltmeter, pilot or earth lamp yes ✓, are moving parts of switches alive in the "off" position yes ✓ are all screws and nuts securing connections effectively locked yes ✓ are any fuses fitted on the live side of switches \_\_\_\_\_

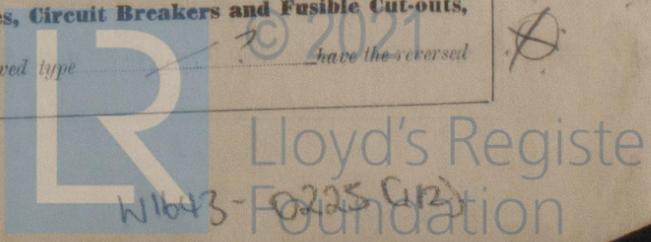
Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches the generator and the outgoing circuits have double pole knife-switches and fuses ✓

Are turbine driven generators fitted with emergency trip switch as per rule \_\_\_\_\_ Are cupboards or compartments containing switchboards composed of non-resisting material or lined with approved material \_\_\_\_\_ Instruments on main switchboard one ✓ ammeters one ✓

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

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

Do these comply with the requirements of the Rules yes ✓ are the fusible cutouts of an approved type \_\_\_\_\_ Have the reversed \_\_\_\_\_



current protection devices been tested under working conditions.  are all fuses labelled as per rule  *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* are the cables insulated and protected as per Tables IV, V, X, XI, XII or XIII of the Rules  *yes*

If the cables are insulated otherwise than as per Rule, are they of an approved type  *yes* **Fall of Pressure,** state maximum between bus bars and any point of the installation under maximum load *4.5 volt*

**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  or waterproof insulating tape

**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 laid under machines or floorplates  *yes* if so, are they adequately protected *by iron pipes*

Are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit *lead covered and armoured*

**Support and Protection of Cables,** state how the cables are supported and protected *secured by metal clips*

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  *yes*

**Joints in Cables,** state if any, and how made, insulated, and protected *joints made in watertight brass 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  state the material of which the bushes are made

**Earthing Connections,** state what earthing connections are fitted and their respective sectional areas *all lead covers are permanently earthed with brass clips* are their connections made as per Rule  *yes*

**Alternative Lighting,** are the groups of lights in the propelling machinery space arranged as per Rule  **Emergency Supply,** state position and method of control of the emergency supply and how the generator is driven

**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  are they ventilated as per Rule

**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

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *three in pumprooms, in the gaslight boxes* how are the cables led *exterior in galvanised iron pipes, chartroom*

where are the controlling switches situated *chartroom*

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

**Searchlight Lamps, No. of** whether fixed or portable  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  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

have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing  have certificates for all motors for essential services been supplied and approved

**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 flameproof type approved for use in dangerous spaces

**Spare Gear,** if the vessel is for open sea service have spares been supplied as per Rule  *yes* are they suitably stored in dry situations  *yes*

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amperes.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	1	11.6	110	106	500	steam engine		
AUXILIARY								
EMERGENCY								
ROTARY TRANSFORMER								

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 mm.	Circuit.	Rule.			
MAIN GENERATOR	1	50	19	1.8	96	99	12	rubber	lead covered and armoured
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER MOTOR									
Transformer Generator									
ENGINE ROOM	1	6	7	0.86	5	29.4	20	"	"
ENGINE ROOM	1	6	7	0.86	5	29.4	70	"	"
AUXILIARY SWITCHBOARDS navigation board	1	6	7	0.86	14.5	29.4	125	"	"
ACCOMMODATION S.B.	1	6	7	0.86	20	29.4	34	"	"
ACCOMMODATION PORT	1	6	7	0.86	17	29.4	50	"	"
ACCOMMODATION FORE	1	6	7	0.86	7.2	29.4	225	"	"
WIRELESS	1	10	7	1.35	13	38.7	50	"	"
SEARCHLIGHT	1	1 1/2	1	1.42	0.36	0.8	110	"	"
MASTHEAD LIGHT	1	1 1/2	1	1.42	0.36	0.8	20	"	"
SIDE LIGHTS	1	1 1/2	1	1.42	0.36	0.8	20	"	"
COMPASS LIGHTS	1	1 1/2	1	1.42	0.36	0.8	100	"	"
POOP LIGHTS	1	1 1/2	1	1.42	0.36	0.8	100	"	"
CARGO LIGHTS	1	1 1/2	1	1.42	0.36	0.8	100	"	"
HEATERS									

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 mm.	In Circuit.	Rule.			
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	1	1	4	3	1.26	17.8	22.3	30	rubber	lead covered
lathe motor	1	1	2 1/2	1	1.8	4.2	15.8	12	"	(and armoured)

The Electrical Equipment is installed in accordance with the approved plans.  
All Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.  
The foregoing is a correct description.

*Van Rieckholt & Houwens*  
Electrotechnisch Bureau, N.V.

Electrical Engineers.

Date 12 Jan 1938

COMPASSES.

Minimum distance between electric generators or motors and standard compass 30 m.

Minimum distance between electric generators or motors and steering compass 37 m.

The nearest cables to the compasses are as follows:—

A cable carrying 19 Ampères 5 feet from standard compass 4 feet from steering compass.

A cable carrying 7,5 Ampères 5 feet from standard compass 4 feet from steering compass.

A cable carrying 0,14 Ampères 0,25 feet from standard compass 0,25 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 0 degrees on EVERY course in the case of the standard compass, and 0 degrees on EVERY course in the case of the steering compass.

DE ROTTERDAMSCHЕ DROUWOK MIJ.

*A. Thrape* Director

Builder's Signature. Date 10-2-1938.

Is this installation a duplicate of a previous case If so, state name of vessel

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

fitted in accordance with Society's Rules, approved plan and Secretary's letters, materials fitted as required and workmanship good. The whole was found in a good working condition when tried and merits in my opinion the approval of the Committee

Noted.

*Red*  
14.2.38.

Total Capacity of Generators 11.6 Kilowatts.

The amount of Fee ... 140. : When applied for, 10.2.1938.

Travelling Expenses (if any) £ : : When received, 3.3 19.38

*J. J. Ochoa*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 25 FEB 1938

Assigned See Rot. J.E. 26504

2m. 12.36.—Transfer. The Surveyors are requested not to write on or below the space for Committee's Minute

