FINAL DRAFT/PROPOSED CAAPP PERMIT
PQ Corporation
I.D. No.: 099833AAB
Application No.: 96030149
October 2, 2001

217/782-2113

TITLE V - CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT
and
TITLE I PERMIT[1]

PERMITTEE

PQ Corporation
Attn: Craig Powers
340 East Grove Street
Utica, Illinois 61373

Application No.: 96030149 I.D. No.: 099833AAB
Applicant's Designation: Date Received: March 7, 1996
Operation of: Inorganic Chemical Manufacturing Operations
Date Issued: !TO BE DETERMINED! Expiration Date[2]: !DATE!
Source Location: 340 East Grove Street, Utica, LaSalle
Responsible Official: Walter Fasold, Operations Manager

This permit is hereby granted to the above-designated Permittee to OPERATE an inorganic chemical 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.

TABLE OF CONTENTS

		PAGE
1.0	SOURCE IDENTIFICATION	4
	1.1 Source	
	1.2 Owner/Parent Company	
	1.3 Operator	
	1.4 General Source Description	
2.0	LIST OF ABBREVIATIONS/ACRONYMS USED IN THIS PERMIT	5
3.0	INSIGNIFICANT ACTIVITIES	7
	3.1 Identification of Insignificant Activities	
	3.2 Compliance with Applicable Requirements	
	3.3 Addition of Insignificant Activities	
4.0	SIGNIFICANT EMISSION UNITS AT THIS SOURCE	11
5.0	OVERALL SOURCE CONDITIONS	13
	5.1 Source Description	
	5.2 Applicable Regulations	
	5.3 Non-Applicability of Regulations of Concern	
	5.4 Source-Wide Operational and Production Limits and Work Practices	
	5.5 Source-Wide Emission Limitations	
	5.6 General Recordkeeping Requirements	
	5.7 General Reporting Requirements	
	5.8 General Operational Flexibility/Anticipated Operating Scenarios	
	5.9 General Compliance Procedures	
	5.10 Special Permit Shield	
6.0	NOT APPLICABLE TO THIS PERMIT	20
7.0	UNIT SPECIFIC CONDITIONS	21
	7.1 Unit: Sodium Silicate Manufacturing Process Control: Scrubber, Mist Eliminator and Baghouses	
	7.2 Unit: Metasilicate Manufacturing Process Control: Demisters, Baghouse and Cyclone	
	7.3 Unit: Epsom Salt Manufacturing Process Control: Mist Eliminator and Dust Collectors	

PAGE

8.0 GENERAL PERMIT CONDITIONS 39

8.1 Permit Shield
8.2 Applicability of Title IV Requirements
8.3 Emissions Trading Programs
8.4 Operational Flexibility/Anticipated Operating Scenarios
8.5 Testing Procedures
8.6 Reporting Requirements
8.7 Obligation to Comply with Title I Requirements

9.0 STANDARD PERMIT CONDITIONS 45

9.1 Effect of Permit
9.2 General Obligations of Permittee
9.3 Obligation to Allow Illinois EPA Surveillance
9.4 Obligation to Comply with Other Requirements
9.5 Liability
9.6 Recordkeeping
9.7 Annual Emissions Report
9.8 Requirements for Compliance Certification
9.9 Certification
9.10 Defense to Enforcement Actions
9.11 Permanent Shutdown
9.12 Reopening and Reissuing Permit for Cause
9.13 Severability Clause
9.14 Permit Expiration and Renewal

10.0 ATTACHMENTS

10.1 Attachment 1 – Allowable Emissions of Particulate Matter 1-1
10.2 Attachment 2 - Example Certification by a Responsible Official 2-1
10.3 Attachment 3 – Guidance on Revising This Permit 3-1
10.4 Attachment 4 – Form 199-CAAPP, Application For Construction Permit (For CAAPP Sources Only) 4-1
10.5 Attachment 5 – Guidance on Renewing this Permit 5-1

1.0 SOURCE IDENTIFICATION

1.1 Source

PQ Corporation
340 East Grove Street
Utica, Illinois 61373
815/667-4241

I.D. No.: 099833AAB
Standard Industrial Classification: SIC, 2819

1.2 Owner/Parent Company

PQ Corporation
Post Office Box 840
Valley Forge, Pennsylvania 19482

1.3 Operator

PQ Corporation
340 East Grove Street
Utica, Illinois 61373

Craig Powers, Plant Manager
815/667-4241

1.4 General Source Description

The PQ Corporation manufacturing operation is located at 340 East Grove Street in Utica. The source manufactures sodium silicate, two types of metasilicate and Epsom salt. In addition, the source has fuel combustion emission units for producing process heat and steam.

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
CO	Carbon Monoxide
dscf	Dry Standard Cubic Foot
°F	degrees Fahrenheit
ft^3	cubic feet
gal	gallon
gr	grains
HAP	Hazardous Air Pollutant
hr	hour
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
kg	Kilogram
kW	kilowatts
lb	pound
Mg	Megagram
mmBtu	Million British thermal units
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standards
PM	Particulate Matter
PM_{10}	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_2	Sulfur Dioxide
T	Ton
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
wt	weight

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:

Metasilicate Process[a] – Enclosed Units

MA-03 Anhydrous Screen
MP-02 Pentahydrate Screen
MA-04 Anhydrous Crusher
MP-03 Pentahydrate Crusher
Transfer from Sand Hopper to Belt Scale
Transfer from Surge Hopper to Furnace Charger

[a] MA = Anhydrous Line
MP = Penthydrate Line

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:

Sodium Silicate Process

Discharge from Sand Silo to Screw Conveyor[a]
Discharge from Soda Ash to Silo to Lump Crusher[a]
Batch Elevator Discharge to Pneumatic Transporter Surge Hopper[a]
Discharge from Screw to Bucket Elevator[b]
Transfer from Bucket Elevator to Sand Silo[b]
Transfer from Bucket Elevator to Soda Ash Silo[b]
Transfer from Screw to Belt Conveyor[b]
Discharge from Belt Conveyor into Sand Hopper[b]
Discharge from Scale to Incline Screw Conveyor[b]
Transfer from Screw to Batch Elevator[b]
Discharge from Lump Crusher to Screw Conveyor[b]
Transfer from Screw to Bucket Elevator #1[b]
Transfer from Bucket Elevator #2 to Screw Conveyor[b]
Discharge to Soda Ash Scale Hopper[b]
Transfer from Soda Ash Hopper to Belt Scale[b]
Dense Phase Pneumatic Transporter of Sand and Soda Ash[b]

[a] These units each have a passive fabric filter but PM emissions in absence of the filter would be under 0.1 lb/hr.

[b] All of these units are vented to one main baghouse, BH-SS01, but PM emissions of each would be less than 0.1 lb/hr and/or 0.44 ton/year prior to the baghouse.

Sodium Silicate Settling Tank
Sodium Silicate Production Storage Tanks
Enclosed De-Agglomerator
Anhydrous Holding Tank
Anhydrous Liquor Make-Up Tank[c]
Pentahydrate Liquor Tank[c]
Evaporator Tank
Magnesium Hydroxide Tank
Sulfuric Acid Tank
Water Vapor Emitting Units in Epsom Salt Production
Bagging of Epsom Salt Product
Bulk Loading of Epsom Salt Product
MgO Slurry Tanks
Filter Feed Tank
Cake Wash Tank
Filter Press
Filter Hold Tank
Product Storage Tank
Filter Cake Dumpster
Miscellaneous Plant Storage Tanks
Numerous Enclosed Discharge/Transfer Points

[c] These units have demisters but emissions are less than 0.1 lb/hr and/or 0.44 tons/yr in the absence of control equipment.

Metasilicate Process[a] – Enclosed Units

MA08 Dry Feed Bin Discharge to Kiln
MA09 Kiln Discharge to Screw Conveyor
MA10 Transfer from Screw to Bucket Elevator
MA11 Discharge to Screen
MA12 Undersize Discharge to Fines Return Screw
MA13 Oversize Discharge to 42″ Crusher
MA14 Crusher Discharge to Fines Return Screw
MA15 Transfer from Screw to Dry Feed Bin
MA16 Finished Product Size Discharge to Cooler
MA17 Product Transfer from Cooler to Screw
MA18 Screw Discharge into Bucket Elevator into Product Silo

MP06 Dry Feed Bin Discharge to Kiln
MP07 Kiln Discharge to Screw Conveyor
MP08 Discharge to Screen
MP10 Undersize Discharge to Fines Return Screw
MP11 Oversize Discharge to 36″ Crusher
MP12 Crusher Discharge to Fines Return Screw
MP13 Transfer from Screw to Dry Feed Bin

[a] MA = Anhydrous Line
MP = Penthydrate Line

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:

Equipment used for filling drums, pails, or other packaging containers, excluding aerosol cans, with soaps, detergents, surfactants, lubricating oils, waxes, vegetable oils, greases, animal fats, glycerin, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions [35 IAC 201.210(a)(8)].

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)].

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
Sodium Silicate Process			
SS22	#3 Sodium Silicate Furnace, 21.2 mmBtu/hr Firing Rate/Waste Heat Boiler	1970[a]	None
SS23	#3 Mammoth	1970[a]	Mist Eliminator, S-SS23
Metasilicate Process			
MA-01	Anhydrous Drying Kiln	1968	To Wet Wash Tank (MC-05) which then vents through Scrubber (MC-07)
MP-01	Pentahydrate Kiln	1968	To Wet Wash Tank (MC-05) which then vents through Scrubber (MC-07)
M-08	Bagging and Bulk Loading (for Both Anhydrous and Pentahydrate)	1968	Cyclone then to Wet Wash Tank (MC-05) which then vents through Scrubber (MC-07)
MA-02	Air Heater, Gas or Oil Fired, 11.3 mmBtu/hr		None
MA-06	Product Cooler		Baghouse (MAC-06)
M-06	Boiler, Natural Gas Fuel Only, 11.5 mmBtu/hr	1983	None
M-04	Evaporator Tank	1968	Demister (MC-04A & B)
Epsom Salt Process			
ES03	Reactor	1989	Mist Eliminator (C-ES03)
ES11	Crystallization Condenser	1989	Demister Pad (No vent to atmosphere)
ES14	Dryer/Cooler	1989	Dust Collector (BH-ES14)
ES21	Surge Bin	1989	Dust Collector (BH-ES19)
ES22	Bulk Loading	1989	Dust Collector (BH-ES22) followed by Filter (F-ES22)
ES24/25	Product Silo/Packaging	1989	Dust Collector (BH-ES24)
ES31	Gas or Oil Fired Boiler (10.0 mmBtu/hr)	1989	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
ESL02	Magnesium Oxide Storage Silo	1989	Baghouse (BH-ESL02)
ESL05	Reactor Tank	1989	Mist Eliminator (ESLC-05)

[a] The process was constructed in 1970 but modified in 1994.

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 PM and NO_x emissions.

5.1.2 This permit is issued based on the source not being a major source of HAPs.

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.

5.2.3 Fugitive Particulate Matter Operating Program

a. This source shall be operated under the provisions of an operating program prepared by the Permittee and submitted to the Illinois EPA for its review. Such operating program shall be designed to significantly reduce fugitive particulate matter emissions [35 IAC 212.309(a)].

b. The operating program shall be amended from time to time by the Permittee so that the operating program is current. Such amendments shall be consistent with the requirements set forth by this Condition and shall be submitted to the Illinois EPA [35 IAC 212.312].

c. All normal traffic pattern roads and parking facilities located at this source shall be paved. All paved areas shall be cleaned on a regular basis. Areas where raw materials are unloaded or finished goods are loaded will be maintained clean in order to prevent fugitive dust from crossing the fence line, in accordance with the operating program [35 IAC 212.306].

5.2.4 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.

5.2.5 Risk Management Plan

Should this stationary source, as defined in 40 CFR Section 68.3, become subject to the Accidental Release Prevention regulations in 40 CFR Part 68, then the owner or operator shall submit [40 CFR 68.215(a)(2)(i) and (ii)]:

a. A compliance schedule for meeting the requirements of 40 CFR Part 68 by the date provided in 40 CFR 68.10(a); or

b. A certification statement that the source is in compliance with all requirements of 40 CFR Part 68, including the registration and submission of the Risk Management Plan (RMP), as part of the annual compliance certification required by 40 CFR Part 70 or 71.

5.2.6 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.

5.2.7 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.

5.2.8 CAM Plan

N/A

5.3 Non-Applicability of Regulations of Concern

None

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)	4.5
Sulfur Dioxide (SO_2)	7.14
Particulate Matter (PM)	240.50[a]
Nitrogen Oxides (NO_x)	150.0
HAP, Not Included in VOM or PM	------
TOTAL	402.14

[a] Includes 4.67 tons/yr of sulfuric acid mist

5.5.2 Emissions of Hazardous Air Pollutants

This permit is issued based on the emissions of HAPs as listed in Section 112(b) of the CAA not being equal to or exceeding 10 tons per year of a single HAP or 25 tons per year of any combination of such HAPs, so that this source is considered a minor source for 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

a. 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.

b. For rules cited in Section 5.2.2 and 5.2.4, no monitoring or recordkeeping is required to demonstrate compliance with those requirements.

5.6.2 Records for Operating Scenarios

N/A

5.6.3 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.

5.10 Special Permit Shield

N/A

6.0 NOT APPLICABLE TO THIS PERMIT

7.0 UNIT SPECIFIC CONDITIONS

7.1 Unit: Sodium Silicate Manufacturing Process
Control: Scrubber, Mist Eliminator and Baghouses

7.1.1 Description

Sodium silicate is produced by the fusion of soda ash (sodium carbonate) and sand (silica, silicon dioxide) at over 2000°F. Heat must be supplied by natural gas or distillate fuel oil combustion. Waste heat is recovered by a boiler.

The molten sodium silicate is dissolved in water using a rotary atmospheric dissolver. The liquid is pumped to storage tanks for either outside customers or feedstock for the metasilicate operation.

7.1.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
SS22	#3 Sodium Silicate Furnace, 21.2 mmBtu/hr Firing Rate/Waste Heat Boiler	None
SS23	#3 Mammoth	Mist Eliminator, S-SS23

7.1.3 Applicability Provisions and Applicable Regulations

a. An “affected sodium silicate manufacturing process” for the purpose of these unit-specific conditions, is a process in which sodium silicate is manufactured and then dissolved in water.

b. Each affected unit is subject to the emission limits identified in Condition 5.2.2.

c. The furnace is subject to 35 IAC 214.301. This rule states that no person shall cause or allow the emission of SO_2 into the atmosphere from any process emission unit to exceed 2000 ppm. Compliance with this limit is assured by use of natural gas or fuel oil containing less than 0.3 wt percent sulfur.

d. Emissions of PM shall not exceed the allowable of 35 IAC 212.321. This rule is written out in Attachment 1.

7.1.4 Non-Applicability of Regulations of Concern

a. This permit is issued based on the affected sodium silicate manufacturing process not being subject to the New Source Performance Standards (NSPS) for Non-metallic Mineral Processing, 40 CFR Part 60, Subpart OOO, because the affected sodium silicate production line was constructed in 1970, prior to the applicable date of August 31, 1983. The 1994 modification did not precipitate the NSPS.

b. This permit is issued based on the affected burners in the furnace when using fuel oil not being subject to 35 IAC 214.304, because the affected process line is not located in the Chicago or St. Louis major metropolitan areas. This rule requires that fuel oil used in a process emission unit meet the same SO_2 emission rate per million Btus as a fuel combustion emission unit. Although not required to meet this limit of 0.3 lb/mmBtu for the No. 2 fuel oil used as a backup fuel, the Permittee voluntarily complies with it as this also assures compliance with 35 IAC 214.301.

c. This permit is issued based on the affected furnace not being subject to any rules for fuel combustion units (e.g., 35 IAC 216.121 for CO emissions) although the flue gas may vent through a waste heat boiler because the furnace is a process emission unit and not a fuel combustion emission unit.

d. This permit is issued based on the affected sodium silicate production line not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the sodium silicate production line does not have potential pre-control device emissions of the applicable regulated air pollutant that equals or exceeds major source threshold levels.

7.1.5 Control Requirements

The mist eliminator shall be operated so that the process complies with Condition 7.1.3(d).

7.1.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected sodium silicate production line is subject to the following:

Emissions from the affected #3 sodium silicate furnace (SS22) shall not exceed the following limits:

PM Emissions	
(Ton/Month)	(Ton/Year)
2.2	26.3

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 72100813. 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 allowed emissions have been adjusted up from the allowable in the construction permit to the allowable pursuant to the applicable rule, 35 IAC 212.321. This source is not major stationary source pursuant to PSD and thus an emission rate that would be a significant increase does not apply. The hourly pursuant to the

applicable has also been adjusted to a monthly rate. [T1R].

7.1.7 Testing Requirements

Upon request by the Illinois EPA, the furnace discharge (whether vented through the waste heat boiler or not) shall be tested for compliance with Condition 7.1.3(c) or (d).

7.1.8 Inspection and Monitoring Requirements

a. The mist eliminator shall be inspected quarterly to determine if it is in good enough condition to perform its function.

b. Twice yearly the baghouses on the discharge/transfer points shall be inspected to determine if the bags should be replaced.

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 the affected sodium silicate manufacturing process to demonstrate compliance with Conditions 5.5.1, 7.1.3(c) and 7.1.8, pursuant to Section 39.5(7)(b) of the Act:

a. A device that confirms that fluid (scrubbant) is being fed to the scrubber or measures a specific flow rate of the scrubbant;

b. Records of semi-annual baghouse and quarterly mist eliminator inspections;

c. Weight percent sulfur of each shipment of fuel oil received;

d. Monthly fuel gas and fuel oil usage; and

e. Monthly NO_x, SO_2, PM and CO emissions and aggregate annual.

7.1.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the affected sodium silicate manufacturing 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:

a. Emissions exceeding the allowable of Condition 7.1.3(d); and

b. If the fuel oil used exceeds 0.3 weight percent sulfur, a calculation must be performed and submitted to the Illinois EPA demonstrating that SO_2 emissions do not exceed 2000 ppm [Condition 7.1.3(c)].

c. Exceedance of the limits in Condition 7.1.6.

7.1.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.1.12 Compliance Procedures

a. All emissions from the process that are vented through baghouses or mist eliminators, are considered to be PM_{10}.

b. The manufacture of sodium silicate at this source is similar to glass manufacturing and therefore the emission factors for uncontrolled glass manufacturing in AP-42, Table 11.15-1 and 11.15-2, as follows, shall be used:

Pollutant	Emissions (lb/ton)
PM	1.4
NO_x	6.2
CO	0.2

PM emissions = tons/product x emissions factor x (1 – control efficiency)

NO_x and CO emissions = tons product x emission factor

SO_2 emissions are negligible when using natural gas and for use of fuel oil are as follows:

SO_2 Emissions (ton/mo) = gallons of fuel oil x density of oil x wt. % sulfur x 2 lb SO_2/pound of sulfur ÷ 2000 lb/ton.

7.2 Unit Metasilicate Manufacturing Process Control Demisters, Baghouse and Cyclone

7.2.1 Description

Two products are manufactured in the metasilicate plant. One line manufactures pentahydrate metasilicate and the other line anhydrous metasilicate. Both begin with the sodium silicate manufactured by the process described in Section 7.1. One common vessel, an evaporator tank, is used for both lines. The primary difference is that for the anhydrous process the temperature in the kiln is much higher.

7.2.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
MA-01	Anhydrous Drying Kiln[a]	To Wet Wash Tank (MC-05) which then vents through Scrubber (MC-07)
MP-01	Pentahydrate Kiln[a]	To Wet Wash Tank (MC-05) which then vents through Scrubber (MC-07)
M-08	Bagging and Bulk Loading (for Both Anhydrous and Pentahydrate)	Cyclone then to Wet Wash Tank (MC-05) which then vents through Scrubber (MC-07)
MA-02	Air Heater, Gas or Oil Fired, 11.3 mmBtu/hr	None
MA-06	Product Cooler	Baghouse (MAC-06), which vents to a tank of water
M-06	Boiler, Natural Gas Fuel Only, 11.5 mmBtu/hr	None
MA-10	Discharge Screw/Elevator	Old Baghouse, MAC-1, then to wet wash tank MC-05, which vents through scrubber (MC-07)

[a] The anhydrous kiln can manufacture pentahydrate by not using the air heater, but the reverse is not true, i.e. the pentahydrate kiln cannot make the anhydrous product. Also, there are vessels besides those listed that effectively emit only water.

7.2.3 Applicability Provisions and Applicable Regulations

a. An “affected metasilicate manufacturing process” for the purpose of these unit-specific conditions, is a process described in Condition 7.2.2 excluding the air heater and boiler, which are fuel combustion emission units.

b. Each affected metasilicate manufacturing process is subject to the emission limits identified in Condition 5.2.2.

c. Each metasilicate manufacturing process unit is subject to 35 IAC 212.322. This rule is written out in Attachment 1.

d. Air Heater and Boiler:

i. Both units are subject to 35 IAC 216.121. This rule states that no person shall cause or allow the emission of CO into the atmosphere from any fuel combustion emission unit with actual heat input greater than 10 mmBtu/hr to exceed 200 ppm, corrected to 50 percent excess air.

ii. The emissions of particulate matter (PM) into the atmosphere in any one hour period shall not exceed 0.10 lb/mmBtu of actual heat input from any fuel combustion emission unit using liquid fuel exclusively [35 IAC 212.206].

iii. The emission of sulfur dioxide (SO_2) into the atmosphere in any one hour period from any existing fuel combustion emission unit, burning liquid fuel exclusively shall not exceed 0.3 lb/mmBtu of actual heat input when distillate fuel oil is burned [35 IAC 214.161(b)].

7.2.4 Non-Applicability of Regulations of Concern

a. This permit is issued based on the affected metasilicate manufacturing processes not being subject to the New Source Performance Standards (NSPS) for Non-Metallic Mineral Processing Plants or Mineral Industry Dryers, 40 CFR Part 60, Subparts OOO and UUU, because the affected process lines were

operating prior to the applicable dates (August 31, 1983 and April 23, 1986, respectively).

b. This permit is issued based on the affected air heater and boiler not being subject to the NSPS for small industrial steam generating units because the affected units were constructed prior to the applicable dates of June 9, 1989.

c. The affected air heater and boiler are not subject to 35 IAC 217.141, emissions of NO_x from existing fuel combustion emission unit in a major metropolitan areas, because the actual heat input of each affected boiler is less than 250 mmBtu/hr, and is not located in a major metropolitan area.

d. This permit is issued based on the affected metasilicate manufacturing process not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected units do not have potential pre-control device emissions of the applicable regulated air pollutant that equals or exceeds major source threshold levels.

7.2.5 Control Requirements and Operational Practices

a. Each baghouse, cyclone or demister shall be operated in accordance with the good manufacturing practices. These procedures and preventative maintenance schedules will be determined by the Permittee so as to reduce emissions to comply with 35 IAC 212.322 [Condition 7.2.3(c)]. Such procedures and schedules will be available to the Illinois EPA upon request.

b. Each affected air heater and boiler shall only be operated with natural gas or distillate fuel oil as the fuels.

c. The Permittee shall not use distillate fuel oil (Grades No. 1 and 2 fuels) in the affected air heater or boiler 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).

7.2.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected metasilicate manufacturing processes 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 Testing Requirements

Upon request by the Illinois EPA, any emission unit cited in the request shall be tested for compliance with 35 IAC 212.322 using standard USEPA test methodology.

7.2.8 Inspection and Monitoring Requirements

Twice yearly the baghouses and demister shall be inspected to determine if the bags or demisters should be replaced.

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 metasilicate manufacturing process to demonstrate compliance with Conditions 5.5.1 and 7.2.8, pursuant to Section 39.5(7)(b) of the Act:

a. Semi-annual baghouse and demister inspection results;

b. PM emissions (lb/mo and aggregate annual) from each unit;

c. Monthly natural gas and fuel oil records;

d. Sulfur content of each shipment of fuel oil; and

e. Monthly NO_x, CO, PM, VOM and SO_2 emissions from fuel combustion units and aggregate annual.

7.2.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of an affected metasilicate manufacturing 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.

If there is an exceedance of sulfur content of the distillate fuel oil specified in Condition 7.2.5, the Permittee shall submit a report within 30 days after receipt of the noncompliant shipment of distillate fuel oil.

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 metasilicate manufacturing process 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 line designated anhydrous may manufacture pentahydrate by not using the higher temperature in the kiln. Since the pentahydrate kiln is not currently equipped with a heat source it may not manufacture anhydrous material without obtaining a construction permit for an air heater.

7.2.12 Compliance Procedures

a. Emissions of PM and PM_{10} from the kilns shall be calculated using the AP-42, Section 11.20-5, emission factor of 0.78 and 0.29 lb/ton of feed, respectively.

b. i. Emission factors for air heater and boiler

Pollutant	Natural Gas ($lb/10^6\ ft^3$)	No. 2 Fuel Oil ($lb/10^3$ gal)
NO_x	100	24
CO	84	5
SO_2	0.6	157S
VOM	5.5	0.25

The middle column emission factors are for uncontrolled natural gas combustion in boilers, Tables 1.4-1 and 1.4-2, AP-42, Volume I, Supplement D, March, 1998.

Fuel Emissions (lb) = (Natural Gas Consumed, ft^3) x (The Appropriate Emission Factor)

The right column emission factors are for uncontrolled fuel oil combustion in boilers, Table 1.3-1 and 1.3-3, AP-42, Volume I, Supplement D, September, 1998.

Fuel Emissions (lb) = (Fuel Oil Consumed, ft^3) x (The Appropriate Emission Factor) where S is the weight percent sulfur in the fuel.

ii. Compliance with Conditions 7.2.3(d)(i) and (ii) are assured by the inherent nature of its operation, as demonstrated by historical operation.

iii. Compliance with Condition 7.2.3(d)(iii) is assured by compliance with the sulfur content limitation of Condition 7.2.5(c) and recordkeeping of the sulfur content required by Condition 7.2.9(e).

7.3 Unit Epsom Salt Manufacturing Process
Control Mist Eliminator and Dust Collectors

7.3.1 Description

Epsom salt, magnesium sulfate heptahydrate in crystal form, is produced by a batch reaction beginning with either magnesium oxide or hydroxide and sulfuric acid. After the initial reaction there are various steps to separate the crystals from the solution, drying of the crystals, screening to size the product and packaging.

The liquid Epsom Salts process is a micro-processing unit which uses advanced technology to produce Epsom salts in a liquid form. The principal raw materials are sulfuric acid and magnesium oxide. The sulfuric acid is shipped by tank truck and an acid unloading procedure is in place for both safety and spill containment. The magnesium oxide is shipped by railcar. The process begins with the sulfuric acid and magnesium oxide being pumped into a reactor. The two ingredients react. The Epsom is then sent to the filter press for filtering out any impurities and to tanks for liquid shipments. Any wastewater generated by this process is reused into the process.

7.3.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
ES03	Reactor[a]	Mist Eliminator (C-ES03)
ES11	Crystallization Condenser	Demister Pad (No vent to atmosphere)
ES14	Dryer/Cooler	Dust Collector (BH-ES14)
ES21	Surge Bin	Dust Collector (BH-ES19)
ES22	Bulk Loading	Dust Collector (BH-ES22) followed by filter (F-ES22)
ES24/25	Product Silo/Packaging	Dust Collector (BH-ES24)
ES31	Gas or Oil Fired Boiler (10.0 mmBtu/hr)	None
ESL02	Magnesium Oxide Storage Silo	Baghouse (BH-ESL02)
ESL05	Reactor Tank	Mist Eliminator (ESLC-05)

[a] There are numerous vessels between the reactor and prior to handling of dry crystals that emit only water and are not listed here. These include, but are not limited to, aging tanks, filter press, feed tank, mother liquor tank, and neutralization tank.

7.3.3 Applicability Provisions and Applicable Regulations

a. An "affected Epsom salt manufacturing process" for the purpose of these unit-specific conditions, is a process consisting of multiple steps, some of which are salts in solution and some a crystalline powder, that are described in Condition 7.3.2.

b. The affected Epsom salt manufacturing process is subject to the emission limits identified in Condition 5.2.2.

c. The reactor is subject to 35 IAC 214.303. This rule states that no person using sulfuric acid shall cause or allow the emission of sulfuric acid and/or sulfur trioxide from all other similar emission sources at a plant or premises to exceed:

   i. 0.1 lbs/hr for sulfuric acid usage less than 1300 T/yr (100 percent acid basis); and

   ii. 0.5 lbs/T for sulfuric acid usage greater than 1300 T/yr (100 percent acid basis).

d. Emissions of PM from each process emission unit shall not exceed the allowable of 35 IAC 212.321. This rule is written out in Attachment 1.

e. i. The boiler is subject to 35 IAC 216.121. This rule states that no person shall cause or allow the emission of CO into the atmosphere from any fuel combustion emission unit with actual heat input greater than 10 mmBtu/hr to exceed 200 ppm, corrected to 50 percent excess air.

   ii. The emissions of particulate matter (PM) into the atmosphere in any one hour period shall not exceed 0.10 lb/mmBtu of actual heat input from any fuel combustion emission unit using liquid fuel exclusively [35 IAC 212.206].

iii. The emission of sulfur dioxide (SO_2) into the atmosphere in any one hour period from any existing fuel combustion emission unit, burning liquid fuel exclusively shall not exceed 0.3 lb/mmBtu of actual heat input when distillate fuel oil is burned [35 IAC 214.161(b)].

7.3.4 Non-Applicability of Regulations of Concern

a. This permit is issued based on the affected Epsom salt manufacturing process not being subject to the New Source Performance Standards (NSPS) for nonmetallic mineral processing plants, 40 CFR Part 60, Subpart OOO, because the list of affected minerals in § 60.671 does not include any magnesium compounds.

b. This permit is issued based on the affected Epsom salt manufacturing process not being subject to the New Source Performance Standards (NSPS) for calciners and dryers in mineral industries, 40 CFR Part 60, Subpart UUU, because minerals are naturally occurring substances and the magnesium material being dried in the affected process is a manufactured product.

c. This permit is issued based on the affected Epsom salt manufacturing process not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected Epsom salt manufacturing process does not have potential pre-control device emissions of the applicable regulated air pollutant that equals or exceeds major source threshold levels.

d. The affected boiler is not subject to 35 IAC 217.141, emissions of NO_x from existing fuel combustion emission units in major metropolitan areas, because the actual heat input of each affected boiler is less than 250 mmBtu/hr, and is not located in a major metropolitan area.

7.3.5 Control Requirements and Operational Practices

a. The mist eliminator, demister and baghouses shall be operated in accordance with the manufacturer’s instructions so as to achieve compliance with Condition 7.3.3(c), (d) and (e).

b. The affected boiler shall only be operated with natural gas or distillate fuel oil as the fuels.

c. The Permittee shall not use distillate fuel oil (Grades No. 1 and 2 fuels) in the affected boiler 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).

7.3.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected Epsom salt manufacturing process is subject to the following:

Emissions from the affected Epsom salt manufacturing process shall not exceed the following limits:

Emission Unit	Pollutant	Emissions (lb/mo)	Emissions (T/Yr)	Construction Permit No.
Epsom Salt Process	PM	2.8	12.2	88120058
Reactor	SO_2	0.3	3.10	89060059
Reactor/Sulfuric Acid Mist	H_2SO_4	1050	4.65	89060059
Sulfuric Acid usage in tons		2250	20,000	89060059
Reactor and Silo Bin Vent (BH-ES24) Combined	PM		3.0	95050010

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 Permits. 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 original permits had hourly instead of monthly limits so these have been adjusted for ease of recordkeeping. The annual value has not been changed [T1R].

7.3.7 Testing Requirements

Upon request the PM emitting units or sulfuric acid mist emitting unit shall be tested for compliance with Condition 7.3.3(c) or (d) using standard USEPA test methodology.

7.3.8 Monitoring Requirements

a. The baghouse (BH-ES14) on the dryer/cooler shall be equipped with a Triboflow unit or an equivalent type of device for measuring particle flow in a qualitative manner so that it can be used as an indicator of bag breakage.

b. In the event of failure of the Triboflow unit the opacity of the dryer baghouse shall be read twice daily for six (6) minutes each time (Method 9).

c. All other baghouses (dust collectors) shall have a visual reading for opacity twice daily (Method 9). The operator who performs the opacity reading need not be certified but must have some training on the difference between less than 10% opacity, and 20 and 30 percent.

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 the affected Epsom salt manufacturing 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. Triboflow reading (continuous);

b. Opacity readings (daily);

c. Natural gas and fuel oil usage (scf or therms/month and gallons/month);

d. Sulfur content of each shipment of fuel oil; and

e. Sulfuric acid mist, PM, NO_x, and CO emissions (lb/mo and aggregate annual).

7.3.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the affected Epsom salt manufacturing 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 allowable of Conditions 7.3.3(c), (d), or (e), or Condition 7.3.6.

7.3.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to the affected Epsom salt manufacturing process 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:

As stated in the description, the process may begin with either magnesium oxide or magnesium hydroxide.

7.3.12 Compliance Procedures

a. Emissions from all baghouses are assumed to be 0.02 gr/dscf. Emissions of PM shall be calculated as this rate times the air flow rate of the blower moving air through the baghouse.

b. i. Emission factors for boiler

Pollutant	Natural Gas ($lb/10^6$ ft^3)	No. 2 Fuel Oil ($lb/10^3$ gal)
NO_x	100	24
CO	84	5
SO_2	0.6	157S
VOM	5.5	0.25

The middle column emission factors are for uncontrolled natural gas combustion in boilers, Tables 1.4-1 and 1.4-2, AP-42, Volume I, Supplement D, March, 1998.

Fuel Emissions (lb) = (Natural Gas Consumed, ft^3) x (The Appropriate Emission Factor)

The right column emission factors are for uncontrolled fuel oil combustion in boilers, Table 1.3-1 and 1.3-3, AP-42, Volume I, Supplement D, September, 1998.

Fuel Emissions (lb) = (Fuel Oil Consumed, ft^3) x (The Appropriate Emission Factor) where S is the weight percent sulfur in the fuel.

ii. Compliance with Conditions 7.3.3(e)(i) and (ii) are assured by the inherent nature of its operation, as demonstrated by historical operation.

iii. Compliance with Condition 7.3.3(e)(iii) is assured by compliance with the sulfur content limitation of Condition 7.3.5(c) and recordkeeping of the sulfur content required by Condition 7.3.9(d).

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]:

Monitoring Period	Report Due Date
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.

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)(o)(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 for the previous calendar year 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)(l), (n), and (o) of the Act].

10.0 ATTACHMENTS

10.1 Attachment 1 - Allowable Emissions of Particulate Matter

a. Process Emission Units Which Were Existing Prior to April 14, 1972 [35 IAC 212.322(b)].

No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any existing process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced prior to April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in the following equation:

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

Where:

P = Process weight rate;

E = Allowable emission rate; and,

i. For process weight rate up to 30 ton/hour:

	Metric	English
P	Mg/hr	T/hr
E	kg/hr	lbs/hr
A	1.985	4.10
B	0.67	0.67
C	0	0

ii. For process weight rate in excess of 30 ton/hour:

	Metric	English
P	Mg/hr	T/hr
E	kg/hr	lbs/hr
A	25.21	55.0
B	0.11	0.11
C	-18.4	-40.0

iii. For a process weight rate under 100 lb/hr (0.05 tons), the allowable is 0.55 lb/hr.

b. Process Emission Units for Which Construction or Modification Commenced On or After April 14, 1972 [35 IAC 212.321(b)].

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 or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in the following equation:

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

Where:

P = Process weight rate;
E = Allowable emission rate; and,

i. For process weight rate up to 450 ton/hour:

	Metric	English
P	Mg/hr	T/hr
E	kg/hr	lbs/hr
A	1.214	2.54
B	0.534	0.534

ii. For a process weight rate under 100 lb/hr (0.05 ton), the allowable is 0.55 lb/hr.

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

- 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

Application For Construction Permit (For CAAPP Sources Only)	For Illinois EPA use only
	ID 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.

Source Information

1. Source name:		
2. Source street address:		
3. City:		4. Zip code:
5. Is the source located within city limits?		☐ Yes ☐ No
6. Township name:	7. County:	8. ID number:

Owner Information

9. Name:		
10. Address:		
11. City:	12. State:	13. Zip code:

Operator Information (if different from owner)

14. Name		
15. Address:		
16. City:	17. State:	18. Zip code:

Applicant Information

19. Who is the applicant? ☐ Owner ☐ Operator	20. All correspondence to: (check one) ☐ Owner ☐ Operator ☐ 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.

Summary Of Application Contents

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?	☐ Yes ☐ 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?	☐ Yes ☐ 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?	☐ Yes ☐ No
27.	Does the application include a complete process description for the emission units and control equipment for which a permit is being sought?	☐ Yes ☐ 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.	☐ Yes ☐ 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?	☐ Yes ☐ No ☐ 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.

Signature Block

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:

_____	_____
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 form 200-CAAPP, APPLICATION FOR CAAPP PERMIT.

2. A completed compliance certification for the source. For this purpose, the Illinois EPA will accept a copy of the most recent form 401-CAAPP, ANNUAL COMPLIANCE CERTIFICATION submitted to the Illinois EPA.

3. 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.

4. Information addressing any outstanding transfer agreement pursuant to the ERMS.

5. 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. The boxes should be marked yes on form 200-CAAPP, APPLICATION FOR CAAPP PERMIT, 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.

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.

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

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 PQ Corporation manufacturing operation is located at 340 East Grove Street in Utica. The source manufactures sodium silicate, two types of metasilicate and Epsom salt. In addition, the source has fuel combustion emission units for producing process heat and steam.

II. EMISSION UNITS

Significant emission units at this source are as follows:

Emission Unit	Description	Date Constructed	Emission Control Equipment
Sodium Silicate Process			
SS22	#3 Sodium Silicate Furnace, 21.2 mmBtu/hr Firing Rate/Waste Heat Boiler	1970[a]	None
SS23	#3 Mammoth	1970[a]	Mist Eliminator, S-SS23
Metasilicate Process			
MA-01	Anhydrous Drying Kiln	1968	To Wet Wash Tank (MC-05) which then vents through Scrubber (MC-07)
MP-01	Pentahydrate Kiln	1968	To Wet Wash Tank (MC-05) which then vents through Scrubber (MC-07)
M-08	Bagging and Bulk Loading (for Both Anhydrous and Pentahydrate)	1968	Cyclone then to Wet Wash Tank (MC-05) which then vents through Scrubber (MC-07)
MA-02	Air Heater, Gas or Oil Fired, 11.3 mmBtu/hr		None
MA-06	Product Cooler		Baghouse (MAC-06)
M-06	Boiler, Natural Gas Fuel Only, 11.5 mmBtu/hr	1983	None
M-04	Evaporator Tank	1968	Demister (MC-04A & B)
Epsom Salt Process			
ES03	Reactor	1989	Mist Eliminator (C-ES03)
ES11	Crystallization Condenser	1989	Demister Pad (No vent to atmosphere)

Emission Unit	Description	Date Constructed	Emission Control Equipment
ES14	Dryer/Cooler	1989	Dust Collector (BH-ES14)
ES21	Surge Bin	1989	Dust Collector (BH-ES19)
ES22	Bulk Loading	1989	Dust Collector (BH-ES22) followed by Filter (F-ES22)
ES24/25	Product Silo/Packaging	1989	Dust Collector (BH-ES24)
ES31	Gas or Oil Fired Boiler (10.0 mmBtu/hr)	1989	None
ESL02	Magnesium Oxide Storage Silo	1989	Baghouse (BH-ESL02)
ESL05	Reactor Tank	1989	Mist Eliminator (ESLC-05)

[a] The process was constructed in 1970 but modified in 1994.

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)	4.5
Sulfur Dioxide (SO_2)	7.14
Particulate Matter (PM)	235.83
Nitrogen Oxides (NO_x)	150.0
Sulfuric Acid Mist	4.67
Total	402.14

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 164.