

FINAL DRAFT/PROPOSED CAAPP PERMIT  
Degussa/Goldschmidt Chemical  
I.D. No.: 143805AAA  
Application No.: 96030145  
April 3, 2003

217/782-2113

TITLE V - CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT  
and  
TITLE I PERMIT<sup>1</sup>

PERMITTEE

Degussa/Goldschmidt Chemical Corp.  
Attn: Serin Rao  
8300 West Route 24  
Mapleton, Illinois 61547

<u>Application No.:</u> 96030145	<u>I.D. No.:</u> 143805AAA
<u>Applicant's Designation:</u>	<u>Date Received:</u> March 7, 1996
<u>Operation of:</u> Surface Active Agent Manufacturing Operation	
<u>Date Issued:</u> TO BE DETERMINED	<u>Expiration Date<sup>2</sup>:</u> DATE
<u>Source Location:</u> 8300 West Route 24, Mapleton, Peoria County	
<u>Responsible Official:</u> Jeffrey A. Seppa, Plant Manager	

This permit is hereby granted to the above-designated Permittee to OPERATE a surface active agent manufacturing operation, pursuant to the above referenced permit application. This permit is subject to the conditions contained herein.

If you have any questions concerning this permit, please contact Dan Punzak at 217/782-2113.

Donald E. Sutton, P.E.  
Manager, Permit Section  
Division of Air Pollution Control

DES:DGP:psj

cc: Illinois EPA, FOS, Region 2

1 This permit may contain terms and conditions which address the applicability, and compliance if determined applicable, of Title I of the CAA and regulations promulgated thereunder, including 40 CFR 52.21 - federal PSD and 35 IAC Part 203 - Major Stationary Sources Construction and Modification. Any such terms and conditions are identified within this permit.

2 Except as provided in Condition 8.7 of this permit.

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1.0 SOURCE IDENTIFICATION

1.1 Source

Degussa/Goldschmidt Chemical Corp.  
8300 West Route 24  
Mapleton, Illinois 61547  
309/634-3322

I.D. No.: 143805AAA  
Standard Industrial Classification: 2843, Surface Active Agents  
2869, Industrial Organic  
Chemicals, Not  
Elsewhere Classified

1.2 Owner/Parent Company

Degussa/Goldschmidt Chemical Corp.  
914 Randolph Road, P.O. Box 1299  
Hopewell, Virginia 23680-1299

1.3 Operator

Degussa/Goldschmidt Chemical Corp.  
8300 West Route 24  
Mapleton, Illinois 61547

Serin Rao, Manager, Safety, Health and Environmental Services  
309/634-3322

1.4 General Source Description

The Degussa/Goldschmidt Chemical Corp. is located at 8300 West Route 24 in Mapleton. The site is a large chemical manufacturing operation. The initial operation is converting fats and oils to fatty acids. These fatty acids are then used to make nitriles, amines, or quarternary ammonium compounds. In addition, the source has boilers to produce steam for process heat, operates a hydrogen plant for use in one of the processes and a wastewater treatment plant.

2.0 LIST OF ABBREVIATIONS/ACRONYMS USED IN THIS PERMIT

Act	Illinois Environmental Protection Act [415 ILCS 5/1 et seq.]
AP-42	Compilation of Air Pollutant Emission Factors, Volume 1, Stationary Point and Other Sources (and Supplements A through F), USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711
Btu	British thermal unit
CAA	Clean Air Act [42 U.S.C. Section 7401 et seq.]
CAAPP	Clean Air Act Permit Program
CAM	Compliance Assurance Monitoring
CFR	Code of Federal Regulations
ERMS	Emissions Reduction Market System
HAP	Hazardous Air Pollutant
hr	hour
HTF	Heat Transfer Fluid
IAC	Illinois Administrative Code
I.D. No.	Identification Number of Source, assigned by Illinois EPA
ILCS	Illinois Compiled Statutes
Illinois EPA	Illinois Environmental Protection Agency
kW	kilowatts
lb	pound
mmBtu	Million British thermal units
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO <sub>x</sub>	Nitrogen Oxides
NSPS	New Source Performance Standards
PM	Particulate Matter
PM <sub>10</sub>	Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 microns as measured by applicable test or monitoring methods
ppm	parts per million
PSD	Prevention of Significant Deterioration
RMP	Risk Management Plan
SO <sub>2</sub>	Sulfur Dioxide
T1	Title I - identifies Title I conditions that have been carried over from an existing permit
T1N	Title I New - identifies Title I conditions that are being established in this permit
T1R	Title I Revised - identifies Title I conditions that have been carried over from an existing permit and subsequently revised in this permit
USEPA	United States Environmental Protection Agency
VOM	Volatile Organic Material

### 3.0 INSIGNIFICANT ACTIVITIES

#### 3.1 Identification of Insignificant Activities

The following activities at the source constitute insignificant activities as specified in 35 IAC 201.210:

- 3.1.1 Activities determined by the Illinois EPA to be insignificant activities, pursuant to 35 IAC 201.210(a)(1) and 201.211, as follows:

Derivates Plant Building General Exhaust

- 3.1.2 Activities that are insignificant activities based upon maximum emissions, pursuant to 35 IAC 201.210(a)(2) or (a)(3), as follows:

Process Development Lab  
Quality Control Lab  
Fatty Acid Building Roof Exhaust  
Warehouse Roof Exhaust  
Parts Cleaning Station  
Warehouse Storage Tanks  
Fatty Acid Plant Splitters  
Fatty Acid Plant - Glycerine Process  
Fatty Acid Plant - Stills 1-5  
Fatty Acid Plant - Stripper/Fractionator  
Fatty Acid Plant - Hydrogenators<sup>a</sup>  
Fatty Acid Plant - Multipurpose Reactor 21  
Derivatives Plant Storage Tanks  
Derivatives Plant Blending Operation  
Warehouse Sump  
Ammonia Water Loading  
Ammonia Storage Tank  
Syltherm Expansion and Relief Tanks  
Dow Therm Expansion and Relief Tanks  
Dow Therm Make-Up Drum  
Lab Solvent Storage and Room Vent  
Lab Sample Room Vent  
Safety-Kleen Parts Washer  
Various Building Vents  
Catalyst Drum Exhaust Fan

<sup>a</sup> This process emits hydrogen which is not a specified contaminant.

- 3.1.3 Activities that are insignificant activities based upon their type or character, pursuant to 35 IAC 201.210(a)(4) through (18), as follows:

Storage tanks of organic liquids with a capacity of less than 10,000 gallons and an annual throughput of less than 100,000 gallons per year, provided the storage tank is not used for the storage of gasoline or any material listed as a HAP pursuant to Section 112(b) of the CAA [35 IAC 201.210(a)(10)].

Storage tanks of any size containing virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

Gas turbines and stationary reciprocating internal combustion engines of between 112 kW and 1,118 kW (150 and 1,500 horsepower) power output that are emergency or standby units [35 IAC 201.210(a)(16)].

Storage tanks of any size containing exclusively soaps, detergents, surfactants, glycerin, waxes, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

Loading and unloading systems for railcars, tank trucks, or watercraft that handle only the following liquid materials, provided an organic solvent has not been mixed with such materials: soaps, detergents, surfactants, lubricating oils, waxes, glycerin, vegetable oils, greases, animal fats, sweetener, corn syrup, aqueous salt solutions, or aqueous caustic solutions [35 IAC 201.210(a)(18)].

3.1.4 Activities that are considered insignificant activities pursuant to 35 IAC 201.210(b).

### 3.2 Compliance with Applicable Requirements

Insignificant activities are subject to applicable requirements notwithstanding status as insignificant activities. In particular, in addition to regulations of general applicability, such as 35 IAC 212.301 and 212.123 (Condition 5.2.2), the Permittee shall comply with the following requirements, as applicable:

- 3.2.1 For each cold cleaning degreaser, the Permittee shall comply with the applicable equipment and operating requirements of 35 IAC 215.182, 218.182, or 219.182.
  - 3.2.2 For each particulate matter process emission unit, the Permittee shall comply with the applicable particulate matter emission limit of 35 IAC 212.321 or 212.322. For example, the particulate matter emissions from a process emission unit shall not exceed 0.55 pounds per hour if the emission unit's process weight rate is 100 pounds per hour or less, pursuant to 35 IAC 266.110.
  - 3.2.3 For each organic material emission unit that uses organic material, e.g., a mixer or printing line, the Permittee shall comply with the applicable VOM emission limit of 35 IAC 215.301, 218.301, or 219.301, which requires that organic material emissions not exceed 8.0 pounds per hour or do not qualify as photochemically reactive material as defined in 35 IAC 211.4690.
- 3.3 Addition of Insignificant Activities
- 3.3.1 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type that is identified in Condition 3.1, until the renewal application for this permit is submitted, pursuant to 35 IAC 201.212(a).
  - 3.3.2 The Permittee must notify the Illinois EPA of any proposed addition of a new insignificant activity of a type addressed by 35 IAC 201.210(a) and 201.211 other than those identified in Condition 3.1, pursuant to Section 39.5(12)(b) of the Act.
  - 3.3.3 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type identified in 35 IAC 201.210(b).

4.0 SIGNIFICANT EMISSION UNITS AT THIS SOURCE

Emission Unit	Description	Date Constructed	Emission Control Equipment
<b>Nitriles/Stills</b>			
NCR-1 (161-R-1A)	Nitrile Reactors	1987	DPE Ammonia Scrubber 164-SCR-103
NCR-2 (161R-200)		1987	
NCR-3 (161-R-1)		1977	
NCR-4 (164-R-1A)		1973	
NCR-5 (164-R-2A)	Nitrile Reactor	1973	NCR-5 Ammonia (Venturi) Scrubber 265-S-901
NCR-3 (261-R-1)	Still	1977	Either of Above Scrubbers or Vacuum System
#6 Still (159-S-4A and 6B)	Still		
#7 Still (265-D-6 and 7)	Still	1988	
265-D-2	Ammonia Recovery System	1988	None
265-T-201	Ammonia Recovery Feed Tank and Various Vacuum Pumps and Vents	1988	Ammonia (Venturi) Scrubber
<b>Hydrogenation</b>			
R-6 (163-R-1)	Reactor/ Hydrogenator #6	1973	#6 Ammonia Absorber (163-AB-1) Scrubber 16-SCR-2), Barometric Condenser (163-SCR-103) and Two Stage Vacuum System (163-V-1) Also Controls R-7
Addition of Catalyst to R-6 (163-KT-1)	Catalyst Pot for Reactor R-6	1973	None
MMA Tank (341-T-2) DMA Tank (341-T-1) R-6 to R-9 Reactors DP-MP #1 and #2 (161-R-1A and 161-R-200)	HAP Materials Used to Manufacture Different Products	1987	Flare (341-FLR-1); Vacuum System (165-V-1)

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Emission Unit	Description	Date Constructed	Emission Control Equipment
R-7 (163-R-102)	Reactor/ Hydrogenator #7	1973	#7 Ammonia Absorber (163-R-202) (See Scrubber, Barometric Condenser and Vacuum System on R-6, Same System Controls R-7)
Addition of Catalyst to R-7 (163-KT-300)	Catalyst Pot for Reactor R-7	1973	None
R-8 (263-R-1)	Reactor/ Hydrogenator #8	1977	#8 Ammonia Absorber (263-R-3) Fat Scrubber (263-SC-1) Barometric Scrubber (263-V-1) [In Series with Ammonia Absorber and Fat Scrubber]
Addition of Catalyst to R-8 (263-T-3)	Catalyst Pot for Reactor R-8	1977	None
R-9 (264-R-9)	Amine System Hydrogenator	1987	#9 Ammonia Absorber (264-S-3), Clean-Up Absorber (264-S-4), Barometric Condenser #42559
Addition of Catalyst to R-9 (264-T-301)	Catalyst Pot for Hydrogenator R-9	1987	None
R-6 to R-9 Amine Systems	Ammonia Water Loadout for These Systems	1987	Loadout System Scrubber (239-SCR-103)

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Emission Unit	Description	Date Constructed	Emission Control Equipment
Quaternary Amines ("Quart")			
Quat 1 (162-R-200)	Reactor	1973	IPA Recovery System [Condensers] (162-X-154 and 162-S-154); Methyl Chloride Recovery System [Condenser and Compressor] (162-X-156 and 162-M-1)
Quat 2 (262-R-1)	Reactor	1977	IPA Recovery System (262-X-6 and 262-S-6); Methyl Chloride Recovery System (262-X-10 and 262-CM-1); Vacuum Vent to Scrubber (262-V-1)
Quat 3 (262-R-2)	Reactor	1977	IPA Recovery System (262-X-8 and 262-58); Methyl Chloride Recovery System (262-X-11 and 262-CM-2); Vacuum System (262-V-1)

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Emission Unit	Description	Date Constructed	Emission Control Equipment
Quat 4 (Different Product Than Normal Quat 1, 2 or 3 but 1, 2 and 3 may be used if 4 not in use) (362-R-100, 362-S-101, 362-SEP-102, 362-X-101, 362-X-103, 262-T-23)	Reactor, Blow Tank and Stripper (Still)	1993	Methyl Chloride and Ethanol Recovery - Use Systems on Quat 1, 2 or 3)
Adduct Reactor (23-R-1)	Reactor	1977	None
Storage and Transfer Tanks for Adduct (T-3063 and 3064)	Tanks	1991	Scrubber (139-SCR-701)
Storage Tanks			
	See Table in Attachment 1 Listing All Tanks Including Year Constructed		
271-X-1A or 1B	IPA Stripper	1982	Vapor Recovery System - Condensers 271-X-3 and X-6
171-SPR-1	Nichols Spray Tower	1974	Baghouse 171-F-100
271-LFB-101	Powder Conditioning Bed	1981	Baghouse 271-F-100
Fuel Combustion Units			
"C" Boiler	Natural Gas Fired Boiler, 65 mmBtu/hr	1972	None
"D" Boiler	Natural Gas Fired Boiler, 97.3 mmBtu/hr	1979	None
"E" Boiler	Natural Gas Fired Boiler, #2 Fuel Oil Standby, 184 mmBtu/hr	1991	None
Splitters, Boiler 146-B-1	Natural Gas Fired Boiler, #2 Fuel Oil Standby, 18.3 mmBtu/hr	1974	None
Fractionator Hot Water Heater 243-B-2	Natural Gas Fired Hot Water Heater, 2.65 mmBtu/hr	1973	None

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Emission Unit	Description	Date Constructed	Emission Control Equipment
Reactor HTF Heater	Natural Gas Fired Heat Transfer Fluid Heater, 24.5 mmBtu/hr	1988	None
NCR-3 HTF Heater, 260-X-1	Natural Gas Fired Heat Transfer Fluid Heater, #2 Fuel Oil Standby, 20 mmBtu/hr	1977	None
NCF-5 HTF Heater, 265-X-1	Natural Gas Fired Heat Transfer Fluid Heater, 28 mmBtu/hr	1988	None
NCR-4 HTF Heater, 159-B-1	Natural Gas Fired Heat Transfer Fluid Heater, 10.4 mmBtu/hr	1973	None
Hydrogen Plant	Natural Gas is fuel to but fuel to waste heat boiler is generated in a reformer, 32.37 mmBtu/hr	1986	None

5.0 OVERALL SOURCE CONDITIONS

5.1 Source Description

5.1.1 This permit is issued based on the source requiring a CAAPP permit as a major source of NO<sub>x</sub>, SO<sub>2</sub>, VOM and HAPs emissions.

5.2 Applicable Regulations

5.2.1 Specific emission units at this source are subject to particular regulations as set forth in Section 7 (Unit-Specific Conditions) of this permit.

5.2.2 In addition, emission units at this source are subject to the following regulations of general applicability:

- a. No person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally overhead at a point beyond the property line of the source unless the wind speed is greater than 40.2 kilometers per hour (25 miles per hour), pursuant to 35 IAC 212.301 and 212.314.

Compliance with this requirement is considered to be assured by the inherent nature of operations at this source, as demonstrated by historical operation.

- b. No person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 IAC 212.122, pursuant to 35 IAC 212.123(a), except as allowed by 35 IAC 212.123(b) and 212.124.
- c. No person shall use any single or multiple compartment effluent water separator which received effluent water containing 757 l/day (200 gal/day) or more of organic material from any equipment processing, refining, treating, storing or handling organic material unless such effluent water separator is equipped with air pollution control equipment capable of reducing by 85 percent or more the uncontrolled organic material emitted to the atmosphere. Exception: If no odor nuisance exists the limitations of this subparagraph shall not apply

if the vapor pressure of the organic material is below 17.24 kPa (2.5 psia) at 294.3°K (70°F) [35 IAC 215.141(a)].

- d. No person shall cause or allow the discharge of more than 32.8 ml (2 cu in) of volatile organic liquid with vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F) into the atmosphere from any pump or compressor in any 15 minute period at standard conditions [35 IAC 215.142].

#### 5.2.3 Ozone Depleting Substances

The Permittee shall comply with the standards for recycling and emissions reduction of ozone depleting substances pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR Part 82:

- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.
- b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

#### 5.2.4 Risk Management Plan

- a. This stationary source, as defined in 40 CFR Section 68.3, is subject to 40 CFR Part 68, the Accidental Release Prevention regulations [40 CFR 68.215(a) (1)].
- b. The owner or operator of a stationary source shall revise and update the RMP submitted, as specified in 40 CFR 68.190.

#### 5.2.5 Future Regulations

- a. Should this stationary source become subject to a regulation under 40 CFR Parts 60, 61, or 63, or 35 IAC after the date issued of this permit, then the

owner or operator shall, in accordance with the applicable regulation(s), comply with the applicable requirements by the date(s) specified and shall certify compliance with the applicable requirements of such regulation(s) as part of the annual compliance certification, as required by 40 CFR Part 70 or 71.

- b. No later than upon the submittal for renewal of this permit, the owner or operator shall submit, as part of an application, the necessary information to address either the non-applicability of, or demonstrate compliance with all applicable requirements of any potentially applicable regulation which was promulgated after the date issued of this permit.

#### 5.2.6 Episode Action Plan

- a. If the source is required to have an episode action plan pursuant to 35 IAC 244.142, the Permittee shall maintain at the source and have on file with the Illinois EPA a written episode action plan (plan) for reducing the levels of emissions during yellow alerts, red alerts, and emergencies, consistent with safe operating procedures. The plan shall contain the information specified in 35 IAC 244.144.
- b. The Permittee shall immediately implement the appropriate steps described in this plan should an air pollution alert or emergency be declared.
- c. If a change occurs at the source which requires a revision of the plan (e.g., operational change, change in the source contact person), a copy of the revised plan shall be submitted to the Illinois EPA for review within 30 days of the change. Such plans shall be further revised if disapproved by the Illinois EPA.
- d. For sources required to have a plan pursuant to 35 IAC 244.142, a copy of the original plan and any subsequent revisions shall be sent to:
  - i. Illinois EPA, Compliance Section; and
  - ii. For sources located in Cook County and outside of the city of Chicago: Cook County Department of Environmental Control; or

- iii. For sources located within the city of Chicago: Chicago Department of Environmental Control.

#### 5.2.7 CAM Plan

This stationary source has a pollutant-specific emissions unit that is subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources. The source must submit a CAM plan for each affected pollutant-specific emissions unit upon application for renewal of the initial CAAPP permit, or upon a significant modification to the CAAPP permit for the construction or modification of a large pollutant-specific emissions unit which has the potential post-control device emissions of the applicable regulated air pollutant that equals or exceeds major source threshold levels.

#### 5.3 Non-Applicability of Regulations of Concern

- 5.3.1 This permit is issued based on the source not being subject to 40 CFR Part 63, Subparts F, G or H, because the source does not produce any of the SOCOMI chemicals listed in Table 1 of Subpart F.
- 5.3.2 This permit is issued based on the source not being subject to 35 IAC Parts 218 or 219, because the source is not located in the Chicago or Metro-East metropolitan areas.
- 5.3.3 This permit is issued based on the source not being subject to 40 CFR 60 Subparts NNN or RRR because the source does not produce any of the chemicals listed in § 60.667 or 60.707.

#### 5.4 Source-Wide Operational and Production Limits and Work Practices

In addition to the source-wide requirements in the Standard Permit Conditions in Section 9, the Permittee shall fulfill the following source-wide operational and production limitations and/or work practice requirements:

None

5.5 Source-Wide Emission Limitations

5.5.1 Permitted Emissions for Fees

The annual emissions from the source, not considering insignificant activities as addressed by Section 3.0 of this permit, shall not exceed the following limitations. The overall source emissions shall be determined by adding emissions from all emission units. Compliance with these limits shall be determined on a calendar year basis. These limitations (Condition 5.5.1) are set for the purpose of establishing fees and are not federally enforceable.

Permitted Emissions of Regulated Pollutants

Pollutant	Tons/Year
Volatile Organic Material (VOM)	1,025
Sulfur Dioxide (SO <sub>2</sub> )	70.5
Particulate Matter (PM)	58
Nitrogen Oxides (NO <sub>x</sub> )	306.5
HAP, not included in VOM or PM	3
Total	1,463

5.5.2 Emissions of Hazardous Air Pollutants

Source-wide emission limitations for HAPs as listed in Section 112(b) of the CAA are not set. This source is considered to be a major source of HAPs.

5.5.3 Other Source-Wide Emission Limitations

Other source-wide emission limitations are not set for this source pursuant to either the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21, Illinois EPA rules for Major Stationary Sources Construction and Modification, 35 IAC Part 203, or Section 502(b)(10) of the CAA. However, there may be unit specific emission limitations set forth in Section 7 of this permit pursuant to these rules.

5.6 General Recordkeeping Requirements

5.6.1 Emission Records

The Permittee shall maintain records of the following items for the source to demonstrate compliance with Condition 5.5.1, pursuant to Section 39.5(7)(b) of the Act:

Total annual emissions on a calendar year basis for the emission units covered by Section 7 (Unit Specific Conditions) of this permit.

5.6.5 Records for Operating Scenarios

N/A

5.6.6 Retention and Availability of Records

- a. All records and logs required by this permit shall be retained for at least five years from the date of entry (unless a longer retention period is specified by the particular recordkeeping provision herein), shall be kept at a location at the source that is readily accessible to the Illinois EPA or USEPA, and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request.
- b. The Permittee shall retrieve and print, on paper during normal source office hours, any records retained in an electronic format (e.g., computer) in response to an Illinois EPA or USEPA request for records during the course of a source inspection.

5.7 General Reporting Requirements

5.7.1 General Source-Wide Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the source with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

5.7.2 Annual Emissions Report

The annual emissions report required pursuant to Condition 9.7 shall contain emissions information for the previous calendar year.

5.7.3 Annual Reporting of HAP Emissions

The Permittee shall submit an annual report to the Illinois EPA, Compliance Section, on HAP emissions from the source. This report shall be submitted with the Annual Emissions Report (Condition 9.7).

5.8 General Operational Flexibility/Anticipated Operating Scenarios

N/A

5.9 General Compliance Procedures

5.9.1 General Procedures for Calculating Emissions

Compliance with the source-wide emission limits specified in Condition 5.5 shall be based on the recordkeeping and reporting requirements of Conditions 5.6 and 5.7, and compliance procedures in Section 7 (Unit Specific Conditions) of this permit.

- a. For the purpose of estimating VOM emissions from the tanks, the current version of the USEPA TANKS is acceptable.
- b. For the purpose of estimating HAP emissions from equipment at the source, the vapor weight percent (based on a 1992 USEPA survey) of each HAP for each organic liquid times the VOM emissions contributed by that organic liquid is acceptable.

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6.0 NOT APPLICABLE TO THIS PERMIT

7.0 UNIT SPECIFIC CONDITIONS

7.1 Unit: Chemical Processing Operations  
Control: Condensers, Scrubbers, Absorbers and Flare

7.1.1 Description

The various vegetable oils and animal fats received at the source go through a conversion process. Those processes are considered insignificant emission units and were included in Section 3 of this permit. The reactions that occur afterward involve outside chemicals and do result in emissions. As a group these products are called derivatives. Processes include nitriles, hydrogenation and quat reactions, and blending and storage of such materials. Storage tanks for most organic materials at this source are in a separate section of this permit (Section 7.4) but ammonia/water storage tanks are included in this section and organic material tanks that are controlled by equipment within the process area.

For nitrile processes the principal emissions are ammonia, for which there are no emission standards. The hydrogenation area also emits ammonia.

When more than one piece of control equipment is listed for an emission unit it may mean either primary and secondary control or it may mean different types of control during different phases of a batch reaction. For instance the hydrogenator vents to ammonia absorbers some of the time but when organic HAP materials are being added/reacted the reactors vent to a flare.

The methyl chloride recovery system includes a compressor at the end as methyl chloride is a gas at room temperature and thus needs to be compressed in order to store it as a liquid.

Control devices referred to as barometric condenser are actual contact condenser that function more as scrubber than traditional condensers.

7.1.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
<b>Nitriles/Stills</b>		
NCR-1 (161-R-1A) NCR-2 (161-R-200) NCR-3 (161-R-1) NCR-4 (164-R-1A)	Nitrile Reactors	DPE Ammonia Scrubber 164-SCR-103
NCR-5 (164-R-2A)	Nitrile Reactor	NCR-5 Ammonia (Venturi) Scrubber 265-S-901
NCR-3 (261-R-1) #6 Still (159-S-4A and 6B) #7 Still (265-D-6 and 7)	Still Still Still	Either of Above Scrubbers or Vacuum System
265-D-2	Ammonia Recovery System	None
265-T-201	Ammonia Recovery Feed Tank and Various Vacuum Pumps and Vents	Ammonia (Venturi) Scrubber
<b>Hydrogenation</b>		
R-6 (163-R-1)	Reactor/ Hydrogenator #6	#6 Ammonia Absorber (163-AB-1) Scrubber (163-SCR-2), Barometric Condenser (163-SCR-103) and Two Stage Vacuum System (163-V-1) Also Controls R-7
Addition of Catalyst to R-6 (163-KT-1)	Catalyst Pot for Reactor R-6	None
MMA Tank (341-T-2) DMA Tank (341-T-1) R-6 to R-9 Reactors DP-MP #1 and #2 (161-R-1A and 161-R-200)	HAP Materials Used to Manufacture Different Products	Flare (341-FLR-1); Vacuum System (165-V-1)
R-7 (163-R-102)	Reactor/ Hydrogenator #7	#7 Ammonia Absorber (163-R-202) (See Scrubber, Barometric Condenser and Vacuum System on R-6, Same System Controls R-7)
Addition of Catalyst to R-7 (163-KT-300)	Catalyst Pot for Reactor R-7	None

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Emission Unit	Description	Emission Control Equipment
R-8 (263-R-1)	Reactor/ Hydrogenator #8	#8 Ammonia Absorber (263-R-3) Fat Scrubber (263-SC-1) Barometric Scrubber (263-V-1) [In Series with Ammonia Absorber and Fat Scrubber]
Addition of Catalyst to R-8 (263-T-3)	Catalyst Pot for Reactor R-8	None
R-9 (264-R-9)	Amine System Hydrogenator	#9 Ammonia Absorber (264-S-3), Clean-Up Absorber (264-S-4), Barometric Condenser #42559
Addition of Catalyst to R-9 (264-T-301)	Catalyst Pot for Hydrogenator R-9	None
R-6 to R-9 Amine Systems	Ammonia Water Loadout for These Systems	Loadout System Scrubber (239-SCR-103)
Quaternary Amines ("Quat")		
Quat 1 (162-R-200)	Reactor	IPA Recovery System [Condensers] (162-X-154 and 162-S-154); Methyl Chloride Recovery System [Condenser and Compressor] (162-X-156 and 162-M-1)
Quat 2 (262-R-1)	Reactor	IPA Recovery System (262-X-6 and 262-S-6); Methyl Chloride Recovery System (262-X-10 and 262-CM-1); Vacuum Vent to Scrubber (262-V-1)
Quat 3 (262-R-2)	Reactor	IPA Recovery System (262-X-8 and 262-58); Methyl Chloride Recovery System (262-X-11 and 262-CM-2); Vacuum System (262-V-1)

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Emission Unit	Description	Emission Control Equipment
Quat 4 (Different Product Than Normal Quat 1, 2 or 3 but 1, 2 and 3 may be used if 4 not in use) (362-R-100, 362-S-101, 362-SEP-102, 362-X-101, 362-X-103, 262-T-23)	Reactor, Blow Tank and Stripper (Still)	Methyl Chloride and Ethanol Recovery - Use Systems on Quat 1, 2 or 3)
Adduct Reactor (23-R-1)	Reactor	None
Storage and Transfer Tanks for Adduct (T-3063 and 3064)	Tanks	Scrubber (139-SCR-701)

7.1.3 Applicability Provisions and Applicable Regulations

- a. The "affected chemical process operations" for the purpose of these unit-specific conditions, are a variety of equipment used to manufacture organic chemicals and listed in Condition 7.1.2.
- b. Each affected chemical process operation is subject to the emission limits identified in Condition 5.2.2.
- c. Each process or operation identified in Condition 7.1.2 is subject to 35 IAC 215.301 or 215.302. § 215.301 requires that VOM emissions not exceed 8 lb/hr if the VOM is a photochemically reactive material pursuant to the definition in 35 IAC 211.4690 and there is no odor nuisance. If emissions exceed 8 lb/hr, § 215.302 provides the option to comply by use such of control equipment such as oxidation or vapor recovery (i.e., condensers) to reduce emissions by 85%. The 8 lb/hr rate applies to individual pieces of equipment, and not in aggregate.
- d. All processes are subject to 35 IAC 212.321. This rule states that no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction and modification commences after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (b) of 35 IAC 212.321 [35 IAC 212.321(b)].

The emissions of particulate matter into the atmosphere in any one hour period from each of the affected rack cleaners shall not exceed the allowable emission rates specified in the following equation:

$$E = A(P)^B$$

Where:

P = Process weight rate; and

E = Allowable emission rate; and

- i. For process weight rates up to 27.2 MG/hr (450 ton/hr):

	<u>Metric</u>	<u>English</u>
P	Mg/hr	ton/hr
E	kg/hr	lbs/hr
A	1.214	2.54
B	0.534	0.534

[35 IAC 212.321]

- ii. For process weight rates under 100 lb/hr, the allowable is 0.55 lb/hr [35 IAC 266.110].

#### 7.1.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected chemical processes not being subject to the New Source Performance Standards (NSPS) for SOCOMI equipment leaks, reactors or distillation processes, 40 CFR Part 60, Subparts VV, NNN or RRR, because the affected processes do not produce as a product or intermediate any of the chemicals listed in 40 CFR 60.489, 60.667 or 60.707.
- b. This permit is issued based on the affected reactor train not being subject to the NESHAP for Organic Chemical Manufacturing Industry, 40 CFR 63, Subpart F, because these emission units do not manufacture as a primary product one or more of the chemicals listed in Table 1 of 40 CFR 63 Subpart F.

c. This permit is issued based on the affected chemical processes not being subject to 35 IAC 215 Subpart Q, because the affected source does not produce chemicals listed in Appendix D of Part 215.

7.1.5 Control Requirements

All control equipment, which includes absorbers, scrubbers of various types, condensers, flare and barometric condensers/vacuum systems shall be operated in accordance with the manufacturer's instructions or good operating practices to achieve compliance with Conditions in 7.1.3 and 7.1.6, including periodic inspection, routine maintenance and prompt repair of defects.

7.1.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected units are subject to the following:

Emissions from the affected emission units shall not exceed the following limits:

<u>Emission Unit(s)</u>	<u>VOM Emissions</u>		<u>State Permit Number</u>
	<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>	
Quat 4 System	2.5	20.1	93120128
NCR-1 and NCR-2	0.7	4.9	95040023

<u>Emission Unit(s)</u>	<u>NH<sub>3</sub> Emissions</u>		<u>State Permit Number</u>
	<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>	
DPE Scrubber, 164-SCR-103	5.5	54.75	91090021
#7 Ammonia Scrubber, 163-R-202	2.0	20.0	92040098

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1R].

The above limitations contain revisions to previously issued Permits listed. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The

source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, the annual limits were not changed but the short term limits were all converted to a ton/month limit. For the #7 Ammonia Scrubber an hourly limit only was converted to an annual figure based on continuous operation.

7.1.7 Testing Requirements

Upon request by the Illinois EPA, any of the vents shall be tested to verify compliance with Conditions 7.1.3, 7.1.5 or 7.1.6.

7.1.8 Monitoring Requirements

- a. The Permittee shall comply with monitoring requirements for condensers as follows: Either in the inlet coolant fluid temperature used in the condensers or the outlet vapor temperature. A common source of cooling water may be monitored at one location. The typical temperature expected shall be listed in operating instructions, log books or a computer data base.

If not continuously recorded then the coolant fluid temperature or outlet vapor temperature shall be recorded at least once daily. If the coolant fluid is below ambient temperature (e.g. chilled water) then the temperature shall be recorded once per shift or have a system in place for informing the operator the chilling system is not operating properly.  
[Section 39.5(7)(b) and (d) of the Act.]

Note: This requirement does not apply to condensers that are in association with a steam ejector unless the Permittee has claimed a reduction in emissions by the ejector/condenser in order to comply with a requirement.

- b. The Permittee shall comply with monitoring requirements for each absorber scrubber as follows:

Each scrubber shall be equipped with a device for measuring the scrubbant flow, which shall be manually or automatically recorded daily.

- c. The Permittee shall comply with monitoring requirements for the flare as follows: A temperature sensor or camera device indicating the presence of a flame.

#### 7.1.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected emission unit to demonstrate compliance with Conditions 5.5.1, 7.1.3, 7.1.5, 7.1.6, and 7.1.8, pursuant to Section 39.5(7) (b) of the Act:

- a. The Permittee shall record the information cited above in monitoring requirements. In addition there shall be a record of typical values expected by each of the monitoring devices (e.g. scrubbant flow, VOM concentration, etc.) and actions taken when the measured value was not in the typical range. These records may be kept in a computer data base. Normal values do not have to be retained but abnormal values or actions taken for correction must be retained.
- b. Records addressing use of good operating practices for the flare, condensers, adsorber, vacuum system and scrubbers:
  - i. Records for periodic inspection of the flare, condensers, adsorber, vacuum system and scrubbers including the date and individual performing the inspection and the nature of the inspection; and
  - ii. Records for prompt repair of defects, with identification and description of the defect, the effect on emissions, date identified and date of repair, and the nature of the repair.
- c. VOM, PM, and HAP emissions from each unit listed in Table 7.1.2 (ton/yr) and monthly records for units listed in Condition 7.1.6.

7.1.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of an affected process with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

Noncompliance with any of the requirements of Conditions 7.1.3, 7.1.5, 7.1.6 or 7.1.8.

7.1.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to an affected chemical process operation without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification of the source, as defined in 35 IAC 201.102:

Chemical with slight variations in their composition but of the same general chemical nature and emission rates made by manufactured in this equipment.

7.1.12 Compliance Procedures

- a. Compliance with Condition 7.1.3 is determined by complying with the operating requirements of Condition 7.1.5, the monitoring requirements of Condition 7.1.8, the recordkeeping requirements of Condition 7.1.9 and the reporting requirements of Condition 7.1.10.
- b. VOM emissions shall be calculated using guidelines from 35 IAC 218.502. Although not subject to the rule for which the guidelines were prepared, the guidelines describe good methodology for calculating emissions from batch operations.
  - i. Direct process vent emissions measurements taken prior to any release to the atmosphere, following any recovery device and prior to any control device; or
  - ii. Engineering estimates of the uncontrolled VOM emissions from a process vent or process

vents, in the aggregate, within a batch process train, using either the potential or permitted number of batch cycles per year or total production as represented in the source's operating permit as follows:

- A. Engineering estimates of the uncontrolled VOM emissions shall be based upon accepted chemical engineering principles, measurable process parameters, or physical or chemical laws and their properties. Examples of methods include, but are not limited to, the following:
  - 1. Use of material balances based on process stoichiometry to estimate maximum VOM concentrations;
  - 2. Estimation of maximum flow rate based on physical equipment design such as pump or blower capacities; and
  - 3. Estimation of VOM concentrations based on saturation conditions.
- B. All data, assumptions and procedures used in any engineering estimate shall be documented.
- c. Although VOM emissions from leaking components are not subject to 35 IAC 215 Subpart Q, the fugitive VOM emissions from leaking components and cooling towers must be included in the annual emission report for this source.

7.2 Unit: Storage Tanks  
Control: See Attachment 1

7.2.1 Description

Some storage tanks have emissions that exceed the level that could qualify them as insignificant emission units (Section 3). This may be due to the HAP content of the material stored. Some of the tanks are heated in order to keep the viscosity in a range where it can be pumped.

7.2.2 List of Emission Units and Air Pollution Control Equipment

The list of tanks is presented in table format in Attachment 1.

7.2.3 Applicability Provisions and Applicable Regulations

- a. The "affected storage tanks" for the purpose of these unit-specific conditions, are tanks used to store materials used in the chemical process equipment or formed as part of a reaction. A list of the tanks is in Attachment 1.
- b. Each affected tank is subject to the emission limits identified in Condition 5.2.2.
- c. Each tank is subject to 35 IAC 215.122(b) which requires the use of a permanent submerged loading pipe if the vapor pressure of the material stored is greater than 2.5 psia or there is an odor nuisance. Attachment 1 identifies tanks that store materials with a vapor pressure greater than 2.5 psia. Each of those tanks is equipped with a submerged loading pipe. 35 IAC 215.122(b) does allow for use equivalent alternative control, but it is not necessary to use that provision since the tanks that are equipped with submerged loading pipes.

7.2.4 Non-Applicability of Regulations of Concern

This permit is issued based on the affected tanks not being subject to the New Source Performance Standards (NSPS) for storage tanks, 40 CFR Part 60, Subpart Kb, because the possibly affected tank fails to meet the applicability requirement of 40 CFR 60.113b as follows:

- a. All the tanks have a capacity less than 153 m<sup>3</sup> (40,000 gallons).

- b. The tanks that are greater than 76 m<sup>3</sup> (20,000 gallons) all contain materials with a vapor pressure less than 27.6 kPa (4.0 psia).
- c. Although all tanks are excluded by the above criteria, many of the tanks were also excluded the applicability date of July 23, 1984.

7.2.5 Control Requirements

- a. Each tank containing a material with a vapor pressure over 2.5 psia shall be equipped with a permanent submerged loading pipe.

7.2.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected tanks are subject to the following:

N/A

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.2.7 Operating and Testing Requirements

None

7.2.8 Monitoring Requirements

None

7.2.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected tank to demonstrate compliance with Conditions 5.5.1 and 7.2.3, pursuant to Section 39.5(7)(b) of the Act:

- a. Material stored in each tank and vapor pressure of that material. If the tank is not at ambient temperature, then the vapor pressure is that at storage temperature;
- b. Throughput of each material through each tank;

c. VOM emissions from each tank (ton/yr).

7.2.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of an affected tank with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. Filling of a tank that is required to have a submerged loading pipe without such a pipe.

7.2.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to an affected tank without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification of the source, as defined in 35 IAC 201.102:

The contents of the tanks may be changed provided that the new material in the tank does not exceed the vapor pressure range listed in Attachment 1.

7.2.12 Compliance Procedures

Emissions shall be calculated using the USEPA Tanks program with emissions from tanks vented to a scrubber reduced by 90%.

7.3 Unit: Stripping and Powdering Process  
 Control: Condensers and Baghouse

7.3.1 Description

One of the quat products manufactured in equipment in Section 7.1 is a solid dissolved in a solvent. This product is sold in powder form so the solvent must be evaporated in a stripper and then converted to powder form. The solvent from the stripper/separator is recovered in a vapor recovery column or by condensers, some of which use chilled water.

After the solvent is removed the product is a hot liquid and converted to a powder in an atomizer, which is controlled by a dust collector. The product is then packaged in sacks.

7.3.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
271-X-1A or 1B	IPA Stripper	Vapor Recovery System - Condensers 271-X-3 and X-6
171-SPR-1	Nichols Spray Tower	Baghouse 171-F-100
271-LFB-101	Powder Conditioning Bed	Baghouse 271-F-100

7.3.3 Applicability Provisions and Applicable Regulations

- a. The "affected stripping and powdering processes" for the purpose of these unit-specific conditions, are series of processes for converting a material dissolved in a solvent into a powder by removing the solvent and atomizing it to form a powder. The equipment for these processes is listed in Condition 7.3.2.
- b. Each affected stripping and powdering process is subject to the emission limits identified in Condition 5.2.2.
- c. Each process or operation identified in Condition 7.3.2 is subject to 35 IAC 215.301 or 215.302. § 215.301 requires that VOM emissions not exceed 8 lb/hr if the VOM is a photochemically reactive material pursuant to the definition in 35 IAC 211.4690 and there is no odor nuisance. If emissions exceed 8 lb/hr, § 215.302 provides the option to

comply by use such of control equipment such as oxidation or vapor recovery (i.e., condensers) to reduce emissions by 85%. The 8 lb/hr rate applies to individual pieces of equipment, and not in aggregate.

- d. All processes are subject to 35 IAC 212.321. This rule states that no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction and modification commences after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (b) of 35 IAC 212.321 [35 IAC 212.321(b)].
- The emissions of particulate matter into the atmosphere in any one hour period from each of the affected rack cleaners shall not exceed the allowable emission rates specified in the following equation:

$$E = A(P)^B$$

Where:

P = Process weight rate; and

E = Allowable emission rate; and

- i. For process weight rates up to 27.2 MG/hr (450 ton/hr):

	<u>Metric</u>	<u>English</u>
P	Mg/hr	ton/hr
E	kg/hr	lbs/hr
A	1.214	2.54
B	0.534	0.534

[35 IAC 212.321]

- ii. For process weight rates under 100 lb/hr, the allowable is 0.55 lb/hr [35 IAC 266.110].

#### 7.3.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected chemical process units not being subject to the New Source Performance Standards (NSPS) for VARIABLE, 40 CFR

Part 60, Subpart VV, NNN and RRR (equipment leaks, distillation columns, and reactors), because the affected chemical process units do not produce any of the affected chemicals listed in these regulations.

- b. This permit is issued based on the affected chemical process units not being subject to the National Emission Standard for Hazardous Air Pollutants (NESHAP) for the Synthetic Organic Chemical Manufacturing Industry, 40 CFR Part 63, Subparts F through H, because the affected chemical process units do not produce any of the affected chemicals listed in these regulations.
- c. This permit is issued based on the affected chemical processes not being subject to 35 IAC 215, Subpart Q, Leaks from SOCOMI equipment, because the chemical processes do not manufacture any of the chemicals listed in Appendix D of Part 215.
- d. This permit is issued based on the affected stripping and powdering processes not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected powdering process does not have potential pre-control device emissions of the applicable regulated air pollutant that equals or exceeds major source threshold levels and the stripping process uses inherent process equipment that is not considered a control device because the equipment is used for material recovery and is installed and operated primarily for purposes other than compliance with air pollution regulations.

#### 7.3.5 Control Requirements

The Permittee shall follow good operating practices for the condensers and baghouses, including periodic inspection, routine maintenance and prompt repair of defects.

#### 7.3.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected stripper is subject to the following:

Emissions from the affected process shall not exceed the following limits:

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 Degussa/Goldschmidt Chemical  
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 Application No.: 96030145  
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<u>Emission Unit(s)</u>	<u>VOM Emissions</u>		<u>State Permit Number</u>
	<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>	
Nichols Spray Dryer	30.0	304.3	74070164
TA-100 Fluidized Bed <sup>a</sup>	10.0	91.4	81030020
IPA Recovery	2.0	19.9	82040046

<sup>a</sup> This is a specific product/process rather than an emission unit (i.e., piece of equipment)

These limits are based on the maximum rate.

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1R].

The above limitations contain revisions to previously issued Permit 82040046. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, the hourly emission rate has been replaced with a monthly rate since the net loss is determined by a monthly material balance and the hourly rate was calculated from that value [T1R].

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.3.7 Operating and Testing Requirements

- a. The solvent recovery system and condenser shall be operated in accordance with design and current operating specifications, such as the use of chilled water in some condensers so as to achieve compliance with the limit in Condition 7.3.6.
- b. Upon request by the Illinois EPA, the atomizer or bagging operation shall be tested to determine compliance with 35 IAC 212.321 [Condition 7.3.3(c)].
- c. Each month the Permittee shall perform a material balance on the solvent removed by the stripper to determine the total loss of VOM. Loss = initial amount in system plus new shipments minus ending amount in system. The ending amount for one month is the initial amount for the next month. If solvent must be disposed of or sent to a recycler that amount may also be entered in the calculation.

7.3.8 Monitoring Requirements

- a. Either the outlet temperature of the condenser (product side) or the inlet temperature of the coolant shall be monitored. If coolant temperature is chosen, a common source of coolant for multiple condensers may be monitored at one location.
- b. The pressure drop across the baghouse shall be monitored. [Section 39.5(7)(b) and (d) of the Act]

7.3.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected stripping and powdering process to demonstrate compliance with Conditions 5.5.1, 7.3.3 and 7.3.6, pursuant to Section 39.5(7)(b) of the Act:

- a. Condenser outlet temperatures or condenser coolant inlet temperature (once/day);
- b. Pressure drop across baghouse or opacity (once/day);
- c. Records addressing use of good operating practices for the condensers and baghouses:

- i. Records for periodic inspection of the condensers and baghouses, including the date and individual performing the inspection and the nature of the inspection; and
  - ii. Records for prompt repair of defects, with identification and description of the defect, the effect on emissions, date identified and date repair, and the nature of the repair.
- d. VOM and PM emissions (lb/mo and ton/yr).

#### 7.3.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of an affected stripping or powdering process with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

Emissions exceeding the allowables of Condition 7.3.3 or 7.3.6.

#### 7.3.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

#### 7.3.12 Compliance Procedures

- a. Compliance with the applicable requirements of Condition 7.3.3 and 7.3.6 shall be based on complying with the operating requirements of Condition 7.3.7, the monitoring requirements of Condition 7.3.8, the recordkeeping requirements of Condition 7.3.9 and the reporting requirements of Condition 7.3.10.
- b. VOM shall be based on the monthly material balance required by Condition 7.3.7.

7.4 Unit: Fuel Combustion Units  
 Control: None

7.4.1 Description

Most of these fuel combustion units (FCUs) are boilers, that is they heat water to its boiling point to generate steam, but are referred to here as FCUs because some of the units indirectly heat a heat transfer fluid (HTF) other than water and the heat transfer fluid may or may not vaporize. Some units heat water but not to its boiling point. The rules for fuel combustion are based on the fuel used and size of the unit and not the material being heated.

A hydrogen plant is also included in this section as it uses natural gas as a fuel but the fuel burned in the waste heat boiler is a gas generated in a reformer and although gaseous in form it is not natural gas.

7.4.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Fuel Combustion Units		
"C" Boiler	Natural Gas Fired Boiler, 65 mmBtu/hr	None
"D" Boiler	Natural Gas Fired Boiler, 97.3 mmBtu/hr	None
"E" Boiler	Natural Gas Fired Boiler, #2 Fuel Standby, Low NO <sub>x</sub> Burner, 184 mmBtu/hr	None
Splitters Boiler, 146-B-1	Natural Gas Fired Boiler, #2 Fuel Oil Standby, 18.3 mmBtu/hr	None
Fractionator Hot Water Heater 243-B-2	Natural Gas Fired Hot Water Heater, 2.65 mmBtu/hr	None
Reactor HTF Heater	Natural Gas Fired Heat Transfer Fluid Heater, 34.5 mmBtu/hr	None
NCR-3 HTF Heater, 250-X-1	Natural Gas Fired Heat Transfer Fluid Heater, #2 Fuel Oil Standby, 20 mmBtu/hr	None
NCR-5 HTF Heater, 265-X-1	Natural Gas Fired Heat Transfer Fluid Heater, 28 mmBtu/hr	None

Emission Unit	Description	Emission Control Equipment
Fuel Combustion Units (Continued)		
NCR-4 HTF Heater, 160-B-1	Natural Gas Fired Heat Transfer Fluid Heater, 10.4 mmBtu/hr	None
Hydrogen Plant	Natural gas is fuel to hydrogen plant but fuel to waste heat boiler within the hydrogen plant is generated in a reformer, 32.37 mmBtu/hr	None

7.4.3 Applicability Provisions and Applicable Regulations

- a. An "affected fuel combustion unit" for the purpose of these unit-specific conditions, is a unit that burns natural gas or diesel oil is less and 100 mmBtu/hr firing rate and identified in Condition 7.4.2.
- b. Each affected fuel combustion unit is subject to the emission limits identified in Condition 5.2.2.
- c. The "E" boiler is subject to a NSPS for industrial steam generating units, 40 CFR 60, Subparts A and Db. The NSPS standards are as follows:
  - i. The PM emissions from the "E" boiler shall not exceed 0.1 lb/mmBtu [40 CFR 60.43b(b)].
  - ii. The "E" boiler discharges gases during the firing of fuel oil shall not exhibit an opacity greater than 20% (6-minute average) except for one 6-minute period per hour of not more than 27% opacity [40 CFR 60.43b(f)].
  - iii. The SO<sub>2</sub> emission standard does not apply because the unit combusts very low sulfur oil (less than 0.5 weight percent) as defined in the NSPS [40 CFR 60.42b(d)].
  - iv.
    - A. 0.10 lb/mmBtu when firing natural gas [40 CFR 60.44b(a)(1)].
    - B. 0.20 lb/mmBtu when firing #2 fuel oil [40 CFR 60.44b(a)(1)].
- d.
  - i. The "E" boiler and two fuel combustion units that burn #2 fuel oil (146-B-1 and 260-X-1)

are subject to 35 IAC 212.206. This rule states that emissions of PM shall not exceed 0.10 lb/mmBtu when burning liquid fuel exclusively.

- ii. The liquid fuel burning units are also subject to 35 IAC 214.161(b). This rule states that emissions of SO<sub>2</sub> shall not exceed 0.3 lb/mmBtu when burning distillate fuel oil (i.e., #2 fuel oil).
- e. All of the fuel combustion units except 243-B-2 are subject to 35 IAC 216.121. This rule states that emissions of CO shall not exceed 200 ppm, corrected to 50% excess air, for any unit with a heat input greater than 10 mmBtu/hr.

#### 7.4.4 Non-Applicability of Regulations of Concern

- a. The affected boilers are not subject to the New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60 Subpart Dc because the boilers were constructed prior to June 9, 1989. The "E" boiler is the only boiler over 100 mmBtu/hr and is subject to Subpart Db.
- b. The affected boilers are not subject to 35 IAC 217.141, Existing Emission Sources in Major Metropolitan Areas, since the actual heat input of the boilers is less than 73.2 MW (250 mmBtu/hr). The boilers are also not located in a major metropolitan area.
- c. Unit 243-B-2 is not subject to 35 IAC 216.121 because its firing rate is less than 10 mmBtu/hr.
- d. The affected boilers are not subject to 35 IAC 215.301, Use of Organic Material, pursuant to 35 IA 215.303, Fuel Combustion Emission Sources, which excludes the affected boilers from this requirement.
- e. This permit is issued based on the affected fuel combustion units not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected fuel combustion units do not use an add-on control device to achieve compliance with an emission limitation or standard.

7.4.5 Operational Requirements

- a. Natural gas shall be the only fuel used in the affected fuel combustion units except units 146-X-1 and 240-X-1 may also burn #2 fuel oil.
- b. Pursuant to the NSPS and the limitations indicated below the "E" boiler is limited to the firing of "very low sulfur oil" as defined in the NSPS. Compliance with the following fuel oil sulfur requirements, which assures compliance with Condition 7.4.3(d) also assures compliance with the NSPS.

The Permittee shall not burn distillate fuel oil (#2) with a sulfur content greater than the larger of the following two values:

- i. 0.28 weight percent, or
- ii. The wt. percent given by the formula: Maximum wt. percent sulfur = (0.000015) x (Gross heating value of oil, Btu/lb).

7.4.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected fuel combustion units are subject to the following:

<u>Emission Unit</u>	<u>Emission Limits (Tons/Yr)</u>					<u>State Permit #</u>
	<u>NO<sub>x</sub></u>	<u>CO</u>	<u>PM</u>	<u>VOM</u>	<u>SO<sub>2</sub></u>	
"C" Boiler	39.9	10.0	1.8	1.7	0.2	73032131
"D" Boiler	59.66	14.92	---	---	---	79110021
"E" Boiler	80.6	28.0	2.4	2.3		73032131
Reactor						
HTF Heater	17.1	4.3	0.4	0.4	0.1	88030049
Hydrogen Plant	7.7	1.1				86100017

These limits are based on the maximum rate.

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].

The above limitations were established in the Permits cited, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

#### 7.4.7 Operating and Testing Requirements

- a. A compliance demonstration with the 0.1 lb NO<sub>x</sub>/million Btu emission limit for the natural gas mode of operation for the "E" boiler shall be performed upon request by the Illinois EPA. Reasons for requesting these tests shall include, but are not limited to boiler operating load exceeding 150 million Btu/hour on a recurring basis.
- b. A performance test, pursuant to 40 CFR 60.8, and compliance demonstration with the 0.2 lb NO<sub>x</sub>/million Btu emission limit for the "E" boiler fuel oil mode of operation shall be performed upon request by the Illinois EPA. Reasons for requesting these tests shall include but are not limited to the following:
  - i. "E" boiler fuel oil firing capacity factor exceeds 10 percent (0.1) for any 30 day period; and
  - ii. "E" boiler mode of operation is switched to fuel oil firing for an annual capacity factor exceeding 10 percent (0.1).

#### 7.4.8 Monitoring Requirements

- a. The Permittee shall install, evaluate, and operate a continuous monitoring system for the measurement of opacity discharged from the "E" boiler during fuel oil firing, in accordance with the provisions of 40 CFR 60.48b and the applicable procedures of Appendix B.
- b. Pursuant to CFR 60.48b(g) (2), "E" boiler shall have on-line a boiler operating parameter data acquisition system. The system shall be programmed with the nitrogen oxide prediction methods provided in the nitrogen oxide monitoring plan report, dated

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March 31, 1993. The nitrogen oxide emissions prediction algorithms, during the "E" boiler natural gas mode of operation, shall be as follows:

Operation of the "E" boiler in excess of 30 million Btu/hr of heat input:

$$\text{NO}_x = 67.07 - 2.0732\text{E-}4(\text{GF}) + 4.61152\text{E-}6(\text{GF}/1000)^3 + 4.74028\text{E-}6(\text{SF}/1000)^3 - 10.819(\%O_2) + 3.535234(\%O_2)^2 - 0.2798(\%O_2)^3$$

Operation of the "E" boiler at less than 30 million Btu/hr of heat input or during periods of boiler operating parameter data acquisition system failure:

$$\text{NO}_x = 82.35$$

Where:

- $\text{NO}_x$  = Nitrogen oxide emissions at 3% oxygen (ppmvd)
- GF = Gas flow to boiler (SCFH)
- SF = Boiler steam production rate (lb/hour)
- $\%O_2$  = Oxygen concentration ( $\%O_2$ )

The 82.35 ppmvd @ 3%  $O_2$  nitrogen oxide emissions constant is based on the 0.10 lb/mmBtu  $\text{NO}_x$  limit set in the permit conditions.

- c. i. The Permittee shall install and evaluate a continuous monitoring system for the measurement of nitrogen oxides emissions discharged from the "E" boiler during fuel oil firing. The monitor shall be operational prior to firing fuel oil unless the initial firing of fuel oil was not predictable in advance, in which case the nitrogen oxide monitor shall be operational within 30 days after the initial firing of fuel oil. In addition, the monitor shall be installed and evaluated in accordance with the procedures under 40 CFR 60.13.
- ii. Continuous operation of nitrogen oxides monitor will be waived by the Illinois EPA under the provision of 40 CFR 60.48b(g) if the

Permittee develops an operational monitoring program which is accepted by the Illinois EPA.

#### 7.4.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected tank to demonstrate compliance with Conditions 5.5.1 and 7.2.3, pursuant to Section 39.5(7)(b) of the Act:

- a. The Permittee shall fulfill applicable notification and recordkeeping requirements of the NSPS, i.e. 40 CFR 60.7 and 60.49b for the "E" boiler.
  - i. Calendar date.
  - ii. The average hourly boiler operating parameters including but not limited to: natural gas flow to the boiler (SCFH), fuel oil flow to the boiler (gal/hour), boiler steam production rate (lb/hour), oxygen concentration (%O<sub>2</sub>), nitrogen oxides emission rates (expressed as NO<sub>2</sub> (ng/J or lb/million Btu heat input), and nitrogen oxide emission rates (lb/hour).
  - iii. The 30-day average nitrogen oxides emission rates (ng/J or lb/million Btu heat input) calculated at the end of each steam generating unit operating day from the predicted hourly nitrogen oxide emission rates for the preceding 30 steam generating unit operating days.
  - iv. Identification of the steam generating unit operating day when the calculated 30-day average nitrogen oxides emission rates are in excess of the nitrogen oxides emissions standards under this permit, with the reasons for such excess emissions as well as a description of corrective actions taken.
  - v. Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken.

- vi. Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data.
  - vii. Identification of the times when boiler operations exceeded 150 million Btu/hour of heat input.
  - viii. Identification of the times when the boiler mode of operation was switched to fuel oil firing.
  - ix. Identification of any 30 day periods in which the boiler fuel oil capacity factor exceeded 10 percent.
  - x. Fuel oil analyses for sulfur content pursuant to the methods indicated in the NSPS (i.e., Method 19).
- b. Fuel receipts from a fuel supplier indicating that the oil meets the definition of distillate oil and the sulfur content of the fuel [40 CFR 60.49b(r)].
  - c. Annual aggregate NO<sub>x</sub>, PM, SO<sub>2</sub>, and VOM emissions from each affected fuel combustion unit, based on fuel consumption and the applicable emission factors, with supporting calculations and monthly values for units listed in Condition 7.4.6.

#### 7.4.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of an affected fuel combustion unit with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- a. Reports required by the NSPS, 40 CFR 60.49b including but not limited to excess emission reports required by 40 CFR 60.49b(h).
- b. Emissions of NO<sub>x</sub>, PM, SO<sub>2</sub>, or VOM from the affected boilers in excess of the limits specified in Condition 5.5.1 and Condition 7.2.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.4.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.4.12 Compliance Procedures

- a. Compliance with Condition 7.4.3(e) is demonstrated under inherent operating conditions of an affected boiler, so that no compliance procedures are set in this permit addressing this requirement.
- b. Compliance with Condition 7.4.3(d) (ii) is demonstrated under inherent operating conditions of affected boilers fired by distillate oil with a sulfur content meeting the specification of Condition 7.4.5(b), so that no compliance procedures are set in this permit addressing this regulation, other than records of the sulfur content of the fuel oil.
- c. Compliance with the emission limits in Conditions 5.5.1 shall be based on the recordkeeping requirements in Condition 7.4.9 and the emission factors and formulas listed below:
  - i. Emissions from the boilers burning natural gas shall be calculated based on the following emission factors:

<u>Pollutant</u>	Emission Factor (lb/10 <sup>6</sup> ft <sup>3</sup> )	
	<u>Firing Rate (mmBtu/hr)</u>	
	<100	>100
PM	1.9	1.9
SO <sub>2</sub>	0.6	0.6
VOM	5.5	5.5
NO <sub>x</sub>	100	190

These are the emission factors for uncontrolled natural gas combustion in boilers, Tables 1.4-1 and 1.4-2, AP-42, Volume I, Fifth Edition, July 1998.

Boiler Emissions (ton) = natural gas consumed multiplied by the appropriate emission factor/2000.

- ii. Emissions from the affected boilers burning distillate fuel oil shall be calculated based on the following emission factors:

<u>Pollutant</u>	Emission Factor (lb/10 <sup>3</sup> gallon)	
	<u>Firing Rate (mmBtu/hr)</u>	
	<100	>100
PM	2	2
SO <sub>2</sub>	142% S	142% S
VOM	0.34	0.34
NO <sub>x</sub>	20	24

These are the emission factors for uncontrolled distillate fuel oil combustion in commercial/institutional/residential combustors, Tables 1.3-1, 1.3-3 and 1.3-7, AP-42, Volume I, Fifth Edition, September 1998. "%S" indicates that the weight% of sulfur in the oil should be multiplied by the value given.

Boiler Emissions (ton) = distillate fuel oil consumed (gallons) multiplied by the appropriate emission factor/2000.

- iii. Total emissions for each pollutant are to be determined by combining the results of Conditions 7.4.12(i) and (ii) for all affected boilers.

## 8.0 GENERAL PERMIT CONDITIONS

### 8.1 Permit Shield

Pursuant to Section 39.5(7)(j) of the Act, the Permittee has requested and has been granted a permit shield. This permit shield provides that compliance with the conditions of this permit shall be deemed compliance with applicable requirements which were applicable as of the date the proposed permit for this source was issued, provided that either the applicable requirements are specifically identified within this permit, or the Illinois EPA, in acting on this permit application, has determined that other requirements specifically identified are not applicable to this source and this determination (or a concise summary thereof) is included in this permit.

This permit shield does not extend to applicable requirements which are promulgated after \_\_\_\_\_ **{insert public notice start date}** (the date of issuance of the draft permit) unless this permit has been modified to reflect such new requirements.

### 8.2 Applicability of Title IV Requirements (Acid Deposition Control)

This source is not an affected source under Title IV of the CAA and is not subject to requirements pursuant to Title IV of the CAA.

### 8.3 Emissions Trading Programs

No permit revision shall be required for increases in emissions allowed under any USEPA approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for elsewhere in this permit and that are authorized by the applicable requirement [Section 39.5(7)(o)(vii) of the Act].

As of the date of issuance of this permit, there are no such economic incentive, marketable permit or emission trading programs that have been approved by USEPA.

### 8.4 Operational Flexibility/Anticipated Operating Scenarios

#### 8.4.1 Changes Specifically Addressed by Permit

Physical or operational changes specifically addressed by the Conditions of this permit that have been identified as not requiring Illinois EPA notification may be implemented without prior notice to the Illinois EPA.

8.4.2 Changes Requiring Prior Notification

The Permittee is authorized to make physical or operational changes that contravene express permit terms without applying for or obtaining an amendment to this permit, provided that [Section 39.5(12) (a) (i) of the Act]:

- a. The changes do not violate applicable requirements;
- b. The changes do not contravene federally enforceable permit terms or conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements;
- c. The changes do not constitute a modification under Title I of the CAA;
- d. Emissions will not exceed the emissions allowed under this permit following implementation of the physical or operational change; and
- e. The Permittee provides written notice to the Illinois EPA, Division of Air Pollution Control, Permit Section, at least 7 days before commencement of the change. This notice shall:
  - i. Describe the physical or operational change;
  - ii. Identify the schedule for implementing the physical or operational change;
  - iii. Provide a statement of whether or not any New Source Performance Standard (NSPS) is applicable to the physical or operational change and the reason why the NSPS does or does not apply;
  - iv. Provide emission calculations which demonstrate that the physical or operational change will not result in a modification; and
  - v. Provide a certification that the physical or operational change will not result in emissions greater than authorized under the Conditions of this permit.

8.5 Testing Procedures

Tests conducted to measure composition of materials, efficiency of pollution control devices, emissions from process or control equipment, or other parameters shall be conducted using standard test methods. Documentation of the test date, conditions, methodologies, calculations, and test results shall be retained pursuant to the recordkeeping procedures of this permit. Reports of any tests conducted as required by this permit or as the result of a request by the Illinois EPA shall be submitted as specified in Condition 8.6.

8.6 Reporting Requirements

8.6.1 Monitoring Reports

If monitoring is required by any applicable requirements or conditions of this permit, a report summarizing the required monitoring results, as specified in the conditions of this permit, shall be submitted to the Air Compliance Section of the Illinois EPA every six months as follows [Section 39.5(7)(f) of the Act]:

<u>Monitoring Period</u>	<u>Report Due Date</u>
January - June	September 1
July - December	March 1

All instances of deviations from permit requirements must be clearly identified in such reports. All such reports shall be certified in accordance with Condition 9.9.

8.6.2 Test Notifications

Unless otherwise specified elsewhere in this permit, a written test plan for any test required by this permit shall be submitted to the Illinois EPA for review at least 60 days prior to the testing pursuant to Section 39.5(7)(a) of the Act. The notification shall include at a minimum:

- a. The name and identification of the affected unit(s);
- b. The person(s) who will be performing sampling and analysis and their experience with similar tests;

- c. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and the means by which the operating parameters for the source and any control equipment will be determined;
- d. The specific determination of emissions and operation which are intended to be made, including sampling and monitoring locations;
- e. The test method(s) which will be used, with the specific analysis method, if the method can be used with different analysis methods;
- f. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification; and
- g. Any proposed use of an alternative test method, with detailed justification.

#### 8.6.3 Test Reports

Unless otherwise specified elsewhere in this permit, the results of any test required by this permit shall be submitted to the Illinois EPA within 60 days of completion of the testing. The test report shall include at a minimum [Section 39.5(7) (e) (i) of the Act]:

- a. The name and identification of the affected unit(s);
- b. The date and time of the sampling or measurements;
- c. The date any analyses were performed;
- d. The name of the company that performed the tests and/or analyses;
- e. The test and analytical methodologies used;
- f. The results of the tests including raw data, and/or analyses including sample calculations;
- g. The operating conditions at the time of the sampling or measurements; and

- h. The name of any relevant observers present including the testing company's representatives, any Illinois EPA or USEPA representatives, and the representatives of the source.

#### 8.6.4 Reporting Addresses

- a. The following addresses should be utilized for the submittal of reports, notifications, and renewals:
  - i. Illinois EPA - Air Compliance Section  
  
Illinois Environmental Protection Agency  
Bureau of Air  
Compliance Section (MC 40)  
P.O. Box 19276  
Springfield, Illinois 62794-9276
  - ii. Illinois EPA - Air Regional Field Office  
  
Illinois Environmental Protection Agency  
Division of Air Pollution Control  
5415 North University  
Peoria, Illinois 61614
  - iii. Illinois EPA - Air Permit Section  
  
Illinois Environmental Protection Agency  
Division of Air Pollution Control  
Permit Section (MC 11)  
P.O. Box 19506  
Springfield, Illinois 62794-9506
  - iv. USEPA Region 5 - Air Branch  
  
USEPA (AE - 17J)  
Air & Radiation Division  
77 West Jackson Boulevard  
Chicago, Illinois 60604
- b. Unless otherwise specified in the particular provision of this permit, reports shall be sent to the Illinois EPA - Air Compliance Section with a copy sent to the Illinois EPA - Air Regional Field Office.

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8.7 Obligation to Comply with Title I Requirements

Any term, condition, or requirement identified in this permit by T1, T1R, or T1N is established or revised pursuant to 35 IAC Part 203 or 40 CFR 52.21 ("Title I provisions") and incorporated into this permit pursuant to both Section 39.5 and Title I provisions. Notwithstanding the expiration date on the first page of this permit, the Title I conditions remain in effect pursuant to Title I provisions until the Illinois EPA deletes or revises them in accordance with Title I procedures.

## 9.0 STANDARD PERMIT CONDITIONS

### 9.1 Effect of Permit

- 9.1.1 The issuance of this permit does not release the Permittee from compliance with State and Federal regulations which are part of the Illinois State Implementation Plan, as well as with other applicable statutes and regulations of the United States or the State of Illinois or applicable ordinances, except as specifically stated in this permit and as allowed by law and rule [Section 39.5(7)(j)(iv) of the Act].
- 9.1.2 In particular, this permit does not alter or affect the following:
- a. The provisions of Section 303 (emergency powers) of the CAA, including USEPA's authority under that Section;
  - b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
  - c. The applicable requirements of the acid rain program consistent with Section 408(a) of the CAA; and
  - d. The ability of USEPA to obtain information from a source pursuant to Section 114 (inspections, monitoring, and entry) of the CAA.
- 9.1.3 Notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.

### 9.2 General Obligations of Permittee

#### 9.2.1 Duty to Comply

The Permittee must comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the CAA and the Act, and is grounds for any or all of the following: enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application [Section 39.5(7)(o)(i) of the Act].

The Permittee shall meet applicable requirements that become effective during the permit term in a timely manner unless an alternate schedule for compliance with the applicable requirement is established.

9.2.2 Duty to Maintain Equipment

The Permittee shall maintain all equipment covered under this permit in such a manner that the performance or operation of such equipment shall not cause a violation of applicable requirements.

9.2.3 Duty to Cease Operation

No person shall cause, threaten or allow the continued operation of any emission unit during malfunction or breakdown of the emission unit or related air pollution control equipment if such operation would cause a violation of an applicable emission standard, regulatory requirement, ambient air quality standard or permit limitation unless such malfunction or breakdown is allowed by a permit condition [Section 39.5(6)(c) of the Act].

9.2.4 Disposal Operations

The source shall be operated in such a manner that the disposal of air contaminants collected by the equipment operations, or activities shall not cause a violation of the Act or regulations promulgated thereunder.

9.2.5 Duty to Pay Fees

The Permittee must pay fees to the Illinois EPA consistent with the fee schedule approved pursuant to Section 39.5(18) of the Act, and submit any information relevant thereto [Section 39.5(7)(o)(vi) of the Act]. The check should be payable to "Treasurer, State of Illinois" and sent to: Fiscal Services Section, Illinois Environmental Protection Agency, P.O. Box 19276, Springfield, Illinois 62794-9276.

9.3 Obligation to Allow Illinois EPA Surveillance

Upon presentation of proper credentials and other documents, the Permittee shall allow the Illinois EPA, or an authorized representative to perform the following [Section 39.5(7)(a) and (p)(ii) of the Act and 415 ILCS 5/4]:

- a. Enter upon the Permittee's premises where an actual or potential emission unit is located; where any regulated equipment, operation, or activity is located or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect during hours of operation any sources, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- d. Sample or monitor any substances or parameters at any location:
  - i. At reasonable times, for the purposes of assuring permit compliance; or
  - ii. As otherwise authorized by the CAA, or the Act.
- e. Obtain and remove samples of any discharge or emission of pollutants authorized by this permit; and
- f. Enter and utilize any photographic, recording, testing, monitoring, or other equipment for the purposes of preserving, testing, monitoring, or recording any activity, discharge or emission at the source authorized by this permit.

#### 9.4 Obligation to Comply with Other Requirements

The issuance of this permit does not release the Permittee from applicable State and Federal laws and regulations, and applicable local ordinances addressing subjects other than air pollution control.

#### 9.5 Liability

##### 9.5.1 Title

This permit shall not be considered as in any manner affecting the title of the premises upon which the permitted source is located.

9.5.2 Liability of Permittee

This permit does not release the Permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the sources.

9.5.3 Structural Stability

This permit does not take into consideration or attest to the structural stability of any unit or part of the source.

9.5.4 Illinois EPA Liability

This permit in no manner implies or suggests that the Illinois EPA (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the source.

9.5.5 Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege [Section 39.5(7) (c) (iv) of the Act].

9.6 Recordkeeping

9.6.1 Control Equipment Maintenance Records

A maintenance record shall be kept on the premises for each item of air pollution control equipment. As a minimum, this record shall show the dates of performance and nature of preventative maintenance activities.

9.6.2 Records of Changes in Operation

A record shall be kept describing changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under this permit, and the emissions resulting from those changes [Section 39.5(12) (b) (iv) of the Act].

9.6.3 Retention of Records

- a. Records of all monitoring data and support information shall be retained for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit [Section 39.5(7)(e)(ii) of the Act].
- b. Other records required by this permit shall be retained for a period of at least 5 years from the date of entry unless a longer period is specified by a particular permit provision.

9.7 Annual Emissions Report

The Permittee shall submit an annual emissions report to the Illinois EPA, Compliance Section no later than May 1 of the following year, as required by 35 IAC Part 254.

9.8 Requirements for Compliance Certification

Pursuant to Section 39.5(7)(p)(v) of the Act, the Permittee shall submit annual compliance certifications. The compliance certifications shall be submitted no later than May 1 or more frequently as specified in the applicable requirements or by permit condition. The compliance certifications shall be submitted to the Air Compliance Section, Air Regional Field Office, and USEPA Region 5 - Air Branch. The addresses for the submittal of the compliance certifications are provided in Condition 8.6.4 of this permit.

- a. The certification shall include the identification of each term or condition of this permit that is the basis of the certification; the compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source, both currently and over the reporting period consistent with the conditions of this permit.
- b. All compliance certifications shall be submitted to USEPA Region 5 in Chicago as well as to the Illinois EPA.
- c. All compliance reports required to be submitted shall include a certification in accordance with Condition 9.9.

9.9 Certification

Any document (including reports) required to be submitted by this permit shall contain a certification by a responsible official of the Permittee that meets the requirements of Section 39.5(5) of the Act [Section 39.5(7)(p)(i) of the Act]. An example Certification by a Responsible Official is included as an attachment to this permit.

9.10 Defense to Enforcement Actions

9.10.1 Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit [Section 39.5(7)(o)(ii) of the Act].

9.10.2 Emergency Provision

- a. An emergency shall be an affirmative defense to an action brought for noncompliance with the technology-based emission limitations under this permit if the following conditions are met through properly signed, contemporaneous operating logs, or other relevant evidence:
  - i. An emergency occurred as provided in Section 39.5(7)(k) of the Act and the Permittee can identify the cause(s) of the emergency. Normally, an act of God such as lightning or flood is considered an emergency;
  - ii. The permitted source was at the time being properly operated;
  - iii. The Permittee submitted notice of the emergency to the Illinois EPA within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken; and

iv. During the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission limitations, standards, or regulations in this permit.

b. This provision is in addition to any emergency or upset provision contained in any applicable requirement. This provision does not relieve a Permittee of any reporting obligations under existing federal or state laws or regulations.

#### 9.11 Permanent Shutdown

This permit only covers emission units and control equipment while physically present at the indicated source location(s). Unless this permit specifically provides for equipment relocation, this permit is void for the operation or activity of any item of equipment on the date it is removed from the permitted location(s) or permanently shut down. This permit expires if all equipment is removed from the permitted location(s), notwithstanding the expiration date specified on this permit.

#### 9.12 Reopening and Reissuing Permit for Cause

##### 9.12.1 Permit Actions

This permit may be modified, reopened, and reissued, for cause pursuant to Section 39.5(15) of the Act. The filing of a request by the Permittee for a permit modification, revocation, and reissuance, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition [Section 39.5(7) (o) (iii) of the Act].

##### 9.12.2 Reopening and Revision

This permit must be reopened and revised if any of the following occur [Section 39.5(15) (a) of the Act]:

- a. Additional requirements become applicable to the equipment covered by this permit and three or more years remain before expiration of this permit;
- b. Additional requirements become applicable to an affected source for acid deposition under the acid rain program;

- c. The Illinois EPA or USEPA determines that this permit contains a material mistake or inaccurate statement when establishing the emission standards or limitations, or other terms or conditions of this permit; and
- d. The Illinois EPA or USEPA determines that this permit must be revised to ensure compliance with the applicable requirements of the Act.

#### 9.12.3 Inaccurate Application

The Illinois EPA has issued this permit based upon the information submitted by the Permittee in the permit application. Any misinformation, false statement or misrepresentation in the application shall be grounds for revocation under Section 39.5(15)(b) of the Act.

#### 9.12.4 Duty to Provide Information

The Permittee shall furnish to the Illinois EPA, within a reasonable time specified by the Illinois EPA any information that the Illinois EPA may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to the Illinois EPA copies of records required to be kept by this permit, or for information claimed to be confidential, the Permittee may furnish such records directly to USEPA along with a claim of confidentiality [Section 39.5(7)(o)(v) of the Act].

#### 9.13 Severability Clause

The provisions of this permit are severable, and should any one or more be determined to be illegal or unenforceable, the validity of the other provisions shall not be affected. The rights and obligations of the Permittee shall be construed and enforced as if this permit did not contain the particular provisions held to be invalid and the applicable requirements underlying these provisions shall remain in force [Section 39.5(7)(i) of the Act].

#### 9.14 Permit Expiration and Renewal

The right to operate terminates on the expiration date unless the Permittee has submitted a timely and complete renewal application. For a renewal to be timely it must be submitted no later than 9 and no sooner than 12 months prior to expiration. The equipment may continue to operate during the renewal period until final action is taken by the Illinois EPA, in accordance with the original permit conditions [Section 39.5(5)(1), (n), and (o) of the Act].

10.0 ATTACHMENTS

10.1 Attachment 1 - Details of Storage Tanks

Tank No.	Capacity (gallons)	Contents <sup>a</sup>	Vapor Pressure (psia)	HAP	Tank Type	Submerged Fill	Other Features	Year Built
3003	1,825	Recovered MC	-	Yes	Pressure	N/A		1994
3026	16,000	Formaldehyde	A	Yes	Fixed Roof	Bottom Fill	Insulated/ Vented to Scrubber	1974
3031	16,000	Ethylene Glycol	A	Yes	Fixed Roof	Yes	Insulated	1975
3046	1,010	Recovered MC	-	Yes	Pressure	N/A	--	1986
3047	4,500	Recovered MC	-	Yes	Pressure	N/A	--	1986
3060	30,000	Ethylene Glycol	A	Yes	Fixed Roof	No	Insulated	1987
3063	25,000	Adduct Nitriles	B	No	Fixed Roof	No	Insulated	1991
3064	25,000	Adduct Nitriles	B	No	Fixed Roof	No	Insulated	1991
3068	1,025	Recovered MC	-	Yes	Pressure	N/A	--	1986
3069	24,000	Formaldehyde	A	Yes	Fixed Roof	Bottom Fill	Insulated/ Vented to Scrubber	2000
3205	1,025	Recovered MC	-	Yes	Pressure	N/A	--	1970
3360	1,560	Recovered MC	-	Yes	Pressure	N/A	--	1994
3380	1,900	Recovered Alcohols	B	No	Fixed Roof	No	--	1975
3381	3,700	Recovered Alcohols	B	No	Fixed Roof	No	Insulated	1975
3383	1,100	MC	-	Yes	Pressure	N/A	--	1976
3386	1,900	Recovered Alcohols	B	No	Fixed Roof	No	Insulated	1975
3389	3,700	Recovered Alcohols	B	No	Fixed Roof	No	--	1975
3399	2,000	Recovered Alcohols	B	No	Fixed Roof	No	--	1961
5001	18,000	Ethanol	A	No	Fixed Roof	No	--	1961
5002	18,000	Ethanol	A	No	Fixed Roof	No	--	1961
5004	18,000	Acrylonitrile	B	Yes	Fixed Roof	No	--	1961

Tank No.	Capacity (gallons)	Contents <sup>a</sup>	Vapor Pressure (psia)	HAP	Tank Type	Submerged Fill	Other Features	Year Built
5006 <sup>b</sup>	40,000	Ammonia	-	No	Pressure	N/A	--	1961
5007	18,000	MC	-	Yes	Pressure	N/A	--	1961
5010	18,000	Ethanol	A	No	Fixed Roof	No	--	1962
5013	10,000	Recovered IPA	A	No	Fixed Roof	No	Insulated	1982
5014	30,000	IPA	A	Yes	Fixed Roof	No	--	1976
5016 <sup>b</sup>	30,000	Ammonia	-	No	Pressure	N/A	--	1976
5017	18,000	MC	-	Yes	Pressure	N/A	--	1961

A 0.1 - 0.5 psia

B 0.5 - 2.5 psia

- Gaseous material stored under pressure

<sup>a</sup> MC = Methyl Chloride  
 IPA = Isopropanol

<sup>b</sup> Contain ammonia, not VOM

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Degussa/Goldschmidt Chemical  
I.D. No.: 143805AAA  
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10.2 Attachment 2 - Example Certification by a Responsible Official

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Official Title: \_\_\_\_\_

Telephone No.: \_\_\_\_\_

Date Signed: \_\_\_\_\_

10.3 Attachment 3 - Guidance on Revising This Permit

The Permittee must submit an application to the Illinois EPA using the appropriate revision classification in accordance with Sections 39.5(13) and (14) of the Act and 35 IAC 270.302. Specifically, there are currently three classifications for revisions to a CAAPP permit. These are:

1. Administrative Permit Amendment;
2. Minor Permit Modification; and
3. Significant Permit Modification.

The Permittee must determine, request, and submit the necessary information to allow the Illinois EPA to use the appropriate procedure to revise the CAAPP permit. A brief explanation of each of these classifications follows.

1. Administrative Permit Amendment
  - Corrects typographical errors;
  - Identifies a change in the name, address, or phone number of any person identified in the permit, or provides a similar minor administrative change at the source;
  - Requires more frequent monitoring or reporting by the Permittee;
  - Allows for a change in ownership or operational control of the source where no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new Permittees has been submitted to the Illinois EPA. This shall be handled by completing form 272-CAAPP, REQUEST FOR OWNERSHIP CHANGE FOR CAAPP PERMIT; or
  - Incorporates into the CAAPP permit a construction permit, provided the conditions of the construction permit meet the requirements for the issuance of CAAPP permits.

2. Minor Permit Modification

- Do not violate any applicable requirement;
- Do not involve significant changes to existing monitoring, reporting, or recordkeeping requirements in the permit;
- Do not require a case-by-case determination of an emission limitation or other standard, or a source-specific determination of ambient impacts, or a visibility or increment analysis;
- Do not seek to establish or change a permit term or condition for which there is no corresponding underlying requirement and which avoids an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
  - A federally enforceable emissions cap assumed to avoid classification as a modification under any provision of Title I of the CAA; and
  - An alternative emissions limit approved pursuant to regulations promulgated under Section 112(i)(5) of the CAA.
- Are not modifications under any provision of Title I of the CAA;
- Are not required to be processed as a significant permit modification; and
- Modifications involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches.

An application for a minor permit modification shall include the following:

- A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs;
- The source's suggested draft permit/conditions;

- Certification by a responsible official that the proposed modification meets the criteria for use of minor permit modification procedures and a request that such procedures be used; and
- Information as contained on form 271-CAAPP, MINOR PERMIT MODIFICATION FOR CAAPP PERMIT for the Illinois EPA to use to notify USEPA and affected States.

3. Significant Permit Modification

- Applications that do not qualify as either minor permit modifications or as administrative permit amendments;
- Applications requesting a significant change in existing monitoring permit terms or conditions;
- Applications requesting a relaxation of reporting or recordkeeping requirements; and
- Cases in which, in the judgment of the Illinois EPA, action on an application for modification would require decisions to be made on technically complex issues.

An application for a significant permit modification shall include the following:

- A detailed description of the proposed change(s), including all physical changes to equipment, changes in the method of operation, changes in emissions of each pollutant, and any new applicable requirements which will apply as a result of the proposed change. Note that the Permittee need only submit revised forms for equipment and operations that will be modified.

The Illinois EPA requires the information on the following appropriate forms to be submitted in accordance with the proper classification:

- Form 273-CAAPP, REQUEST FOR ADMINISTRATIVE PERMIT AMENDMENT FOR CAAPP PERMIT; or
- Form 271-CAAPP, MINOR PERMIT MODIFICATION FOR CAAPP PERMIT; or

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- Form 200-CAAPP, APPLICATION FOR CAAPP PERMIT (for significant modification).

Application forms can be obtained from the Illinois EPA website at <http://www.epa.state.il.us/air/forms>.

Note that the request to revise the permit must be certified for truth, accuracy, and completeness by a responsible official.

Note that failure to submit the required information may require the Illinois EPA to deny the application. The Illinois EPA reserves the right to require that additional information be submitted as needed to evaluate or take final action on applications pursuant to Section 39.5(5)(g) of the Act and 35 IAC 270.305.



Illinois Environmental Protection Agency  
Division Of Air Pollution Control -- Permit Section  
P.O. Box 19506  
Springfield, Illinois 62794-9506

<b>Application For Construction Permit (For CAAPP Sources Only)</b>	<b>For Illinois EPA use only</b>
	I.D. number:
	Permit number:
	Date received:

This form is to be used by CAAPP sources to supply information necessary to obtain a construction permit. Please attach other necessary information and completed CAAPP forms regarding this construction/modification project.

<b>Source Information</b>		
1. Source name:		
2. Source street address:		
3. City:	4. Zip code:	
5. Is the source located within city limits? <input type="checkbox"/> Yes <input type="checkbox"/> No		
6. Township name:	7. County:	8. ID number:

<b>Owner Information</b>		
9. Name:		
10. Address:		
11. City:	12. State:	13. Zip code:

<b>Operator Information (if different from owner)</b>		
14. Name		
15. Address:		
16. City:	17. State:	18. Zip code:

<b>Applicant Information</b>	
19. Who is the applicant? <input type="checkbox"/> Owner <input type="checkbox"/> Operator	20. All correspondence to: (check one) <input type="checkbox"/> Owner <input type="checkbox"/> Operator <input type="checkbox"/> Source
21. Attention name and/or title for written correspondence:	
22. Technical contact person for application:	23. Contact person's telephone number:

This Agency is authorized to require and you must disclose this information under 415 ILCS 5/39. Failure to do so could result in the application being denied and penalties under 415 ILCS 5 et seq. It is not necessary to use this form in providing this information. This form has been approved by the forms management center.

<b>Summary Of Application Contents</b>	
24. Does the application address whether the proposed project would constitute a new major source or major modification under each of the following programs: a) Non-attainment New Source Review – 35 IAC Part 203; b) Prevention of Significant Deterioration (PSD) – 40 CFR 52.21; c) Hazardous Air Pollutants: Regulations Governing Constructed or Reconstructed Major Sources – 40 CFR Part 63?	<input type="checkbox"/> Yes <input type="checkbox"/> No
25. Does the application identify and address all applicable emissions standards, including those found in the following: a) Board Emission Standards – 35 IAC Chapter I, Subtitle B; b) Federal New Source Performance Standards – 40 CFR Part 60; c) Federal Standards for Hazardous Air Pollutants – 40 CFR Parts 61 and 63?	<input type="checkbox"/> Yes <input type="checkbox"/> No
26. Does the application include a process flow diagram(s) showing all emission units and control equipment, and their relationship, for which a permit is being sought?	<input type="checkbox"/> Yes <input type="checkbox"/> No
27. Does the application include a complete process description for the emission units and control equipment for which a permit is being sought?	<input type="checkbox"/> Yes <input type="checkbox"/> No
28. Does the application include the information as contained in completed CAAPP forms for all appropriate emission units and air pollution control equipment, listing all applicable requirements and proposed exemptions from otherwise applicable requirements, and identifying and describing any outstanding legal actions by either the USEPA or the Illinois EPA? Note: The use of "APC" application forms is not appropriate for applications for CAAPP sources. CAAPP forms should be used to supply information.	<input type="checkbox"/> Yes <input type="checkbox"/> No
29. If the application contains TRADE SECRET information, has such information been properly marked and claimed, and have two separate copies of the application suitable for public inspection and notice been submitted, in accordance with applicable rules and regulations?	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Not Applicable, No TRADE SECRET information in this application

Note 1: Answering "No" to any of the above may result in the application being deemed incomplete.

<b>Signature Block</b>	
This certification must be signed by a responsible official. Applications without a signed certification will be returned as incomplete.	
30. I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in this application are true, accurate and complete. Authorized Signature:	
BY:	_____
_____	_____
AUTHORIZED SIGNATURE	TITLE OF SIGNATORY
_____	_____/_____/_____
TYPED OR PRINTED NAME OF SIGNATORY	DATE

Note 2: An operating permit for the construction/modification permitted in a construction permit must be obtained by applying for the appropriate revision to the source's CAAPP permit, if necessary.

10.5 Attachment 5 Guidance on Renewing This Permit

Timeliness - Pursuant to Section 39.5(5)(n) of the Act and 35 IAC 270.301(d), a source must submit to the Illinois EPA a complete CAAPP application for the renewal of a CAAPP permit not later than 9 months before the date of permit expiration of the existing CAAPP permit in order for the submittal to be deemed timely. Note that the Illinois EPA typically sends out renewal notices approximately 18 months prior to the expiration of the CAAPP permit.

The CAAPP application must provide all of the following information in order for the renewal CAAPP application to be deemed complete by the Illinois EPA:

1. A completed renewal application form 200-CAAPP, APPLICATION FOR CAAPP PERMIT.
2. A completed compliance plan form 293-CAAPP, COMPLIANCE PLAN/SCHEDULE OF COMPLIANCE FOR CAAPP PERMIT.
3. A completed compliance certification form 296-CAAPP, COMPLIANCE CERTIFICATION, signed by the responsible official.
4. Any applicable requirements that became effective during the term of the permit and that were not included in the permit as a reopening or permit revision.
5. If this is the first time this permit is being renewed and this source has not yet addressed CAM, the application should contain the information on form 464-CAAPP, COMPLIANCE ASSURANCE MONITORING (CAM) PLAN.
6. Information addressing any outstanding transfer agreement pursuant to the ERMS.
7. a. If operations of an emission unit or group of emission units remain unchanged and are accurately depicted in previous submittals, the application may contain a letter signed by a responsible official that requests incorporation by reference of existing information previously submitted and on file with the Illinois EPA. This letter must also include a statement that information incorporated by reference is also being certified for truth and accuracy by the responsible official's signing of the form 200-CAAPP, APPLICATION FOR CAAPP PERMIT and the form 296-CAAPP, COMPLIANCE CERTIFICATION. The boxes should be marked yes on form 200-CAAPP, APPLICATION FOR CAAPP PERMIT,

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as existing information is being incorporated by reference.

- b. If portions of current operations are not as described in previous submittals, then in addition to the information above for operations that remain unchanged, the application must contain the necessary information on all changes, e.g., discussion of changes, new or revised CAAPP forms, and a revised fee form 292-CAAPP, FEE DETERMINATION FOR CAAPP PERMIT, if necessary.
8. Information about all off-permit changes that were not prohibited or addressed by the permit to occur without a permit revision and the information must be sufficient to identify all applicable requirements, including monitoring, recordkeeping, and reporting requirements, for such changes.
9. Information about all changes made under 40 CFR 70.4(b)(12)(i) and (ii) that require a 7-day notification prior to the change without requiring a permit revision.

The Illinois EPA will review all applications for completeness and timeliness. If the renewal application is deemed both timely and complete, the source shall continue to operate in accordance with the terms and conditions of its CAAPP permit until final action is taken on the renewal application.

Notwithstanding the completeness determination, the Illinois EPA may request additional information necessary to evaluate or take final action on the CAAPP renewal application. If such additional information affects your allowable emission limits, a revised form 292-CAAPP, FEE DETERMINATION FOR CAAPP PERMIT must be submitted with the requested information. The failure to submit to the Illinois EPA the requested information within the time frame specified by the Illinois EPA, may force the Illinois EPA to deny your CAAPP renewal application pursuant to Section 39.5 of the Act.

Application forms may be obtained from the Illinois EPA website at <http://www.epa.state.il.us/air/forms.html>.

If you have any questions regarding this matter, please contact a permit analyst at 217/782-2113.

FINAL DRAFT/PROPOSED CAAPP PERMIT  
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Mail renewal applications to:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
Permit Section (MC 11)  
P.O. Box 19506  
Springfield, Illinois 62794-9506

DGP:psj

I. INTRODUCTION

This source has applied for a Clean Air Act Permit Program (CAAPP) operating permit for its existing operation. The CAAPP is the program established in Illinois for the operating permits for significant stationary sources required by the federal Clean Air Act, as amended in 1990. The conditions in a CAAPP permit are enforceable by both the Illinois Environmental Protection Agency (Illinois EPA) and the USEPA.

The Degussa/Goldschmidt Chemical Corp. is located at 8300 West Route 24 in Mapleton. The site is a large chemical manufacturing operation. The initial operation is converting fats and oils to fatty acids. These fatty acids are then used to make nitriles, amines, or quarternary ammonium compounds. In addition, the source has boilers to produce steam for process heat, operates a hydrogen plant for use in one of the processes and a wastewater treatment plant.

II. EMISSION UNITS

Significant emission units at this source areas follows:

Emission Unit	Description	Date Constructed	Emission Control Equipment
<b>Nitriles/Stills</b>			
NCR-1 (161-R-1A)	Nitrile Reactors	1987	DPE Ammonia Scrubber 164-SCR-103
NCR-2 (161R-200)		1987	
NCR-3 (161-R-1)		1977	
NCR-4 (164-R-1A)		1973	
NCR-5 (164-R-2A)	Nitrile Reactor	1973	NCR-5 Ammonia (Venturi) Scrubber 265-S-901
NCR-3 (261-R-1)	Still	1977	Either of Above Scrubbers or Vacuum System
#6 Still (159-S-4A and 6B)	Still		
#7 Still (265-D-6 and 7)	Still		
265-D-2	Ammonia Recovery System	1988	None
265-T-201	Ammonia Recovery Feed Tank and Various Vacuum Pumps and Vents	1988	Ammonia (Venturi) Scrubber
<b>Hydrogenation</b>			
R-6 (163-R-1)	Reactor/Hydrogenator #6	1973	#6 Ammonia Absorber (163-AB-1) Scrubber 163-SCR-2), Barometric Condenser (163-SCR-103) and Two Stage Vacuum System (163-V-1) Also Controls R-7

Emission Unit	Description	Date Constructed	Emission Control Equipment
Addition of Catalyst to R-6 (163-KT-1)	Catalyst Pot for Reactor R-6	1973	None
MMA Tank (341-T-2) DMA Tank (341-T-1) R-6 to R-9 Reactors DP-MP #1 and #2 (161-R-1A and 161-R-200)	HAP Materials Used to Manufacture Different Products	1987	Flare (341-FLR-1); Vacuum System (165-V-1)
R-7 (163-R-102)	Reactor/ Hydrogenator #7	1973	#7 Ammonia Absorber (163-R-202) (See Scrubber, Barometric Condenser and Vacuum System on R-6, Same System Controls R-7)
Addition of Catalyst to R-7 (163-KT-300)	Catalyst Pot for Reactor R-7	1973	None
R-8 (263-R-1)	Reactor/Hydrogenator #8	1977	#8 Ammonia Absorber (263-R-3) Fat Scrubber (263-SC-1) Barometric Scrubber (263-V-1) [In Series with Ammonia Absorber and Fat Scrubber]
Addition of Catalyst to R-8 (263-T-3)	Catalyst Pot for Reactor R-8	1977	None
R-9 (264-R-9)	Amine System Hydrogenator	1987	#9 Ammonia Absorber (264-S-3), Clean-Up Absorber (264-S-4), Barometric Condenser #42559
Addition of Catalyst to R-9 (264-T-301)	Catalyst Pot for Hydrogenator R-9	1987	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
R-6 to R-9 Amine Systems	Ammonia Water Loadout for These Systems	1987	Loadout System Scrubber (239-SCR-103)
Quaternary Amines ("Quart")			
Quat 1 (162-R-200)	Reactor	1973	IPA Recovery System [Condensers] (162-X-154 and 162-S-154); Methyl Chloride Recovery System [Condenser and Compressor] (162-X-156 and 162-M-1)
Quat 2 (262-R-1)	Reactor	1977	IPA Recovery System (262-X-6 and 262-S-6); Methyl Chloride Recovery System (262-X-10 and 262-CM-1); Vacuum Vent to Scrubber (262-V-1)
Quat 3 (262-R-2)	Reactor	1977	IPA Recovery System (262-X-8 and 262-58); Methyl Chloride Recovery System (262-X-11 and 262-CM-2); Vacuum System (262-V-1)
Quat 4 (Different Product Than Normal Quat 1, 2 or 3 but 1, 2 and 3 may be used if 4 not in use) (362-R-100, 362-S-101, 362-SEP-102, 362-X-101, 362-X-103, 262-T-23)	Reactor, Blow Tank and Stripper (Still)	1993	Methyl Chloride and Ethanol Recovery - Use Systems on Quat 1, 2 or 3)
Adduct Reactor (23-R-1)	Reactor	1977	None
Storage and Transfer Tanks for Adduct (T-3063 and 3064)	Tanks	1991	Scrubber (139-SCR-701)

Emission Unit	Description	Date Constructed	Emission Control Equipment
Storage Tanks			
	See Table in Attachment 1 Listing All Tanks Including Year Constructed		
271-X-1A or 1B	IPA Stripper	1982	Vapor Recovery System - Condensers 271-X-3 and X-6
171-SPR-1	Nichols Spray Tower	1974	Baghouse 171-F-100
271-LFB-101	Powder Conditioning Bed	1981	Baghouse 271-F-100
Fuel Combustion Units			
"C" Boiler	Natural Gas Fired Boiler, 65 mmBtu/hr	1972	None
"D" Boiler	Natural Gas Fired Boiler, 97.3 mmBtu/hr	1979	None
"E" Boiler	Natural Gas Fired Boiler, #2 Fuel Oil Standby, 184 mmBtu/hr	1991	None
Splitters, Boiler 146-B-1	Natural Gas Fired Boiler, #2 Fuel Oil Standby, 18.3 mmBtu/hr	1974	None
Fractionator Hot Water Heater 243-B-2	Natural Gas Fired Hot Water Heater, 2.65 mmBtu/hr	1973	None
Reactor HTF Heater	Natural Gas Fired Heat Transfer Fluid Heater, 24.5 mmBtu/hr	1988	None
NCR-3 HTF Heater, 260-X-1	Natural Gas Fired Heat Transfer Fluid Heater, #2 Fuel Oil Standby, 20 mmBtu/hr	1977	None
NCF-5 HTF Heater, 265-X-1	Natural Gas Fired Heat Transfer Fluid Heater, 28 mmBtu/hr	1988	None
NCR-4 HTF Heater, 159-B-1	Natural Gas Fired Heat Transfer Fluid Heater, 10.4 mmBtu/hr	1973	None
Hydrogen Plant	Natural Gas is fuel to but fuel to waste heat boiler is generated in a reformer, 32.37 mmBtu/hr	1986	None

III. EMISSIONS

This source is required to have a CAAPP permit since it is a major source of emissions.

For purposes of fees, the source is allowed the following emissions:

Permitted Emissions of Regulated Pollutants

Pollutant	Tons/Year
Volatile Organic Material (VOM)	1,122
Sulfur Dioxide (SO <sub>2</sub> )	278
Particulate Matter (PM)	91
Nitrogen Oxides (NO <sub>x</sub> )	322
HAP, not included in VOM or PM	3
Total	1,816

This permit is a combined Title I/CAAPP permit that may contain terms and conditions which address the applicability, and compliance if determined applicable, of Title I of the Clean Air Act and regulations promulgated thereunder, including 40 CFR 52.21 - federal Prevention of Significant Deterioration (PSD) and 35 IAC Part 203 - Major Stationary Sources Construction and Modification. Any such terms and conditions are identified within the permit by T1, T1R, or T1N. The source has requested that the Illinois EPA establish or revise such conditions in a Title I permit, consistent with the information provided in the CAAPP application. Any conditions established in a construction permit pursuant to Title I and not revised or deleted in this permit, remain in effect pursuant to Title I provisions until such time that the Illinois EPA revises or deletes them.

IV. APPLICABLE EMISSION STANDARDS

All emission sources in Illinois must comply with the Illinois Pollution Control Board's emission standards. The Board's emission standards represent the basic requirements for sources in Illinois.

All emission sources in Illinois must comply with the federal New Source Performance Standards (NSPS). The Illinois EPA is administering NSPS in Illinois on behalf of the United States EPA under a delegation agreement.

All emission sources in Illinois must comply with the federal National Emission Standards for Hazardous Air Pollutants (NESHAP). The Illinois EPA is administering NESHAP in Illinois on behalf of the United States EPA under a delegation agreement.

V. PROPOSED PERMIT

CAAPP

A CAAPP permit contains all conditions that apply to a source and a listing of the applicable state and federal air pollution control regulations that are the origin of the conditions. The permit also contains emission limits and appropriate compliance procedures. The

appropriate compliance procedures may include inspections, work practices, monitoring, record keeping, and reporting to show compliance with these requirements. The Permittee must carry out these procedures on an on-going basis.

Title I

A combined Title I/CAAPP permit contains terms and conditions established by the Illinois EPA pursuant to authority found in Title I provisions, e.g., 40 CFR 52.21 - federal Prevention of Significant Deterioration (PSD) and 35 IAC Part 203 - Major Stationary Sources Construction and Modification. Notwithstanding the expiration date on the first page of the permit, the Title I conditions remain in effect pursuant to Title I provisions until the Illinois EPA deletes or revises them in accordance with Title I procedures.

VI. REQUEST FOR COMMENTS

It is the Illinois EPA's preliminary determination that this source's permit application meets the standards for issuance of a CAAPP permit. The Illinois EPA is therefore proposing to issue a CAAPP permit, subject to the conditions proposed in the draft permit.

Comments are requested on this proposed action by the Illinois EPA and the proposed conditions on the draft permit. If substantial public interest is shown in this matter, the Illinois EPA will consider holding a public hearing in accordance with 35 Ill. Adm. Code Part 166.

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