

Rpt. 13.

No. 4004

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

3-0 JUN 1941

Received at London Office

Date of writing Report \_\_\_\_\_ 10 \_\_\_\_\_ When handed in at Local Office \_\_\_\_\_ 10 \_\_\_\_\_ Port of Salveston

No. in Survey held at Hamburg Date, First Survey \_\_\_\_\_ Last Survey 25/11 19 40  
 Reg. Book. See Exam. Salveston. (Number of Visits.....)

89306 on the Sw. se M/T. "NUEVA ANDALUCIA" Tons { Gross 10044.  
 Net 5786

Built at Hamburg By whom built Deutsch Werft A.G. Yard No. 232. When built 1940.

Owners The Texas Co. (Norway A.S.) Port belonging to Oslo.

Electric Light Installation fitted by A. Lo. & Co. Contract No. - When fitted 1940.

Is the Vessel fitted for carrying Petroleum in bulk Yes.

System of Distribution Two wire

Pressure of supply for Lighting 110 volts, Heating 110 volts, Power 110. 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 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 No., 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 done.

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 Engine Room floor, port side forward., 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 \_\_\_\_\_

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 port side of bulkhead forward.

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 marble

is all insulation of high dielectric strength and of permanently high insulation resistance \_\_\_\_\_

is it of an approved type \_\_\_\_\_, 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 omnibus bars \_\_\_\_\_, 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 of switches no

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

Circuit Breaker with overload trip, Double pole change over switch and a fuse on each pole.

Are turbine driven generators fitted with emergency trip switch as per rule \_\_\_\_\_ Are cupboards or compartments containing switchboards composed of fire-resisting material or lined with approved material yes

Instruments on main switchboard \_\_\_\_\_ ammeters 2

voltmeters 2. 2 rheostats 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 voltmeters with Ohm. scale.

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 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 or XI of the Rules yes.

If the cables are insulated otherwise than as per Rule, are they of an approved type ✓. **Fall of Pressure**, state maximum between bus bars and any point of the installation under maximum load ✓. **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. Are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit yes, where necessary.

**Support and Protection of Cables**, state how the cables are supported and protected yes armoured cables or galvanized sheet iron cable runs, and where necessary wholly enclosed in galvanized iron casing or tubes. 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 ✓.

**Joints in Cables**, state if any, and how made, insulated, and protected ✓.

**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 armoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed Yes state the material of which the bushes are made Lead or wood.

**Earthing Connections**, state what earthing connections are fitted and their respective sectional areas ✓.

are their connections made as per Rule ✓.

**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 yes.

**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 ✓.

**Pump room Cables** run in conduit, lighting fittings, how are the cables led of flame proof type.

where are the controlling switches situated external to pump room.

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 one, whether fixed or portable fixed (on bridge deck), are their fittings as per Rule yes.

**Arc Lamps**, other than searchlight lamps, No. of ✓, 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 they protected from mechanical injury and damage from 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 none heat.

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 ✓. **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 ✓.

are all fuses of the fitted cartridge type ✓ are they of an approved type ✓.

If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed type approved by the Home Office ✓.

**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 DIESEL	1	55	115	478	400	heavy diesel	diesel	above 150° F.
AUXILIARY STEAM	1	35	115	305	400	steam		
EMERGENCY						Type A.W. 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 Diesel	1				478	*		V.I.R.	Lead covered and armoured.
EQUALISER CONDUCTORS	1				305				
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER MOTOR GENERATOR									
ENGINE ROOM									
BOILER ROOM									
AUXILIARY SWITCHBOARDS	1				37/1.81	60	151.6	V.I.R.	Lead covered and armoured.
	2				37/1.81	80	"	"	"
	1				19/1.83	55	98.3	"	"
	1				19/1.83	25	"	"	"
	1				19/1.83	80	"	"	"
	1				57/1.81	106	151.6	"	"
	1				19/1.83	88	98.3	"	"
ACCOMMODATION									
WIRELESS	1				19/1.3	60	63.2	"	"
SEARCHLIGHT (VAK LIGHTS)							2.2	"	"
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										
MAIN BILGE LINE PUMPS										
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
SANITARY PUMP	1	1			19/0.52	17.6	22.1	V.I.R.	Lead covered and armoured.	
CIRC. SEA WATER PUMPS	1	1			19/0.64	17.6	28.7	V.I.R.	"	
CIRC. FRESH WATER PUMPS	1	1			19/0.52	17.6	22.1	"	"	
AIR COMPRESSOR										
FRESH WATER PUMP										
ENGINE TURNING GEAR	2	1			19/1.3	67.0	63.2	"	"	
COOLING WATER PUMP	2	1			19/1.3	44.0	63.2	"	"	
ENGINE REVERSING GEAR FOR VALVE										
LUBRICATING OIL PUMPS										
OIL FUEL TRANSFER PUMP	1	1			19/0.64	25.6	28.7	"	"	
LUB. OIL PURIFIER	1	1			19/0.64	25.6	28.7	"	"	
WIRELESS STEAM										
LA MONT BLR. CIRC. PUMP	2	1			19/0.64	25.6	28.7	"	"	
WISCHES, FORWARD	1	1			1/1.78	12.0	15.5	"	"	
SOUNDING MACHINE										
WINGES, AFT										
STEERING GEAR—										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR										
WORKSHOP MOTOR										
VENTILATING FANS										

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 \_\_\_\_\_

Distance between electric generators or motors and steering compass \_\_\_\_\_

The nearest cables to the compasses are as follows:—

A cable carrying \_\_\_\_\_ Ampères \_\_\_\_\_ feet from standard compass \_\_\_\_\_ feet from steering compass.

A cable carrying \_\_\_\_\_ Ampères \_\_\_\_\_ feet from standard compass \_\_\_\_\_ feet from steering compass.

A cable carrying \_\_\_\_\_ Ampères \_\_\_\_\_ feet from standard compass \_\_\_\_\_ feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power. *stated to have been satisfactorily adjusted and tested at sea trials*

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted \_\_\_\_\_

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.

Builder's Signature. Date \_\_\_\_\_

Is this installation a duplicate of a previous case *Yes(?)* If so, state name of vessel *"Newa Granada"*

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

*Salveston, Nov. 1940. The above electrical installation has been generally examined and tested under working conditions. So far as seen the workmanship and materials are good, and the installation in accordance with the Society's Rules.*

Total Capacity of Generators *90* Kilowatts.

The amount of Fee ... .. £	:	:	When applied for,
			.....19.....
Travelling Expenses (if any) £	:	:	When received.
			.....19.....

Surveyor to Lloyd's Register of Shipping.  
*Wm Kenne*

Committee's Minute *TUE. 29 JUL 1941*

Assigned *See Gal. J.E. 4004*

2m. 5. 34. — Transfer.  
The Signatories are requested not to write on or below the space for Committee's Minute.



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