

No. 34771 E

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 13 MAY 1952

Port of Rotterdam  
Date, First Survey 30-6-49 Last Survey 1-3-1952  
(No. of Visits 50)

Survey held at Rotterdam  
on the Motor Tanker "COMODORO RIVADAVIA"  
Tons (Gross 11673.73 Net 6526.12)

By whom built Messrs P. SMIT Yard No. 599 When built 1951  
Port belonging to BUENOS AIRES  
Installation fitted by Messrs HANDELS COMPAGNIE N.V. ROTTERDAM When fitted 1951

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  
Plans, have they been submitted and approved yes System of Distribution two wire insulated Voltage of Lighting 110

Power 220 D.C. or A.C., Lighting D.C. Power D.C. If A.C. state frequency -  
Are turbine emergency governors fitted yes

Generators, are they compound wound yes, and level compounded under working conditions yes  
Are the generators arranged to run in parallel yes, are shunt field regulators provided yes Is the compound winding connected to the negative or positive pole negative pole

Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing yes Have certificates of fitness for machines under 100 kw. been supplied yes and the results found as per Rule yes

Position of Generators Main generators: E.R. floor level motor generators lighting: Boatdeck Harbour generators: Boatdeck  
Is the ventilation in way of generators satisfactory yes are they clear of inflammable material and protected from mechanical injury and damage from water, steam and oil yes Switchboards, where are main switchboards placed Power: E.R. 1st platform

Are they in accessible positions, free from inflammable gases and acid fumes and protected from mechanical injury and damage from water, steam and oil yes, what insulation is used for the panels dead front type switchboard, if of synthetic insulating material is it an Approved Type -, if of semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule - Is the construction as per Rule, including locking of screws and nuts yes Description of Main Switchgear

or each generator and arrangement of equaliser switches 3-pole manually operated E.B. with D/F trips in two poles and Q/C trip in positive pole; third pole used for equaliser. E.B. equipped with Q/R and L/V trip

and the switch and fuse gear (or circuit breakers) for each outgoing circuit either Q.P. or Q.P.Q.T. switches and Q.P. fuses

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule yes Instruments on main switchboard 9 ammeters 2 voltmeters - synchronising devices. For compound machines in parallel are the ammeters and reversed current protection devices connected on the pole opposite to the equaliser connection yes Earth Testing, state means provided earth indicating lamps protected by Q.P. fuses and connected to "E" through Q.P. push button

Switches, Circuit Breakers and Fuses, are they as per Rule yes, are the fuses an Approved Type yes

make of fuses schess are all fuses labelled yes If circuit breakers are provided for the generators, at what overload do they operate 15 amp

Joint Boxes, Section Boards and Distribution Boards, is the construction as per Rule yes

Cables, are they insulated and protected as per Rule yes, if otherwise than as per Rule are they of an Approved Type - state maximum fall of pressure between bus bars and any point under maximum load 60%, are the ends of all cables having a sectional area of 0.01 square inch and above provided with soldering sockets yes Are all paper insulated and varnished cambric insulated cables sealed at the ends - Are all the cable runs in accessible positions, not exposed to drip or accumulation of water or oil, high temperatures or risk of mechanical damage yes, are any cables laid under machines or floorplates yes, if so, are they adequately protected yes Are cables in machinery spaces, galleys, laundries, etc., lead covered yes or run in conduit partly yes

or of the "HR" type - State how the cables are supported or protected Machinery spaces: h.l. & h.w. B cable clipped to metal frame work or perforated plating. Accommodation spaces: h.l. cable clipped to surface or wood ground under fire safe gangway: h.l. & h.w. B cable fitted in a sheet iron trunk & covered with sheet iron plates

Are all lead sheaths, armouring and conduits effectually bonded and earthed yes Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands yes, where unarmoured cables pass through beams, etc., are the holes effectually bushed yes Refrigerated chambers, are the cables and fittings as per Rule yes

Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule... *Yes* Emergency Supply, state position *Emergency battery placed on boat deck supplied part of lighting equipment automatically in case of failure*

Navigation Lamps, are they separately wired... *Yes* controlled by separate double pole switches and fuses... *Yes* Are the switches and fuses in a position accessible only to the officers on watch... *Yes* is an automatic indicator fitted... *Yes* Is an alternative supply provided... *Yes*

Secondary Batteries, are they constructed and fitted as per Rule... *Yes* are they adequately ventilated... *Yes* state battery capacity in ampere hours... *Em. battery nichel iron type 92 cells/100 amp hours/120 volts Make NIFE*

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof... *Yes* Are any fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present... *Yes* if so, how are they protected... *Flame proof fittings* and where are the controlling switches fitted... *outside these spaces* Are all fittings suitably ventilated... *Yes*

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... *Yes* are the frames effectually earthed... *Yes* 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... *Yes*

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... *Yes* Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing... *Yes*

Have certificates of test for motors under 100 BHP intended for essential sea services been supplied and the results found as per Rule... *Yes*

Control Gear and Resistances, are they constructed and fitted as per Rule... *Yes* 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... *Yes* are all fuses of an Approved Cartridge Type... *Yes* make of fuse... *Lechess* Are the fittings for pump rooms, tween deck spaces, etc., in accordance with the special requirements for such ships... *Yes* Are the cables lead covered as per Rule... *Yes*

E.S.D., if fitted state maker... *Hughes M.I. 21 B* location of transmitter... *double bottom p. 57* and receiver... *double bottom p. 57*

Spare Gear, if the vessel is for open sea service have spares been provided as per Rule and suitably stored in dry situations... *Yes*

Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory... *Yes*

PARTICULARS OF GENERATING PLANT.

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

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 No II	230	3	185	705	705	14		
" " EQUALISER.	230	5	185	1045	1175	30		
LIGHTING No I	26	1	185	235	235	0		N.H.R. h.l. & M.W.B.
" " No 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.).

DESCRIPTION.	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES. In the Circuit.	Rule.	APPROX. LENGTH (lead plus return) in m.	INSULATION.	PROTECTIVE COVERING.
From main generators only							
Aux. switchboard placed on boat deck	1	120	400	175	90		N.H.R. h.l. & M.W.B.
Central starting panel placed in E.R.	2	185	460	470	0		
Controlled by P/R							
D.F.B. domestic app. painting 2nd class	"KC"	1	4	125	225	66	
" ventilation fans acc. aft	"KA"	1	35	66	70	100	N.H.R. h.l. & M.W.B.
" " middle	"KB"	1	40	83	80	100	
Either from main generators or from harbour set controlled by P/R.							
D.F.B. ref. plant aft	"KF"	1	35	61	70	100	
" domestic app. painting 1st class	"KD"	1	4	125	225	64	
" " fore	"KE"	1	4	125	225	112	N.H.R. h.l. & M.W.B.
" power workshop	"KH"	1	40	82	80	54	
" hydrophor pumps	"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 boat deck							
Wireless equipment	1	25	6	63	229		
Aux. supply emergency bilge pump	1	50	87	99	20	N.H.R.	h.l. & M.W.B.
Aux. supply part of main switchboard	1	50	46	99	102		
S.B. nautical instruments	KR	25	29	63	220		
Supplied from main switchboard 110 volts (lighting) placed on boat deck							
from motor generators only							
Aux. lighting switchboard placed in E.R. (part of main switchboard)	1	160	200	205	98	N.H.R.	h.l. & M.W.B.
from motor generators all from emergency battery							
D.F.B. emergency lighting aft	"NA-NB"	1	4	9	225	66	
" " " "	"NC"	1	4	95	225	60	
" " " "	"ND"	1	4	16	225	220	
" " " "	"NE"	1	4	72	225	40	N.H.R. h.l. & M.W.B.
" " " "	"NF"	1	4	4	225	28	
" nautical instruments & all supply navigation	"Nav"	1	16	6	49	246	
" " " "	" "	1	4	2	225	256	
Supply charging equipment 440 volts battery	" "	1	25	7	155	20	
Supplied from aux. lighting switchboard 110 volts placed in E.R.							
D.F.B.'s lighting aft	"K.I.H"	1	10	25	32	32	
" " " "	"ML"	1	10	26	30	100	
" " " "	"D.C."	1	25	40	63	160	
" " " "	"C.B."	1	16	14	49	162	N.H.R. h.l. & M.W.B.
" " " "	"G.F."	1	4	14	225	57	
" " " "	"P.Q."	1	4	17	225	48	
" " " "	"O"	1	4	14	225	116	
" " " "	"S"	1	16	16	49	116	

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	N.H.R. h.l. & M.W.B.
" " 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	0	1	10	32	35	54	N.H.R. h.l. & M.W.B.
Waste water pump	4	3.0	1	4	15	225	70-70	
either from main generators or from harbour set controlled by P/R.								
hub oil separators	2	7	1	10	28	30	26-28	
Oil fuel centrifuges	2	7	1	10	28	30	70-72	
Truckle motors	2	6	1	6	25.5	24	20-24	N.H.R. h.l. & M.W.B.
Sanitary pumps	1	65	1	10	27.3	30	60	
Harbour cooling water pump	1	4	1	4	17	225	32	
Oil fuel day pump	1	15	1	25	7	155	70	
SUPPLIED FROM AUX SWITCHBOARD 220 VOLTS PLACED ON BOATDECK								
Motor of motor generator lighting	1	41	1	120	157	175	25	N.H.R. h.l. & M.W.B.
" " " "	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	36	1	95	130	150	30	
hub oil pump	1	110	1	150	400	410	27	N.H.R. h.l. & M.W.B.
shore cooling water pump	1	36	1	95	130	150	26	
sea cooling water pump	1	36	1	95	130	150	34	
SUPPLIED FROM D.F.B. "KG" PLACED IN E.R.								
Mixt. water circulating pump	1	1	1	15	45	95	6	
sea water hydrophor pump	1	3	1	4	12.7	225	0	
" " " "	1	3	1	4	12.7	225	0	N.H.R. h.l. & M.W.B.
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	

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

*F. W. van Buren*

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. Imit 596 Director Madenager*

*P. Imit 597 ho Plata*

Plans. Are approved plans forwarded herewith. *no*

If not, state date of approval

*P. Imit 598 23rd April 1951*

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 April 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, *29/1 19 52*

*W. H. D. 51415*  
Surveyor to Lloyd's Register of Shipping.

FRI. 13 JUN 1952

Committee's Minute

Assigned *See F.E. mch, rpt*

*14.5.52*

*ad*

2m. 9. 40. - Transfer. (MADE AND PRINTED IN ENGLAND.)  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)

