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CIA HISTORICAL REVIEW PROGRAM  
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RELEASE AS SANITIZED

Requests for U.S. Chemical Plant and Technology by  
the USSR and the East European Communist Countries - 1964-1965

1999

2-17792

Country	Type of Plant or Technology	Remarks
USSR	Sulfuric acid from Pyrites	Technical data to make a proposal for design and construction of a flue solids system to roast pyrites for the production of sulfuric acid. <del>CONFIDENTIAL</del>
	Acrylonitrile from propylene, ammonia, and air.	Data for design, construction, operation maintenance and repair of a 50,000 metric tons per year. <del>CONFIDENTIAL</del>
	Nitric acid (100%) ammonium nitrate (100%)	Capacity would be 480,000 tons/yr of nitric acid (as 65-70% nitric acid) and 450,000 tons per year of ammonium nitrate. <del>CONFIDENTIAL</del>
	Chlorine dioxide from sodium chlorate, sulfur dioxide, and sulfuric acid - plant capacity of 3 tons/day	Reexport from Finland. <del>RESTRICTED</del>
	Para-chloroaniline, 3, 4-dichloroaniline	<del>CONFIDENTIAL</del>
	Ammonium sulfate Crystallizer (capacity 1,200 tons/day)	For construction of the crystallizer. <del>RESTRICTED</del>
	Synthetic Furfural and glycerine	The Soviets expressed an interest to a US firm in 1965. LCU
	Carbon tetrachloride (30,000 tons/yr)	The firm wishes to furnish the plant. <del>RESTRICTED</del>
	Hydrochloric acid from natural gas and chlorine (30,000 metric tons/yr)	

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Country

Type of Plant  
or Technology

Reports

USSR (Cont'd)

Ammonium Sulfate  
from gypsum

Technology  
and  
Equipment

~~RESTRICTED~~

Polynosic Fiber  
43,000 tons/yr

Technology  
and  
Equipment

~~CONFIDENTIAL~~

Ammonia  
Capacity - 1200 tons/day  
based on centrifugal  
compressors

Technology  
and  
Equipment

~~RESTRICTED~~

Ethylene plant capable of  
cracking 1,000,000 metric  
tons per year of heavy oil

Technology  
and  
Equipment

~~CONFIDENTIAL~~

Butyl Rubber

Technology

~~CONFIDENTIAL~~

Complex Fertilizer  
(Ammonium Nitrate and  
ammonium phosphate)

Technology

~~CONFIDENTIAL~~

Phosphoric Acid  
(wet process)

Technology

~~CONFIDENTIAL~~

Process to manufacture low  
molecular weight aliphatic  
chlorinated hydrocarbons  
and particularly a process  
to manufacture perchloro-  
ethylenes from ethylene  
dichloride

Technology

~~CONFIDENTIAL~~

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Country	Type of Plant or Technology	Technology		Remarks
USSR (contd)	Polystyrene both crystal and high impact	Technology	<del>CONFIDENTIAL</del>	
	Ethylbenzene by fractional distillation of petroleum	Technology and Equipment	<del>CONFIDENTIAL</del>	
	PVC based on naphtha 60,000 tons/yr	Technology	<del>CONFIDENTIAL</del>	
	Carbon Disulfide based on the methane process 65,000 tons/yr	Technology	Contract completed.	<del>RESTRICTED</del>
	Methane reforming Furnaces	Equipment	<del>RESTRICTED</del>	
	Ammonia Plant 400,000 tons/yr	Technology and Equipment	<del>RESTRICTED</del>	
	Carbon Dioxide removal units for two 1,070 tons/day ammonia trains	Technology and Equipment	<del>RESTRICTED</del>	
	Parallel flow spray drier for double superphosphate or ammonophos	Equipment	<del>RESTRICTED</del>	
	Electrostatic Precipitators to remove salt brine from 2500 cubic feet/minute of chlorine gas	Equipment	<del>RESTRICTED</del>	

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<u>Country</u>	<u>Type of Plant or Technology</u>
USSR (Contd)	Plastic pipe extrusion equipment Equipment
	Herbicides and Insecticides phencaptane monifone Dithionene Sevino Technology and Equipment
	Herbicides (parquat and diquat) Technology and Equipment
	Insecticides from by products of Lindane Technology and Equipment
	Aromatic Complex to include 1) a naptha hydride sulfurization unit 2) a catalytic reforming unit 3) aromatic extraction unit 4) de-alkylation unit to convert tolulene and xylene to benzene Capacity - 12,000 bbl/day of naptha Technology and Equipment

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Country

Type of Plant  
or Technology

Remarks

USSR (Contd)

Plant to convert Soviet  
IDI into 50% and 75% vegetable  
powder  
Capacity - 75% - 7,000 tons/yr  
50% - 9,000 tons/yr

Technology

~~CONFIDENTIAL~~

Sodium Cyanide from  
hydrocyanic acid and caustic  
soda Capacity - 4,400 tons/yr

Technology  
and  
Equipment

~~CONFIDENTIAL~~

Sodium Cyanide from  
hydrogen cyanide and  
sodium hydroxide

Technology  
and  
Equipment

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

Country \_\_\_\_\_ Type of Plant \_\_\_\_\_  
of Technology \_\_\_\_\_ Remarks \_\_\_\_\_

Bulgaria (Contd)

Acetylene, methanol, caprolactam      Equipment      Acetylene - 11,000 t/y. Methanol - 60,000 t/y. Caprolactam - 10,000 t/y. ~~CONFIDENTIAL~~

Tire cord processing      Technology      ~~RESTRICTED~~  
Catalysts for Nitrogen fertilizer      Technology      ~~CONFIDENTIAL~~

Czechoslovakia

Ethylene oxide/glycol      Technology      Ethylene oxide capacity: 30,000 t/y. Equipment from Italy. US technology allegedly involved. ~~RESTRICTED~~ (contract completed)

Glass fiber      Technology      Capacity: 10,000 t/y. ~~RESTRICTED~~

Acetylene      Technology      US requested to train Czechoslovak technicians for plant purchased from Italy. ~~CONFIDENTIAL~~

Ammonia Methanol      Technology      ~~RESTRICTED~~

Carbon disulfide      Technology      Capacity: 30,000 t/y. ~~RESTRICTED~~

Para-xylene (20,000 t/y) ethylbenzene (4,000 t/y)      Technology      ~~CONFIDENTIAL~~

Polypropylene      Technology      Capacity: 10,000 t/y. ~~CONFIDENTIAL~~

Bis-Phenol-A      Technology and Equipment      Capacity: 8,000 t/y. ~~RESTRICTED~~

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Country	Type of Plant or Technology	Remarks
Czechoslovakia (contd)	Butadiene (55,000 t/y) and Polybutadiene (20,000 t/y) Equipment	<del>Official use only</del>
	Polyester fiber	<del>RESTRICTED</del>
	Compressors for fertilizer plant	<del>RESTRICTED</del>
	Tires (6,100/day)	<del>CONFIDENTIAL</del>
	Epichlor hydrin (5,000 t/y) Technology and Equipment	<del>CONFIDENTIAL</del>
	Xylene Isomerization (30,000 t/y) Isobutylene (8,000 t/y) Equipment	<del>CONFIDENTIAL</del>
	Urea	<del>RESTRICTED</del>
East Germany	Phosphoric Acid Plant	20,000 t/y. Design, construction, operation, maintenance. <del>RESTRICTED</del>
	Crystal and High Impact polystyrene	For production. <del>RESTRICTED</del>
	Polyisobutylenes	For production. <del>RESTRICTED</del>
	Glass drawing and winding equipment	For design of 5,000 t/y equipment for glass fibers. <del>RESTRICTED</del>

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Country \_\_\_\_\_  
Type of Plant  
or Technology \_\_\_\_\_

East Germany (contd)

Fluidized solid lime  
and re-burning system

Technology

Erection, installation and start-up system.  
~~RESTRICTED~~

Crystal and High Impact  
Polystyrene

Technology

Installation and operation. ~~RESTRICTED~~

Reforming Furnace for  
Ammonia Synthesis Gas

Technology

Design and operation. ~~RESTRICTED~~

Fertilizers:

Technology

Engineering, construction and operation.  
~~RESTRICTED~~

- 1) 189,300 t/y nitric acid
- 2) 303,000 t/y of 13-13-21  
complex fertilizer
- 3) 110,000 t/y calcium  
nitrate with 20.5% nitrogen
- 4) 120,000 t/y of ammonium  
nitrate solutions

Glass furnaces, spinning  
frames, twisting frames and  
needle felting machines

Technology

For design. ~~RESTRICTED~~

Rayon/polyamide/polyester  
V-belt cord treating system  
(3 applications on different dates)

Technology

Plans and specifications; plant capable of manufacturing  
5,000 t/y of fibrous glass. ~~RESTRICTED~~

Detergents using a sulfonation  
process

Technology

Design of equipment. ~~RESTRICTED~~

Ammonium nitrate evaporator

Technology

Assembly, installation, maintenance and operation -  
1,120 tons per day. ~~RESTRICTED~~

~~CONFIDENTIAL~~



~~CONFIDENTIAL~~

Country \_\_\_\_\_  
Types of Plant  
or Technology

Patents

East Germany (contd)

Rayon and Nylon fibre  
cord fabric

Technology

Impregnating, drying, hot stretching and  
calendering. ~~RESTRICTED~~

Hot Rayon Dryer

Technology

~~RESTRICTED~~

Nylon-6 Plant

Technology

Drawings, specifications, processing data, erection,  
maintenance and operation. ~~CONFIDENTIAL~~

Viscose Products Plant

Technology

Drawings, specifications, processing data, erection,  
maintenance and operation. ~~CONFIDENTIAL~~

Acrylonitrile

Plant  
and  
Technology

20,000 t/y. ~~UNCLASSIFIED~~

Phosphoric Acid

Plant  
and  
Technology

20,000 t/y. ~~CONFIDENTIAL~~

Hungary

PVC processing

Equipment

Official Use Only

Benzol (30,000 t/y)

Technology

~~RESTRICTED~~

Ammonia (420 t/d)

Technology

~~RESTRICTED~~

Urea

Equipment and/or  
Technology

~~CONFIDENTIAL~~

Acrylonitrile (5,000-6,000 t/y)  
and acrylate fiber (6,000 t/y)

Equipment and/or  
Technology

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

Country	Type of Plant or Technology	Equipment and/or Technology	
Hungary (cont'd)	Ammonia (250,000 t/y)	Equipment and/or Technology	<del>CONFIDENTIAL</del>
	Compound Fertilizer (100,000 t/y)		
	Ethylene (50,000 t/y)		
	Ethylene oxide (10,000 t/y)		
	dimethyl terephthalate (3,500 t/y)		
	polyester fiber (5,000 t/y)		
hydrogen peroxide (1,000 t/y)			
Nylon-6	Technology	<del>CONFIDENTIAL</del>	
Ammonia	Part of Equipment	Technology	Contract completed. <del>RESTRICTED</del>
Plastic Bags	Technology	<del>RESTRICTED</del>	
Synthetic rubber	Equipment and/or Technology	Official Use Only	
Ammonia and synthesis gas	Part of Equipment	<del>RESTRICTED</del>	
Butadiene (60,000 t/y)	Technology and possibly equipment later	Contract completed. <del>CONFIDENTIAL</del>	
Poland	Triple superphosphate	Technology and Equipment	Official Use Only
	Aromatic hydrocarbons (480,000 t/y)	Technology and Equipment	<del>CONFIDENTIAL</del>
	Polybutadiene (30,000 t/y)	Technology and Equipment	<del>CONFIDENTIAL</del>

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Country \_\_\_\_\_  
Type of Plant or Technology \_\_\_\_\_

Remarks \_\_\_\_\_

Country	Type of Plant or Technology	Technology	Remarks
Poland (contd)	Ethylene oxide (30,000 t/y) ethylene glycol (25,000 t/y)	Technology	<del>RESTRICTED</del>
	Phosphoric acid (300 t/d)	Technology	<del>RESTRICTED</del>
	Glass fiber (3,000 t/y)	Technology	<del>RESTRICTED</del>
	Acetylene	Technology and/or Equipment	<del>CONFIDENTIAL</del>
	Ethylbenzene (45,000 t/y)	Technology	<del>RESTRICTED</del>
	Acrylonitrile (20,000 t/y)	Technology	<del>RESTRICTED</del>
	Chlorine dioxide	Technology	<del>RESTRICTED</del>
	Tires (about 2 million/y)	Technology	<del>CONFIDENTIAL</del>
	Polyethylene bags and products	Technology	<del>RESTRICTED</del>
	Compound fertilizer (250,000 t/y)	Technology	<del>RESTRICTED</del>
	Ammonia (1,500 t/d)	Technology	<del>RESTRICTED</del>
	Tire cord processing	Technology	<del>RESTRICTED</del>
Compressor for urea plant	Technology	<del>RESTRICTED</del>	

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Country	Type of Plant or Technology	Restrictions
Rumania	Benzol (40,000 t/y)	<del>RESTRICTED</del>
	Ethyl hexanol (20,000 t/y) synthetic ethanol (15,000 t/y) FVC - suspension type acrylonitrile (20,000 t/y) sodium dichromate	<del>CONFIDENTIAL</del>
	Ethylene complex (including 100,000 t/y of ethylene)	<del>CONFIDENTIAL</del>
	Para-xylene (4,000-18,000 t/y) polyester fiber (13,000 t/y)	<del>RESTRICTED</del>
	Rayon staple	<del>RESTRICTED</del>
	Vinyl chloride (36,000 t/y)	<del>RESTRICTED</del>
	Polybutadiene (30,000 t/y) polyisoprene (30,000 t/y) synthetic glycerine (10,000 t/y) ammonia (300,000 t/y) synthetic and artificial leather	<del>CONFIDENTIAL</del>
	Chlorine (170 t/d) caustic soda	<del>RESTRICTED</del>

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Country	Type of Plant or Technology	Percentage
Romania (contd)	Methanol (150 t/d)	<del>CONFIDENTIAL</del>
	Synthetic gas (300,000 cu. ft/hr)	<del>CONFIDENTIAL</del>
	Ammonia (1,000 t/d) nitric acid (700 t/d) ammonium nitrate (500 t/d) urea (500 t/d)	<del>RESTRICTED</del>
	Phosphoric acid	<del>RESTRICTED</del>
	Sulfuric acid	<del>RESTRICTED</del>
	Nitrogen (540 cu. m./hr)	<del>RESTRICTED</del>
	Carbon black (18,000 t/y)	<del>RESTRICTED</del>
	Nitric acid (240,000 t/y) ammonium nitrate (300,000 t/y) phosphoric acid (60,000 t/y) complex fertilizers (200,000 t/y) prilled urea (900 t/d)	<del>RESTRICTED</del>
	Polypropylene	<del>RESTRICTED</del>

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Type of Plant or Technology

Romania (contd)

Plastics processing

Technology

~~RESTRICTED~~

Methyl mercaptan,  
methionine

Technology  
and  
Equipment

~~RESTRICTED~~

Hydrogen (10.4 million  
cu. ft./d)

Technology  
and  
Equipment

~~RESTRICTED~~

Isobutylene

Technology

~~RESTRICTED~~

Glass fiber

Technology  
and  
Equipment

~~RESTRICTED~~

Carbon disulfide

Equipment

~~CONFIDENTIAL~~

Pharmaceuticals and  
packaging

Equipment

~~CONFIDENTIAL~~

Carbon black

Plant  
and  
Technology

Engineering and construction 12,000 t/y.  
~~RESTRICTED~~

Yugoslavia

~~CONFIDENTIAL~~