

# REPORT ON ELECTRICAL EQUIPMENT

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

No. \_\_\_\_\_

26 MAY 1960

Date of writing Report 29.1.1960. When handed in at Local Office \_\_\_\_\_ Received at London Office \_\_\_\_\_

No. in Survey held at Flushing Reg. Book \_\_\_\_\_ Date, First Survey 17.5.1956 Last Survey 1.3.1960. Port of ROTTERDAM.

42373 on the m.s. "No. 297" (No. of Visits 30)

Built at Flushing By whom built N.V. Kon. Mij. "De Schelde" Yard No. 297 When built 1959/60.

Owners "N.V. tot afwikkeling van Shipping Port belonging to Development Corporation project"

Installation fitted by van Rietschoten & Houwens N.V. When fitted 1959/60.

Is vessel equipped for carrying Petroleum in bulk no. 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 2-Wire system D.C. Voltage of Lighting 220 D.C.

Heating -- Power 220 D.C. D.C. or A.C. Lighting -- Power -- If A.C. state frequency --

Prime Movers, has the governing been found as per Rule when full load is thrown on and off yes Are turbine emergency governors fitted

Generators, are they compound wound yes, and level compounded under working conditions yes

Are the generators arranged to run in parallel yes Is the compound winding connected to the negative or positive pole negative pole

Have machines 100 kw. and over been inspected by the Surveyors during manufacture and testing yes Have certificates of test for machines

under 100 kw. been supplied and the results found as per Rule yes Position of Generators Engine room floor at

portside

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 Engine room platformdeck

at portside

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 yes, 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

for each generator and arrangement of equaliser switches 3-pole autom. circuit breakers with overload- reverse

current relay and no-volt coil

Is the switch and fuse gear (or circuit breakers) for each outgoing circuit 2-pole knife switches with H.R.C. fuses

2-pole rotary switches with Zed type fuses

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule yes Instruments on main switchboard 9

ammeters 3 voltmeters 3 synchronising devices. For compound machines in parallel are the ammeters and reverse current

protection devices connected on the pole opposite to the equaliser connection yes Earth Testing, state means provided 1 set with

earthlamps and pushbutton Preference Tripping, state if provided yes, and tested yes

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

Make of fuses Siemens, are all fuses labelled yes If circuit breakers are provided for the generators, at what

overload do they operate + 25 % and at what current do the reverse current protective

devices operate - 10 % Cables, are they insulated and protected as per Rule yes

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 7 % volts. Are all paper insulated and varnished cambric insulated cables sealed at the ends yes

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 State

type of cables (if in conduit this should also be stated) in machinery spaces HR BLK and VC, galleys HR and VC

and laundries HR type State how the cables are supported or protected fixed to steel cableruns or

conduit

Are all lead sheaths, armouring and conduits effectually bonded and earthed yes Are all cables passing through decks and watertight

heads provided with deck tubes or watertight glands yes, where unarmoured cables pass through beams, etc., are the holes

effectively bushed yes Refrigerated chambers, are the cables and fittings as per Rule yes

Are refrigeration fan motors been constructed under survey yes and test certificates supplied yes

Are the motors accessible for maintenance at all times yes



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Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule...yes... Emergency Supply, state position  
24 V. battery on Cdo. bridgedeck

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, fitted and adequately ventilated as per Rule...yes... state battery capacity in ampere hours...180/5H... Where required to do so does it comply with 1948 International Convention...yes...

Lighting, is fluorescent lighting fitted...--... If so, state nominal lamp voltage...--... and compartments where lamps are fitted...--...

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof...yes...

Searchlights, No. of...one... whether fixed or portable...portable... are they of the carbon arc or of the filament type...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...--...

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

Lightning Conductors, where required are they fitted as per Rule...yes...

Ships carrying Oil having a Flash Point of 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 all cables lead covered as per Rule...--...

E.S.D., if fitted state maker...Hughes... location of transmitter and receiver...Eng. room double bottom

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				PRIME MOVER	
			Kw. per Generator	Volts	Ampères	Revs. per Min.	TYPE	MAKER
MAIN ...	3	Electro-Smit, Slikkerveer	180	230	780	620	Diesel	Stork-Hengelo.
EMERGENCY ...								
ROTARY TRANSFORMER								

GENERATOR CABLES

DESCRIPTION	No. of	Kw.	CONDUCTORS		MAXIMUM CURRENT IN AMPERES		APPROX. LENGTH (lead plus return feet)	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 ...	3	180	2	185	780	792	18	VC	LCB
" " EQUALISER ...			1	185		396	9	"	"
EMERGENCY GENERATOR ...									
ROTARY TRANSFORMER: MOTOR									
" " GENERATOR ...									

MAIN DISTRIBUTION CABLES (to Auxiliary Switchboards, etc.)

DESCRIPTION	No. of	Kw.	No. in Parallel per Pole	Sectional Area or No. and Dia. of Strands Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES	APPROX. LENGTH (lead plus return feet)	INSULATION	PROTECTIVE COVERING

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	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.						
Distribution cables (to sectionboards and Distr. fuseboards etc.)										
Supplied from Main switchboard										
SB Power E.R. 6P	1	35	107	134	30	VC	LCB			
" " " " 7P	1	50	86	99	14	VIR	HR type			
" " " " 8P	1	50	130	169	20	VC	LCB			
" " deckmachinery 9P	2	95	290	514	74	"	"			
" " " " 10P	1	95	236	257	32	"	"			
" " " " 11P	2	95	290	514	82	"	"			
" " " " 12P	1	95	262	257	124	"	"			
" Ship's ventilation 1F	1	35	59	78	70	VIR	HR type			
" " " " 1FA	1	4	7	22.5	50	"	"			
Domestic service D	1	50	127	169	26	VC	LCB			
Motor cables										
Supplied from SB power 8P										
Oil transfer pump	2	12	1	16	47	49	16	VIR	HR type	
E.R. fan	2	10	1	16	39	49	46	"	"	
Supplied from SB power 9P, 10P, 11P and 12P										
Cargo winch	12	20	1	50	180	169	25	VC	LCB	
Warping winch	1	50	1	70	190	212	100	"	"	
Exhaust fan	4	0.5	1	1.5	2.2	9.5	17	VIR	HR type	
Suez searchlight	1		1	10	30	38	70	"	LC	
Windlass	1	70	1	95	262	257	150	VC	LCB	
Supplied from SB 1F & 1FA										
Fan	2	6.3	1	6	24	29	10	VIR	HR type	
Vent. fans accomm.	1	0.7	1	1.5	3	9.5	10	"	"	
" " "	1	0.16	1	1.5	1	9.5	50	"	"	
" " "	1	1.4	1	2.5	6	15.5	50	"	"	
Supplied from SB D										
Baking oven	1	10	1/8KW	1	16	46	49	26	"	"
Hotplate	1	5	KW	1	6	23	29	30	"	"
" "	2	2.5	KW	1	2.5	12	15.5	12	"	"
Boiler	3	3.3	KW	1	4	15	22.5	20	"	"
Refrigerator	2	0.25		1	1.5	1.2	9.5	13	"	"
Washing machine	1	1/4	KW	1	1.5	1.1	9.5	46	"	"
Flat iron	1	1/2	KW	1	1.5	2.2	9.5	40	"	"
Locker heating	2	1/8	KW	1	2.5	8	15.5	16	"	"
Cooling compressor	1	5		1	4	20	22.5	6	"	"
Fan cooling room	2	0.1		1	1.5	1	9.5	8	"	"

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DISTRIBUTION CABLES (to Section-Boards and Distribution-Fuse-Boards, etc.)

DESCRIPTION	CONDUCTORS		MAXIMUM CURRENT IN AMPERES		APPROX. LENGTH (lead plus return feet)	INSULATION	PROTECTIVE COVERING
	No. in Parallel per Pole	Sectional Area or No. and Dia. of Strands = Sq. in. or sq. mm.	In the Circuit	Rule			
Supplied from Main switchboard							
Stbd. Cooling installation	3 PA	1	10	21	38		
DFB Lighting E.R.	1L	1	6	19	38	VIR	HR type
" " " "	1LA	1	2.5	8	15.5	"	" "
" " " "	1LB	1	2.5	11.5	15.5	"	" "
" " " "	2L	1	6	22	29	"	" "
" " " "	2LA	1	2.5	10	15.5	"	" "
" " " "	2LB	1	2.5	12	15.5	"	" "
" " Shelterdeck aft	3L	1	6	21.5	29	"	" "
" " " " port	4L	1	2.5	6.5	15.5	"	LC
" " " " stbd.	5L	1	4	19	22.5	"	"
" " " " port	6L	1	4	17	22.5	"	HR type
" " " " fore	7L	1	4	17	22.5	"	" "
" " " " fore	8L	1	4	13	22.5	"	LC
" " Bridgedeck stbd.	9L	1	4	14	22.5	"	"
" " " " fwd.	10L	1	4	17	22.5	"	HR type
" " Boatdeck	11L	1	4	17	22.5	"	" "
" " Nautical instr.	NA	1	16	43	49	"	" "
" " 24 V. emergency		1	10	20	38	"	" "
Wireless equipment		1	16	25	49	"	LC
DFB Navigation lighting		1	25	3	15.5	"	"
Electric range		1	35	110	134	"	HR type
SB Power E.R.	1P	1	35	74	78	VC	LCB
SB " " "	2P	1	35	55	78	VIR	HR type
" " " "	3P	1	50	72	99	"	" "
" " " "	4P	1	35	55	78	"	" "
" " " "	5P	1	50	133	169	VC	LCB

MOTOR CABLES

ALL IMPORTANT MOTORS TO BE ENUMERATED

	No.	B.H.P.								
Steering gear	2	15	1	25	59	66	160	VIR	RLC	
Gen. service pump	2	45	1	70	171	212	58	VC	LCB	
Main air compressors	2	73	1	120	273	292	47	"	"	
Main circ. pump	1	28	1	25	106	108	60	"	"	
L.O. and cooling oil pump	2	79/88	1	150	294/327	346	48	"	"	
Main fresh coolingw.p.	2	26	1	50	99	169	61	"	"	
Supplied from SB power 1P										
Sanitary pump	1	4.5	1	4	18	22.5	28	VIR	HR type	
Domestic water pump	1	4.5	1	4	18	22.5	28	"	" "	
Stand by pump	1	4	1	4	16	22.5	30	"	" "	
L.O. purifier	2	2.5	1	2.5	10	15.5	21	"	" "	
L.O. transfer pump	1	6.5	1	6	26	29	12	"	" "	
Sludge pump	1	2.5	1	2.5	10	15.5	44	"	" "	
Supplied from SB Power 2P & 4P										
Aux. salt coolingw. pump	2	4	1	4	15	22.5	24	"	" "	
Fuel valve coolingw. pump	2	4	1	4	15	22.5	14	"	" "	
Drinkwater pump	2	1	1	1.5	4.5	9.5	17	"	" "	
Boiler circ. pump	2	5	1	4	20	22.5	24	"	" "	
Supplied from SB Power 3P & 5P & 6P										
Coolingw. pump Cooling Inst.	1	0.6	1	1.5	3	9.5	14	"	" "	
Hotwater circ. pump	1	0.5	1	1.5	2.5	9.5	12	"	" "	
Aux. bilge pump	1	9	1	10	35	38	20	"	" "	
Purifier	1	7.5	1	10	30	38	30	"	" "	
"	2	15	1	25	59	63	12	"	" "	
Boosterpump	2	10	1	16	39	49	16	"	" "	
Boilerfan	2	1.2	1	2.5	5	15.5	13	"	" "	
Boiler fuel oil transf.p.	1	0.5	1	1.5	2.5	9.5	6	"	" "	
Supplied from SB power 7P										
Lathe	1	3	1	2.5	12	15.5	14	"	" "	
Drilling machine	1	1.4	1	2.5	6	15.5	12	"	" "	
Grinder	1	2	1	2.5	9	15.5	12	"	" "	
Turning gear	1	13	13	2.5	51	63	32	"	" "	
Tackle	1	6	1	6	23	29	44	"	" "	
Supplied from SB power 8P										
Fan purifier	1	1	1	1.5	4.5	9.5	24	"	" "	

NOTE.—Use Rpt. 13 Continuation Sheet if the above space is insufficient



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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.

Van Rietschoten & Houwers  
Electrotechnische Maatschappij N.V.

*P.P. Indekommen*

Electrical Contractors.

Date

*2/2/1960*

COMPASSES

Have the compasses been adjusted under working conditions... *yes*

P.P.N.V. KON. MIJ. "DE SCHELDE"

*H.G. Mastenbink*

Builder's Signature.

Date

*22-2-60*

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. No. 295, No. 296, ARGO CHIOS,

ARGO DELOS, ARGO OLLANDIA, ARGO ELLAS

Plans. Are approved plans forwarded herewith... *no*

If not, state date of approval. *Secr. letter of 29.4.57.*

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

General Remarks. (State quality of workmanship and materials, 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 in accordance with the secretary's letter 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 out under full working conditions and found satisfactory.

This equipment is in my opinion suitable for a classed vessel.

Total Capacity of Generators... *540* Kilowatts.

The amount of Fee ... *Fl. 1107,-* When applied for,

*23 MEI 1960*

When received,

Travelling Expenses (if any) £ *fl. 147,-*

*H. van der Sluis*  
Surveyor to Lloyd's Register of Shipping  
H. van der Sluis.

Committee's Minute

Assigned... *See Rpt 46*