

No. 34771 E

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

13 MAY 1952

13. Date of writing Report 19 When handed in at Local Office 19 Port of Rotterdam
20. in Survey held at Rotterdam Date, First Survey 30-6-49 Last Survey 1-3-1952
Book. (No. of Visits 50)
5758 on the Motor Tanker "CONODORO RIVAD AVIA" Tons Gross 11673.73
Net 6526.12
Built at Rotterdam By whom built Messrs P. SMIT Yard No. 599 When built 1951
Owners YACIENIENTOS PETROLIFEROS FISCALES Port belonging to BUENOS AIRES
Installation fitted by Messrs HANDELS COMPAGNIE N.V. ROTTERDAM When fitted 1951

28. Is vessel equipped for carrying Petroleum in bulk? yes Is vessel equipped with D.F. yes E.S.D. yes Gy.C. yes Sub.Sig. no Radar yes
29. Plans, have they been submitted and approved? yes System of Distribution two wire insulated Voltage of Lighting 110
30. Lighting 220 Power 220 D.C. or A.C., Lighting G.C. Power G.C. If A.C. state frequency -
31. Prime Movers, has the governing been found as per Rule when full load is thrown on and off? yes Are turbine emergency governors fitted
32. with a trip switch? yes Generators, are they compound wound? yes, and level compounded under working conditions? yes
33. not compound wound state distance between generators - and from switchboard - Are the generators arranged to run
34. parallel? yes, are shunt field regulators provided? yes Is the compound winding connected to the negative or positive pole
35. negative pole Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing? yes Have certificates of
36. test for machines under 100 kw. been supplied? yes and the results found as per Rule? yes
37. Position of Generators Main generators: E.R. floor level Motor generators lighting: Boatdeck Harbours generator: Boatdeck
38. the ventilation in way of generators satisfactory? yes are they clear of inflammable material and protected from mechanical injury and
39. damage from water, steam and oil? yes Switchboards, where are main switchboards placed Power: E.R. 1st platform
40. against forward bulkhead lighting: Boatdeck
41. are they in accessible positions, free from inflammable gases and acid fumes and protected from mechanical injury and damage from water,
42. steam and oil? yes what insulation is used for the panels dead front type switchboard if of synthetic insulating
43. material is it an Approved Type? - if of semi-insulating material (slate or marble) are all conducting parts insulated therefrom as
44. per Rule? - Is the construction as per Rule, including locking of screws and nuts? yes Description of Main Switchgear
45. for each generator and arrangement of equaliser switches 3-pole manually operated E.B. with D/F trips in
46. twin poles and G/R trip in positive pole; third pole used for equaliser. E.B.
47. equipped with G/R and L/V trip
48. and the switch and fuse gear (or circuit breakers) for each outgoing circuit either G.P. or G.P.G.T. switches and
49. G.P. fuses

50. Are compartments containing switchboards composed of fire-resisting material or lined as per Rule? yes Instruments on main switchboard 9
51. ammeters 2 voltmeters - synchronising devices. For compound machines in parallel are the ammeters and reversed current
52. protection devices connected on the pole opposite to the equaliser connection? yes Earth Testing, state means provided earth
53. indicating lamps protected by G.P. fuses and connected to "E" through G.P. push button
54. Switches, Circuit Breakers and Fuses, are they as per Rule? yes are the fuses an Approved Type? yes
55. make of fuses Lecher are all fuses labelled? yes If circuit breakers are provided for the generators, at what
56. overload do they operate - " 1300 Amp time delay 20 sec. " 1900 " direct acting and at what current do the reversed current protective devices operate? 15 amp
57. Joint Boxes, Section Boards and Distribution Boards, is the construction as per Rule? yes
58. Cables, are they insulated and protected as per Rule? yes, if otherwise than as per Rule are they of an Approved Type? -
59. state maximum fall of pressure between bus bars and any point under maximum load 46% are the ends of all cables having a sectional
60. area of 0.01 square inch and above provided with soldering sockets? yes Are all paper insulated and varnished cambric insulated
61. cables sealed at the ends? - Are all the cable runs in accessible positions, not exposed to drip or accumulation of water or oil,
62. high temperatures or risk of mechanical damage? yes, are any cables laid under machines or floorplates? yes, if so, are they
63. adequately protected? yes Are cables in machinery spaces, galleys, laundries, etc., lead covered? yes or run in conduit? partly yes
64. or of the "HR" type? - State how the cables are supported or protected Machinery spaces: h.l. & h.w. B
65. cable clipped to metal frame work or perforated plating. Accommodation spaces:
66. h.l. cable clipped to surface or wood ground under fire safe gangway: h.l. & h.w. B
67. cable fitted in a sheet iron trunk & covered with sheet iron plates
68. Are all lead sheaths, armouring and conduits effectually bonded and earthed? yes Are all cables passing through decks and watertight
69. bulkheads provided with deck tubes or watertight glands? yes where unarmoured cables pass through beams, etc., are the holes
70. effectively bushed? yes Refrigerated chambers, are the cables and fittings as per Rule? yes

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Lloyd's Register
Foundation

Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule... Emergency Supply, state position
Emergency battery placed on board deck supplied part of lighting equipment automatically in case of failure
Navigation Lamps, are they separately wired... Are the switches and fuses in
a position accessible only to the officers on watch... Is an automatic indicator fitted... Is an alternative supply provided...
Secondary Batteries, are they constructed and fitted as per Rule... are they adequately ventilated...
state battery capacity in ampere hours... battery nichel iron type 92 cells/100 amp hours/100 volts Make NIFE
Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof...
Are any fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present...
if so, how are they protected... Flame proof fittings
and where are the controlling switches fitted... Are all fittings suitably ventilated...
Searchlight Lamps, No. of... whether fixed or portable... are they of the carbon arc or of the filament type...
Heating and Cooking, is the general construction as per Rule... are the frames effectually earthed... are heaters in the
accommodation of the convection type... Motors, are all motors constructed and installed as per Rule and placed in well-ventilated
compartments in which inflammable gases cannot accumulate and protected from damage from water, steam and oil...
Are motors coupled to oil fuel transfer and pressure pumps capable of being stopped from a position accessible in the event of fire in the pump
compartment... Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing...
Have certificates of test for motors under 100 BHP intended for essential sea services been supplied and the results found as per Rule...
Control Gear and Resistances, are they constructed and fitted as per Rule... Lightning Conductors, where required are they fitted as per
Rule... Ships carrying Oil having a Flash Point less than 150° F. Have all the special requirements of the Rules for such ships been
complied with... are all fuses of an Approved Cartridge Type... make of fuse... Are the fittings for pump
rooms, tween deck spaces, etc., in accordance with the special requirements for such ships... Are the cables lead covered as per Rule...
E.S.D., if fitted state maker... location of transmitter... and receiver...
Spare Gear, if the vessel is for open sea service have spares been provided as per Rule and suitably stored in dry situations...
Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory...

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	MAKER.	RATED AT				PRIME MOVER.	
			Kilowatts per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN	2	B.T.H.	230	220	1045	420	Diesel engine	Bochmeister & Wahn
Harbour	2	Smit Slikkerveer	26	110	235	2000	Electric motor	Smit Slikkerveer
EMERGENCY	1	B.T.H.	30	220	139	1000	Diesel engine	Mitsubishi
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return) in m.	INSULATION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR No I	230	5	185	1045	1175	30		
" " EQUALISER		3	185		705	14		
" " No II	230	5	185	1045	1175	32		
" " EQUALISER		3	185		705	16		
LIGHTING " No I	26	1	185	235	235	8		
" " " II	26	1	185	235	235	12		
HARBOUR EMERGENCY GENERATOR	30	1	120	139	175	16		
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

SUPPLIED FROM MAIN SWITCHBOARD 220 VOLTS (to Section Boards, Distribution Fuse Boards, etc.).

From main generators only								
Aux switchboard placed on board deck	1	120	400	175	90			
Central start panel placed in E.R.	2	185	460	470	0			
Controlled by P/R								
G.F.B. domestic app. painting 2nd class	"KC"	1	4	125	225	66		
" " ventilation fans acc. aft	"KA"	1	35	66	78	100		
" " " middle	"KB"	1	40	83	88	160		
Either from main generators or from harbour set controlled by P/R								
G.F.B. ref. plant aft	"KF"	1	35	61	70	100		
" " domestic app. painting 1st class	"KD"	1	4	125	225	164		
" " power workshop	"KE"	1	4	125	225	112		
" " hydrophor pumps	"KH"	1	40	82	88	54		
" " " "	"KG"	1	25	55	63	04		

LIGHTING, HEATING, WIRELESS, NAVIGATION LIGHTS, ETC., CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return) in m.	INSULATION.	PROTECTIVE COVERING.	
	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.				
Continuation "MAIN DISTRIBUTION CABLES"								
Supplied from aux. switchboard 220 volts placed on board deck								
Wireless equipment	1	25	6	63	229	N.H.R.	L.C. & M.W.B.	
Aux supply emergency bilge pump	1	50	87	99	20			
Aux supply part of main switchboard	1	50	46	99	102			
S.B. navigational instruments	KR	1	25	29	220			
Supplied from main switchboard 110 volts (lighting) placed on board deck.								
From motor generators only								
Aux lighting switchboard placed in E.R. (part of main switchboard)	1	160	200	205	98	N.H.R.	L.C. & M.W.B.	
From motor generators alt from emergency battery								
G.F.B. emergency lighting aft	"NA-NB"	1	4	9	225	66	N.H.R.	L.C. & M.W.B.
" " " "	"NC"	1	4	45	225	60		
" " " "	"ND"	1	4	16	225	220		
" " " "	"NE"	1	4	72	225	40		
" " " "	"NF"	1	4	4	225	28		
" " " "	"NG"	1	4	6	225	246		
navigational instruments alt supply navigation	"NH"	1	16	2	225	256		
Nav. lighting	"NI"	1	4	7	155	20		
Supply charging equipment 24 volts battery								
Supplied from aux. lighting switchboard 110 volts placed in E.R.								
G.F.B.'s lighting aft	"KJ-H"	1	10	25	32	32	N.H.R.	L.C. & M.W.B.
" " " "	"MI"	1	10	26	30	100		
" " " "	"DJ"	1	25	40	63	160		
" " " "	"CB"	1	16	14	49	162		
" " " "	"GF"	1	4	14	225	52		
" " " "	"PQ"	1	4	17	225	48		
" " " "	"O"	1	4	14	225	116		
" " " "	"S"	1	16	16	49	116		
Large lighting								

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.		No.	B.H.P.					
SUPPLIED FROM MAIN SWITCHBOARD 220 VOLTS								
from main generators only								
Steering gear motor 1	1	40	1	120	130	175	134	
" " 2	1	40	1	120	130	175	152	
Turning gear motor 1	1	15	1	25	60	63	66	
" " 2	1	15	1	25	60	63	60	
Emergency bilge pump	1	22	1	50	87	99	100	
controlled by P/R								
Oil fuel transfer pump	1	8	1	10	32	35	54	
Water ballast pump	4	3.8	1	4	15	225	76-70	
either from main generators or from harbour set controlled by P/R								
Hub oil separator	2	7	1	10	28	30	26-28	
Oil fuel centrifuges	2	7	1	10	28	30	70-72	
Trickle motors	2	6	1	6	25	24	20-24	
Sanitary pumps	1	65	1	10	27	30	60	
Harbour cooling water pump	1	4	1	4	17	225	32	
Oil fuel day pump	1	15	1	25	7	155	78	
SUPPLIED FROM AUX SWITCHBOARD 220 VOLTS PLACED ON BOARD DECK								
Motor of motor generator lighting	1	41	1	120	157	175	25	
" " " "	1	41	1	120	157	175	52	
SUPPLIED FROM CENTRAL STARTING PANEL								
Hub oil pump	1	110	2	150	400	410	31	
Fresh cooling water pump	1	86	1	95	130	150	30	
Hub oil pump	1	110	1	150	400	410	27	
Shore cooling water pump	1	36	1	95	130	150	26	
Sea cooling water pump	1	36	1	95	130	150	24	
SUPPLIED FROM G.F.B. "KG" PLACED IN E.R.								
Hot water circulating pump	1	1	1	15	45	95	6	
Sea water hydrophor pump	1	3	1	4	127	225	0	
" " " "	1	3	1	4	127	225	0	
Cooling water pump ref. equipm.	1	1.25	1	15	75	95	10	
Fresh water hydrophor pump	1	2	1	25	805	155	10	
" " " "	1	2	1	25	805	155	12	

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The Electrical Equipment is installed in accordance with the approved plans and the requirements of the Rules.

All Insulated Conductors are guaranteed to have been tested at the maker's works as specified in the Rules.

The foregoing is a correct description.

N.V. HANDELSCOMPAGNIE

Electrical Contractors.

Date 15 June 1952

COMPASSES.

Have the compasses been adjusted under working conditions. yes

Builder's Signature.

Date

Have the foregoing descriptions and schedules been verified and found correct. yes

Is this installation a duplicate of a previous case. yes

If so, state name of vessel

P. limit 596 Director Madenager

P. limit 597 La Plata

P. limit 598

23rd April 1951

Plans. Are approved plans forwarded herewith. no

If not, state date of approval

Certificates. Are certificates of test for motors engaged on essential sea services and generators forwarded herewith. yes

General Remarks. (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.)

The electrical equipment of this vessel has been installed under special survey in conformity with the Society's Rules and Regulations and Secretary's letters and the approved plans or equivalent thereto.

The materials used are of a good quality and the design and workmanship are good. On completion the equipment has been tried under full working conditions and found satisfactory.

This equipment is in my opinion suitable for a classed vessel having the notation "Carrying Petroleum in Bulk".

Noted 20th 30.5.52

Total Capacity of Generators 490 Kilowatts.

The amount of Fee ...

£ 1425. =

When applied for,

10/1 19 52

Travelling Expenses (if any) £

100. =

When received,

28/1 19 52

Surveyor to Lloyd's Register of Shipping.

FRI. 13 JUN 1952

Committee's Minute

Assigned

See F.E. mch, rpt.