

INITIAL TITLE V AIR PERMIT APPLICATION REVIEW

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APPLICANT: ARTEVA Specialities, S.a.r.l. d/b/a KoSa Salisbury Plant	SITE LOCATION: Salisbury	COUNTY: Rowan	
Technical Contact: Doug Jinks	Phone: 704-636-6000 ext. 4161	Responsible Official: A. J. Branecky	Title: Site Manager
Review Engineer: Leo H. Stander, PE, DEE/Steve Proctor	Signature:	Date:	
Regional Contact: Ron Slack	Regional Office: Mooresville Regional Office	SIC Code: 2824 and 2821	
APPLICATION NUMBER: 8000034A5.A	EXISTING PERMIT NUMBER: 03325R37	NEW PERMIT NUMBER: 03325T38	

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. 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 Title V operating permit. The primary source of information used to construct the permit is the above referenced air permit application.

II. Background Information

The Title V Operating Permit replaces the existing Air Quality Construction and Operation Permits No. 03325R37, issued on September 26, 2000, and currently scheduled to expire on January 31, 2004.

Pursuant to 15A NCAC 2Q .0506, ARTEVA Specialities, S.a.r.l. d/b/a KoSa (formerly known as Hoechst Celanese Corporation) submitted its initial Title V application for the Salisbury Plant, to the Division of Air Quality on August 9, 1996. The application was considered complete for processing on October 8, 1996. Updates were submitted on July 7, 1997, March 31, 2000, May 23, 2000, June 29, 2000, July 24, 2000, July 28, 2000, and August 9, 2000.

The ARTEVA Specialities, S.a.r.l. d/b/a KoSa facility (referred to as “the KoSa facility” in the permit and throughout the review) is considered as a major source of air pollution and subject to Title V requirements since the potential emissions of the following individual criteria pollutants exceed 100 tons per year:

- . particulate matter
- . PM-10
- . sulfur dioxide
- . nitrogen oxides
- . volatile organic compounds
- . carbon monoxide

In addition, total potential emissions of hazardous air pollutants, principally acetaldehyde biphenyl, ethylene glycol, and methanol exceed 25 tons per year.

III. Facility Description

The KoSa facility manufactures polyester fibers used in many products, including tires, seat belts, high density industrial fibers, and staple fibers used for insulated clothing, pillows, sheets and the carpet industry. The facility employees approximately 1,250 (including 200 contractors) and operates 24 hours per day, seven days per week, 52 weeks per year. The plant has been in operation since 1965.

IV. Statement of Compliance

The applicant has indicated in the permit application that the KoSa facility will be in compliance with all applicable requirements. The applicant has also indicated in the application that the KoSa 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 contains a summary of all permitted emission sources and associated air pollution control devices and appurtenances:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
PET Production Operations			
CPK5, CPK6, CPK7, CPK10, CPK13, CPK14, CPK15 (MACT)	PET Polymer Production - K Lines Seven (7) Continuous Polymerization Lines K5, K6, K7, K10, K13, K14, K15 (MACT - JJJ)	N/A	None
CPK16 (MACT)	PET Polymer Production - K Line Continuous Polymerization Line with glycol ejectors, Line K16 (MACT - JJJ)	DOWHEATKB or DOWHEATKC	Dowtherm Heater KB or KC used to control two (2) glycol ejector vacuum pump vents
CPH13, CPH14 (MACT)	PET Polymer Production - H Lines Two (2) Continuous Polymerization Lines H13, H14 (MACT - JJJ)	N/A	None
GRU (MACT)	Glycol Recovery Unit (GRU) consisting of: One (1) Water stripper column, One (1) Ethylene glycol distillation column, One (1) Diethylene glycol distillation column, and One (1) thin film evaporator (MACT-JJJ)	N/A	None
AMO (MACT)	Additive Preparation and Distribution (MACT-JJJ)	N/A	N/A

PET Wastewater Operations			
GRUWSOhWW (MACT, Grp1)	GRU Water Stripper Column overhead condensate (MACT-JJJ)	See Note	Note: Stream is routed to dioxane column for control
CPK13WW, CPK15WW (MACT, Grp1)	Two (2) Primary Esterifier Receiver Wastewater streams from CPK13 and CPK15 (MACT-JJJ)	See Note	Note: Streams are routed to dioxane column for control
CPK5WW, CPK6WW, CPK7WW, CPK10WW, CPK14WW, CPK16WW, CPH13WW, CPH14WW (MACT, Grp2)	Eight (8) Primary Esterifier Receiver Wastewater streams from CPK5, CPK6, CPK7, CPK10, CPK14, CPK16, CPH13, and CPH14 (MACT-JJJ)	See Note	Note: Streams are routed to dioxane column for control
DIOXFEEDS1 (MACT, Grp1)	Dioxane Column Feed Tank (MACT-JJJ) (200,000 gallon capacity)	N/A	None
DIOX_AUX_S1 (MACT, Grp1)	Dioxane Column Auxiliary Tank (20,000 gallon capacity) (MACT-JJJ)	N/A	None
DC-1 (MACT)	Dioxane Column (Wastewater Stripper Unit) (MACT-JJJ)	OXDZ-DC1	Thermal oxidizer (1.2 million Btu/hour max heat input - natural gas-fired)
PET Production – Ancillary/Support Equipment			
COOLTWR	Cooling Towers (cells 8, 9, and 10)	N/A	None
DOWSYS	Dowtherm Process Heating System (equipment leaks)	N/A	None
GRUB	Glycol Recovery Unit Bottoms Truck Loading	N/A	None
K13CHIP, K14CHIP, K15CHIP	Three Chip Extrusion and Pelletizing Lines K13, K14, K15	N/A	None
R&D	Research and Development Activities including: Wet Lay Bruderhaus lab, and Tire & MRG Lab	N/A	None
WWTP	One (1) Aerobic Waste Water Treatment Plant consisting of 2 (two) 650,000 gallon Influent Equalization tanks, three (3) aeration basins, one (1) digester basin, two (2) underground clarifier tanks, one (1) above ground clarifier tank, and (4) polisher ponds	N/A	None

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PET Processing			
SSP1-K17/K18, SSP2-K20	Two (2) Solid State Polycondensation Lines – SSPK17/K18, SSPK20	DOWHEATKB or DOWHEATKC	Dowtherm Heater KC or KB (NOTE: Control of these emissions is NOT required by regulation - Emissions are VOLUNTARILY controlled)
SDK5, SDK6, SDK7, SDK10, SDK11, SDK12	Six (6) Conventional Spin/Draw Lines K5, K6, K7, K10, K11, K12	N/A	None
SDK16, SDK17, SDK18, SDK19, SDK21, SDK22, SDK23, SDK24	Eight (8) Second Generation Filament Spin/Draw Lines K16, K17, K18, K19, K21, K22, K23, K24	N/A	None
DDO	Polyester Staple Fiber Drawing and Drying Operations	N/A	None
H13SPIN, H14SPIN, H15SPIN, H16SPIN	Four (4) Staple Spinning Lines H13, H14, H15, H16	N/A	None
H17MONEXH H18MONEXH H21MONEXH	3 BICO Spinning Lines H17, H18, and H21	N/A	None
Pack/Spinnerette Cleaning			
SALTBATH	Conventional Salt Baths 1 through 4	SLTBTHC1	Rotoclone wet scrubber (American Air Filter, Type W, Arrangement A, Model Size 16)
KOLENE1	Kolene Salt Bath #1 0.5 million Btu/hour maximum heat input - natural gas fired	KOLENE1C1	Venturi scrubber - water injection rate of 90 gallons/minute
KOLENE2	Kolene Salt Bath #2 0.5 million Btu/hour maximum heat input - natural gas fired	KOLENE2C2	Packed bed-type scrubber - water injection rate of 75 gallons/minute
Terephthalic Acid Storage Silos			
TASILO1, TASILO2, TASILO3, TASILO4	Four (4) Terephthalic Acid Silo No. 1, No. 2, No. 3, No. 4	N/A	None
Boilers and Heaters			
BOILER1, BOILER2, BOILER3, BOILER4, BOILER5	Five (5) 90 million Btu/hour maximum heat input Natural gas and No. 2/No. 6 fuel oil-fired boilers: Boiler 1, Boiler 2, Boiler 3, Boiler4, Boiler 5	N/A	None

DOWHEATHA DOWHEATHB DOWHEATHC DOWHEATHD DOWHEATHE DOWHEATHF DOWHEATKA DOWHEATKB DOWHEATKC DOWHEATKD DOWHEATKE DOWHEATKF	Twelve (12) 22 million Btu/hour maximum heat input Natural gas and No. 2/No. 6 fuel oil-fired Dowtherm Heaters: HA, HB, HC, HD, HE, HF, KA, KB, KC, KD, KE, KF	N/A	None
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VI. Emission Source-by-Source Evaluation

A. PET Production Operations

1. Description

Terephthalic acid, ethylene glycol, and additives/catalysts are combined by inline mixers or in a paste tank. The paste goes through a primary and a secondary esterifier where monomer is formed. The monomer is sent through a series of polymerizers to form polymer. From the high polymerizers (the final polymerizer), the molten polymer is sent to filament spin/draw.

In the solid state polycondensation -SSP, low intrinsic viscosity (IV) PET is solid state reacted using heated nitrogen to a high IV polymer. The process evolves ethylene glycol, water, and trace amounts of acetaldehyde. The ethylene glycol is recovered by scrubbers and the acetaldehyde is stripped from the nitrogen and destroyed in a process heater.

Molten polymer from the polymerization lines enters the spinnerettes and is extruded into filaments. The fiber is quenched with air, finish is applied to the fiber before it proceeds down to the godet rolls where it is stretched and put into cylinders. The godet rolls are run at variable speeds to allow for the drawing action to occur. All godet rolls are electrically heated.

Spun PET continuous fiber is further processed by drawing, crimping, drying, cutting, and bailing into a final cut PET product known as "staple."

Crude ethylene glycol from the polymerization line receiver vessels is sent through a series of distillation columns to recover ethylene glycol for use in the polymerization process. The glycol recovery unit includes the following distillation columns: water, ethylene glycol, diethylene glycol, and a thin film evaporator. A water stripper (dioxane column) is used to remove pollutants from the condensed water column overheads before they are sent to the wastewater treatment systems. A thermal oxidizer is used to reduce the emissions from the water stripper. Bottoms from the thin film evaporator are loaded into trucks and shipped off-site.

2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for the emission units in the PET production operations. A review of the information in the application was performed to ensure that

the appropriate limits and associated calculations used to show compliance were correct.

Regulated	Limits/Standards	Applicable Regulation
toxic air pollutants	Permit limits for toxic air pollutants shall not be exceeded. See Section VII.B.3 Facility Wide Affected Emission Sources <u>State-enforceable only</u> .	15A NCAC 2D .1100
Organic hazardous air pollutants	Maximum Achievable Control Technology	15A NCAC 2D .1111
odors	Odorous emissions must be controlled - Section VII.B.2 Facility Wide Affected Emission Sources; <u>State-enforceable only</u>	15A NCAC 2D .1806
toxic air pollutants	Toxic air pollutant emissions shall not exceed the levels listed in 2Q .0711 unless ambient standards are not exceeded; See Section VII.B.4 Facility Wide Affected Emission Sources; <u>State-enforceable only</u> .	15A NCAC 2Q .0711

3. Specific requirements and affected emission points

- a. **15A NCAC 2D .1111: Maximum Achievable Control Technology (also see National Emission Standards for Hazardous Air Pollutants for Source Categories as promulgated in 40 CFR Part 63)**

Statement of Basis

The continuous polymerization lines are affected facilities under 40 CFR 63.1310 – Subpart JJJ: National Emission Standards for Hazardous Air Pollutants: Group IV Polymers and Resins (40 CFR Parts 63.1310–1335).”

Applicant indicated in the “Notification of Compliance Status Report,” submitted on November 9, 2001, that the only vent that can be identified as “continuous process vent” using the definition provided in 40 CFR 63.1312 is the Line K16 vacuum pump exhaust. Emission limitations do not apply to all other vents because their organic HAP emissions do not exceed 0.005 weight percent total organic HAP from a continuous unit operation within the affected source, they are operated under a vacuum, or emissions could only occur under non-routine malfunction events.

As the recovery operations in the glycol recovery unit are shared among process units and the predominant use of the recovery operations cannot be determined and since one of those process units is a TPPU subject to this subpart, the recovery operations equipment shall be assigned to that TPPU. Emissions from the glycol recovery unit are to be included as part of the PET affected source. Requirements for the dioxane steam stripper are discussed below. The Stripper (Dioxane Column) Feed Tank (**ID No. DIOXFEEDS1**) and the

Stripper (Dioxane Column) Auxiliary Tank (**ID No. DIOX_AUX_S1**) are used to store of organic hazardous air pollutant as impurities, are not subject to provisions of this MACT (see 40 CFR 63.1310(c)(8)), and are not considered storage vessels as defined in 40 CFR 63.1312. The glycol recovery unit bottoms truck loading (**ID No. GRUB**) is not subject to this regulation as it involves the handling of material (glycol recovery unit bottoms) that contains organic HAP as impurities only.

Though there are provisions for cooling towers in 40 CFR 63.1310 – Subpart JJJ: National Emission Standards for Hazardous Air Pollutants: Group IV Polymers and Resins (40 CFR Parts 63.1310–1335), such requirements are not applicable at this facility as the affected facility is not “new affected facility” (see 40 CFR 63.1329(a)) and the existing affected facility processes that use the cooling towers do not manufacture PET using a continuous terephthalic acid high viscosity multiple end finisher process.

As required in 40 CFR 63.114(e) and as reported in the Notification of Compliance Status on November 9, 2001, in response to requirements in 40 CFR 63.1335(e)(5), the Permittee has established a range of firebox temperatures that indicates proper operation of the Dowtherm heaters KB or KC. According to this report, “the Dow Heater firebox temperature will be continuously monitored (at least once every 15-minutes) and the daily average temperature will be maintained greater than or equal to 700 °F.”

Regulatory Requirements

Emission Standards for Continuous Process Vents (40 CFR 63.1316 (PET and polystyrene affected sources -- emissions control provisions.) Organic HAP emissions from all continuous process vents in the polymerization reaction section of the PET process containing greater than 0.005 weight percent total organic HAP shall, as a whole, be no greater than 0.02 kg organic HAP per Mg of product from all associated thermoplastic product process units.

Emission Standards for Continuous Process Vents (40 CFR 63.1316 (PET and polystyrene affected sources -- emissions control provisions.) Organic HAP emissions from all continuous process vents in the esterification vessels in the collection of raw materials preparation section of the PET process containing greater than 0.005 weight percent total organic HAP shall, as a whole, be no greater than 0.04 kg organic HAP per Mg of product from all associated thermoplastic product process units.

Monitoring

Emissions of hazardous air pollutants from the continuous polymerization line K16 through the continuous process vent shall be combusted in one of two Dowtherm Heaters KB or KC. Emissions of hazardous air pollutants from the dioxane column stripper in the glycol recovery unit (**ID No. 499GRU_S1**) shall be combusted in a thermal oxidizer (**ID No. 499OXDZRC1**). To ensure compliance (as indicated in 40 CFR 63.114(a)) for the Dowtherm Heaters and the thermal oxidizer, the Permittee shall install a temperature monitoring device equipped with a continuous recorder either in the firebox, or in the ductwork immediately downstream of the firebox before any substantial heat exchange is encountered. The temperature monitoring device shall measure firebox temperatures continuously. To ensure quality, temperature monitoring devices will be calibrated, operated, and maintained using procedures that take into account manufacturer’s specifications. The Permittee shall be deemed in noncompliance

with 15ANCAC 2D .1111 if the temperatures in the fireboxes, or in the ductwork immediately downstream of the fireboxes before any substantial heat exchange is encountered, are not recorded and the temperature monitoring devices are not maintained

The Permittee shall assure the proper performance of the Dowtherm Heaters KB and KC by ensuring that the temperature in the fireboxes, or in the ductwork immediately downstream of the fireboxes before any substantial heat exchange is encountered, will be maintained at a minimum of 700 degrees F while processing PET. The Permittee shall assure the proper performance of the thermal oxidizer by ensuring that the temperature in the firebox, or in the ductwork immediately downstream of the firebox before any substantial heat exchange is encountered, will be maintained at a minimum of 760 degrees C. while processing the vent stream from the design air stripper. If the temperature readings are observed to be below 700 degrees F for the Dowtherm heaters and below 760 degrees C for the thermal oxidizer, the Permittee shall inspect the Dowtherm heaters and the thermal oxidizer for malfunctions and repair or replace burners as necessary in accordance to manufacturer's inspection and maintenance recommendations. The Permittee shall be deemed in noncompliance with 15A NCAC 2D.1111 if the temperature falls below 700 degrees F for the Dowtherm heaters or 760 degrees C for the thermal oxidizer and no maintenance or repairs are performed.

Reporting/Record Keeping

See General Reporting and recordkeeping requirements in multiple source section.

B. Pack/Spinnerette Cleaning

1. Description

In Pack/Spinnerette Cleaning, conventional salt baths and Kolene units are used to remove the polymer residue from the pack/spinnerette assemblies. The emissions from the salt baths and Kolene units occur when the disassembled parts are placed in the molten salt baths. The emissions from the salt baths and Kolene units are passed through scrubbers to remove particulate matter emissions.

In conventional salt baths, disassembled packs are placed in baskets which are lowered into molten salt baths for approximately 30 minutes. After being recovered from the salt bath, the packs are quenched in a solution of water with rust inhibitor.

In the Kolene salt baths, metal pack parts containing PET residue are processed in an enclosed, automated cleaner which includes molten salt baths and quench tanks. The cycle time for a basket of pack parts is 35 minutes. The salt bath furnace is heated by gas fired immersion burner tubes.

Comment

In the permit application submitted on June 27, 1997, it was indicated that a venturi scrubber was utilized for the Kolene Salt Bath #2. In the most recent air permit (Air Permit No. 03325R37) it was indicated that a packed bed-type scrubber is used. In this document and in the permit document, the packed bed-type scrubber will be included.

2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for the units in the production support services. A review of the information in the application was performed to ensure that the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	$E = 4.10P$ where E = allowable emission rate in pounds per hour P = process weight in tons per hour Note limits and discussion in Section VI.B.3.b	15A NCAC 2D .0515
visible emissions	40 percent opacity Note limits and discussion in Section VI.B.3.d	15A NCAC 2D .0521(c)
toxic air pollutants	Permit limits for toxic air pollutants shall not be exceeded. See Section VII.B.3 Facility Wide Affected Emission Sources State-enforceable only .	15A NCAC 2D .1100
odors	Odorous emissions must be controlled - Section VII.B.2 Facility Wide Affected Emission Sources; State-enforceable only	15A NCAC 2D .1806
toxic air pollutants	Toxic air pollutant emissions shall not exceed the levels listed in 2Q .0711 unless ambient standards are not exceeded; See Section VII.B.4 Facility Wide Affected Emission Sources; State-enforceable only .	15A NCAC 2Q .0711

3. Specific requirements and affected emission points

a. **15A NCAC 2D .0515: Particulate Emissions from Miscellaneous Industrial Processes**

Statement of Basis

An adjustable throat venturi scrubber and a packed bed-type scrubber are used to control emissions from the Kolene salt baths and a rotoclone scrubber is used to control particulate emissions from the conventional salt baths.

No compliance issues have been noted for particulate emissions from the units in the production support services.

Regulatory Requirements

Emissions of particulate matter from the units in the production support services that are discharged into the atmosphere shall not exceed an allowable emission rate as calculated by

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the following equation: [15A NCAC 2D .0515(a)] [Note this equation was chosen since the process throughput rate (process weight rate) is less than 30 tons per hour].

$E = 4.10 \times P$ 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. In no case shall the following emission limitations be exceeded:

Monitoring/Recordkeeping

Particulate matter emissions from the units in the production support services shall be controlled as follows:

Emissions from the conventional salt baths shall be controlled by a rotoclone wet scrubber.

Emissions from the Kolene Salt Bath #1 shall be controlled by a venturi scrubber with a water injection rate of 90 gallons/minute.

Emissions from the Kolene Salt Bath #2 shall be controlled by a packed bed-type scrubber with a water injection rate of 75 gallons/minute.

For the scrubbers, the permit shall monitor and record the liquid flow rate once per week. The readings shall be recorded in a log book (written or electronic format), maintained on-site, and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the devices for monitoring the liquid flow rate are not calibrated, operated, and maintained using procedures that take into account manufacturer's specifications. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the monitoring records are not maintained or if the liquid flow rate is not monitored and recorded.

Reporting

The Permittee shall submit a summary report of monitoring and record keeping activities 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. All instances of deviations from the requirements of this permit must be clearly identified.

b. 15A NCAC 2D .0521: Control of Visible Emissions

Statement of Basis

The conventional salt baths were manufactured prior to July 1, 1971 and the Kolene salt baths were manufactured after July 1, 1971 .

Regulatory Requirements

As required by 15A NCAC 2D .0521(c) "Control of Visible Emissions," visible emissions from the conventional salt baths manufactured as of July 1, 1971, shall not be more than 40 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(c)]. However, six

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minute averaging periods may exceed 40 percent opacity if :

No six-minute period exceeds 90 percent opacity;

No more than one six-minute period exceeds 40 percent opacity in any hour; and

No more than four six-minute periods exceed 40 percent opacity in any 24-hour period.

As required by 15A NCAC 2D .0521(d) "Control of Visible Emissions," visible emissions from the kolene salt baths manufactured after July 1, 1971, shall not be more than 20 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(d)]. However, six minute averaging periods may exceed 20 percent opacity if:

No six-minute period exceeds 87 percent opacity;

No more than one six-minute period exceeds 20 percent opacity in any hour; and

No more than four six-minute periods exceed 20 percent opacity in any 24-hour period.

Monitoring/Recordkeeping

To ensure compliance, the Permittee shall observe, on a monthly basis, the emission points of the sources listed above for any visible emissions above normal. The Permittee shall establish "normal" for the source in the first 30 days following the effective date of the permit. If visible emissions from the emission points in the production support services are observed to be above normal, the Permittee shall either:

be deemed to be in noncompliance with 15A NCAC 2D .0521 or

demonstrate that the visible emissions from the production support services, in accordance with 15A NCAC 2D .0501(c)(8), is below the respective opacity limit.

If the demonstration in (b) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

The results of the monitoring for visible emissions 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:

the date and time of each recorded action;

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

the results of any corrective actions performed.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521 if these records are not maintained.

Reporting

The Permittee shall submit a summary report of monitoring and record keeping activities 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. All instances of deviations from the requirements of this permit must

be clearly identified.

C. Terephthalic Acid Storage Silos

1. Description

Terephthalic acid received from off-site is transferred into blowpots and pneumatically transferred into one of four storage silos. From the silos, the terephthalic acid is sent to the individual continuous polymerization line feed hoppers inside the polymerization buildings.

2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for the units that comprise the raw material storage and handling. A review of the information in the application was performed to ensure that 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 Note limits and discussion in Section VI.C.3.a	15A NCAC 2D .0515
visible emissions	40 percent opacity Note limits and discussion in Section VI.C.3.b	15A NCAC 2D .0521(c)

3. Specific requirements and affected emission points

a. 15A NCAC 2D .0515: Particulate Emissions from Miscellaneous Industrial Processes
Regulatory Requirements

Emissions of particulate matter from the units in the raw material storage and handling that is discharged into the atmosphere shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .0515(a)] [Note this equation was chosen since the process throughput rate (process weight rate) is more than 30 tons per hour].

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$E = 55.0 \times P^{-.40}$ 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. In no case shall the following emission limitations be exceeded:

<u>Source</u>	<u>Pollutant</u>	<u>Process Weight Rate</u>	<u>Emission Limit</u>	<u>Potential Emissions</u>
Terephthalic Acid Silo No. 1 (10,619 cubic feet capacity) (ID No. 499TASI1S1)	Particulate matter	60.0 tons/hour	46.3 lbs/hour	1.65 lbs/hour
Terephthalic Acid Silo No. 2 (10,619 cubic feet capacity) (ID No. 499TASI2S1)	Particulate matter	60.0 tons/hour	46.3 lbs/hour	1.65 lbs/hour
Terephthalic Acid Silo No. 3 (10,619 cubic feet capacity) (ID No. 499TASI3S1)	Particulate matter	60.0 tons/hour	46.3 lbs/hour	1.65 lbs/hour
Terephthalic Acid Silo No. 4 (10,619 cubic feet capacity) (ID No. 499TASI4S1)	Particulate matter	60.0 tons/hour	46.3 lbs/hour	1.65 lbs/hour

Monitoring/Recordkeeping

Particulate matter emissions from the 4 terephthalic acid silos shall be controlled by bag filters.

To ensure compliance and effective operation of the bag filters, 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:

annual internal inspection of the bag filters and associated duct work for deterioration, and

a monthly external visual inspection of the system duct work, and material collection unit for deterioration, damage, and leaks, and

The permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the bag filters and duct work are not visually inspected for damage and deterioration.

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:

the date and time of each recorded action;

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the results of each inspection;
the results of any maintenance performed on the filter; and
any variance from manufacturer's recommendations, if any, and corrections made.
The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if these records are not maintained.

Reporting

The Permittee shall submit the results of any maintenance performed on the bag filters associated with the 4 terephthalic acid silos within 30 days of a written request by the DAQ.

The Permittee shall submit a summary report of monitoring and record keeping 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

Statement of Basis

Emission limits for visible emissions from the units in the raw material storage and handling were prescribed in Air Permit No. 03325R37 (Specific Conditions and Limitations No. 5).

No compliance issues have been identified for these storage units.

Regulatory Requirements

As required by 15A NCAC 2D .0521(c) "Control of Visible Emissions," visible emissions from the emission units in raw material storage and handling manufactured as of July 1, 1971, shall not be more than 40 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(c)]. However, six minute averaging periods may exceed 40 percent opacity if

No six-minute period exceeds 90 percent opacity;

No more than one six-minute period exceeds 40 percent opacity in any hour; and

No more than four six-minute periods exceed 40 percent opacity in any 24-hour period

Monitoring/Recordkeeping

To ensure compliance, the Permittee shall observe, on a monthly basis, the four terephthalic acid silos for any visible emissions above normal. The Permittee shall establish "normal" for the source in the first 30 days following the effective date of the permit. If visible emissions from the emission points in the raw material storage and

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handling are observed to be above normal, the Permittee shall either:
be deemed to be in noncompliance with 15A NCAC 2D .0521 or

demonstrate that the visible emissions from the four terephthalic acid silos (**ID Nos. 499TASI1S, 499TASI2S1, 499TASI3S1 and 499TASI4S1**) in the raw material storage and handling, in accordance with 15A NCAC 2D .0501(c)(8), is below 40 percent opacity.

If the demonstration in above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

The results of the monitoring for visible emissions shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. To ensure quality, entries in the logbook should be signed by personnel responsible for the effective operation of the terephthalic acid silos and their air pollution control devices. The logbook shall record the following:

the date and time of each recorded action;

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

the results of any corrective actions performed.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521 if these records are not maintained.

Reporting

The Permittee shall submit a summary report of monitoring and record keeping activities 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. All instances of deviations from the requirements of this permit must be clearly identified.

D. Boilers and Heaters

1. Description
The KoSa facility operates boilers and Dowtherm heaters
2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for the units that comprise the Utilities. A review of the information in the application was performed to ensure that the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
--------------------------------	-------------------------	------------------------------

particulate matter	$E=1.090 Q^{-0.2594}$ E = allowable emission limit Q = maximum heat input in million Btu/hour heat input	15A NCAC 2D .0503(c)
sulfur dioxide	1.6 pounds per million Btu heat input and a sulfur content of 1.5 percent by weight	15A NCAC 2D .0516(a)
visible emissions	40 percent opacity Note limits and discussion in Section VI.D.3.c	15A NCAC 2D .0521(c)
visible emissions	20 percent opacity Note limits and discussion in Section VI.D.3.c	15A NCAC 2D .0521(d)
toxic air pollutants	Permit limits for toxic air pollutants shall not be exceeded. See Section VII.B.3 Facility Wide Affected Emission Sources <u>State-enforceable only</u> .	15A NCAC 2D .1100
toxic air pollutants	Toxic air pollutant emissions shall not exceed the levels listed in 2Q .0711 unless ambient standards are not exceeded; See Section VII.B.4 Facility Wide Affected Emission Sources; <u>State-enforceable only</u> .	15A NCAC 2Q .0711
odors	Odorous emissions must be controlled - Section VII.B.2 Facility Wide Affected Emission Sources; <u>State-enforceable only</u>	15A NCAC 2D .1806

3. Specific requirements and affected emission points

a. **15A NCAC 2D .0503: Particulates from Fuel Burning Indirect Heat Exchangers**

Statement of Basis

The boilers and Dowtherm heaters burn natural gas, No. 2 fuel oil, and No. 6 fuel oil. No control devices have been identified.

When natural gas, No. 2 fuel oil, or No. 6 fuel oil is used for the boilers and heaters, minimal emissions of particulate matter are expected from this combustion operation.

Regulatory Requirements

- iv. The allowable emissions of particulate matter shall be calculated by the equation $E = 1.090 Q^{-0.2594}$. E = allowable emission limit in lb/million Btu. Q = maximum heat input in million Btu/hour (See 15A NCAC 2D .0503(c)).

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Emissions of particulate matter from the combustion of natural gas, No. 2 fuel oil, or No. 6 fuel oil as discharged from each indirect heat exchanger into the atmosphere shall not exceed the following limitations:

<u>Source</u>	<u>Emission Limit</u>	<u>Maximum Firing Rate</u>	<u>Allowable Emission Rate</u>	<u>Potential Emissions</u>
Steam Boiler #1	0.198 lbs/millionBtu	90 million Btu/hour	17.8 lbs/hour	10.2 lbs/hour
Steam Boiler #2	0.198 lbs/millionBtu	90 million Btu/hour	17.8 lbs/hour	10.2 lbs/hour
Steam Boiler #3	0.198 lbs/millionBtu	90 million Btu/hour	17.8 lbs/hour	10.2 lbs/hour
Steam Boiler #4	0.198 lbs/millionBtu	90 million Btu/hour	17.8 lbs/hour	10.2 lbs/hour
Steam Boiler #5	0.198 lbs/millionBtu	90 million Btu/hour	17.8 lbs/hour	10.2 lbs/hour
Primary Dowtherm Heater No. HA	0.198 lbs/millionBtu	22 million Btu/hour	4.35 lbs/hour	2.5 lbs/hour
Primary Dowtherm Heater No. HB	0.198 lbs/millionBtu	22 million Btu/hour	4.35 lbs/hour	2.5 lbs/hour
Primary Dowtherm Heater No. HC	0.198 lbs/millionBtu	22 million Btu/hour	4.35 lbs/hour	2.5 lbs/hour
Primary Dowtherm Heater No. HD	0.198 lbs/millionBtu	22 million Btu/hour	4.35 lbs/hour	2.5 lbs/hour
Primary Dowtherm Heater No. HE	0.198 lbs/millionBtu	22 million Btu/hour	4.35 lbs/hour	2.5 lbs/hour
Primary Dowtherm Heater No. HF	0.198 lbs/millionBtu	22 million Btu/hour	4.35 lbs/hour	2.5 lbs/hour
Primary Dowtherm Heater No. KA	0.198 lbs/millionBtu	22 million Btu/hour	4.35 lbs/hour	2.5 lbs/hour
Primary Dowtherm Heater No. KB	0.198 lbs/millionBtu	22 million Btu/hour	4.35 lbs/hour	2.5 lbs/hour
Primary Dowtherm Heater No. KC	0.198 lbs/millionBtu	22 million Btu/hour	4.35 lbs/hour	2.5 lbs/hour

Primary Dowtherm Heater No. KD	0.198 lbs/millionBtu	22 million Btu/hour	4.35 lbs/hour	2.5 lbs/hour
Primary Dowtherm Heater No. KE (ID No. 599DOWKES1)	0.198 lbs/millionBtu	22 million Btu/hour	4.35 lbs/hour	2.5 lbs/hour
Primary Dowtherm Heater No. KF (ID No. 599DOWKFS1)	0.198 lbs/millionBtu	22 million Btu/hour	4.35 lbs/hour	2.5 lbs/hour

Monitoring/ Recordkeeping

No monitoring, record keeping, or reporting is required for particulate emissions from the firing of natural gas, No. 2 fuel oil, or No. 6 fuel oil in the boilers and the Dowtherm heaters.

b. 15A NCAC 2D .0516: Sulfur Dioxide Emissions from Combustion Sources

Statement of Basis

The boilers and the Dowtherm heaters were listed in Air Permit No. 03325R37. The emission limit of 1.6 lb per million Btu heat input and a sulfur content limitation of 1.5 percent by weight were prescribed in the existing permit (Air Permit No. 03325R37, Specific Conditions and Limitations No. 4).

Regulatory Requirements

- i. Emissions of sulfur dioxide from the boilers and the Dowtherm heaters shall not exceed 1.6 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. [15A NCAC 2D .0516(a)].

Monitoring/Record keeping

No monitoring, record keeping, or reporting is required for sulfur dioxide emissions from the firing of natural gas and No. 2 fuel oil in the boilers and the Dowtherm heaters

The maximum sulfur content of any No. 6 fuel oil received and burned in the boiler and Dowtherm heaters shall not exceed 1.5 percent by weight and 1.6 lb/million Btu of heat input. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516 if the sulfur content of the fuel oil exceeds these limits. [15A NCAC 2Q .0508(aa)]

To ensure compliance, the Permittee shall monitor the sulfur content of the No. 6 fuel oil by using fuel oil supplier certification per shipment received. The results of the fuel oil supplier certifications shall be recorded in a logbook (written or electronic format) on a quarterly basis and include the following information:

- the name of the fuel oil supplier;
- the maximum sulfur content of the fuel oil received during the quarter;
- the method used to determine the maximum sulfur content of the fuel oil; and

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a certified statement signed by the responsible official that the records of fuel oil supplier certification submitted represent all of the No. 6 fuel oil fired during the period.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516 if the sulfur content of the oil is not monitored and recorded.

Reporting

The Permittee shall submit a summary report of the fuel oil supplier certifications 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 2D .0521: Control of Visible Emissions

Regulatory Requirements

As required by 15A NCAC 2D .0521(c) "Control of Visible Emissions," visible emissions from sources manufactured as of July 1, 1971, shall not be more than 40 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(c)]. However, six minute averaging periods may exceed 40 percent opacity if:

No six-minute period exceeds 90 percent opacity;

No more than one six-minute period exceeds 40 percent opacity in any hour; and

No more than four six-minute periods exceed 40 percent opacity in any 24-hour period.

As required by 15A NCAC 2D .0521(d) "Control of Visible Emissions," visible emissions from sources manufactured after July 1, 1971, shall not be more than 20 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(d)]. However, six minute averaging periods may exceed 20 percent opacity if

No six-minute period exceeds 87 percent opacity;

No more than one six-minute period exceeds 20 percent opacity in any hour; and

No more than four six-minute periods exceed 20 percent opacity in any 24-hour period

Visible emissions from the emission points in the boiler house shall not exceed the following limitations:

<u>Source</u>	<u>Opacity Limit</u>
Steam Boiler #1	40%
Steam Boiler #2	40%

Steam Boiler #3	40%
Steam Boiler #4	40%
Steam Boiler #5	40%
Primary Dowtherm Heater No. HA	40%
Primary Dowtherm Heater No. HB	40%
Primary Dowtherm Heater No. HC	40%
Primary Dowtherm Heater No. HD	40%
Primary Dowtherm Heater No. HE	40%
Primary Dowtherm Heater No. HF	20%
Primary Dowtherm Heater No. KA	40%
Primary Dowtherm Heater No. KB	40%
Primary Dowtherm Heater No. KC	40%
Primary Dowtherm Heater No. KD	20%
Primary Dowtherm Heater No. KE	20%
Primary Dowtherm Heater No. KF	20%

Monitoring/Recordkeeping

No monitoring, record keeping, or reporting is required for visible emissions from the steam boilers and the Dowtherm heaters when burning natural gas or No. 2 fuel oil.

To ensure compliance while burning No. 6 fuel oil, the Permittee shall observe, on a monthly basis, the emission points for the steam boilers) and the Dowtherm heaters for any visible emissions above normal. The Permittee shall establish “normal” for the

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source in the first 30 days following the effective date of the permit. If visible emissions from the emission points in the raw material storage and handling are observed to be above normal, the Permittee shall either:

be deemed to be in noncompliance with 15A NCAC 2D .0521 or

demonstrate that the visible emissions from the boilers and the Dowtherm heaters in accordance with 15A NCAC 2D .0501(c)(8), do not exceed their respective opacity limits

If the demonstration above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

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

Reporting

The Permittee shall submit a summary report of monitoring and record keeping activities 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. All instances of deviations from the requirements of this permit must be clearly identified.

E. Miscellaneous Sources

1. Description

The KoSa facility operates laboratories, chip handling systems, and storage facilities.

The process rates for miscellaneous sources are as follows:

Emission Source	Emission Source ID No.	Maximum Process Rate
Wet Lay Bruderhaus lab	WLB	Not provided
Tire and MRG Research and Development Lab	TMRG	Not provided

2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for the miscellaneous sources.

Regulated Pollutant	Limits/Standards	Applicable Regulation
toxic air pollutants	Permit limits for toxic air pollutants shall not be exceeded. See Section VII.B.3 Facility Wide Affected Emission Sources <u>State-enforceable only.</u>	15A NCAC 2D .1100
odors	Odorous emissions must be controlled - Section VII.B.2 Facility Wide Affected Emission Sources; <u>State-enforceable only</u>	15A NCAC 2D .1806
toxic air pollutants	Toxic air pollutant emissions shall not exceed the levels listed in 2Q .0711 unless ambient standards are not exceeded; See Section VII.B.4 Facility Wide Affected Emission Sources; <u>State-enforceable only.</u>	15A NCAC 2Q .0711

All of these regulations are facility wide or multiple emissions source requirements.

F. Additive Preparation and Distribution

1. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for these emission units.

Regulated	Limits/Standards	Applicable Regulation
toxic air pollutants	Permit limits for toxic air pollutants shall not be exceeded. <u>State-enforceable only.</u>	15A NCAC 2D .1100
Organic hazardous air pollutants	Maximum Achievable Control Technology	15A NCAC 2D .1111
odors	Odorous emissions must be controlled <u>State-enforceable only</u>	15A NCAC 2D .1806
toxic air pollutants	Toxic air pollutant emissions shall not exceed the levels listed in 2Q .0711 unless ambient standards are not exceeded <u>State-enforceable only.</u>	15A NCAC 2Q .0711

2. Specific requirements and affected emission points

Emissions Standards/Control Requirements [40 CFR 63.1321]

- a. [40 CFR 63.1323(d) via 40 CFR 63.1322(g)] Annual emissions from each Group 2 batch vent in the additive preparation and distribution operations (ID No. AMO) shall not exceed 11,800 kg/yr.
- b. [40 CFR 63.1322(g)(1)] The Permittee shall comply with the following requirements.
 - i. The Permittee shall establish a batch mass input limitation that ensures emissions do not exceed 11,800 kg/yr.
 - ii. Over the course of the affected sources “year” as reported in the Notification of Compliance Status in accordance with 40 CFR 63.1335(e)(5)(viii), the Permittee shall not charge a mass of HAP or material to the batch unit operation that is greater than the level established as the batch mass input limitation.
- c. [40 CFR 63.1322(g)(iv)] The Permittee shall comply with 40 CFR 63.1323(i) whenever process changes are made.

Recordkeeping Provisions [40 CFR 63.1326 via 40 CFR 63.1322(g)(1)(iii)]

- d. The Permittee shall keep the following records readily accessible.
 - i. Records designating the established batch mass input limitation.
 - ii. Records specifying the mass of HAP or material charged to the batch unit operation.

Reporting Provisions [40 CFR 63.1327 via 40 CFR 63.1322(g)(1)(iii)]

- e. As part of the required Notification of Compliance Status the Permittee shall submit:
 - i. records designating the established batch mass input limitation;
 - ii. records specifying the mass of HAP or material charged to the batch unit operation; and
- f. In addition to the reporting requirements above, whenever process changes are made the Permittee shall follow the reporting requirements in 40 CFR 63.1327(b) and (c).

G. Pack/Spinnerette Cleaning Operation Consisting of:

- C Conventional Saltbaths 1-4 (ID No. SALTBATH) Controlled By a Rotoclone Wet Scrubber (ID No. SLTBTHC1, Min. Liquid Flow Rate of 4 Gal/Min)**
- C Kolene Salt Bath #1 and #2 (ID No. KOLENE1 and KOLENE2) With Front Half Emissions Controlled By a Venturi Wet Scrubber (ID No. KOLENE1C1, Min. Liquid Flow Rate of 90 Gal/Min) and Back Half Emissions Controlled By a Packed Bed Scrubber (ID No. KOLENE1C2, Min. Liquid Flow Rate of 75 Gal/Min)**

The following table provides a summary of limits and/or standards for the source(s) listed above.

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	E=4.1P E = allowable emission limit P = process rate in tons per hour	15A NCAC 2D .0515
visible emissions	40 percent opacity	15A NCAC 2D .0521
toxic air pollutants	Permit limits for toxic air pollutants shall not be exceeded Section 2.2. Facility Wide Affected Emission Sources <u>State-enforceable only.</u>	15A NCAC 2D .1100
odors	Odorous emissions must be controlled Section 2.2 Facility Wide Affected Emission Sources	15A NCAC 2D .1806
toxic air pollutants	Toxic air pollutant emissions shall not exceed the levels listed in 2Q .0711 unless ambient standards are not exceeded; - Section 2.2. Facility Wide Affected Emission Sources <u>State-enforceable only.</u>	15A NCAC 2Q .0711

1. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- a. Emissions of particulate matter from this source 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.

Testing [15A NCAC 2D .0501 (c)(3)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the allowable limit, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

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

- c. Particulate matter emissions from the conventional and Kolene salt baths shall be controlled by scrubbers as described above. To ensure compliance and the effective operation of the scrubbers, the Permittee shall

monitor and record, once per week, scrubber liquid flow rate. If the emission source(s) is not operating, a record of this fact along with the corresponding date and time shall substitute for the weekly observation. The readings shall be recorded in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. To ensure quality, the monitoring devices shall be calibrated, operated, and maintained using procedures that take into account manufacturer's specifications. In addition, an annual internal inspection of the scrubber system that entails inspection of spray nozzles, packing material, chemical feed system (if so equipped), and the cleaning/calibration of all associated instrumentation. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if these records are not maintained.

- d. The results of inspection and maintenance activities, discussed above for the scrubbers, shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative of DAQ upon request. The logbook shall record the following:
 - i. the date and time of each recorded action
 - ii. the results of each inspection;
 - iii. the causes for any variance from the normal operating range for the scrubber; and
 - iv. corrective actions taken.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if these records are not maintained.

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

- e. The Permittee shall submit a summary report of the 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.

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

Regulatory Requirements

- a. As required by 15A NCAC 2D .0521(c) "Control of Visible Emissions," visible emissions from the conventional salt baths manufactured as of July 1, 1971, shall not be more than 40 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(c)]. However, six minute averaging periods may exceed 40 percent opacity if:
 - i. No six-minute period exceeds 90 percent opacity;
 - ii. No more than one six-minute period exceeds 40 percent opacity in any hour; and
 - iii. No more than four six-minute periods exceed 40 percent opacity in any 24-hour period.
- b. As required by 15A NCAC 2D .0521(d) "Control of Visible Emissions," visible emissions from the kolene salt baths manufactured after July 1, 1971, shall not be more than 20 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(d)]. However, six minute averaging periods may exceed 20 percent opacity if:
 - i. No six-minute period exceeds 87 percent opacity;
 - ii. No more than one six-minute period exceeds 20 percent opacity in any hour; and

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- iii. No more than four six-minute periods exceed 20 percent opacity in any 24-hour period.

Testing [15A NCAC 2D .0501(c)(8)]

- c. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(8) and General Condition JJ found in Section 3. If the results of the test performed exceed the allowable limits for visible emissions, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

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

- d. To ensure compliance the Permittee shall observe, on a monthly basis, the emission points for the sources listed above for visible emissions above normal. The Permittee shall establish “normal” for the source in the first 30 days following the effective date of the permit. If visible emissions from the emission points associated with these sources are observed to be above normal, the Permittee shall either:
 - i. be deemed to be in noncompliance with 15A NCAC 2D .0521 or
 - ii. demonstrate that the visible emissions from the emission points for the above sources, in accordance with 15A NCAC 2D .0501(c)(8), do not exceed their respective opacity limit as established above.

If the demonstration in (ii) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

- e. The results of the monitoring for visible emissions 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:
 - i. the date and time of each recorded action;
 - ii. 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
 - iii. the results of any corrective actions performed.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521 if these records are not maintained.

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

- f. The Permittee shall submit a summary report of monitoring and record keeping activities 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. All instances of deviations from the requirements of this permit must be clearly identified.

VII. Multiple Source Requirements

Facility-wide affected emission sources

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a. Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and standards applicable facility wide:

Regulated Pollutant	Limits/Standards	Applicable Regulation
odors	odorous emissions must be controlled; State enforceable only	15A NCAC 2D .1806
toxic air pollutants	Permit limits for toxic air pollutants shall not be exceeded. Sources State-enforceable only .	15A NCAC 2D .1100
toxic air pollutants	Toxic air pollutant emissions shall not exceed the levels listed in 2Q .0711 unless ambient standards are not exceeded; State-enforceable only	15A NCAC 2Q .0711

B. Specific requirements and affected emission points

1. **15A NCAC 2D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS (State only requirement)**

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.

2. **15 A NCAC 2D .1100: Control of Toxic Air Pollutants (State only requirement)**

a. Pursuant to 15A NCAC 2D .1100 "Control of Toxic Air Pollutants," and in accordance with the approved application for an air toxic compliance demonstration, the following permit limits shall not be exceeded:

<u>EMISSION SOURCE(S)</u>	<u>TOXIC AIR POLLUTANT(S)</u>	<u>EMISSION LIMIT(S)</u>
Facility-wide	1,3-butadiene	731 lb/yr
	1,4-dioxane	949 lb/day

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acetaldehyde	207.1 lb/15 min
acrolein	0.0208 lb/15 min
acrylonitrile	730 lb/yr
arsenic	11.3 lb/yr
aziridine	2.00 lb/day
benzene	1,485 lb/yr
chloroform	730 lb/yr
dimethyl sulfate	2.00 lb/day
ethyl mercaptan	0.0833 lb/hr
ethylene dibromide	730 lb/yr
ethylene dichloride	730 lb/yr
ethylene oxide	172 lb/yr
formaldehyde	0.233 lb/15 min
maleic anhydride	0.0833 lb/hr
	2.00 lb/day
methyl mercaptan	0.0833 lb/hr
nitrobenzene	0.0833 lb/hr
	2.00 lb/day
pentachlorophenol	0.0833 lb/hr
	2.00 lb/day
phenol	10.0 lb/hr
phosgene	2.00 lb/day
polychlorinated biphenyls	730 lb/yr
1,1,1,2-tetrachloroethane	730 lb/yr
toluene diisocyanate	0.00850 lb/15 min
	0.314 lb/day
vinyl chloride	730 lb/yr

b. To ensure enforceability of this limit, the following restrictions

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shall apply:

- i. The production rate of the molten polymer shall not exceed 10,000,000 pounds per day.
 - ii. The maximum total throughput for both Wet Lay Bruderhaus machine dryers (ID Nos. IRD and HCD) shall not exceed 9,240 pounds per day.
 - iii. The Tire and MRG Research and Development Laboratory (ID No. TMRG) shall not operate in excess of two shifts per day, seven days per week, and 52 weeks per year.
 - iv. The maximum permitted heat input of combustion sources facility-wide shall not exceed 775 million Btu per hour.
 - v. The total organic compound emissions from the Wet Lay Bruderhaus (ID No. WLB) shall not exceed 2 lb/day.
 - vi. The gallons of No. 6 fuel oil combusted at this facility shall be less than 3,961,403 gallons per consecutive twelve month period.
- c. The above production limits, emission sources that emit toxic air pollutants, and the efficiencies of control equipment, are based on maximum design parameters. The facility shall not modify these sources of toxic air pollutants such that the modification results in an increase exceeding the above limits without prior approval by the Division. The Permittee shall maintain operational information as necessary to determine that the above limits are not exceeded..

3. 15A NCAC 2Q .0711: PERMIT REQUIREMENTS FOR TOXIC AIR POLLUTANTS (State only requirements)

- a. Pursuant to 15A NCAC 2Q .0711 "Emission Rates Requiring a Permit," for each of the below listed toxic air pollutants (TAPs), the Permittee has made a demonstration that facility-wide actual emissions do not exceed the Toxic Permit Emission Rates (TPERs) listed in 15A NCAC 2Q .0711. The facility shall be operated and maintained in such a manner that emissions of any listed TAPs from the facility, including fugitive emissions, will not exceed TPERs listed in 15A NCAC 2Q .0711.
 - i. A permit to emit any of the below listed TAPs shall be required for this facility if actual emissions from all sources will become greater than the corresponding TPERs.

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- ii. PRIOR to exceeding any of these listed TPERs, the Permittee shall be responsible for obtaining a permit to emit TAPs and for demonstrating compliance with the requirements of 15A NCAC 2D.1100 "Control of Toxic Air Pollutants".
- iii. In accordance with the approved application, the Permittee shall maintain records of operational information demonstrating that the TAP emissions do not exceed the TPERs as listed below:

Pollutant	TPERs Limitations			
	Carcinogens (lb/yr)	(lb/day)	Acute Systemic Toxicants (lb/hr)	Acute Irritants (lb/hr)
Acetic Acid (64-19-7)				0.96
Ammonia (7664-41-7)				0.68
Aniline (62-53-3)			0.25	
Benzyl Chloride (100-44-7)			0.13	
Chlorobenzene (108-90-7)		46		
Chloroprene (126-99-8)		9.2	0.89	
Cresol (1319-77-3)			0.56	
p-dichlorobenzene (106-46-7)				16.8
Dichlorodifluoro- methane (75-71-8)		5200		
Dichlorofluoro-methane (75-43-4)		10		
Epichlorhydrin (106-89-8)	5600			
Ethyl Acetate (141-78-6)			36	
Ethylenediamine (107-15-3)		6.3	0.64	

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Pollutant	TPERs Limitations			
	Carcinogens (lb/yr)	(lb/day)	Acute Systemic Toxicants (lb/hr)	Acute Irritants (lb/hr)
Ethylene Glycol Monoethyl Ether (110-80-5)		2.5	0.48	
n-hexane (110-54-3)		23		
Hexane Isomers				92
Methychloroform (71-55-6)		250		64
Methylene Chloride (75-09-2)	1600		0.39	
Methyl Ethyl Ketone (78-93-3)		78		22.4
Methyl Isobutyl Ketone (108-10-1)		52		7.6
N-nitrosodimethylamine (62-75-9)	3.4			
Perchloroethylene (127-18-4)	13000			
Styrene (100-42-5)			2.7	
1,1,1,2-tetrachloro- 1,2- difluoroethane (76-12-0)		1100		
Toluene (108-88-3)		98		14.4
Trichloroethylene (79-01-6)	4000			
Trichlorofluoromethane (75-69-4)		140		
1,1,2-trichloro-1,2,2- trifluoroethane (76-13-1)				240
Vinylidene Chloride (75-35-4)		2.5		

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Pollutant	TPERs Limitations			
	Chronic Toxicants		Acute Systemic Toxicants (lb/hr)	Acute Irritants (lb/hr)
	Carcinogens (lb/yr)	(lb/day)		
Xylene (1330-20-7)		57		16.4

b. PET MACT Affected Sources

The following table provides a summary of limits and/or standards for the source(s) listed above.

Regulated Pollutant	Limits/Standards	Applicable Regulation
Hazardous Air Pollutants	General Recordkeeping and Reporting	15A NCAC 2D .1111 National Emission Standards for Hazardous Air Pollutant Emissions: Group IV Polymers and Resins
Hazardous Air Pollutants	Startup, Shutdown, and Malfunction	15A NCAC 2D .1111 National Emission Standards for Hazardous Air Pollutant Emissions: Group IV Polymers and Resins

1. 15A NCAC 2D .1111: NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANT EMISSIONS: GROUP IV POLYMERS AND RESINS - GENERAL RECORDKEEPING AND REPORTING PROVISIONS [40 CFR 63.1335]

- a. **Data retention.** All applicable records shall be maintained in such a manner that they can be readily accessed. The most recent 6 months of records shall be retained on site or shall be accessible from a central location by computer or other means that provides access within 2 hours after a request. The remaining 4 and one-half years of records may be retained offsite. Records may be maintained in hard copy or computerreadable form including, but not limited to, on paper, microfilm, computer, floppy disk, magnetic tape, or microfiche.
- b. **Requirements of 40 CFR 63 subpart A.** The Permittee shall comply with the applicable recordkeeping and reporting requirements in subpart A of this part as specified in Table 1 of 40 CFR 63.1335. These requirements include, but are not limited to, the following requirements
 - i. **Start-up, shutdown, and malfunction plan.** The Permittee shall develop and implement a written start-up, shutdown, and malfunction plan. This plan shall describe, in detail, procedures for operating and maintaining the affected source

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during periods of start-up, shutdown, and malfunction and a program for corrective action for malfunctioning process and air pollution control equipment used to comply with this subpart. For equipment leaks (40 CFR 63.1331), the start-up, shutdown, and malfunction plan requirement is limited to control devices and is optional for other equipment. For equipment leaks, the startup, shutdown, and malfunction plan may include written procedures that identify conditions that justify a delay of repair. A provision for ceasing to collect, during a start-up, shutdown, or malfunction, monitoring data that would otherwise be required by the provisions of this subpart may be included in the start-up, shutdown, and malfunction plan only if the Permittee has demonstrated to the DAQ, through a supplement to the Precompliance Report, that the monitoring system would be damaged or destroyed if it were not shut down during the start-up, shutdown, or malfunction. The affected source shall keep the start-up, shutdown, and malfunction plan on-site.

- (A) **Records of start-up, shutdown, and malfunction.** The Permittee shall keep the following records.
- (1) Records of the occurrence and duration of each start-up, shutdown, and malfunction of operation of process equipment or control devices or recovery devices or continuous monitoring systems used to comply with this subpart during which excess emissions (as defined in 40 CFR 63.1310(j)(4)) occur.
 - (2) For each start-up, shutdown, or malfunction during which excess emissions occur, records reflecting whether the procedures specified in the affected sources start-up, shutdown, and malfunction plan were followed, and documentation of actions taken that are not consistent with the plan. For example, if a start-up, shutdown, and malfunction plan includes procedures for routing a control device to a backup control device, records shall be kept of whether the plan was followed. These records may take the form of a "checklist," or other form of recordkeeping that confirms conformance with the start-up shutdown, and malfunction plan for the event.
- (B) **Reports of start-up, shutdown, and malfunction.** For the purposes of this subpart, the semiannual start-up, shutdown, and malfunction reports shall be submitted on the same schedule as the Periodic Reports; 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. The reports shall include the information specified in 40 CFR 63.10(d)(5)(i).
- ii. **Application for approval of construction or reconstruction.** For new affected sources, each the Permittee shall comply with the provisions in 40 CFR 63.5 regarding construction and reconstruction, excluding the provisions specified in 40 CFR 63.5(d)(1)(ii)(H), (d)(1)(iii), (d)(2), and (d)(3)(ii).
- c. **Recordkeeping and documentation.** The Permittee shall keep continuous records and

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documentation as follows.

- i. The monitoring system shall measure data values at least once every 15 minutes.
 - ii. The Permittee shall record either each measured data value or block average values for 1 hour or shorter periods calculated from all measured data values during each period. If values are measured more frequently than once per minute, a single value for each minute may be used to calculate the hourly (or shorter period) block average instead of all measured values.
 - iii. Daily average values of each continuously monitored parameter shall be calculated for each operating day as specified below except as otherwise provided in iv. and v below.
 - (A) The daily average value shall be calculated as the average of all parameter values recorded during the operating day, except as provided for in paragraph v. below. The calculated average shall cover a 24-hour period if operation is continuous, or the number of hours of operation per operating day if operation is not continuous.
 - (B) The operating day shall be from midnight to midnight for purposes of determining daily average values of monitored parameters.
 - iv. If all recorded values for a monitored parameter during an operating day are above the minimum level or below the maximum level established for the operating permit, the Permittee may record that all values were above the minimum level or below the maximum level rather than calculating and recording a daily average for that operating day.
 - v. Monitoring data recorded during periods identified below (A) through (E) shall not be included in any average computed under this subpart. Records shall be kept of the times and durations of all such periods and any other periods during process or control device or recovery device operation when monitors are not operating.
 - (A) Monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments;
 - (B) Start-ups;
 - (C) Shutdowns;
 - (D) Malfunctions;
 - (E) Periods of non-operation of the affected source (or portion thereof), resulting in cessation of the emissions to which the monitoring applies.
 - vi. Records documenting the completion of calibration checks and maintenance of continuous monitoring systems that are specified in the manufacturer's instructions or that are specified in other written procedures that provide adequate assurance that the equipment would reasonably expected to monitor accurately shall be maintained by the Permittee.
- d. **Reporting and notification.** In addition to the reports and notifications required by 40 CFR 63 Subpart A as specified in Table 1 of 40 CFR 63, Subpart JJJ, the Permittee shall prepare and submit the reports as may be required in this Section.
- i. The Permittee shall not be in violation of the reporting requirements for failing to

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submit information required to be included in a specified report if

- (A) the information was not known in time for inclusion in the report specified by this subpart;
 - (B) the Permittee has been diligent in obtaining the information; and
 - (C) the Permittee submits a report according to the following:
 - (1) If report supplements are required, the Permittee shall submit the information as a supplement to that report. The information shall be submitted no later than 60 days after it is obtained, unless otherwise specified in this subpart.
 - (2) If report supplements are not required, but the Permittee must submit a request for revision of an operating permit, due to circumstances to which the information pertains, the Permittee shall submit the information with the request for revision to the operating permit.
 - (3) In any case not addressed above in (A) or (B), the Permittee shall submit the information with the first Periodic Report which has a submission deadline at least 60 days after the information is obtained.
- ii. All reports required under this subpart shall be sent to the DAQ Mooresville Regional Office. If acceptable to both the DAQ and the Permittee, reports may be submitted on electronic media.

Examples of circumstances where this paragraph may apply include information related to newly-added equipment or emission points, changes in the process, changes in equipment required or utilized for compliance with the requirements of this subpart, or changes in methods or equipment for monitoring, recordkeeping, or reporting.

- e. **Requirements for Title V Application Submittal.** The Permittee requesting approval to use alternative monitoring parameters, alternative continuous monitoring and recordkeeping, or alternative controls; wishing to establish parameter monitoring levels using performance tests supplemented by engineering assessments and/or manufacturers recommendations (40 CFR 63.1334(c)) or solely by engineering assessments and/or manufacturers recommendations (40 CFR 63.1334(d)); or requesting approval to incorporate a provision for ceasing to collect monitoring data, during a start-up, shutdown, or malfunction, into the start-up, shutdown, and malfunction plan, when that monitoring equipment would be damaged if it did not cease to collect monitoring data (pursuant to 40 CFR 63.1310(j)(3)), shall submit a Title V application containing the following information.
- i. Alternative monitoring parameter information shall be submitted in the Title V application if, for any emission point, the Permittee seeks to comply through the use of a control technique other than those for which monitoring parameters are specified in the current Title V permit.
 - ii. If the Permittee seeks to comply using alternative continuous monitoring and recordkeeping as specified in Alternative Continuous Monitoring and Recordkeeping Provisions, the Permittee shall submit a request for approval in a Title V application.

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- iii. The Permittee shall report the intent to use alternative controls to comply with the provisions of this subpart in a Title V application. The DAQ may deem alternative controls to be equivalent to the controls required by the standard, under the procedures outlined in 40 CFR 63.6(g).
- iv. If the Permittee establishes parameter monitoring levels according to the procedures contained in 40 CFR 63.1334(c) or (d), the following information shall be submitted in a Title V application:
 - (A) Identification of which procedures (i.e., 40 CFR 63.1334(c) or (d)) are to be used; and
 - (B) A description of how the parameter monitoring level is to be established. If the procedures in 40 CFR 63.1334(c) are to be used, a description of how performance test data will be used shall be included.
- v. If the Permittee is requesting approval to incorporate a provision for ceasing to collect monitoring data, during start-up, shutdown, or malfunction, into the start-up, shutdown, and malfunction plan, when that monitoring equipment would be damaged if it did not cease to collect monitoring data, the information specified below in (A) and (B) shall be included in a Title V application. The DAQ shall evaluate the supporting documentation and shall approve the request only if, in the judgment of the DAQ, the specific monitoring equipment would be damaged by the contemporaneous start-up, shutdown, or malfunction.
 - (A) Documentation supporting a claim that the monitoring equipment would be damaged by the contemporaneous start-up, shutdown, or malfunction; and
 - (B) A request to incorporate such a provision for ceasing to collect monitoring data during a start-up, shutdown, or malfunction, into the startup, shutdown, and malfunction plan.
- f. **Additional Requirements for Title V Application Submittal.** The following actions will required the submittal of a Title V application
 - i. A change in the primary product of a TPPU, in accordance with the provisions in 40 CFR 63.1310(f). This includes a change in primary product from one thermoplastic product to either another thermoplastic product or to a non-thermoplastic product.
 - ii. The results for each change made to a predominant use determination made under 63.1310(g) for a storage vessel that is assigned to an affected source subject to this subpart after the change.
 - iii. Each change made to a predominant use determination made under 40 CFR 63.1310(h) for recovery operations equipment assigned to an affected source subject to this subpart after the change.

- g. **Compliance Status Data Records.** The Permittee shall maintain on file and made available on request by the DAQ the following.
- i. The results of any emission point group determinations, process section applicability determinations, performance tests, inspections, continuous monitoring system performance evaluations, any other information used to demonstrate compliance, values of monitored parameters established during performance tests, and any other information required under 40 CFR 63.117 for continuous process vents, 40 CFR 63.146 for process wastewater, 40 CFR 63.1316 through 40 CFR 63.1320 for continuous process vents subject to 40 CFR 63.1316. In addition, the Permittee shall maintain one complete test report for each test method used for a particular kind of emission point for performance tests, group determinations, and process section applicability determinations that are based on measurements, records shall include. The results and any other information, from the test report, that is requested on a case-by-case basis by the DAQ shall be submitted, but a complete test report is not required for additional tests performed for the same kind of emission point using the same method. A complete test report shall include a brief process description, sampling site description, description of sampling and analysis procedures and any modifications to standard procedures, quality assurance procedures, record of operating conditions during the test, record of preparation of standards, record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, documentation of calculations, and any other information required by the test method.
 - ii. For each monitored parameter for which a maximum or minimum level is required to be established for continuous process vents, for process wastewater, records shall maintained which contain the following information.
 - (A) The required information shall include the specific maximum or minimum level of the monitored parameter(s) for each emission point.
 - (B) The required information shall include the rationale for the specific maximum or minimum level for each parameter for each emission point, including any data and calculations used to develop the level and a description of why the level indicates proper operation of the control device.
 - (C) The required information shall include a definition of the affected source's operating day, if other than midnight to midnight, for purposes of determining daily average values of monitored parameters.
- h. **Periodic Reports.** For existing and new affected sources, the Permittee shall submit Periodic Reports. In addition, the Permittee shall submit the information specified for equipment leaks in 40 CFR 63.182(d) under the conditions listed in 40 CFR 63.182(d) for equipment subject to the equipment leaks provisions of 40 CFR 63.1331, and the owner or operator shall submit the information specified in 40 CFR 63.104(f)(2) for heat exchange systems subject to 63.1328, as part of the Periodic Report.
- i. A report containing the information below, as appropriate, shall be 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. Unless no compliance exceptions specified below occurred during the 6-month period. In this event, the periodic

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report shall include a statement that there were no compliance exceptions for the 6-month period covered by that report and no activities that required monitoring during the 6-month period covered by that report.

- ii. For an owner or operator of an affected source complying with the provisions of 63.1314 through 63.1330 for any emission point or process section, Periodic Reports shall include:
 - (A) All information specified in 40 CFR 63.117, 40 CFR 63.118, and 40 CFR 63.1320 for continuous process vents, as applicable; 40 CFR 63.104 for heat exchange systems; and 40 CFR 63.146 for process wastewater;
 - (B) The daily average values of monitored parameters for both excused excursions (one per semi-annual reporting period) and unexcused excursions. For excursions caused by lack of monitoring data, the start-time and duration of periods when monitoring data were not collected shall be specified.
 - (C) The information regarding start-ups, shutdowns, and malfunctions as required.
- iii. If any performance tests are reported in a Periodic Report, one complete test report shall be submitted for each test method used for a particular kind of emission point tested.
- iv. The Permittee shall notify the DAQ of the election to implement a reduced recordkeeping program as part of the Periodic Report. The Permittee electing not to retain daily average or batch cycle daily average values pursuant to this program shall notify the DAQ of the parameter and the affected unit in the periodic report.
- v. The Permittee shall submit quarterly reports for particular emission points and process sections as follows:
 - (A) The Permittee shall submit quarterly reports for a period of one year for an emission point or process section if:
 - (1) A control or recovery device for a particular emission point or process section has more than one excursion for a semiannual reporting period; or
 - (2) The DAQ requests that the Permittee submit quarterly reports for the emission point or process section.
 - (B) The quarterly reports shall include all information applicable to the emission point or process section for which quarterly reporting is required. Information applicable to other emission points within the affected source shall be submitted in the semiannual reports.
 - (C) Quarterly reports shall be submitted no later than 60 days after the end of each quarter.
 - (D) After quarterly reports have been submitted for an emission point for one year without more than one excursion occurring (during that year), the Permittee may return to semiannual reporting for the emission point or process section.

- i. **Alternative monitoring parameters.** The Permittee who is required by this permit to set unique monitoring parameters, or who requests approval to monitor a different parameter than those specified in 40 CFR 63.1315 or 40 CFR 63.1317, as appropriate, for continuous process vents, or 40 CFR 63.1330 for process wastewater shall submit the information specified below in a Title V application. The Permittee shall retain for a period of five years each record required below.
 - i. The required information shall include a description of the parameter(s) to be monitored to ensure the recovery device, control device, or pollution prevention measure is operated in conformance with its design and achieves the specified emission limit, percent reduction, or nominal efficiency, and an explanation of the criteria used to select the parameter(s).
 - ii. The required information shall include a description of the methods and procedures that will be used to demonstrate that the parameter indicates proper operation.
 - iii. The required information shall include a description of the proposed monitoring, recordkeeping, and reporting system, to include the frequency and content of monitoring, recordkeeping, and reporting. Further, the rationale for the proposed monitoring, recordkeeping, and reporting system shall be included if monitoring and recordkeeping is not continuous; or if reports of daily average values will not be included in Periodic Reports when the monitored parameter value is above the maximum level or below the minimum level as required to be established by the Title V permit.
- j. **Alternative continuous monitoring and recordkeeping.** An owner or operator choosing not to implement the provisions listed in 40 CFR 63.1315 or 40 CFR 63.1317, as appropriate, for continuous process vents, or 40 CFR 63.1330 for process wastewater, may instead request approval to use alternative continuous monitoring and recordkeeping provisions according to the procedures specified below. Requests shall be submitted in a Title V permit application.
 - i. The provisions in 40 CFR 63.8(f)(5)(i) shall govern the review and approval of requests.
 - ii. If the Permittee does not have an automated monitoring and recording system that is capable of measuring parameter values at least once every 15 minutes and that does not generate continuous records, the Permittee may request approval to use a nonautomated system with less frequent monitoring, in accordance with the following:
 - (A) the requested system shall include manual reading and recording of the value of the relevant operating parameter no less frequently than once per hour, and daily average values shall be calculated from these hourly values and recorded; and
 - (B) the request shall contain:
 - (A) a description of the planned monitoring and recordkeeping system;
 - (B) documentation that the affected source does not have an automated monitoring and recording system;
 - (C) justification for requesting an alternative monitoring and

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- recordkeeping system; and
- (D) demonstration to the DAQ's satisfaction that the proposed monitoring frequency is sufficient to represent control or recovery device operating conditions, considering typical variability of the specific process and control or recovery device operating parameter being monitored.
- iii. The Permittee may request approval to use an automated data compression recording system that does not record monitored operating parameter values at a set frequency, but records all values that meet set criteria for variation from previously recorded values, in accordance with the following:
- (A) the requested system shall be designed to:
 - (1) measure the operating parameter value at least once during every 15 minute period;
 - (2) calculate hourly average values each hour during periods of operation;
 - (3) record the date and time when monitors are turned off or on;
 - (4) recognize unchanging data that may indicate the monitor is not functioning properly, alert the operator, and record the incident;
 - (5) calculate daily average values of the monitored operating parameter based on all measured data; and
 - (6) the data for that operating day may be converted to hourly average values and the four or more individual records for each hour in the operating day may be discarded if the daily average is not an excursion;
 - (B) the request shall contain:
 - (1) a description of the monitoring system and data compression recording system, including the criteria used to determine which monitored values are recorded and retained;
 - (2) the method for calculating daily averages; and
 - (3) a demonstration that the system meets all criteria in (A) above.
- iv. The Permittee may request approval to use other alternative monitoring systems according to the procedures specified in 40 CFR 63.8(f)(4).
- k. **Reduced recordkeeping program.** For any parameter with respect to any item of equipment, the Permittee may implement the recordkeeping requirements below as alternatives to the continuous operating parameter monitoring and recordkeeping provisions of this permit. The Permittee shall retain for a period of 5 years each record required below, except as otherwise provided below.
- i. The Permittee may retain only the daily average value, and is not required to retain more frequent monitored operating parameter values, for a monitored parameter with respect to an item of equipment, if the requirements of paragraphs (A) through (D) below are met. A Permittee electing to comply with the

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requirements of section shall notify the DAQ in the Periodic Report immediately preceding implementation of these requirements.

- (A) The monitoring system is capable of detecting unrealistic or impossible data during periods of operation other than start-ups, shutdowns, or malfunctions (e.g., a temperature reading of -200 degrees C on a boiler), and will alert the operator by alarm or other means. The owner or operator shall record the occurrence. All instances of the alarm or other alert in an operating day constitute a single occurrence.
- (B) The monitoring system generates, updated at least hourly throughout each operating day, a running average of the monitoring values that have been obtained during that operating day, and the capability to observe this running average is readily available to the DAQ on-site during the operating day. The Permittee shall record the occurrence of any period meeting the criteria below in (1), (2), and (3). All instances in an operating day constitute a single occurrence.
 - (1) The running average is above the maximum or below the minimum established limits;
 - (2) The running average is based on at least six 1-hour average values; and
 - (3) The running average reflects a period of operation other than a start-up, shutdown, or malfunction.
- (C) The monitoring system is capable of detecting unchanging data during periods of operation other than start-ups, shutdowns, or malfunctions, except in circumstances where the presence of unchanging data is the expected operating condition based on past experience (e.g., pH in some scrubbers), and will alert the operator by alarm or other means. The Permittee shall record the occurrence. All instances of the alarm or other alert in an operating day constitute a single occurrence.
- (D) The monitoring system will alert the owner or operator by an alarm or other means, if the running average parameter value calculated reaches a set point that is appropriately related to the established limit for the parameter that is being monitored.
- (E) The Permittee shall verify the proper functioning of the monitoring system, including its ability to comply with the requirements of this Section, at the times specified in (1), (2), and (3) below. The Permittee shall document that the required verifications occurred.
 - (1) Upon initial installation.
 - (2) Annually after initial installation.
 - (3) After any change to the programming or equipment constituting the monitoring system, which might reasonably be expected to alter the monitoring system's ability to comply with the requirements of this section.
- (F) The Permittee shall retain the records identified in sections (1) through (4) below.

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- (1) Identification of each parameter, for each item of equipment, for which the permittee has elected to comply with the requirements of this section.
 - (2) A description of the applicable monitoring system(s), and of how compliance will be achieved with each requirement above. The description shall identify the location and format (e.g., on-line storage, log entries) for each required record. If the description changes, the Permittee shall retain both the current and the most recent superseded description, except as provided in (D) below.
 - (3) A description, and the date, of any change to the monitoring system that would reasonably be expected to impair its ability to comply with the requirements.
 - (4) a Permittee that complying with the above section shall retain the current description of the monitoring system as long as the description is current. The current description shall, at all times, be retained on-site or be accessible from a central location by computer or other means that provides access within 2 hours after a request. The Permittee shall retain all superseded descriptions for at least 5 years after the date of their creation. Superseded descriptions shall be retained on-site (or accessible from a central location by computer or other means that provides access within 2 hours after a request) for at least 6 months after their creation. Thereafter, superseded descriptions may be stored off-site.
- ii. If the Permittee elects to implement the requirements above for a monitored parameter with respect to an item of equipment and a period of six consecutive months has passed without an excursion, the Permittee is no longer required to record the daily average value for any operating day when the daily average value is less than the maximum or greater than the minimum established limit.
- (A) If the Permittee elects not to retain the daily average values, the Permittee shall notify the DAQ in the next Periodic Report. The notification shall identify the parameter and unit of equipment.
 - (B) If, on any operating day after the Permittee has ceased recording daily average values as provided, there is an excursion as defined below, the Permittee shall immediately resume retaining the daily average value for each operating day and shall notify the DAQ in the next Periodic Report. The Permittee shall continue to retain each daily average value until another period of six consecutive months has passed without an excursion.
 - (C) For any calendar week, if compliance with this Section does not result in retention of a record of at least one occurrence or measured parameter value, the Permittee shall record and retain at least one parameter value during a period of operation other than a start-up, shutdown, or malfunction.
 - (D) An excursion means that the daily average value of monitoring data for a parameter is greater than the maximum, or less than the minimum

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established value, except the daily average value during any startup, shutdown, or malfunction shall not be considered an excursion if the Permittee follows the applicable provisions of the start-up, shutdown, and malfunction plan.

2. **15A NCAC 2D .1111: NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANT EMISSIONS: GROUP IV POLYMERS AND RESINS - START UP, SHUT DOWN MALFUNCTION**

a. **40 CFR 63.6(e)(3): Start up, Shut Down and Malfunction Plan**

- i. The Permittee shall develop and implement a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process and air pollution control equipment used to comply with the relevant standard. As required pursuant to 40 CFR 63.8(c)(1)(i), the plan shall identify all routine or otherwise predictable continuous emissions or parametric monitor malfunctions. The purpose of the startup, shutdown, and malfunction plan is to:
 - (A) ensure that Permittee is prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of hazardous air pollutants; and
 - (B) reduce the reporting burden associated with periods of startup, shutdown, and malfunction (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation).
- ii. During periods of startup, shutdown, and malfunction, the Permittee shall operate and maintain an affected source (including associated air pollution control equipment) in accordance with the procedures specified in the startup, shutdown, and malfunction plan.
- iii. The Permittee may use the affected source's standard operating procedures (SOP) manual, an Occupational Safety and Health Administration (OSHA) plan, or other plan, provided the alternative plans meet all the requirements of this section and are made available for inspection when requested by the DAQ.
- iv. The DAQ may require that the Permittee of an affected source make changes to the startup, shutdown, and malfunction plan for an affected source based on the review of monitoring data and/or the plan. The DAQ may require reasonable revisions to a startup, shutdown, and malfunction plan, if the DAQ finds that the plan:
 - (A) does not address a startup, shutdown, or malfunction event that has occurred;
 - (B) fails to provide for the operation of the source (including associated air pollution control equipment) during a startup, shutdown, or malfunction event in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required

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- by all relevant standards; or
- (C) does not provide adequate procedures for correcting malfunctioning process and/or air pollution control equipment as quickly as practicable.
- v. If the startup, shutdown, and malfunction plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the startup, shutdown, and malfunction plan at the time the Permittee developed the plan, the Permittee shall revise the startup, shutdown, and malfunction plan within 45 days after the event to include detailed procedures for operating and maintaining the source during similar malfunction events and a program of corrective action for similar malfunctions of process or air pollution control equipment.
- b. **40 CFR 63.10(d)(5): Startup, Shutdown, and Malfunction Reports**
- i. *Periodic startup, shutdown, and malfunction reports.* If actions taken by the Permittee during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are consistent with the procedures specified in the source's startup, shutdown, and malfunction plan, the Permittee shall state such information in a startup, shutdown, and malfunction report. Reports shall only be required if a startup, shutdown, or malfunction occurred during the reporting period. The startup, shutdown, and malfunction report shall consist of a letter, containing the name, title, and signature of the Permittee or other responsible official who is certifying its accuracy, that shall be submitted to the DAQ semiannually. If the Permittee is required to submit excess emissions and continuous monitoring system performance (or other periodic) reports under this part, the startup, shutdown, and malfunction reports may be submitted simultaneously with the excess emissions and continuous monitoring system performance (or other) reports.
- ii. *Immediate startup, shutdown, and malfunction reports.* Any time an action taken by the Permittee during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the Permittee shall report the actions taken for that event within two working days after commencing actions inconsistent with the plan followed by a letter within seven working days after the end of the event. The immediate report shall consist of a telephone call (or facsimile (FAX) transmission) to the DAQ within two working days after commencing actions inconsistent with the plan, and it shall be followed by a letter, delivered or postmarked within seven working days after the end of the event, that contains the name, title, and signature of the responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the startup, shutdown, and malfunction plan, and whether any excess emissions and/or parameter monitoring exceedances are believed to have occurred.

VIII. MACT Applicability and Requirements

Based on a review of the facility's current operations and emission sources, it is determined that

the Permittee utilizes substances listed as hazardous air pollutants under the Clean Air Act and are subject to the MACT requirements.

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.

X. 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.

XI. Insignificant Activities

The insignificant activities listed in the application have 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.

XII. 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. Following that will be a period of 45 days for review and comment by EPA. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA.

XIII. Recommendations

The initial Title V application for ARTEVA Specialities, S.a.r.l. d/b/a KoSa (Salisbury Plant) 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

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requirements. Therefore, the DAQ is proposing to issue the Title V Operating Permit upon completion of the public comment period and the EPA review.