

INITIAL TITLE V AIR PERMIT APPLICATION REVIEW

APPLICANT: National Starch and Chemical Company Cedar Springs Plant	SITE LOCATION: Salisbury	COUNTY: Rowan	
TECHNICAL CONTACT: Richard D. Franklin	PHONE: (704)642-6233	RESPONSIBLE OFFICIAL: Richard Steinert	TITLE: Site Manager
REVIEW ENGINEER: Jenny Sheppard	SIGNATURE:	DATE: July 27, 2003	
REGIONAL CONTACT: Carlotta Adams	REGIONAL OFFICE: Mooresville	SIC CODE: 2869	
APPLICATION NUMBER: 800055A5.A	EXISTING PERMIT NUMBER: 05279R34	NEW PERMIT NUMBER: 05279T35	

I. Introduction

The U.S. Environmental Protection Agency (EPA) has given final approval to North Carolina's Title V operating permits program effective on October 1, 2001. This EPA approval triggered the requirements for Title V facilities to submit permit applications to the Division of Air Quality. Title V facilities are required to obtain an operating permit which addresses all applicable regulations under the State Implementation Plan, Federal Implementation Plan, and other provisions of the Clean Air Act (CAA). The Title V Operating Permit will define all of the facility's obligations under the CAA.

This Initial Title V Air Permit application Review intends to convey all pertinent emissions data, rules, policies, and engineering assumptions used to construct the DRAFT Title V operating permit. The primary source of information used to construct the DRAFT permit is the above referenced air permit application.

II. Background Information

The DRAFT Title V operating permit replaces an existing Air Quality Construction and Operation Permit No. 05279R34 which was issued on February 27, 2002 and is currently scheduled to expire on June 30, 2006.

Pursuant to 15A NCAC 2Q .0506, National Starch and Chemical Company submitted its initial Title V application to the Division of Air Quality on August 12, 1996. The initial application was considered complete for processing on October 11, 1996 and the last application update was received on November 28, 2001. Based on all of the submitted information in the Title V application, a DRAFT permit was completed. The DRAFT permit is required to go to public notice pursuant to 15A NCAC 2Q .0521. The National Starch and Chemical Company facility is subject to the Title V program due to emissions of volatile organic compounds exceeding the major source thresholds.

III. Facility Description

National Starch and Chemical Company owns and operates a manufacturing facility in Salisbury, North Carolina. The facility consists of several "plant areas" that produce a wide variety of products.

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IV. Statement of Compliance

The DAQ has reviewed the compliance status of this facility. During the last inspection performed on May 28, 2003, the facility appeared to be operating in compliance with all permit conditions. The applicant has certified compliance with all applicable requirements. The applicant has also certified that the facility will be in compliance with any applicable requirements taking effect during the term of the permit and will meet such requirements on a timely basis.

V. Summary of Emission Sources and Control Devices

The following table identifies all emission sources and associated control devices for which the Initial Title V Operating Permit is being issued.

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
Area I			
EP-PP-TRAY1	tray dryer	N/A	N/A
EP-PP-TRAY2	tray dryer	N/A	N/A
ES-A1-1	Littleford drying system No.1	CD-A1-LDF-BF1, CD-A1-LDF-C1a, and CD-A1-LDF-C1b	one internal fabric filter (43 square feet of filter area) and two condensers (75 and 25 square feet of surface area, respectively) installed in series
ES-A1-2	Littleford drying system No.2	CD-A1-LDF-BF2 and CD-A1-LDF-C2	one internal fabric filter (24 square feet of filter area) and one condenser (220 square feet of surface area) installed in series
ES-A1-3	Littleford packout system	CD-A1-LDF-BF3	one internal fabric filter (33 square feet of filter area)
Area II			
T20 and MV4	two reactors	CD-A2-2-T20PS	one packed-tower scrubber (7 gallons per minute liquid injection rate of caustic solution)

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ST-52	sulfur trioxide storage tank	EP-ST52-S03-SC	one counter-current packed tower acid scrubber (15 gallons per minute injection rate of sulfuric acid)
S-13-V	chemical reactor	S-13-VC1 and S-13-VC2	two surface condensers (125 and 100 square feet of surface area, respectively)
S4V, S7V, and S10V	three lacquer tanks	V-VRU1	one refrigerated vapor recovery unit
S9V and S11V/S12V	two neutralizing stripper vents	V-VRU1	one refrigerated vapor recovery unit
ST18, ST20, ST46, ST49, T16, and T30	six storage tanks	V-VRU1	one refrigerated vapor recovery unit
DCE-1	DCE still wet receiver tank	V-VRU1	one refrigerated vapor recovery unit
DCE-2	DCE still dry receiver tank	V-VRU1	one refrigerated vapor recovery unit
S12	one distillate tank	V-VRU1	one refrigerated vapor recovery unit
MV2 and T20V	two sulfonated polystyrene (SPS) stripper vessels *connected to vapor recovery unit only when in ethylene dichloride service	V-VRU1	one refrigerated vapor recovery unit
MV1	one lacquer process vessel *connected to vapor recovery unit only when in ethylene dichloride service	V-VRU1	one refrigerated vapor recovery unit
SAT-1-1, SAT-1-2, SAT-1-3, SAT-2-1, SAT-2-2, SAT-2-3, and D14	seven slow add tanks	V-VRU1	one refrigerated vapor recovery unit
T18 and T27	two storage tanks	V-VRU1	one refrigerated vapor recovery unit
RCV-1	one distillate receiver tank	V-VRU1	one refrigerated vapor recovery unit
S20V	one batch distillate vessel	V-VRU1	one refrigerated vapor recovery unit

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S22V	one water storage vessel	V-VRU1	one refrigerated vapor recovery unit
S25V	one neutralizer vessel	V-VRU1	one refrigerated vapor recovery unit
T13	one flashing unit	V-VRU1	one refrigerated vapor recovery unit
STG-60	storage tank	EP-ST60-SC	one packed-tower type wet scrubber (30 gallons per minute caustic solution injection rate)
S1R and S6V	two sulfonation vessels	N/A	N/A
MAN No. 1, MAN No. 2, and MAN No. 3	three common exhaust manifolds vents	N/A	N/A
AREA II-vent	the Area II building ventilation system	N/A	N/A
Area III			
R04	organic synthesis reactor	CD-A3-1-R04C	one surface condenser (250 square feet of surface area)
R-02	chemical reactor	R-02-C	one surface condenser (282 square feet of surface area)
100GL	100-gallon glass lined reactor	A	one condenser
100SS	100-gallon stainless steel vessel	B	one condenser
Area III - Line 1			
R21	one chemical batch reactor (300 gallon capacity)	CD-R21-X1 and CD-R21-X2	one overhead condenser (chilled water, 100 square feet of surface area) installed on one vent condenser (cooling tower water, 250 square feet of surface area)

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V70, V71, V72, and V73	four slow blend tanks (200, 150, 100, and 50 gallons respectively)	CD-R21-X1 and CD-R21-X2	one overhead condenser (chilled water, 100 square feet of surface area) installed on one vent condenser (cooling tower water, 250 square feet of surface area)
Area III - Line 2			
R20	one chemical batch reactor (300 gallons)	CD-R20-X1 and CD-R20-X2	one overhead condenser (chilled water, 100 square feet of surface area) installed on one vent condenser (cooling tower water, 250 square feet of surface area)
V40, V41, V42, and V43	four slow blend tanks (200, 150, 100, and 50 gallons respectively)	CD-R20-X1 and CD-R20-X2	one overhead condenser (chilled water, 100 square feet of surface area) installed on one vent condenser (cooling tower water, 250 square feet of surface area)
300SSDT1, 300SSDT2, 300SSDT3, and 300SSDT4	four day tanks (300 gallons capacity each)	N/A	N/A
Area III - Continued			
ES-V20	one ethyl acetate cleaning solution tank (6000 gallons)	N/A	N/A
PP400SS*	process vent	N/A	N/A
PP275MT*	process vent	N/A	N/A
AREA III-FAN*	Area III ventilation fan	N/A	N/A
HOOD*	process development laboratory exhaust hood	N/A	N/A
ES-A3-2-B7 NSPS	one natural gas/No. 2 fuel oil boiler (16.3 million Btu per hour maximum heat input)	N/A	N/A

EEM Pilot Plant			
50GL	one glass-lined chemical reactor vessel (50 gallons capacity)	CD-PPS-1, CD-PP-50GLC1, and CD-PP-50GLC2	one packed-tower wet scrubber system (5 gallons per minute aqueous acid (phosphoric), aqueous base (caustic solution), or water injection rate) installed on common exhaust manifold of two condensers (one water-cooled or propylene glycol/water mixture-cooled with 25.2 square feet of surface area and one propylene glycol/water mixture-cooled with 4.9 square feet of surface area) in series
60SS	one stainless steel chemical reactor vessel (60 gallons capacity)	CD-PPS-1, CD-PP-60SSC1, and CD-PP-60SSC2	one packed-tower wet scrubber system (5 gallons per minute aqueous acid (phosphoric), aqueous base (caustic solution), or water injection rate) installed on common exhaust manifold of two condensers (one water-cooled or propylene glycol/water mixture-cooled with 22 square feet of surface area and one propylene glycol/water mixture-cooled with 4.7 square feet of surface area) installed in series

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250SS	one stainless steel chemical reactor vessel (250 gallons capacity)	CD-PPS-I, 250SSC1, and 250SSC2	one packed-tower wet scrubber system (5 gallons per minute aqueous acid (phosphoric), aqueous base (caustic solution), or water injection rate) in stalled on common exhaust manifold of two condensers (one water-cooled or propylene glycol/water mixture-cooled with 65 square feet of surface area and one propylene glycol/water mixture-cooled with 19 square feet of surface area) installed in series and one plant fugitive dust collection system (consisting of one HEPA filter, 1,350 square feet of filter area, and one fabric filter, 480 square feet of filter area), equoiped with mobile arms
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300GL	one glass-lined chemical reactor vessel (300 gallons capacity)	CD-PPS-1, 300GLC1, and 300 GLC2	one packed-tower wet scrubber system (5 gallons per minute aqueous acid (phosphoric), aqueous base (caustic solution), or water injection rate) in stalled on common exhaust manifold of two condensers (one water-cooled or propylene glycol/water mixture-cooled with 80.5 square feet of surface area and one propylene glycol/water mixture-cooled with 20.6 square feet of surface area) installed in series
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<p>500ss</p>	<p>process emissions from a stainless steel chemical reactor vessel (500 gallons capacity)</p>	<p>CD-PPS-I, CD-500SSC1, CD-500SSC2, and *CD-PP-Dust1</p>	<p>one packed-tower wet scrubber system (5 gallons per minute aqueous acid (phosphoric), aqueous base (caustic solution), or water injection rate) in stalled on common exhaust manifold of two condensers (one water-cooled or propylene glycol/water mixture-cooled with 86 square feet of surface area and one propylene glycol/water mixture-cooled with 17 square feet of surface area) installed in series, and *one pilot plant fugitive dust collection system (consisting of one HEPA filter, 1,350 square feet of surface area, and one fabric filter, 480 square feet of surface), equipped with mobile arms</p> <p>*controls fugitive particulate emissions only</p>
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1000ss	process emissions from a stainless steel chemical reactor vessel (1000 gallons capacity)	CD-PPS-I, CD-1000SSC1, CD-1000SSC2, and *CD-PP-Dust1	one packed-tower wet scrubber system (5 gallons per minute aqueous acid (phosphoric), aqueous base (caustic solution), or water injection rate) in stalled on common exhaust manifold of two condensers (one water-cooled or propylene glycol/water mixture-cooled with 190 square feet of surface area and one propylene glycol/water mixture-cooled with 29 square feet of surface area) installed in series, and *one pilot plant fugitive dust collection system (consisting of one HEPA filter, 1,350 square feet of surface area, and one fabric filter, 480 square feet of surface), equipped with mobile arms *controls fugitive particulate emissions only
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2000ss	process emissions from a stainless steel chemical reactor vessel (2000 gallons capacity)	CD-PPS-I, CD-PP-2000SSC1, CD-PP-2000SSC2, and *CD-PP-Dust1	one packed-tower wet scrubber system (5 gallons per minute aqueous acid (phosphoric), aqueous base (caustic solution), or water injection rate) is stalled on common exhaust manifold of two condensers (one water-cooled or propylene glycol/water mixture-cooled with 240 square feet of surface area and one propylene glycol/water mixture-cooled with 30 square feet of surface area) installed in series, and *one pilot plant fugitive dust collection system (consisting of one HEPA filter, 1,350 square feet of surface area, and one fabric filter, 480 square feet of surface), equipped with mobile arms *controls fugitive particulate emissions only
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ES-PD300	process emissions from a pan-dryer (300 liters capacity)	CD-PPS-I, CD-PD300C1, CD-PD100C2, and *CD-PP-Dust1	one packed-tower wet scrubber system (5 gallons per minute aqueous acid (phosphoric), aqueous base (caustic solution), or water injection rate) in stalled on common exhaust manifold of two condensers (one water-cooled with 22 square feet of surface area and one propylene glycol/water mixture-cooled with 4.7 square feet of surface area) installed in series, and *one pilot plant fugitive dust collection system (consisting of one HEPA filter, 1,350 square feet of surface area, and one fabric filter, 480 square feet of surface), equipped with mobile arms *controls fugitive particulate emissions only
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<p>ES-TD17/25</p>	<p>process emissions from a pan-dryer (1700 liters capacity, ID No.)</p>	<p>CD-PPS-I, CD-TD17/25C1, and *CD-PP-Dust1</p>	<p>one packed-tower wet scrubber system (5 gallons per minute aqueous acid (phosphoric), aqueous base (caustic solution), or water injection rate) installed on common exhaust manifold of one condenser (propylene glycol/water mixture-cooled with 90 square feet of surface area), and *one pilot plant fugitive dust collection system (consisting of one HEPA filter, 1,350 square feet of surface area, and one fabric filter, 480 square feet of surface), equipped with mobile arms</p> <p>*controls fugitive particulate emissions only</p>
<p>20GLSA</p>	<p>one glass-lined slow add tank (20 gallons capacity)</p>	<p>CD-PPS-1</p>	<p>one packed-tower wet scrubber system (5 gallons per minute aqueous acid (phosphoric), aqueous base (caustic solution), or water injection rate)</p>
<p>20SSSA</p>	<p>one stainless steel slow add tank (20 gallons capacity)</p>	<p>CD-PPS-1</p>	<p>one packed-tower wet scrubber system (5 gallons per minute aqueous acid (phosphoric), aqueous base (caustic solution), or water injection rate)</p>

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300SSMIX	one stainless steel mix tank (300 gallons capacity)	CD-PPS-1	one packed-tower wet scrubber system (5 gallons per minute aqueous acid (phosphoric), aqueous base (caustic solution), or water injection rate)
100SSSA	one stainless steel slow add tank (100 gallons capacity)	CD-PPS-1	one packed-tower wet scrubber system (5 gallons per minute aqueous acid (phosphoric), aqueous base (caustic solution), or water injection rate)
200SSSA	one stainless steel slow add tank (200 gallons capacity)	CD-PPS-1	one packed-tower wet scrubber system (5 gallons per minute aqueous acid (phosphoric), aqueous base (caustic solution), or water injection rate)
500SSSA	one stainless steel slow add tank (500 gallons capacity)	CD-PPS-1	one packed-tower wet scrubber system (5 gallons per minute aqueous acid (phosphoric), aqueous base (caustic solution), or water injection rate)

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ES-VP1	one vacuum pump	CD-PPS-1 and CD-VP1C1	one packed-tower wet scrubber system (5 gallons per minute aqueous acid (phosphoric), aqueous base (caustic solution), or water injection rate) installed on common exhaust manifold of one aftercooler/condenser (propylene glycol/water mixture-cooled with 30 square feet of surface area)
ES-VP2	one vacuum pump	CD-PPS-1 and CD-VP2C1	one packed-tower wet scrubber system (5 gallons per minute aqueous acid (phosphoric), aqueous base (caustic solution), or water injection rate) installed on common exhaust manifold of one aftercooler/condenser (propylene glycol/water mixture-cooled with 30 square feet of surface area)

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ES-VP3	one vacuum pump installed on one wiped film evaporator [Note: Only emissions associated with cleaning the evaporator require control as these contain methanol and toluene.],	CD-PPS-I, CD-VP1C1, CD-VP2C1, and CD-VP3C1	one packed-tower wet scrubber system (5 gallons per minute aqueous acid (phosphoric), aqueous base (caustic solution), or water injection rate) installed on common exhaust manifold of two aftercoolers/condensers (propylene glycol/water mixture-cooled with 30 square feet of surface area each) drawing on one coldtrap (propylene glycol/water mixture)
ES-EH2*	quality control laboratory exhaust hood	N/A	N/A
ES-PP-Mill	Pilot Plant Milling System	CD-PP-Mill1 and CD-PP-Mill3	one fabric filter (cartridge-type, 100 square feet of filter area) and one cyclone (5.1 inches body diameter)
ES-PP-Mill and ES-PP-Class	fugitive emissions from one Pilot Plant Milling System and process and fugitive emissions from one Air Classification System (110 pounds per hour capacity, consisting of a screen system, a V-blender, and air classifying system)	CD-PP-Mill2	one fabric filter system (HEPA filter, 1350 square feet of surface area, installed on a cartridge-type fabric filter, 2,100 square feet of filter area)
Cosmetic Plant			
CP-1	reaction process	CD-A3-2-X2-CP-1	one condenser
CP-4 and CP-6	pearlization process	CD-A3-2-X2-CP-4 and CD-A3-2-X2-CP-6	two condensers
C-1	centrifuge process	CD-A3-2-X2-C-1	one condenser

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CP-300	solvent recovery system	CD-A3-2-X3-DC5001 and CD-A3-2-X3-DC5003	two condensers
CP-2 and CP-13	two monomer S/A tanks	N/A	N/A
CP-3 and CP-14	two catalyst S/A tanks	N/A	N/A
CP-9, CP-10, CP-11, CP-12, and HOPPER	five process vessels	N/A	N/A
CP-102, CP-103, CP-104, CP-105, CP-107, CP-111, CP-112, CP-113, CP-115, and CP-116	ten storage tanks (10,000 gallon storage capacity, 10,000 gallon storage capacity, 6,000 gallon storage capacity, 6,000 gallon storage capacity, 10,000 gallon storage capacity, 10,000 gallon storage capacity, 10,000 gallon storage capacity, 10,000 gallon storage capacity, 500 gallon storage capacity, and 500 gallon storage capacity, respectively)	N/A	N/A
NSPS CP-101, CP-106, CP-108, CP-109, CP-110, CP-114, and CP-120	seven storage tanks (15,000 gallon storage capacity, 30,000 gallon storage capacity, 20,000 gallon storage capacity, 20,000 gallon storage capacity, 20,000 gallon storage capacity, 20,000 gallon storage capacity, and 25,000 gallon storage capacity, respectively)	N/A	N/A
Wastewater Treatment Plant			
1*, 2*, and 3*	three aerated effluent lagoons located in the facility wastewater treatment plant	N/A	N/A
CERCLA-1*	CERCLA cleanup project air stripper	CD-CERCLA-1a and CD-CERCLA-1b	one catalytic oxidizer (900 cubic feet per minute gas flow rate) and one packed-column scrubber (22 gallons per minute of 50% NaOH scrubbing medium)
Miscellaneous (sixteen chemical reactor vessels and processes)			
T20V	chemical reactor vessel (4000 gallons capacity)	T20VC-1 and T20VC-2	two condensers (360 square feet of surface area each) exiting through refrigerated recovery unit (ID No. V-VRU1)

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MV1	chemical reactor vessel (4000 gallons capacity)	MV1C-1 and MC1C-2	two condensers (250 square feet of surface area and 150 square feet of surface area, respectively) exiting through common vent manifold (ID No. AREA II)
S5V	chemical reactor vessel (4000 gallons capacity)	CD-A2-1-1S5V-C and S5VC-2	two condensers (504 square feet of surface area and 30 square feet of surface area, respectively) exiting through common vent manifold (ID No. AREA II)
R12	chemical reactor vessel (2000 gallons capacity)	R12C-1 and R12C-2	two condensers (125 square feet of surface area and 104 square feet of surface area, respectively)
R1	chemical reactor vessel (5500 gallons capacity)	R1C	one condenser (125 square feet of surface area)
R2	chemical reactor vessel (5500 gallons capacity)	R2C	one condenser (125 square feet of surface area)
R5	chemical reactor vessel (2000 gallons capacity)	R5C-1 and R5C-2	two condensers (104 square feet of surface area each)
R6	chemical reactor vessel (1500 gallons capacity)	R6C-1 and R6C-2	two condensers (80 square feet of surface area each)
MV2	chemical reactor vessel (4000 gallons capacity)	MV2C-1 and MV2C-2	two condensers (250 square feet of surface area each) exiting through common vent manifold (ID No. AREA II)

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MV3	chemical reactor vessel (4000 gallons capacity)	MV3C-1 and MV3C-2	two condensers (125 square feet of surface area and 250 square feet of surface area, respectively) exiting through 250 CD-A2-2-MV3C3
MV4	chemical reactor vessel (4000 gallons capacity)	MV3C-1 and MV3C-2	two condensers (250 square feet of surface area each) exiting through 80 CD-A2-2-MV4C3
T-13V	chemical reactor vessel (4000 gallons capacity)	T13VC-1 and T13VC-2	two condensers (175 square feet of surface area and 250 square feet of surface area, respectively)
DR-1	chemical reactor vessel (400 gallons capacity)	C-400	one condenser (41 square feet of surface area)
LUWA	chemical reactor vessel (W/FEVAP?????)	LUWAC	one condenser (5.4 square feet of surface area)
7R	chemical reactor vessel (6000 gallons capacity)	N/A	N/A
8R	chemical reactor vessel (4000 gallons capacity)	8RC-1 and 8RC-2	two condensers (300 square feet of surface area and 125 square feet of surface area, respectively)

VI. Emission Source-by-Source Evaluation

A. Area I consisting of the following equipment:

- C Two tray dryers (ID Nos. EP-PP-TRAY1 and EP-PP-TRAY2)**
- C Littleford drying system No. 1 (ID No. ES-A1-1) controlled by one internal fabric filter and two condensers (ID Nos. CD-A1-LDF-BF1, CD-A1-LDF-C1a, and CD-A1-LDF-C1b)**
- C Littleford drying system No. 2 (ID No. ES-A1-2) controlled by one internal fabric filter and one condenser (ID No. CD-A1-LDF-BF2 and CD-A1-LDF-C2)**
- C Littleford packout system (ID No. ES-A1-3) controlled by one internal fabric filter (ID No. CD-A1-LDF-BF3)**

1. Regulatory Analysis

The following provides a summary of limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	$E=4.10P^{0.67}$ where E = allowable emission rate in pounds per hour P = process weight in tons per hour	15A NCAC 2D .0515
visible emissions	20 percent opacity	15A NCAC 2D .0521
volatile organic compounds	less than 40 tons per year (ID Nos. EP-PP-TRAY1 and EP-PP-TRAY2)	15A NCAC 2D .0530
volatile organic compounds	less than 40 tons per year (ID Nos. ES-A1-2)	15A NCAC 2D .0530
volatile organic compounds	See Section VII A. 1	15A NCAC 2D .0958
toxic air pollutants	State-enforceable only - See Section VII B	15A NCAC 2D .1100
odors	State-enforceable only - See Section VII A. 3	15A NCAC 2D .1806

a. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- i. Emissions of particulate matter from this source shall not exceed an allowable emission rate as calculated by the following equation:

$$E = 4.10 \times P^{0.67}$$

Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Monitoring/Recordkeeping

- ii. Particulate matter emissions from the Littleford drying systems and Littleford packout system (ID Nos. ES-A1-1, ES-A1-2, and ES-A1-3) shall be controlled by the bagfilters. To assure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
 - (a) a monthly visual inspection of the system ductwork and material collection unit for leaks;
 - (b) an annual (for each 12 month period following the initial inspection) internal inspection of the bagfilter's structural integrity;
- iii. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
 - (a) the date and time of each recorded action;
 - (b) the results of each inspection;
 - (c) the results of any maintenance performed on the bagfilters; and
 - (d) any variance from manufacturer's recommendations, if any, and corrections made.

Reporting

- iv. The Permittee shall submit the results of any maintenance performed on the bagfilters within 30 days of a written request by the DAQ.
- v. The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

b. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

- i. Visible emissions from these sources (**ID No(s). EP-PP-TRAY1, EP-PP-TRAY2, ES-A1-1, ES-A1-2, and ES-A1-3**) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Monitoring

- ii. To assure compliance, once a month the Permittee shall observe the emission points of this source for any visible emissions above normal. The Permittee shall establish "normal" for the source in the first 30 days following the effective date of permit. If visible emissions from this source are observed to be above normal, the Permittee shall either: (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or (b) demonstrate that the percent opacity from the emission points of the emission source is below the limit.

Recordkeeping

- iii. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:

- (a) the date and time of each recorded action;
- (b) the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
- (c) the results of any corrective actions performed.

Reporting [15A NCAC 2Q .0508(f)]

- iv. The Permittee shall submit a summary report of the observations postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

**c. 15A NCAC 2Q. 0317: AVOIDANCE CONDITIONS
15A NCAC 2D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION**

- i. In order to avoid applicability of this regulation, the tray dryers (**ID Nos. EP-PP-TRAY1 and EP-PP-TRAY2**) shall discharge into the atmosphere less than 40 tons of VOCs per consecutive 12-month period.

Monitoring/Recordkeeping

- ii. Calculations of VOC emissions per month shall be made at the end of each month. VOC emissions shall be determined by mass balance calculations comparing the masses entering and leaving the tray dryers (**ID Nos. EP-PP-TRAY1 and EP-PP-TRAY2**).
- iii. Calculations and the total amount of VOC emissions shall be recorded monthly in a logbook (written or electronic format).

Reporting [15A NCAC 2Q .0508(f)]

- iv. The Permittee shall submit a summary report of monitoring and recordkeeping activities within 30 days after each calendar year quarter, due and postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 for the calendar year for the preceding three-month period between July and September. The report shall contain the following:
 - (a) The monthly VOC emissions for the previous 14 months. The emissions shall be calculated for each of the 12-month periods over the previous 14 months.
 - (b) the total hours of operation and total monthly VOC emissions of the tray dryers (**ID Nos. EP-PP-TRAY1 and EP-PP-TRAY2**)

**d. 15A NCAC 2Q. 0317: AVOIDANCE CONDITIONS
15A NCAC 2D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION**

- i. In order to avoid applicability of this regulation, the Littleford drying system No. 2 (**ID No.ES-A1-2**) shall discharge into the atmosphere less than 40 tons of VOCs per consecutive 12-month period.

Monitoring/Recordkeeping

- ii. Calculations of VOC emissions per month shall be made at the end of each month. VOC emissions shall be determined by mass balance calculations comparing the masses entering and leaving the Littleford drying system No. 2 (**ID No.ES-A1-2**).
- iii. Calculations and the total amount of VOC emissions shall be recorded monthly in a logbook (written or electronic format).

Reporting

- iv. The Permittee shall submit a summary report of monitoring and recordkeeping activities within 30 days after each calendar year quarter, due and postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 for the calendar year for the preceding three-month period between July and September. The report shall contain the following:
 - (a) The monthly VOC emissions for the previous 14 months. The emissions shall be calculated for each of the 12-month periods over the previous 14 months,
 - (b) The total hours of operation and total monthly VOC emissions of the Littleford No. 2 dryer (ID No. LFD-2), and
 - (c) The control efficiency for VOC emissions of the Littleford drying system No. 2 (ID No.ES-A1-2).

B. Area II consisting of the following:

- C Two reactors (ID Nos. T20 and MV4) and associated packed-tower scrubber (ID No. CD-A2-T20PS)
- C Sulfur trioxide storage tank (ID No. ST-52) and associated counter-current packed-tower acid scrubber (ID No. EP-ST52-SC)
- C Chemical reactor (ID No. S-13-V) controlled by two surface condensers (ID Nos. S-13-VC1 and S-13-VC2)
- C Three lacquer tanks (ID Nos. S4V, S7V, and S10V) exits to one refrgerated vapor recovery unit (ID No. V-VRU1)
- C Two neutralizing stripper vents (ID Nos. S9V and S11V/S12V) exits to one refrgerated vapor recovery unit (ID No. V-VRU1)
- C Six storage tanks (ID Nos. ST18, ST20, ST46, ST49, T16, and T30) exits to one refrgerated vapor recovery unit (ID No. V-VRU1)
- C DCE still wet receiver tank (ID No. DCE-1) exits to one refrgerated vapor recovery unit (ID No. V-VRU1)
- C DCE still dry receiver tank (ID No. DCE-2) exits to one refrgerated vapor recovery unit (ID No. V-VRU1)
- C One distillate tank (ID No. S12) exits to one refrgerated vapor recovery unit (ID No. V-VRU1)
- C Two sulfonated polystyrene (SPS) stripper vessels (ID Nos. MV2 and T20V) exits to one refrgerated vapor recovery unit (ID No. V-VRU1)
- C One lacquer process vessel (ID No. MV1) exits to one refrgerated vapor recovery unit (ID No. V-VRU1)
- C Seven slow add tanks (ID Nos. SAT-1-1, SAT-1-2, SAT-1-3, SAT-2-1, SAT-2-2, SAT-2-3, and D14) exits to one refrgerated vapor recovery unit (ID No. V-VRU1)
- C Two storage tanks (ID Nos. T18 and T27) exits to one refrgerated vapor recovery unit (ID No. V-VRU1)
- C One distillate receiver tank (ID No. RCV-1) exits to one refrgerated vapor recovery unit (ID No. V-VRU1)
- C One batch distillate vessel (ID No. S20V) exits to one refrgerated vapor recovery unit (ID No. V-VRU1)
- C One water storage vessel (ID No. S22V) exits to one refrgerated vapor recovery unit (ID No. V-VRU1)
- C One neutralizer vessel (ID No. S25V) exits to one refrgerated vapor recovery unit (ID No. V-VRU1)
- C One flashing unit (ID No. T13) exits to one refrgerated vapor recovery unit (ID No. V-VRU1)
- C One storage tank (ID No. STG-60) and associated packed-tower type scrubber (ID No. EP-ST60-SC)
- C Two sulfonation vessels (ID Nos. S1R and S6V)
- C Three common exhaust manifold vents (ID Nos. MAN No. 1, MAN No. 2, and MAN No. 3)
- C Area II ventilation system (ID No. Area II-vent)

1. Applicable Regulatory Requirements

The following provides a summary of limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
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particulate matter	$E=4.10P^{0.67}$ where E = allowable emission rate in pounds per hour P = process weight in tons per hour	15A NCAC 2D .0515
visible emissions	20 percent opacity	15A NCAC 2D .0521
volatile organic compounds	See Section VII A. 1	15A NCAC 2D .0958
toxic air pollutants	State-enforceable only - See Section VII B	15A NCAC 2D .1100
odors	State-enforceable only - See Section VII A. 3	15A NCAC 2D .1806

a. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- i. Emissions of particulate matter from the above emission sources shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .0515(a)]

$$E = 4.10 \times P^{0.67} \quad \text{Where } E = \text{allowable emission rate in pounds per hour}$$

$$P = \text{process weight in tons per hour}$$

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Monitoring/Recordkeeping

- ii. The Permittee shall maintain production records which specify the types of materials and finishes processed and shall make these records available to a DAQ authorized representative upon request.
- iii. **PM-SCRUBBER (PACKED TOWER) REQUIREMENTS** - Particulate matter emissions shall be controlled as described in the permitted equipment list.

- (a) **Inspection and Maintenance Requirements** - To comply with the provisions of this permit and ensure that emissions do not exceed the regulatory limits, the Permittee shall perform periodic inspections and maintenance (I&M) as recommended by the manufacturer. In addition, the Permittee shall perform an annual internal inspection of the scrubber system.

As a minimum, the annual internal inspection will include inspection of spray nozzles, packing material, chemical feed system (if so equipped), and the cleaning/calibration of all associated instrumentation annually. Additionally, two weeks following start-up of the scrubber, the Permittee shall shut down the system and inspect for nozzle plugging and settling of the packing.

- (b) **Recordkeeping Requirements** - The results of all inspections and any variance from manufacturer's recommendations or from those given in this permit (when applicable) shall be investigated with corrections made and dates of actions recorded in a logbook. Records of all maintenance activities shall be recorded in the logbook. The logbook (in written or electronic form) shall be kept on-site and made available to DAQ personnel upon request.

b. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

- i. Visible emissions from the above listed emission sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Monitoring [15A NCAC 2Q .0508(f)]

- ii. To assure compliance, once a month the Permittee shall observe the emission points of these sources for any visible emissions above normal. The Permittee shall establish “normal” for the source in the first 30 days following the effective date of permit. If visible emissions from this source are observed to be above normal, the Permittee shall either: (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or (b) demonstrate that the percent opacity from the emission points of the emission source is below the limit.

Recordkeeping

- iii. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
 - (a) the date and time of each recorded action;
 - (b) the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
 - (c) the results of any corrective actions performed.

Reporting

- iv. The Permittee shall submit a summary report of the observations postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

C. Area III consisting of the following:

- Ⓒ Organic synthesis reactor (ID No. R04) with associated surface condenser (ID No. CD-A3-1-R04C)
- Ⓒ Chemical reactor (ID No. R-02) with associated surface condenser (ID No. R-02-C)
- Ⓒ 100-gallon glass lined reactor (ID No. 100GL) with associated condenser (ID No. A)
- Ⓒ 100-gallon stainless steel reactor (ID No. 100SS) with associated condenser (ID No. B)
- Ⓒ One chemical batch reactor and (ID No. R21) and associated packed-tower scrubber (ID No. CD-R21-X1) and vent condenser (ID No. CD-R21-X2)
- Ⓒ Four slow blend tanks (ID Nos. V70, V71, V72, and V73) and associated packed-tower scrubber (ID No. CD-R21-X1) and vent condenser (ID No. CD-R21-X2)
- Ⓒ One chemical batch reactor and (ID No. R20) and associated packed-tower scrubber (ID No. CD-R20-X1) and vent condenser (ID No. CD-R20-X2)
- Ⓒ Four slow blend tanks (ID Nos. V40, V41, V42, and V43) and associated packed-tower scrubber (ID No. CD-R20-X1) and vent condenser (ID No. CD-R20-X2)
- Ⓒ Four day tanks (ID Nos. 300DT1, 300DT2, 300DT3, and 300DT4)
- Ⓒ One ethyl acetate cleaning solution tank (ID No. ES-V20)
- Ⓒ Pilot plant operations, including process vents (ID Nos. PP400SS, PP275MT, and AREA III-FAN)
- Ⓒ Process development laboratory exhaust hood (ID No. HOOD)

1. Applicable Regulatory Requirements

The following provides a summary of limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	$E=4.10P^{0.67}$ where E = allowable emission rate in pounds per hour P = process weight in tons per hour	15A NCAC 2D .0515
visible emissions	20 percent opacity	15A NCAC 2D .0521
volatile organic compounds	See Section 2.2 A. 1	15A NCAC 2D .0958
toxic air pollutants	State-enforceable only - See Section 2.2 B	15A NCAC 2D .1100
odors	State-enforceable only - See Section 2.2 A. 3	15A NCAC 2D .1806

a. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- i. Emissions of particulate matter from the above emission sources shall not exceed an allowable emission rate as calculated by the following equation:

$$E = 4.10 \times P^{0.67} \quad \text{Where } E = \text{allowable emission rate in pounds per hour}$$

$$P = \text{process weight in tons per hour}$$

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Monitoring/Recordkeeping

- ii. The Permittee shall maintain production records which specify the types of materials and finishes processed and shall make these records available to a DAQ authorized representative upon request.
- iii. **PM-SCRUBBER (PACKED TOWER) REQUIREMENTS** - Particulate matter emissions shall be controlled as described in the permitted equipment list.
 - (a) **Inspection and Maintenance Requirements** - To comply with the provisions of this permit and ensure that emissions do not exceed the regulatory limits, the Permittee shall perform periodic inspections and maintenance (I&M) as recommended by the manufacturer. In addition, the Permittee shall perform an annual internal inspection of the scrubber system.

As a minimum, the annual internal inspection will include inspection of spray nozzles, packing material, chemical feed system (if so equipped), and the cleaning/calibration of all associated instrumentation annually. Additionally, two weeks following start-up of the scrubber, the Permittee shall shut down the system and inspect for nozzle plugging and settling of the packing.
 - (b) **Recordkeeping Requirements** - The results of all inspections and any variance from manufacturer's recommendations or from those given in this permit (when applicable) shall be investigated with corrections made and dates of actions recorded in a logbook. Records of all maintenance activities shall be recorded in the logbook. The logbook (in written or electronic form) shall be kept on-site and made available to DAQ personnel upon request.

Reporting

- iv. The Permittee shall submit the results of any maintenance performed on the packed-tower scrubbers within 30 days of a written request by the DAQ.
- v. The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

b. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

- i. Visible emissions from the above listed emission sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Monitoring

- ii. To assure compliance, once a month the Permittee shall observe the emission points of these sources for any visible emissions above normal. The Permittee shall establish “normal” for the source in the first 30 days following the effective date of permit. If visible emissions from this source are observed to be above normal, the Permittee shall either: (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or (b) demonstrate that the percent opacity from the emission points of the emission source is below the limit.

Recordkeeping

- iii. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
 - (a) the date and time of each recorded action;
 - (b) the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
 - (c) the results of any corrective actions performed.

Reporting

- iv. The Permittee shall submit a summary report of the observations postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

D. One Natural gas/No. 2 fuel oil-fired boiler (ID No. ES-A3-2-B7)

1. Applicable Regulatory Requirements

The following provides a summary of limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	0.528 pounds per million Btu heat input	15A NCAC 2D .0503
sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516

visible emissions	20 percent opacity	15A NCAC 2D .0521
sulfur dioxide	fuel oil firing 0.5 percent sulfur content fuel oil	15A NCAC 2D .0524 (40 CFR Part 60 Subpart Dc)

a. 15A NCAC 2D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

- i. Emissions of particulate matter from the combustion of natural gas and No. 2 fuel oil, that are discharged from this source into the atmosphere shall not exceed 0.528 pounds per million Btu heat input.
- ii. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas and No. 2 fuel oil in this source.

b. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

- i. Emissions of sulfur dioxide from this source shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

Monitoring/Recordkeeping

- ii. No monitoring/recordkeeping is required for sulfur dioxide emissions from natural gas and No. 2 fuel oil for this source.

c. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

- i. Visible emissions from this source (ID No. ES-A3-2-B7) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Monitoring/Recordkeeping/Reporting

- ii. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of natural gas/propane/No. 2 fuel oil in this source.

d. 15A NCAC 2D .0524: NSPS 40 CFR PART 60 SUBPART Dc

- i. The Permittee shall comply with all applicable provisions, including the notification, testing, , recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60 Subpart Dc, including Subpart A "General Provisions."

Emission Limitations

- ii. The maximum sulfur content of any fuel oil received and burned in the boiler shall not exceed 0.5 percent by weight.

Monitoring

- iii. Sulfur dioxide emissions shall be monitored as follows:
 - (a) Distillate Oil - Fuel supplier certification shall be used to demonstrate compliance as described under 40 CFR § 60.46c(e).
 - (b) Residual Oil - The Permittee shall sample and analyze the oil in the fuel tank after each new

shipment of oil is received as described under 40 CFR § 60.46c(d)(2) to demonstrate compliance. Results of the fuel analysis taken after each new shipment of oil received shall be used as the daily value when calculating the 30-day rolling average until the next shipment is received. The 30-day rolling average sulfur content shall be 0.5 percent by weight or less.

Recordkeeping

iv. In addition to any other recordkeeping required by 40 CFR § 60.48c or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of each fuel fired during each day.

Reporting

v. In addition to any other reporting required by 40 CFR § 60.48c or notification requirements to the EPA, the Permittee is required to **NOTIFY** the DAQ in **writing** of the following:

(a) a summary report, acceptable to the Regional Air Quality Supervisor, of the sulfur content of the distillate or residual fuel oil fired, by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June as follows:

- (1) **Distillate Oil** - Fuel supplier certification shall include the following information:
 - (A) the name of the oil supplier;
 - (B) a statement from the oil supplier that the oil complies with the specification under the definition of distillate oil in 40 CFR § 60.41c; and
 - (C) a certified statement signed by the owner or operator of an affected facility that the records of fuel supplier certification submitted represents all of the fuel fired during the semi annual period.

(b) All instances of deviations from the requirements of this permit must be clearly identified.

E. EEM Pilot Plant consisting of the following:

- C One glass-lined chemical reactor vessel (ID No. 50GL) and associated packed-tower wet scrubber and two condensers (ID Nos. CD-PPS-1, CD-PP-50GLC1, and CD-PP-50GLC2)**
- C One stainless steel chemical reactor vessel (ID No. 60SS) and associated packed-tower wet scrubber and two condensers (ID Nos. CD-PPS-1, CD-PP-60SSC1, and CD-PP-60SSC2)**
- C One stainless steel chemical reactor vessel (ID No. 250SS) and associated packed-tower wet scrubber and two condensers (ID Nos. CD-PPS-1, 250SSC1, and 250SSC2)**
- C One glass-lined chemical reactor vessel (ID No. 300GL) and associated packed-tower wet scrubber and two condensers (ID Nos. CD-PPS-1, 300GLC1, and 300GLC2)**
- C One stainless steel chemical reactor vessel (ID No. 500ss) and associated packed-tower wet scrubber and two condensers (ID Nos. CD-PPS-1, CD-500SSC1, and CD-500SSC2) and fugitive dust collection system (ID No. CD-PP-Dust1)**
- C One stainless steel chemical reactor vessel (ID No. 1000ss) and associated packed-tower wet scrubber and two condensers (ID Nos. CD-PPS-1, CD-1000SSC1, and CD-1000SSC2) and fugitive dust collection system (ID No. CD-PP-Dust1)**
- C One stainless steel chemical reactor vessel (ID No. 2000ss) and associated packed-tower wet scrubber and two condensers (ID Nos. CD-PPS-1, CD-2000SSC1, and CD-2000SSC2) and fugitive dust collection system (ID No. CD-PP-Dust1)**
- C Process emissions from a pan dryer (ID No. ES-PD300) and associated packed-tower wet scrubber and two condensers (ID Nos. CD-PPS-1, CD-PD300C1, and CD-PD300C2) and fugitive dust collection system (ID No. CD-PP-Dust1)**
- C Process emissions from a pan dryer (ID No. ES-TD17/25) and associated packed-tower wet scrubber and one condenser (ID Nos. CD-PPS-1 and CD-TD17/25C1) and fugitive dust collection system (ID No. CD-PP-Dust1)**

- C One glass-lined slow add tank (ID No. 20GLSA) and associated packed-tower wet scrubber (ID No. CD-PPS-1)
- C One stainless steel slow add tank (ID No. 20SSSA) and associated packed-tower wet scrubber (ID No. CD-PPS-1)
- C One stainless steel mix tank (ID No. 300SSMIX) and associated packed-tower wet scrubber (ID No. CD-PPS-1)
- C One stainless steel slow add tank (ID No. 100SSSA) and associated packed-tower wet scrubber (ID No. CD-PPS-1)
- C One stainless steel slow add tank (ID No. 200SSSA) and associated packed-tower wet scrubber (ID No. CD-PPS-1)
- C One stainless steel slow add tank (ID No. 500SSSA) and associated packed-tower wet scrubber (ID No. CD-PPS-1)
- C One vacuum pump (ID No. ES-VP1) with associated packed-tower wet scrubber and aftercooler/condenser (ID Nos. CD-PPS-1 and CD-VP1C1)
- C One vacuum pump (ID No. ES-VP2) with associated packed-tower wet scrubber and aftercooler/condenser (ID Nos. CD-PPS-1 and CD-VP2C1)
- C One vacuum pump on one wiped film evaporator (ID No. ES-VP3) with associated packed-tower wet scrubber, two aftercooler/condenser, and one coldtrap (ID Nos. CD-PPS-1, CD-VP1C1, CD-VP2C1, and CD-VP3C1)
- C Quality control laboratory exhaust hood (ID No. ES-EH2)
- C Pilot Plant Milling System (ID No. ES-PP-Mill1) with one fabric filter and one cyclone (ID Nos. CD-PP-Mill1 and CD-PP-Mill3)
- C Fugitive emissions from Pilot Plant Milling System and Air Classification System (ID Nos. ES-PP-Mill2 and ES-PP-Class) with associated fabric filter (ID No. CD-PP-Mill2)

1. Regulatory Analysis

The following provides a summary of limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	$E=4.10P^{0.67}$ where E = allowable emission rate in pounds per hour P = process weight in tons per hour	15A NCAC 2D .0515
visible emissions	20 percent opacity	15A NCAC 2D .0521
volatile organic compounds	See Section VII A. 1	15A NCAC 2D .0958
toxic air pollutants	State-enforceable only - See Section VII B.	15A NCAC 2D .1100
odors	State-enforceable only - See Section VII A. 3	15A NCAC 2D .1806

a. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- i. Emissions of particulate matter from this source shall not exceed an allowable emission rate as calculated by the following equation:

$$E = 4.10 \times P^{0.67} \quad \text{Where } E = \text{allowable emission rate in pounds per hour}$$
$$P = \text{process weight in tons per hour}$$

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Monitoring/Recordkeeping

- ii. Particulate matter emissions from the above listed emission sources shall be controlled by the bagfilters and packed -tower scrubbers. To assure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer’s inspection and maintenance recommendations, or if there is no manufacturer’s inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
 - (a) a monthly visual inspection of the system ductwork and material collection unit for leaks; and
 - (b) an annual (for each 12 month period following the initial inspection) internal inspection of the bagfilter’s structural integrity.
 - (c) the annual internal inspection will include inspection of spray nozzles, packing material, chemical feed system (if so equipped), and the cleaning/calibration of all associated instrumentation annually. Additionally, two weeks following start-up of the scrubber, the Permittee shall shut down the system and inspect for nozzle plugging and settling of the packing.
- iii. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
 - (a) the date and time of each recorded action;
 - (b) the results of each inspection;
 - (c) the results of any maintenance performed on the bagfilters; and
 - (d) any variance from manufacturer’s recommendations, if any, and corrections made.

Reporting

- iv. The Permittee shall submit the results of any maintenance performed on the bagfilters or packed-tower scrubbers within 30 days of a written request by the DAQ.
- v. The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

b. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

- i. Visible emissions from the above listed emission sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Monitoring

- ii. To assure compliance, once a month the Permittee shall observe the emission points of these sources for any visible emissions above normal. The Permittee shall establish “normal” for the source in the first 30 days following the effective date of permit. If visible emissions from this source are observed to

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be above normal, the Permittee shall either: (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or (b) demonstrate that the percent opacity from the emission points of the emission source is below the limit.

Recordkeeping

- iii. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
 - (a) the date and time of each recorded action;
 - (b) the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
 - (c) the results of any corrective actions performed.

F. Cosmetic Plant consisting of the following equipment:

- C One reaction process (ID No. CP-1) with associated condenser (ID No. CD-A3-2-X2-CP-1)**
- C Pearlization process (ID Nos. CP-4 and CP-6) with associated condensers (ID Nos. CD-A3-2-X2-CP-4 and CD-A3-2-X2-CP-6)**
- C One centrifuge process (ID No. C-1) with associated condenser (ID No. CD-A3-2-X2-C-1)**
- C One solvent recovery system (ID No. CP-300) with associated condensers (ID Nos. CD-A3-2-X3-DC5001 and CD-A3-2-X3-DC5003)**
- C Two monomer S/A tanks (ID Nos. CP-2 and CP-13)**
- C Two catalyst S/A tanks (ID Nos. CP-3 and CP-14)**
- C Five process vessels (ID Nos. CP-9, CP-10, CP-11, CP-12, and HOPPER)**
- C Ten storage tanks (ID Nos. CP-102, CP-103, CP-104, CP-105, CP-107, CP-111, CP-112, CP-113, CP-115, and CP-116)**
- C Seven NSPS affected storage tanks (ID Nos. CP-101, CP-106, CP-108, CP-109, CP-110, CP-114, and CP-120)**

1. Regulatory Analysis

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	$E=4.10P^{0.67}$ where E = allowable emission rate in pounds per hour P = process weight in tons per hour	15A NCAC 2D .0515
visible emissions	20 percent opacity	15A NCAC 2D .0521

volatile organic compounds	Comply with all recordkeeping requirements (ID Nos. CP-101, CP-106, CP-108, CP-109, CP-110, CP-114, and CP-120 only)	15A NCAC .0524 (40 CFR Part 60 Subpart Kb)
volatile organic compounds	See Section VII A. 1	15A NCAC 2D .0958
toxic air pollutants	State-enforceable only - See Section VII B	15A NCAC 2D .1100
odors	State-enforceable only - See Section VII A. 3	15A NCAC 2D .1806

a. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- i. Emissions of particulate matter from this source shall not exceed an allowable emission rate as calculated by the following equation:

$$E = 4.10 \times P^{0.67} \quad \text{Where } E = \text{allowable emission rate in pounds per hour}$$

$$P = \text{process weight in tons per hour}$$

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Monitoring/Recordkeeping

- ii. The Permittee shall maintain production records which specify the types of materials and finishes processed and shall make these records available to a DAQ authorized representative upon request.

b. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

- i. Visible emissions from the above listed emission sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Monitoring

- ii. To assure compliance, once a month the Permittee shall observe the emission points of these sources for any visible emissions above normal. The Permittee shall establish “normal” for the source in the first 30 days following the effective date of permit. If visible emissions from this source are observed to be above normal, the Permittee shall either: (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or (b) demonstrate that the percent opacity from the emission points of the emission source is below the limit.

Recordkeeping

- iii. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
 - (a) the date and time of each recorded action;
 - (b) the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Monitoring/Recordkeeping

- ii. The Permittee shall maintain production records which specify the types of materials and finishes processed and shall make these records available to a DAQ authorized representative upon request.
- iii. **PM-SCRUBBER (PACKED TOWER) REQUIREMENTS** - Particulate matter emissions shall be controlled as described in the permitted equipment list.
 - (a) **Inspection and Maintenance Requirements** - To comply with the provisions of this permit and ensure that emissions do not exceed the regulatory limits, the Permittee shall perform periodic inspections and maintenance (I&M) as recommended by the manufacturer. In addition, the Permittee shall perform an annual internal inspection of the scrubber system.

As a minimum, the annual internal inspection will include inspection of spray nozzles, packing material, chemical feed system (if so equipped), and the cleaning/calibration of all associated instrumentation annually. Additionally, two weeks following start-up of the scrubber, the Permittee shall shut down the system and inspect for nozzle plugging and settling of the packing.

- (b) **Recordkeeping Requirements** - The results of all inspections and any variance from manufacturer's recommendations or from those given in this permit (when applicable) shall be investigated with corrections made and dates of actions recorded in a logbook. Records of all maintenance activities shall be recorded in the logbook. The logbook (in written or electronic form) shall be kept on-site and made available to DAQ personnel upon request.

Reporting

- iv. The Permittee shall submit the results of any maintenance performed on the bagfilters or packed-tower scrubbers within 30 days of a written request by the DAQ.
- v. The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

b. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

- i. Visible emissions from the above listed emission sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Monitoring

- ii. To assure compliance, once a month the Permittee shall observe the emission points of these sources for any visible emissions above normal. The Permittee shall establish "normal" for the source in the first 30 days following the effective date of permit. If visible emissions from this source are observed to be above normal, the Permittee shall either: (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or (b) demonstrate that the percent opacity from the emission points of the emission source is below the limit.

Recordkeeping

- iii. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
 - (a) the date and time of each recorded action;

- (b) the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
- (c) the results of any corrective actions performed.

Reporting

iv. The Permittee shall submit a summary report of the observations postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

H. Miscellaneous (sixteen chemical reactors and processes) consisting of the following equipment:

- C One chemical reactor vessel (ID No. T20V) with associated condensers (ID Nos. T20VC-1 and T20VC-2) exiting through refrigerated recovery unit (ID No. V-VRU1)
- C One chemical reactor vessel (ID No. MV1) with associated condensers (ID Nos. MV1C-1 and MV1C-2) exiting through common vent manifold (ID No. AREA II)
- C One chemical reactor vessel (ID No. S5V) with associated condensers (ID Nos. CD-A2-1-1S5V-C and S5VC-2) exiting through common vent manifold (ID No. AREA II)
- C One chemical reactor vessel (ID No. R12) with associated condensers (ID Nos. R12C-1 and R12C-2)
- C One chemical reactor vessel (ID No. R1) with associated condenser (ID No. R1C)
- C One chemical reactor vessel (ID No. R2) with associated condenser (ID No. R2C)
- C One chemical reactor vessel (ID No. R5) with associated condensers (ID Nos. R5C-1 and R5C-2)
- C One chemical reactor vessel (ID No. R6) with associated condensers (ID Nos. R6C-1 and R6C-2)
- C One chemical reactor vessel (ID No. MV2) with associated condensers (ID Nos. MV2C-1 and MV2C-2) exiting through common vent manifold (ID No. AREA II)
- C One chemical reactor vessel (ID No. MV3) with associated condensers (ID Nos. MV3C-1 and MV3C-2) exiting through 250 CD-A2-2-MV3C3
- C One chemical reactor vessel (ID No. MV4) with associated condensers (ID Nos. MV4C-1 and MV4C-2) exiting through 80 CD-A2-2-MV4C3
- C One chemical reactor vessel (ID No. T-13V) with associated condensers (ID Nos. T13VC-1 and T13VC-2)
- C One chemical reactor vessel (ID No. DR-1) with associated condenser (ID No. C-400)
- C One chemical reactor vessel (ID No. LUWA) with associated condenser (ID No. LUWA)
- C One chemical reactor vessel (ID No. 7R)
- C One chemical reactor vessel (ID No. 8R) with associated condensers (ID Nos. 8RC-1 and 8RC-2)

1. Regulatory Analysis

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	$E=4.10P^{0.67}$ where E = allowable emission rate in pounds per hour P = process weight in tons per hour	15A NCAC 2D .0515
visible emissions	20 percent opacity	15A NCAC 2D .0521

volatile organic compounds	less than 40 tons per year (ID No. R12 only)	15A NCAC 2D .0530
volatile organic compounds	See Section VII A. 1	15A NCAC 2D .0958
toxic air pollutants	State-enforceable only - See Section VII B	15A NCAC 2D .1100
odors	State-enforceable only - See Section VII A. 3	15A NCAC 2D .1806

a. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- i. Emissions of particulate matter from the above emission sources shall not exceed an allowable emission rate as calculated by the following equation:

$$E = 4.10 \times P^{0.67} \quad \text{Where } E = \text{allowable emission rate in pounds per hour}$$

$$P = \text{process weight in tons per hour}$$

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Monitoring/Recordkeeping

- ii. The Permittee shall maintain production records which specify the types of materials and finishes processed and shall make these records available to a DAQ authorized representative upon request.

b. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

- i. Visible emissions from the above listed emission sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Monitoring

- ii. To assure compliance, once a month the Permittee shall observe the emission points of these sources for any visible emissions above normal. The Permittee shall establish “normal” for the source in the first 30 days following the effective date of permit. If visible emissions from this source are observed to be above normal, the Permittee shall either: (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or (b) demonstrate that the percent opacity from the emission points of the emission source is below the limit.

Recordkeeping

- iii. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
 - (a) the date and time of each recorded action;
 - (b) the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and

- (c) the results of any corrective actions performed.

Reporting

- iv. The Permittee shall submit a summary report of the observations postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

**c. 15A NCAC 2Q. 0317: AVOIDANCE CONDITIONS
15A NCAC 2D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION**

- i. In order to avoid applicability of this regulation, the reactor (**ID No. R12**) shall discharge into the atmosphere less than 40 tons of VOCs per consecutive 12-month period.

Monitoring/Recordkeeping

- ii. Calculations of VOC emissions per month shall be made at the end of each month. VOC emissions shall be determined by mass balance calculations comparing the masses entering and leaving the reactor (**ID No. R12**).
 - (a) the operation of the reactor (**ID No. R12**) shall not exceed 3,999 hours per any 12- month rolling period. VOC emissions must not exceed 20 pounds per hour
- iii. Calculations and the total amount of VOC emissions shall be recorded monthly in a logbook (written or electronic format).

Reporting

- iv. The Permittee shall submit a summary report of monitoring and recordkeeping activities within 30 days after each calendar year quarter, due and postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 for the calendar year for the preceding three-month period between July and September. The report shall contain the following:
 - (a) The monthly VOC emissions for the previous 14 months. The emissions shall be calculated for each of the 12-month periods over the previous 14 months,
 - (b) The actual hours of operation of the reactor (**ID No. R12**) and the annual VOC emissions based on the 20 pounds per hour maximum permitted emission rate.

The Permittee must keep each monthly record on file for a minimum of three years.

VII. Multiple Emission Source Limits

A. Facility-wide affected sources

The following table provides a summary of limits and standards for the emission source(s) describe above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
volatile organic compounds	work practice standards	15A NCAC 2D .0958

volatile organic compounds	inspection and maintenance requirements; State-enforceable only	
odors	odorous emissions must be controlled; State-enforceable only	15A NCAC 2D .1806

1 . 15A NCAC 2D .0958: WORK PRACTICES FOR SOURCES OF VOLATILE ORGANIC COMPOUNDS

a. Pursuant to 15A NCAC 2D .0958, for all sources that use volatile organic compounds (VOC) as solvents, carriers, material processing media, or industrial chemical reactants, or in similar uses that mix, blend, or manufacture volatile organic compounds, or emit volatile organic compounds as a product of chemical reactions, and whose emissions of VOC are greater than 15 pounds per day; the Permittee shall:

- (1) store all material, including waste material, containing volatile organic compounds in tanks or in containers covered with a tightly fitting lid that is free of cracks, holes, or other defects, when not in use,
- (2) clean up spills of volatile organic compounds as soon as possible following proper safety procedures,
- (3) store wipe rags containing volatile organic compounds in closed containers,
- (4) not clean sponges, fabric, wood, paper products, and other absorbent materials with volatile organic compounds,
- (5) transfer solvents containing volatile organic compounds used to clean supply lines and other coating equipment into closable containers and close such containers immediately after each use, or transfer such solvents to closed tanks, or to a treatment facility regulated under section 402 of the Clean Water Act,
- (6) clean mixing, blending, and manufacturing vats and containers containing volatile organic compounds by adding cleaning solvent and close the vat or container before agitating the cleaning solvent. The spent cleaning solvent shall then be transferred into a closed container, a closed tank or a treatment facility regulated under section 402 of the Clean Water Act. [15A NCAC 2D .0958(c)]

b. When cleaning parts with a solvent containing a volatile organic compound, the Permittee shall:

- (1) flush parts in the freeboard area,
- (2) take precautions to reduce the pooling of solvent on and in the parts,
- (3) tilt or rotate parts to drain solvent and allow a minimum of 15 seconds for drying or until all dripping has stopped, whichever is longer,
- (4) not fill cleaning machines above the fill line,
- (5) not agitate solvent to the point of causing splashing. [15A NCAC 2D .0958(d)]

STATE-ONLY REQUIREMENT: INSPECTION AND MAINTENANCE REQUIREMENTS

2. CONDENSER (AND COLDTRAP) REQUIREMENTS - VOC emissions shall be controlled as described in the permitted equipment list. Requirements below will become effective on all units upon issuance of this permit.

- a. Inspection and Maintenance Requirements - To comply with the provisions of this permit and ensure that emissions do not exceed the regulatory limits, the Permittee shall perform periodic inspections and maintenance as recommended by the equipment manufacturer. In addition, the Permittee shall perform an annual inspection of the condenser system, including the following:
 - i. The Permittee shall inspect and maintain the structural integrity of the condenser, including inspection for leakage of coolant and, if the system is under positive gauge pressure, leakage of the contaminated gas stream. In order to indicate leakage of the coolant, the condensate shall be inspected for the presence of coolant;

- ii. The Permittee shall conduct a bi-annual clean out of the condenser shell sides and tube sides; and
 - iii. The Permittee shall inspect and maintain the structural integrity of duct work and piping leading to and coming from the condenser.
- b. Recordkeeping Requirements - The results of all inspections and any variance from manufacturer's recommendations or from those given in this permit (when applicable) shall be investigated with corrections made and dates of actions recorded in a logbook. Records of all maintenance and monitoring activities shall be recorded in the logbook. The logbook (in written or electronic form) shall be kept on-site and made available to DAQ personnel upon request.
- c. Monitoring Requirements - The Permittee shall ensure the proper performance of the condenser by monitoring the following operational parameters:
- i. The condenser shall be equipped with a device to continuously measure the exit gas temperature to ensure that it does not exceed the following maximum temperature. The device shall be installed in an accessible location and shall be maintained by the Permittee such that it is in proper working order at all times. The Permittee shall record the exit gas temperature when the equipment is operating in a log once per week. The log shall also indicate whether or not the equipment has operated during the week. These gauges shall be calibrated annually.

<u>Condenser ID</u>	<u>Maximum Outlet Temperature °F</u>
CD-A1-LDF-C1a	122
CD-A1-LDF-C1b	122
CD-A1-LDF-C2	122
CD-A2-1-V-VRU1Ca, b	86
CD-A2-2-MV3C3	122
CD-A2-2-MV4C3	122
CD-A3-1-R04C	122
CD-500SSC2	122
CD-1000SSC2	122
CD-PD300C2	122
CD-PP-50GLC2	122
CD-PP-60SSC2	122
CD-PP-250SSC2	122
CD-PP-300GLC2	122
CD-PP-100SSC1	122

CD-PP-400SSC2	122
CD-PP-2000SSC2	122
CD-PP-TD17/25C1	122
CD-VP1C1	122
CD-VP2C1	122
CD-VP3C1	122
CD-A3-2-X2-CP-1	122
CD-A3-2-X2-CP-4	122
CD-A3-2-X2-CP-6	122
CD-A3-2-X2-C-1	122
CD-A3-2-X3-DC5001	122
CD-A3-2-X3-DC5003	122

STATE-ONLY REQUIREMENT: ODOR REQUIREMENTS

3. 15A NCAC 2D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS

- a. the Permittee shall not operate the facility without implementing management practices or installing and operating odor control equipment sufficient to prevent odorous emissions from the facility from causing or contributing to objectionable odors beyond the facility's boundary.

STATE-ONLY REQUIREMENT:

- B. TOXIC AIR POLLUTANT EMISSIONS LIMITATION AND REQUIREMENT** - Pursuant to 15A NCAC 2D .1100 and in accordance with the approved application for an air toxic compliance demonstration, the following permit limits shall not be exceeded:

- 1. Emissions of the following listed toxic air pollutants shall be limited to the following emission rates:

<u>Pollutant</u>	<u>Facility Emission Rate</u>
Ethylene dichloride	40,141.5 pounds per year
Benzene	76.7007 pounds per year
Methylene chloride	10.5 pounds per hour 16,000 pounds per year

Formaldehyde

6.976 lb/hour

draft

2. To assure compliance with the toxic air pollutant emission limits specified above, the following conditions and limitations shall apply:

- a. Ethylene dichloride emissions from the sources listed below shall not exceed:

<u>Source ID No.</u>	<u>Pounds Per Year</u>
S5V	3034
S1R	1933
S6V	1932
EP-A2-MAN1	0
EP-A2-MAN2	0
EP-A2-MAN3	0

The total monthly and annual ethylene dichloride emissions from each source shall be recorded in a toxic air pollutant emissions log book.

- b. Hours of operation per calendar year quarter of the CERCLA project air stripper (ID No. CERCLA -1) and sludge stripper (ID No. STRIP-1) shall be recorded in the toxic air pollutant emissions log book.
 - c. A mass balance of ethylene dichloride emissions from the facility per calendar year quarter shall be conducted using inventory purchase and storage records and the results recorded in the toxic air pollutant emission log book.
 - d. Keeping of these records shall begin upon initial completion of the SPS production expansion modifications.
 - e. Chemical Reactors ID Nos 3R and 4R will be removed from the facility.
 - f. Formaldehyde emissions from the AREA I, exhaust manifolds (Nos. A1-man-1 and A1-man-2) will be no greater than 1.276 lb/hr for each manifold.
3. For compliance purposes, the Permittee shall record hourly emissions from the AREA I, exhaust manifolds (Nos. A1-man-1 and A1-man-2). The hourly emissions from each source shall be recorded in a toxic air pollutant emissions logbook. These emissions can be recorded at the end of each workday.
 4. The total monthly and annual benzene emissions from each source shall be recorded in a toxic air pollutant emissions log book.
 5. The total monthly and annual methylene chloride emissions from each source shall be recorded in a toxic air pollutant emissions log book.
 6. The toxic air pollutant emissions log book shall be made available for inspection by personnel of the DAQ.
 7. Within 30 days of each calendar year quarter, the following shall be reported to the Regional Supervisor, DAQ:
 - a. The facility wide ethylene dichloride emissions.

- b. The facility wide benzene emissions.
- c. The facility wide methylene chloride emissions.
- d. All exceedances of the hourly emissions limits of formaldehyde or a statement that emission limits were not exceeded during the quarter.

VIII. MACT Applicability and Requirements

Based on a review of the facility's current operations and emission sources, the facility may be subject to the Miscellaneous Organic NESHAP (MON).

IX. Permit Shield (including non-applicable requirements)

In accordance with 2Q .0512 the permit will contain a provision stating that compliance with the terms, conditions, and limitations of the Title V permit shall be deemed in compliance with applicable requirements specifically identified in the permit, as of the date of permit issuance. If the permit does not expressly state that a permit shield exists then it shall be presumed not to provide such a shield.

XI. General Conditions

The "General Conditions" section of the Title V Operating Permits lists additional applicable rule requirements that the permittee must adhere to, as with any other permit condition. These requirements in general are common to all Title V facilities. The general conditions include provisions such as annual fee payment, permit renewal and expiration, transfer of ownership or operation, property rights, submission of documents, inspections and entry procedures, reopen for cause, and severability.

XII. Insignificant Activities

The insignificant activity (packaging department) listed in the application has been reviewed and verified. Because an emission source or activity is insignificant does not mean that the emission source or activity is exempted from any applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement.

XIII. Public Notice

Pursuant to 15A NCAC 2Q .0521, a notice of the draft Title V Operating Permit shall be placed in a newspaper of general circulation in the area where the facility is located. The notice will provide for a 30 day comment period, with an opportunity for a public hearing. Copies of the public notice shall be sent to persons on the Title V mailing list, the following affected state - South Carolina, and EPA.

XIV. Recommendations

The initial Title V application for National Starch and Chemical Company has been reviewed by the DAQ to determine compliance with all procedures and requirements under 15A NCAC 2Q .0500 and 40 CFR Part 70. The DAQ has made a preliminary determination that the facility is complying or will achieve compliance as specified in the draft permit with all applicable requirements. Therefore, the DAQ is proposing to issue the Title V Operating Permit upon completion of the public comment period and the EPA review.

draft