

## **STATEMENT OF LEGAL AND FACTUAL BASIS**

Celanese Acetate LLC  
Narrows, Virginia

Permit No. VA-20304  
Permit Date: March 12, 2003, amended on July 18, 2003  
Registration No. 20304  
AIRS ID No. 51-071-0004

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, the Celco plant of Celanese Acetate has applied for a Title V Operating Permit for its cellulose acetate flake and fiber manufacturing facility located at Route 460, 4 miles east of the town of Narrows, VA. The Department has reviewed the application and has prepared a Title V Operating Permit.

### **FACILITY INFORMATION**

Permittee

Celanese Acetate LLC  
P.O. Box 1000  
Narrows, VA. 24124

Facility

Celanese Acetate LLC, Celco Plant  
Route 460, 4 miles east of Narrows, Virginia  
Giles County, VA.

## **SOURCE DESCRIPTION**

SIC Codes: - Production falls under Standard Classification (SIC) Codes 2821-Plastics, Materials, and Resins; 2823- Cellulosic Manmade Fibers; 2869- Industrial Organic Chemicals, Not Elsewhere Classified; and 3471-Electroplating, Plating, Polishing, Anodizing, and Coloring.

The Celco Plant is located in Narrows, Virginia along the New River in Giles County. The Celco facility has been in operation since 1939. Plant property elevation within the production areas is approximately 1560 feet above mean sea level (MSL), elevations at the landfill are higher. All production facilities are designed to operate 24 hours per day, 365 days per year.

Celco's CA flake and fiber manufacturing process uses acetic acid, acetic anhydride, and cellulose (wood pulp) as raw materials. Acetic acid is recovered during CA production and a portion is converted to acetic anhydride for internal use in the process.

Wood pulp is shredded in attrition mills, then combined with "A-mix" (acetic acid and acetic anhydride crystallized with sulfuric acid) in acetylizer reactors. Neutralization and heat addition steps produce "acid dope" which is precipitated, hardened, washed, and dried to produce CA flake. The extrusion complex dissolves the CA flake into "dope" which is extruded through jets to produce CA filament for further processing. Extrusion jets are also produced on-site to support the extrusion process associated with CA manufacturing.

The Celco facility was covered by numerous New Source Review permits. For the ease of the Celco plant and the Virginia Department of Environmental Quality, all of these New Source Review permits were combined into one State Operating permit dated August 2, 2002.

The interpretation on the date of reissuance of this permit is that Celco is considered to be part of a single source in conjunction with Cinergy Solutions, for purposes of determining applicability of non-attainment area new source review (NSR), prevention of significant deterioration (PSD) requirements, and Title V operating permit requirements. Further modifications of the two facilities that make up the single source shall be addressed together to calculate net emissions increases for comparison with NSR and PSD significance levels. Also, both facilities will be considered a single source for any NAAQs attainment issues.

## **PTE**

Potential to emit is above Title V levels at the Celco facility for PM10, CO, SOx, NOx, and VOCs. Potential to emit for combined HAPs is also greater than 25 tons/yr. This source emits the following HAPs: acetonitrile, benzene, 1, 3- butadiene, formaldehyde, chromium, toluene, n-Hexane, hydrochloric acid, methanol, methyl ethyl ketone, and methylene chloride.

## **COMPLIANCE STATUS**

A full compliance evaluation of this facility, including a site visit, has been conducted. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

**EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION**

The emissions units are grouped as follows:

**Cellulose Acetate Manufacturing**

**Acid Recovery**

**Ketene Anhydride Manufacturing**

**Jet Department**

**Wastewater Treatment Plant**

**Maintenance Complex**

**EMISSIONS INVENTORY**

The following table represents the emissions released from the entire Celco plant, including equipment and facilities owned and operated by Celanese Acetate as well as by Cinergy Solutions of Narrows, LLC.

<b>Pollutant</b>	<b>2001 Emissions (tons/yr)</b>
PM	146.57 tons/yr
PM 10	123.44 tons/yr
SO <sub>2</sub>	7,426.68 tons/yr
VOCs	489.05 tons/yr
NO <sub>2</sub>	4,297.17 tons/yr
CO	122.07 tons/yr
HCL	645.80 tons/yr
HF	9.67 tons/yr
Methylene Chloride	39.10 tons/yr
Methyl Ethyl Ketone	76.00 tons/yr
N-Hexane	138 tons/yr

Lead	0.17 tons/yr
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**EMISSION UNIT APPLICABLE REQUIREMENTS- Cellulose Acetate Manufacturing.**

In cellulose acetate manufacturing, wood pulp is shredded by attrition mills and pretreated with acetic acid. Sulfuric acid (a catalyst) and a mixture of acetic acid and acetic anhydride (known as "A-mix" are mixed in a crystallizer, which is cooled with a brine jacket, and the A-mix is added to the pretreated shredded cellulose in an acetylator reactor to produce cellulose triacetate. Magnesium acetate is added to stop the acetylation reaction by neutralizing the sulfuric acid. Cellulose triacetate is converted back to cellulose diacetate by adding water and heat to produce a material known as "acid dope." Volatile Organic Compound emissions from the acid dope acetylators and ripeners are controlled by acid vent scrubbers with a minimum control efficiency of 99.0%.

In the finishing lines, the dope is precipitated, hardened, washed, and dried to produce CA flake. VOC emissions from the flake finishing lines are controlled by acid vent scrubbers. Each finishing line consists of several pieces of equipment with specific functions. The first step in the finishing line is precipitation. In this process, the cellulose acetate dope is mixed with water and acetic acid to cause the cellulose acetate to drop out of solution. The next step is the vibrating screen which allows the liquid water and acetic acid to drain off the solid cellulose acetate flake. Weak acid, consisting of roughly 30 percent acid in water, is produced during the process and transferred to the acid recovery process. The flake is sent to washers which remove acid from the flake by washing with water. The CA flake is fed from washers into squeeze rolls, which squeeze liquid from the flake as a first step in drying the flake.

The flake discharged from the squeeze rolls then enters the dryers. The dryers are all steam heated, with a combination of forced and natural draft exhaust among the different dryers. Particulate and VOC emissions from each cellulose acetate flake dryer are controlled by a wet scrubber. After the flake is dried, it is transferred pneumatically to the flake silos, or mechanically to inside storage bins. Flake put in the inside storage bins is then pneumatically conveyed to the silos or loaded onto trailers, bags, or railcars (except for scrap flake or flake which is mechanically conveyed to bagging.)

**Limitations:**

Department 8 Acid Dope Acetylators, Ripeners

1. Volatile Organic Compound emissions from the acid dope acetylators and ripeners shall be controlled by Department 8 acid vent scrubber(s) having a minimum control efficiency of 99.0%.

(9 VAC 5-80-10 H, 9 VAC 5-50-260, & Condition III.A.1 of 2002

2. The production of cellulose acetate flake from all finishing lines (no.1 through no. 8) shall not exceed 298 units per month, calculated monthly for each calendar month.  
(9 VAC 5-170-160, Conditions III.A.2 and III.A.3 of 6/6/2003 SOP)

3. Emissions from the operation of the Department 8 acid vent scrubbers shall not exceed the limits specified below:

Volatile Organic Compounds	8.0 lbs/hr	35.0 tons/yr
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(9 VAC 5-80-10 H, 9 VAC 5-50-260, & Condition III.A.4 of 6/6/2003 SOP)

Finishing Lines 1 through 8

4. Particulate and VOC emissions from each cellulose acetate flake dryer shall be controlled by a wet scrubber. The wet scrubbers for No. 2 and No. 6 CA flake dryers shall maintain a minimum particulate control efficiency of 99 percent. Each scrubber shall be provided with adequate access for inspection.  
(9 VAC 5-80-10 H, 9 VAC 5-50-260 & Condition III.A.5 of 6/6/2003 SOP)

5. VOC emissions from No. 7 and No. 8 cellulose acetate flake finishing lines shall be controlled by Department 9 acid vent scrubber. The scrubber shall be provided with adequate access for inspection.  
(9 VAC 5-80-10 H, 9 VAC 5-50-260 & Condition III.A.6 of 6/6/2003 SOP)

6. Emissions from the operation of each cellulose acetate flake dryer, Nos. 2, 3, 4, 5, 6, and 8 shall not exceed the limits specified below:

PM	1.1 lbs/hr	4.8 tons/yr
Volatile Organic Compounds	0.1 lbs/hr	0.4 tons/yr

Exceedance of the operating limit may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in condition 2 of this section of the permit.

(9 VAC 5-50-260, 9 VAC 5-50-180 & Condition III.A.7 of 6/6/2003 SOP)

7. Emissions from the operation of No. 7 cellulose acetate flake dryer shall not exceed the limits specified below

PM	1.1 lbs/hr	4.8 tons/yr
Volatile Organic Compounds	0.17 lbs/hr	0.75 tons/yr

Exceedance of the operating limit may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in condition 2 of this section of the permit.

(9 VAC 5-50-260, 9 VAC 5-50-180 & Condition III.A.8 of 6/6/2003 SOP)

8. Emissions from the Department 9 acid vent scrubber shall not exceed the limits specified below:

Volatile Organic Compounds	1.8 lbs/hr	8.0 tons/yr
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Exceedance of the operating limit may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in condition 2 of this section of the permit.

(9 VAC 5-50-260, 9 VAC 5-50-180 & Condition III.A.9 of 6/6/2003 SOP)

9. Visible emissions from each cellulose acetate flake dryer shall not exceed 5 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).  
(9 VAC 5-170-160, 9 VAC 5-50-20, 9 VAC 5-50-260, 9 VAC 5-50-20 & Condition III.A.10 of 6/6/2003 SOP)

10. Process particulate emissions from the Celco CA flake production operations shall be less than or equal to 71.0 lbs./hr.  
(9 VAC 5-40-260.A)

**Monitoring/O & M/Recordkeeping:**

The permit includes requirements for monitoring and maintaining records of all monitoring and testing required by the permit. The inspections, maintenance, monitoring and recordkeeping requirements in this section, plus monitoring and recordkeeping under the Facility Wide and General Conditions Sections below, constitute the periodic monitoring requirements for this equipment group. The monitoring and records include:

1. Each acid vent scrubber shall be equipped with a flow meter and a device to continuously measure the differential pressure through the scrubber. Each device shall be installed in an accessible location and shall be maintained by the permittee such that flow and differential pressure are measured at least once each hour that the scrubber is in operation. This device shall be operated continuously except for brief periods of equipment maintenance and malfunction. The permittee shall check and record the flow and differential pressure drop at least once per week.

Operational ranges for the monitored parameters shall be established to provide a reasonable assurance of compliance. These operational ranges for the monitored parameters shall be derived from stack test data, vendor certification, operational history, and visual inspections, the combination of which demonstrate the proper operation of the equipment in compliance. The facility shall maintain records documenting the establishment of the operational ranges for the monitored parameters.

(9 VAC 5-80-10 H, 9 VAC 5-50-260, Condition III.B.1 of 6/6/2003 SOP)

2. Each wet scrubber shall be equipped with a flow meter. Each device shall be installed in an accessible location and shall be maintained by the permittee such that flow is measured at least once each hour that the scrubber is in operation. This device shall be operated continuously except for brief periods of equipment maintenance and malfunction. The permittee shall check and record the flow at least once per week.  
Operational ranges for the monitored parameters shall be established to provide a reasonable assurance of compliance. These operational ranges for the monitored parameters shall be derived from stack test data, vendor certification, operational history, and visual inspections, the combination of which demonstrate the proper operation of the equipment in compliance. The facility shall maintain records documenting the establishment of the operational ranges for the monitored parameters.  
(9 VAC 5-80-10 H, 9 VAC 5-50-260, & Condition III.B.2 of 6/6/2003 SOP)

3. Operation & Maintenance Procedures – The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:
  - a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance for the Department 8 and 9 acid vent scrubbers and for the wet scrubbers for dryers 2, 3, 4, 5, 6, 7, and 8.
  - b. Develop an inspection schedule, monthly at a minimum, to insure the operational integrity of the Department 8 and 9 acid vent scrubbers and of the wet scrubbers for dryers 2-8 and maintain records of inspection results.

- c. Have available written operating procedures for the Department 8 and 9 acid vent scrubbers and for the wet scrubbers for dryers numbers 2-8. These procedures shall be based on the manufacturer's recommendations, at a minimum.
- d. Train operators in the proper operation of the Department 8 and 9 acid vent scrubbers and for the wet scrubbers for dryers 2-8 and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.
- e. Maintain an inventory of spare parts that are needed to maintain the Department 8 and 9 acid vent scrubbers and the wet scrubbers for dryers 2-8 in proper working order.

Records of maintenance, inspections and training shall be maintained on site for a period of five (5) years and shall be made available to DEQ personnel upon request.  
(9 VAC 5-50-20E, Condition III.B.3 of 6/6/2003 SOP)

### **Recordkeeping**

The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Director, West Central Regional Office. These records shall include, but are not limited to:

1. Maintenance/Inspection reports and operator training.
2. Weekly fluid flow and differential pressures readings for the acid vent scrubbers.
3. Weekly fluid flow readings for the wet scrubbers.
4. Monthly production of cellulose acetate flake in production units.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.

(9 VAC 5-50-50, Conditions III.C.1, III.C.2, and III.C.3 of 6/6/2003 SOP)

**Testing:** The permit does not require source tests for this process. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the following methods in accordance with procedures approved by the DEQ as follows:

Pollutant	Test Method - Subject to DEQ approval at the time of the test (except for Method 9). (40 CFR Part 60, Appendix A)
VOC	EPA Methods 18, 25, 25a
PM/PM-10	EPA Method 5, or DEQ approved method.
Visible Emission	EPA Method 9

(9 VAC 5-80-110)

**Reporting:** Title V semi-annual reports of the results of monitoring and recordkeeping for each first and second half calendar year are required to be submitted to DEQ by each March 1 and September 1 respectively.

**EMISSION UNIT APPLICABLE REQUIREMENTS – Acid Recovery**

The acid recovery process is used to recover and purify acetic acid from weak acetic acid streams recycled from cellulose acetate manufacturing and ketene anhydride manufacturing. Weak acid streams of 10 to 40 percent strength are combined into a common stream, and fed to the AR process, which recovers the acid from the water, generating a product acid stream with acid strength in excess of 99 percent. The combined weak acid is fed into a group of parallel operating extraction towers. These towers contact the weak acid with a solvent mixture of primarily isopropyl acetate, hexane, and methyl ethyl ketone. The solvents extract the acid from the water phase to form a solvent acid extract. The water with some solvent and acid leaves the tower as effluent. The extract stream is vaporized and fed to a series of parallel operating distillation columns (Main Stills). The Main Stills separate the acid from the water and the solvent, yielding a pure (greater than 99 percent) acid product. Volatile organic emissions from the vaporizers and the distillation columns are controlled by wet scrubbers or an equivalent control device.

The solvent and water stream from the Main Stills is decanted, with the solvent layer being reused as reflux or sent back to the extraction towers, and the water layer being blended with the effluent from the extraction towers. The combined effluent stream is fed to another series of parallel operating distillation columns (effluent stills) where the solvent is separated to be recycled back to the process. The water stream is dropped to the chemical sewer and treated at the on-site wastewater treatment plant (WWTP).

**Limitations:**

1. Volatile organic emissions from the vaporizers and number 6 and number 7 distillation columns shall be controlled by two D10 wet scrubbers or equivalent control devices. The scrubbers shall be provided with adequate access for inspection.  
(9 VAC 5-50-260 & Condition IV.A.1 of 6/6/2003 SOP)
2. The number 6 and number 7 distillation columns shall process no more than 140,000 pounds of distillation feed per hour each, calculated once every eight hour shift as the average hourly feed during that shift.  
(9 VAC 5-50-260 and Condition IV.A.2 of 6/6/2003 SOP)
3. The isopropanol reactor (Source ID No. 1ARRC001S1) is subject to the provisions of 40 CFR Part 60, New Source Performance Standards, Subparts A & RRR. Currently, the affected facility complies with NSPS Subpart RRR under 40 CFR 60.700(c)(4), the low flow exemption. Because there is no vapor stream from this reactor, the reactor is exempt from Subpart RRR 40 CFR 60.704(g). If any change in equipment process operation increases the operating vent stream flow rate above the low flow exemption, then the isopropanol reactor must begin compliance with the requirements set forth in 40 CFR 60.702.  
(9 VAC 5-50-400, 9 VAC 5-50-410, 9 VAC 5-80-110)
4. The emission sources in the Acid Recovery Department are subject to the provisions of 40 CFR Part 63 Subpart F. This process unit does not use as a reactant or manufacture as a product or co-product any organic HAPs from table 2 of 40 CFR Part 63 Subpart F. Therefore, 40 CFR 63.103(e) states that this process unit shall comply only with the requirements of 63.103(e) and that this process unit is not required to comply with the provisions of 40 CFR 63 Subpart A.  
(9 VAC 5-60-90, 9 VAC 5-60-100, 9 VAC 5-80-110)

**Monitoring/O & M/Recordkeeping:**

The permit includes requirements for monitoring and maintaining records of all monitoring and testing required by the permit. The inspections, maintenance, monitoring and recordkeeping requirements in this section, plus monitoring and recordkeeping under the Facility Wide and General Conditions Sections below, constitute the **periodic monitoring** requirements for this equipment group. The monitoring and records include:

1. Operation & Maintenance Procedures – The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:
  - a. Develop a maintenance schedule and maintain records of all scheduled and non-

scheduled maintenance of the D10 wet scrubbers.

- b. Develop an inspection schedule, monthly at a minimum, to insure the operational integrity of the D10 wet scrubbers and maintain records of inspection results.
- c. Have available written operating procedures for the D10 wet scrubbers. These procedures shall be based on the manufacturer's recommendations, at a minimum.
- d. Train operators in the proper operation of the D10 wet scrubbers and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.
- e. Maintain an inventory of spare parts that are needed to maintain the D10 wet scrubbers in proper working order.

Records of maintenance, inspections and training shall be maintained on site for a period of five (5) years and shall be made available to DEQ personnel upon request.  
(9 VAC 5-50-20E, Condition III.B.3 of 6/6/2003 SOP)

2. Each D10 wet scrubber shall be equipped with a flow indicator of water flow through the scrubber. The flow indicator shall be installed in an accessible location and shall be maintained by the permittee. This device shall be operated continuously (flow measured at least once each hour) while the No. 6 and/or No. 7 distillation column or vaporizers are in operation except for brief periods of equipment maintenance and malfunction. The permittee shall check the flow at least once per day in any day in which the No. 6 and/or No. 7 distillation columns or vaporizers are in operation.  
(9 VAC 5-80-110)

**Recordkeeping:**

1. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Director, West Central Regional Office. These records shall include, but are not limited to:
  - a. The time at which each start-up of the number 6 or number 7 distillation column begins and ends.

- b. The reason for each shutdown of the number 6 or number 7 distillation column.
- c. Scheduled and unscheduled maintenance and operator training for the D10 wet scrubber.
- d. Keep up-to-date, readily accessible records to indicate that the vent stream flow rate from the isopropanol reactor is less than 0.011 m<sup>3</sup>/min.
- e. Keep up-to-date, readily accessible records of any change in equipment process operation that increases the operating vent stream flow rate, including a measurement of the new vent stream flow rate. This measurement will be conducted in accordance with standard reference test methods 2, 2A, 2C, and 2D as required pursuant to 40 CFR 60.705(h).
- f. The weekly water flow records for the wet scrubbers for Nos. 6 and 7 Main Stills and the vaporizers.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.

(9 VAC 5-50-50, 9 VAC 5-80-110, 9 VAC 5-50-400, 9 VAC 5-50-410 & Conditions IV.C.1, IV.C.2, & IV.C.3, of the 6/6/2003 SOP)

- 2. In accordance with 40 CFR 63.103(e), the permittee shall retain information, data, and analysis used to determine that the Acid Recovery Department does not use as a reactant or manufacture as a product or co-product an organic HAP, or when requested by DEQ, demonstrate that the Acid Recovery Department does not use as a reactant or manufacture as a product or co-product any organic hazardous air pollutant.  
(9 VAC 5-60-90, 9 VAC 5-60-100, 9 VAC 5-80-110)

**Testing:** The permit requires source tests for this process. The required testing is outlined below. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

- 1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports shall be provided at the appropriate locations.  
(9 VAC 5-50-30 & Condition IV.D.1 of 6/6/2003 SOP)
- 2. A performance test must be completed as soon as possible after the change and no later than 180 days after any change in equipment or process operation that increases the operating vent stream flow rate above the low flow exemption level in 40 CFR 60.700(c)(4), including a

measurement of the new vent stream flow rate, as recorded under 40 CFR 60.705(i). within the same time period to verify the recalculated flow value and to obtain the vent stream characteristics of heating value and ETOC (measured emission rate of TOC, kg/hr (lb/hr). The performance test is subject to the requirements of 40 CFR 60.8. (9 VAC 5-50-400, 9 VAC 5-50-410, 9 VAC 5-80-110)

If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the following methods in accordance with procedures approved by the DEQ as follows:

Pollutant	Test Method - Subject to DEQ approval at the time of the test (except for Method 9). (40 CFR Part 60, Appendix A)
Visible Emissions	EPA Method 9

**Reporting:**

1. Report to Director, WCRO, DEQ and to EPA, Region 3, NSPS Compliance Coordinator, as soon as possible after the change and no later than 180 days after the change, any change in equipment or process operation that increases the operating vent stream flow rate above the low flow exemption level in 40 CFR 60.700(c)(4), including a measurement of the new vent stream flow rate, as recorded under 40 CFR 60.705(i). These reports may be submitted either in conjunction with semiannual reports or as a single separate report. (9 VAC 5-50-400, 9 VAC 5-50-410, 9 VAC 5-80-110)

**EMISSION UNIT APPLICABLE REQUIREMENTS – Ketene Anhydride Manufacturing**

The ketene anhydride manufacturing process consists of equipment used to react and form acetic anhydride from acetic acid feed, and purify the resulting acetic acid/acetic anhydride mixture for use in cellulose acetate manufacturing. The process consists of three major sections, the ketene units where the reaction to form anhydride occurs, the light ends system which is designed to purify the product by removing low boiling compounds, and the final cleaning area which removes heavy ends from the product.

The acetic anhydride production equipment is subject to 40 CFR 60, Subpart VV (Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry, 40 CFR 60 Subpart RRR (Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry Reactor Processes, and 40 CFR Part 63 Subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks).

There are two separate ketene units; each consisting of a primary boiler which vaporizes acetic acid for feed into two parallel furnaces. The furnaces are fired by natural gas and by

decomposition or waste gasses recycled from later stages of the process. In the furnaces, the acetic acid is heated and a catalyst is added. The acid is cracked to form ketene gas and water. Ketene reacts with acetic acid to form acetic anhydride, which will react with water to reform acetic acid. As the product ketene gas exits the furnaces it immediately enters a chiller train of water and brine cooled heat exchangers which cool the stream to condense out as much of the non-ketene components (primarily water and acid) as possible. The liquid stream is called process condensate, and is transferred to another section of ketene anhydride manufacturing for use.

The cooled gas stream then enters an absorber/scrubber system where it is washed with acetic acid, reacting with the ketene to form acetic anhydride. The noncondensable decomposition gas byproducts from the furnace pass through the absorber/scrubber and are recycled back to the furnaces to be burned as fuel. In the event of high pressure in the decomposition gas vent system, an automatic control valve opens to vent this stream to the atmosphere. The liquid acetic anhydride/acetic acid product mixture is pumped to the light ends system.

In the light ends system, the acetic acid/anhydride mixture is heated and held at a controlled temperature for a controlled time period to react contaminants into low boiling compounds. The reacted mixture is then fed to a distillation column which takes the light boiling compounds overhead and sends the acid/anhydride mixture out the bottom. The reactor and distillation column overhead and reflux tanks vent into a system which blows the vent stream back to the ketene furnaces to be burned as fuel. In the event of high pressure in this vent system, an automatic control valve opens to vent this steam to the atmosphere. The liquid mixture from the bottom of the distillation column is sent to the final cleaning area. The light ends distillation column is subject to 40 CFR 60, Subpart NNN (Volatile Organic Compound Emissions from Synthetic Organic Chemicals Manufacturing Industry Distillation Operations).

Final cleaning consists of distilling the acetic acid/anhydride overhead to remove any high boiling compounds. This is done in a series of three distillation columns (flashing columns) and five kettle boilers (Dirty Product [DP] Stills). The acetic acid/anhydride mixture is fed into the flashing columns, and the acetic acid/anhydride is taken off the top of the column as pure product. This stream is routed to A-Mix preparation where the target concentration is adjusted prior to use in cellulose acetate manufacturing. The bottom product of the distillation columns is drawn off to the DP Stills, which vaporize the stream. Depending on the particular DP Still, the vaporized stream is either fed back into the flashing column as vapor feed or condensed and mixed into the pure product from the top of the flashing columns.

An additional supporting section in the ketene anhydride manufacturing process is the process condensate/stripping still area. There are two major pieces of equipment in this area, the process condensate still and the stripping still. The process condensate still concentrates the process condensate into a high acid content bottoms stream and a water, acid, and light ends overhead

stream. The high acid level bottom stream is recycled back to the ketene units as acid feed, or can be sent to acid recovery for purification with the normal weak acid streams from cellulose acetate manufacturing. The overhead stream is sent to the stripping still. The stripping still transfers out of the top of the column, the vapors that are condensable are recycled back to the stripping still while remaining gases are routed to the furnace. The purified acid and water from the bottom of the still are sent to the recovery vats in the D10 Vat Yard for use in either magnesium acetate preparation or recovery of the acid in the acid recovery process.

### **Limitations**

1. Except where this permit is more restrictive than the applicable requirement, the acetic anhydride production equipment shall be operated in compliance with the requirements of 40 CFR 60, Subpart VV (Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry); with the requirements of 40 CFR 60 Subpart RRR (Volatile Organic Compound Emissions from Synthetic Organic Chemicals Manufacturing Industry Reactor Processes); and with the requirements of 40 CFR Part 63 Subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks).  
(9 VAC 5-50-400, 9 VAC 5-50-410, 9 VAC 5-60-90, 9 VAC 5-60-100, & Condition V.A.1 of 6/6/2003 SOP)
2. Except where this permit is more restrictive than the applicable requirement or where alternative monitoring has been approved according to 40 CFR 60.13(i), the light ends distillation column shall be operated in compliance with the requirements of 40 CFR 60, Subpart NNN (Volatile Organic Compound Emissions from Synthetic Organic Chemicals Manufacturing Industry Distillation Operations). Alternative monitoring that was approved according to 40 CFR 60.13(i) allows the light ends distillation column to comply with the provisions of paragraphs (c)(1), (c)(1)(i), (c)(1)(ii) and (c)(2) of section 60.703 of NSPS Subpart RRR instead of the provisions of paragraphs (c)(1), (c)(2), and (c)(3) of section 60.663 of NSPS Subpart NNN.  
(9 VAC 5-50-400, 9 VAC 5-50-410, Condition V.A.2 of 6/6/2003 SOP, and EPA Region III Variance Approval)
3. Volatile organic compound and carbon monoxide emissions from the distillation column (Stripping Still 1AMSS001S1) in the acetic anhydride production process shall be controlled by incineration of the vent streams in the ketene furnaces, except during periods of start up, shut down, or malfunction.  
(9 VAC 5-50-260 and Condition V.A.4 of 6/6/2003 SOP)
4. Volatile organic compound and carbon monoxide emissions from the process vents in the acetic anhydride production process shall be controlled by incineration of the vent streams in the ketene furnaces, except during periods of start up, shut down or

malfunction. The vent streams shall be introduced in the flame zones of the furnaces. The ketene furnaces shall be provided with adequate access for inspection.  
(9 VAC 5-50-260 & Condition V.A.5 of 6/6/2003 SOP)

5. The ketene furnace combustion chamber shall demonstrate a control efficiency for volatile organic compounds from the process vents of no less than 99.9 percent, on a mass basis or shall control volatile organic compounds from the process vents to a concentration of no more than 20 ppmv, on a dry basis corrected to 3 percent oxygen.  
(9 VAC 5-50-260 & Condition V.A.6-of 6/6/2003 SOP)
6. The production of acetic anhydride shall not exceed 330 million pounds per year, calculated monthly as the sum of each consecutive 12 month period.  
(9 VAC 5-80-10 H & Condition V.A.7 of 6/6/2003 SOP)
7. The approved fuels for the ketene furnaces are natural gas and auxiliary fuels vented from the acetic anhydride manufacturing process. A change in the fuel may require a permit to modify and operate.
8. The ketene furnaces shall consume no more than 516 million standard cubic feet of natural gas per year, calculated monthly as the sum of each consecutive 12 month period.  
(9 VAC 5-80-10 & Condition V.A.9 of 6/6/2003 SOP)
9. The distillation column shall process no more than 12,000 pounds of distillation feed per hour, as indicated by the flow meter located at the inlet feed line, calculated once every eight hour shift as the average hourly feed during that shift.  
(9 VAC 5-20-110 and Condition V.A.10 of 6/6/2003 SOP)
10. Visible emissions from the acetic anhydride process shall not exceed five percent (5%) opacity except during one six-minute period in any one hour in which visible emissions shall not exceed ten percent (10%) opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown, and malfunction.  
(9 VAC 5-50-80, 9 VAC 5-50-260 & Condition V.A.11 of 6/6/2003 SOP)
11. Emissions from the operation of each ketene furnace shall not exceed the hourly limits specified below. Total combined emissions from the ketene furnaces shall not exceed the annual limits specified below:

Particulate Matter	0.14 lbs/hr	1.96 tons/yr
PM-10	0.14 lbs/hr	1.96 tons/yr

Nitrogen Oxides (as NO <sub>2</sub> )	3.00 lbs/hr	39.52 tons/yr
Carbon Monoxide	1.51 lbs/hr	21.67 tons/yr
Volatile Organic Compounds	0.21 lbs/hr	2.84 tons/yr

(9 VAC 5-50-260 & Condition V.A.12 of 6/6/2003 SOP)

12. Except where this permit is more restrictive than the applicable requirement or where alternative monitoring has been approved according to 40 CFR 60.13(i), the distillation column (stripping still 1AMSS001S1) shall comply with all applicable provisions of 40 CFR 60.660 through 60.668 (Subpart NNN). Alternative monitoring that was approved according to 40 CFR 60.13(i) allows the distillation column to comply with the provisions of paragraphs (c)(1), (c)(1)(i), (c)(1)(ii) and (c)(2) of section 60.703 of NSPS Subpart RRR instead of the provisions of paragraphs (c)(1), (c)(2), and (c)(3) of section 60.663 of NSPS Subpart NNN.  
(9 VAC 5-50-410, Condition V.A.13 of 6/6/2003 SOP, and EPA Region III Variance Approval)
  
13. Process particulate emissions from the Celco Anhydride Manufacturing operations, other than from fuel burning equipment, shall be less than or equal to 6.8 lbs./hr.  
(9 VAC 5-40-260.A)

**Monitoring/O & M/Recordkeeping:**

The permit includes requirements for monitoring and maintaining records of all monitoring and testing required by the permit. The inspections, maintenance, monitoring and recordkeeping requirements in this section, plus monitoring and recordkeeping under the Facility Wide and General Conditions Sections below, constitute the **periodic monitoring** requirements for this equipment group. The monitoring and records include:

1. The vent valves to the atmosphere on the light ends/process vent gas header and the decomposition gas header shall each be equipped with a flow indicator that provides a record of flow of the gases at these locations at least once per fifteen minute period. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the acetic anhydride process is

operating, excepting brief periods of instrument malfunction and repair.  
(9 VAC 5-50-400, 9 VAC 5-50-410 & Condition V.B.1 of 6/6/2003 SOP)

2. Operation & Maintenance Procedures – The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:
  - a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance for the ketene furnaces.
  - b. Develop an inspection schedule, monthly at a minimum, to insure the operational integrity of the ketene furnaces and maintain records of inspection results.
  - c. Have available written operating procedures for the ketene furnaces. These procedures shall be based on the manufacturer's recommendations, at a minimum.
  - d. Train operators in the proper operation of the ketene furnaces and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.
  - e. Maintain an inventory of spare parts that are needed to maintain the ketene furnaces in proper working order.

Records of maintenance, inspections and training shall be maintained on site for a period of five (5) years and shall be made available to DEQ personnel upon request.  
(9 VAC 5-50-20 E & Condition V.B.2 of 6/6/2003 SOP)

**Recordkeeping:**

The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Director, West Central Regional Office. These records shall include, but are not limited to:

1. Annual production of acetic anhydride, calculated monthly as the sum of each consecutive 12 month period.
2. Annual consumption of natural gas in the ketene furnaces, calculated monthly as the sum of each consecutive 12 month period.

3. Records of the times when the light ends/process vent gas stream or the decomposition gas stream is diverted to the atmosphere from the respective vent headers.
4. Results of all stack tests, visible emission evaluations and performance evaluations.
5. Monthly emissions estimates for volatile organic compounds, nitrogen oxides, carbon monoxide, and particulate matter from the acetic anhydride production unit, using calculation methods approved by the DEQ to verify compliance with the emissions limitations.
6. Scheduled and unscheduled maintenance, and operator training.
7. The annual throughput of feed to distillation column (stripping still 1AMSS001S1), calculated monthly as the sum of each consecutive 12 month period.
8. Operating records of the distillation column (stripping still 1AMSS001S1) and furnaces necessary to demonstrate that one or more of the furnaces are in operation at all times the distillation column is in operation.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.

(9 VAC 5-50-50, Condition V.C of 6/6/2003 SOP)

**Testing:** The permit requires source tests for this process. The required testing is outlined below. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports shall be provided at the appropriate locations.  
(9 VAC 5-450-30 and Condition V.D.1 of 6/6/2003 SOP)
2. Upon request by the DEQ, the permittee shall conduct performance tests for volatile organic compounds, particulate matter, nitrogen oxides and/or carbon monoxide from one or more ketene furnaces to demonstrate compliance with the emission limits and control efficiency requirements contained in this permit. The details of the tests shall be arranged with the Director, West Central Regional Office.  
(9 VAC 5-50-30 G & Condition V.D.2 of 6/6/2003 SOP)
3. Upon request by the DEQ, the permittee shall conduct visible emission evaluations from the acetic anhydride production unit to demonstrate compliance with the visible emission limits contained in this permit. The details of the tests shall be arranged with the Director, West

Central Regional Office.

(9 VAC 5-50-30 G & Condition V.D.3 of 6/6/2003 SOP)

4. Compliance tests may be required for volatile organic compounds from the stripping still 1AMSS001S1 vent manifold condenser to determine-compliance with the requirements of 40 CFR Part 60 Subpart NNN. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30 and 9 VAC 5-60-30 of State Regulations, the test methods and procedures contained in each applicable section or subpart in 9 VAC 5-50-410 and 9 VAC 5-60-70.

(9 VAC 5-50-30, 9 VAC 5-80-10 J of State Regulations and Condition V.D.4 of 6/6/2003 SOP)

If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the following methods in accordance with procedures approved by the DEQ as follows:

Pollutant	Test Method - Subject to DEQ approval at the time of the test (except for Method 9). (40 CFR Part 60, Appendix A)
PM/PM-10	EPA Method 5, or DEQ approved method
NO <sub>x</sub>	EPA Method 7
CO	EPA Method 10
VOC	EPA Methods 18, 25, 25a
SO <sub>2</sub>	Fuel analysis, EPA Method 6, or DEQ approved method
Visible Emission	EPA Method 9

**Reporting:**

The report submittal deadline for the NSPS reports is extended from 30 days to 60 days to address the new requirement ( VAC 5-80-110 K.1) that takes effect when this report becomes a "document required in a permit condition to be submitted to the Board." After Celco receives its T5 permit, these reports shall contain certification by a responsible official. The added time to submit the reports is required to ensure that a responsible official is available to certify these reports. The reporting period for the NSPS reports is converted to a calendar semi-annual report, so that reporting periods for these reports are the same as the reporting period for the semi-annual Title 5 permit deviation reports.

**1. NSPS Subpart NNN Excess Emissions Reports**

The permittee shall submit semi-annual written reports to the Director, West Central Regional Office and to the EPA, Region III, NSPS Compliance Coordinator. The time periods to be addressed are January 1 to June 30 and July 1 to December 31. All reports shall

be postmarked by the 60<sup>th</sup> day following the reporting period and shall contain the information required by 40 CFR 60.4.

(9 VAC 5-50-50, 40 CFR 60.665, and Conditions VI.A.2 and VI.A.13 of 6/6/2003 SOP)

**2. NSPS Subpart RRR Excess Emissions Reports**

The permittee shall submit semi-annual written reports to the Director, West Central Regional Office and to the EPA, Region III, NSPS Compliance Coordinator. The time periods to be addressed are January 1 to June 30 and July 1 to December 31. All reports shall be postmarked by the 60<sup>th</sup> day following the reporting period and shall contain the information required by 40 CFR 60.4.

(9 VAC 5-50-50, 40 CFR 60.705, and Condition VI.A.1 of 6/6/2003 SOP)

**3. NSPS Subpart VV Fugitive Emissions LDAR Report**

The permittee shall submit semi-annual written reports to the Director, West Central Regional Office and to the EPA, Region III, NSPS Compliance Coordinator. The time periods to be addressed are January 1 to June 30 and July 1 to December 31. All reports shall be postmarked by the 60<sup>th</sup> day following the reporting period and shall contain the information required by 40 CFR 60.4.

(9 VAC 5-50-50, 40 CFR 60.487, and Condition VI.A.1 of 6/6/2003 SOP)

**4. NESHAP Part 63 Subpart A/F SSMP Report**

The permittee shall submit semi-annual written reports to the Director, West Central Regional Office and to the EPA, Region III, HON Compliance Coordinator. The time periods to be addressed are January 1 to June 30 and July 1 to December 31. All reports shall be postmarked by the 60<sup>th</sup> day following the reporting period and shall contain the information required by 40 CFR 63.10(d)(5).

(9 VAC 5-50-50, 40 CFR 63.10(d)(5))

**5. NESHAP Part 63 Subpart H Fugitive Emissions LDAR Report**

The permittee shall submit semi-annual written reports to the Director, West Central Regional Office and to the EPA, Region III, HON Compliance Coordinator. The time periods to be addressed are January 1 to June 30 and July 1 to December 31. All reports shall be postmarked by the 60<sup>th</sup> day following the reporting period and shall contain the information required by 40 CFR 63.182(d) and 40 CFR 63.10(a)(4)(ii).

(9 VAC 5-50-50, 40 CFR 63.182(d) and 40 CFR 63.10(a)(4)(ii))

**EMISSION UNIT APPLICABLE REQUIREMENTS – Preparation/Solvent Recovery/Extrusion**

The Preparation, Solvent Recovery, and Extrusion Complex dissolves CA flake with acetone, filters the “dope” and pumps the solution to Extrusion where the dope is extruded through jets to

produce acetate filaments to be collected and further processed. The acetone/air mixture, or vapor laden air (VLA) in these areas, is collected through ducting systems to Solvent Recovery where the acetone solvent is recovered and recycled in the process.

In dope preparation, flake from the cellulose acetate manufacturing complex is transported from silos by conveyors and gravity feed lines into the dope preparation area where it is dissolved in acetone to form a “dope” solution. Materials to produce acetate dope include cellulose acetate flake, acetone, water, finish oil, filter aid, and water. These materials are charged into agitated mixers. After the mixers, the dope is transferred to an appropriate holding tank prior to filtration. During filtration, the filter presses are intended to remove the wood pulp filter aid and other undissolved contaminants in the dope prior to being extruded. After final filtration, the dope is pumped to the appropriate Extrusion area for spinning. The press pads from the filtration process are air or stream dried. Building air in Preparation is maintained under negative pressure (i.e., ‘air managed’ to recover acetone vapors). The vapor laden air is transferred to Solvent Recovery to recover and recycle the acetone.

Also in dope preparation, flake either from the storage silos or off-loaded from trucks or other containers shipped from other CA flake manufacturing sites is conveyed into the semi-works process where it is dissolved in acetone to form a “dope” solution. The semi-works process includes "pilot plant" equipment dedicated to processing smaller rates of CA flake for process optimization studies and customer product qualifications. The dope preparation raw materials are charged into an agitated semi-works mixer. After the mixer, the dope is transferred to a semi-works holding tank prior to filtration. During filtration, the semi-works filter press removes the wood pulp filter aid and other un-dissolved contaminants in the dope prior to being extruded. After final filtration, the dope is pumped to the appropriate metier for processing into filter tow or filament.

Solvent Recovery recovers acetone from the vapor laden air produced in the acetate extrusion process (including process equipment, building areas, and acetone tank farm). This recovery is accomplished by cooling VLA and passing it through activated carbon bed adsorbers for capture of solvent from the air stream. The adsorbers are steam regenerated and the stream and acetone vapors condensed and collected. The acetone/water condensate, or weak water, is then distilled for purification before being reused in the acetate production process. The weak water feed passes through preheaters and has diluted caustic injected to adjust pH for corrosion prevention. The stills produce an acetone rich top product and a bottom product (residue) of minimal acetone content.

## **Limitations**

1. Emissions from the transfer of cellulose acetate flake from the live-bottom truck hoppers to the Storage Silos will be vented through the baghouses on the Storage Silos. The baghouses

shall be provided with adequate access for inspection.

(9 VAC 5-50-260, 9 VAC 5-170-160 & Condition VI.A.1 of 6/6/2003 SOP)

2. The unloading of cellulose acetate flake at the live-bottom truck unloading facility shall be totally enclosed with emissions vented to a baghouse filters. The baghouses shall be provided with adequate access for inspection.  
(9 VAC 5-50-260, 9 VAC 5-170-160 & Condition VI.A.2 of 6/6/2003 SOP)
  
3. The annual throughput of cellulose acetate flake through the CA live-bottom truck unloading facility shall not exceed 29,120 tons per year, calculated monthly as the sum of each consecutive twelve (12) month period.  
(9 VAC 5-170-160 & Condition VI.A.3 of 6/6/2003 SOP)
  
4. Visible emissions from the fabric filters serving the cellulose acetate flake live-bottom truck unloading facility and the fabric filters serving the Storage Silos shall not exceed 5% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 10% opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).  
(9 VAC 5-50-260, 9 VAC 5-50-20 & Condition VI.A.4 of 6/6/2003 SOP)
  
5. Emissions from unloading cellulose acetate flake live-bottom trucks shall not exceed the limitations specified below:

PM	0.50 lbs/hr	0.73 tons/yr
PM-10	0.50 lbs/hr	0.73 tons/yr

(9 VAC 5-50-260 and Condition VI.A.5 of 6/6/2003 SOP)
  
6. Emissions from the transfer of cellulose acetate flake from the live-bottom truck hoppers to the existing Storage silos shall not exceed the limitations specified below:

PM	1.0 lbs/hr	1.50 tons/yr
PM-10	1.0 lbs/hr	1.50 tons/yr

(9 VAC 5-50-260 and Condition VI.A.6 of 6/6/2003 SOP)
  
7. Emissions from the operation of the Building 2 Cellulose Acetate weigh bin shall not exceed the limitations specified below:

PM	0.85 lbs/hr	3.7 tons/yr
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(9 VAC 5-170-160 & Condition VI.A.7 of 6/6/2003 SOP)
  
8. The combined particulate emissions from the baghouses controlling the alternate pneumatic conveyor lines shall not exceed 0.358 pounds per hour.  
(9 VAC 5-50-260, 9 VAC 5-170-160 & Condition VI.A.8 of 6/6/2003 SOP)

9. Particulate emissions from the Semco flake handling unit shall be controlled by fabric filter baghouse. The baghouse shall be provided with adequate access for inspection.  
(9 VAC 5-80-850 F & Condition VI.A.9 of 6/6/2003 SOP)
10. Emissions from the operation of the Semco flake handling unit shall not exceed the limits specified below:
- |       |             |
|-------|-------------|
| PM    | 1.0 tons/yr |
| PM-10 | 1.0 tons/yr |
- (9 VAC 5-80-850 F & Condition VI.A.10 of 6/6/2003 SOP)
11. Visible emissions from the Semco flake handling unit shall not exceed 5 % except during one six-minute period in any one hour in which visible emissions shall not exceed 10% opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).  
(9 VAC 5-50-20, 9 VAC 5-50-260 & Condition VI.A.11 of 6/6/2003 SOP)
12. The emission sources in the Solvent Recovery Department are subject to the provisions of 40 CFR Part 63 Subpart F. This process unit does not use as a reactant or manufacture as a product or co-product any organic HAPs from table 2 of 40 CFR Part 63 Subpart F. Therefore, 40 CFR 63.103(e) states that this process unit shall comply only with the requirements of 63.103(e) and that this process unit is not required to comply with the provisions of 40 CFR 63 Subpart A.  
(9 VAC 5-60-90, 9 VAC 5-60-100, 9 VAC 5-80-110)
13. Process particulate emissions from the Celco Preparation, Solvent Recovery, Filament, and Filter Products operations shall be less than or equal to 29.0 lbs./hr.  
(9 VAC 5-40-260.A)

**Monitoring/O & M/Recordkeeping:**

The permit includes requirements for monitoring and maintaining records of all monitoring and testing required by the permit. The inspections, maintenance, monitoring and recordkeeping requirements in this section, plus monitoring and recordkeeping under the Facility Wide and General Conditions Sections below, constitute the **periodic monitoring** requirements for this equipment group. The monitoring and records include:

1. Each Preparation Department fabric filter baghouse shall be equipped with a device to continuously measure the differential pressure drop across the fabric filter. The device shall be installed in an accessible location and shall be maintained by the permittee such that

differential pressure is measured at least once each hour that a baghouse is in operation. .  
This device shall be operated continuously except for brief periods of equipment maintenance and malfunction. Pressure drop shall be checked and recorded at least once per each week the unit is operating.

(9 VAC 5-80-110 E and Condition VI.B.1 of 6/6/2003 SOP)

2. Operation & Maintenance Procedures – The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:
  - a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance on the Preparation Department dust collectors (baghouses).
  - b. Develop an inspection schedule, monthly at a minimum, to insure the operational integrity of the Preparation Department dust collectors (baghouses) and maintain records of inspection results.
  - c. Have available written operating procedures for the Preparation Department dust collectors (baghouses) These procedures shall be based on the manufacturer’s recommendations, at a minimum.
  - d. Train operators in the proper operation of the Preparation Department dust collectors (baghouses); and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.
  - e. Maintain an inventory of spare parts that are needed to maintain the Preparation Department dust collectors (baghouses) in proper working order.

Records of maintenance, inspections and training shall be maintained on site for a period of five (5) years and shall be made available to DEQ personnel upon request.

(9 VAC 5-50-20E, Condition VI.B.2 of 6/6/2003 SOP)

**Recordkeeping:**

The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Director, West Central Regional Office. These records shall include, but are not limited to:

1. Hours of operation of the Semco Flake Handling Unit.

2. Differential pressure drop readings recorded once each calendar week that the Preparation Department baghouses is operated.
3. Annual throughput of cellulose acetate flake through the CA live bottom truck unloading facility, calculated monthly as the sum of each consecutive twelve (12) month period.
4. Scheduled and unscheduled maintenance and operator training records.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.

(9 VAC 5-50-260, Condition VI.C of 6/6/2003 SOP)

**Testing:** The permit does not require source tests for this process. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports shall be provided at the appropriate locations.

(9 VAC 5-50-30 & Condition IV.D.1 of 6/6/2003 SOP)

**Reporting:** Title V semi-annual reports of the results of monitoring and recordkeeping for each first and second half calendar year are required to be submitted to DEQ by each March 1 and September 1 respectively.

### **EMISSION UNIT APPLICABLE REQUIREMENTS – Wastewater Treatment Plant**

Process wastewater from throughout the plant is conveyed via the chemical sewers to the wastewater treatment plant. Sanitary wastewater is also conveyed to the wastewater treatment plant for biological treatment. The wastewater treatment plant consists of influent pumping, primary solids removal, equalization, deep tank biological oxidation using an activated sludge process, clarification, and effluent filtration. Air emissions from the wastewater treatment plant are expected to contain VOCs. Additional by-products from the treatment processes will not be generated.

### **Limitations**

1. The permittee is authorized to store the plant's process wastewater in the Waste Water Treatment Plant (WTP) Diversion Tanks. A change in the materials stored may require a

permit to modify and operate.

(9 VAC 5-80-10, 9 VAC 5-170-160 & Condition VII.A.10 of 6/6/2003 SOP)

2. Volatile Organic Compound (VOC) emissions from the two new WTP diversion tanks shall be controlled by a catalytic fume incinerator having a 95 % destruction efficiency. The fume incinerator shall be provided with adequate access for inspection.  
(9 VAC 5-80-10 H, 9 VAC 5-50-260 & Condition VII.A.11 of 6/6/2003 SOP)
3. The catalytic fume incinerator shall maintain a combustion zone temperature of at least 750 °F and a retention time of 0.12 seconds. The rated fuel burning capacity of the catalytic fume incinerator is one million Btu/hr of propane liquefied petroleum gas.  
(9 VAC 5-80-10 H & Condition VII.A.12 of 6/6/2003 SOP)
4. The annual throughput of wastewater in these two tanks combined shall not exceed 1073 million gallons, calculated monthly as the sum of each consecutive 12 month period.  
(9 VAC 5-170-160 & Condition VII.A.13 of 6/6/2003 SOP)
5. Visible emissions from the catalytic fume incinerator shall not exceed 5 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 20 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown and malfunction.  
(9 VAC 5-170-160, 9 VAC 5-50-20 & Condition VII.A.14 of 6/6/2003 SOP)
6. Emissions from the operation of the two wastewater treatment plant diversion tanks shall not exceed the limits specified below:

Volatile Organic	7.2 lbs/hr	5.5 tons/yr
Compounds		

  
(9 VAC 5-50-260, 9 VAC 5-50-180 & Condition VII.A.15 of 6/6/2003 SOP)
7. Process particulate emissions from the Celco WWTP operations, other than from fuel burning equipment, shall be less than or equal to 30.5 lbs./hr.  
(9 VAC 5-40-260.A)

**Monitoring/O & M/Recordkeeping:**

The permit includes requirements for monitoring and maintaining records of all monitoring and testing required by the permit. The inspections, maintenance, monitoring and recordkeeping requirements in this section, plus monitoring and recordkeeping under the Facility Wide and General Conditions Sections below, constitute the **periodic monitoring** requirements for this equipment group. The monitoring and records include:

1. Operation & Maintenance Procedures – The permittee shall take the following measures in

order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:

- a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance for the WTP catalytic fume incinerator.
- b. Develop an inspection schedule, monthly at a minimum, to insure the operational integrity of the WTP catalytic fume incinerator and maintain records of inspection results.
- c. Have available written operating procedures for the WTP catalytic fume incinerator. These procedures shall be based on the manufacturer's recommendations, at a minimum.
- d. Train operators in the proper operation of the WTP catalytic fume incinerator. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.
- e. Maintain an inventory of spare parts that are needed to maintain the WTP catalytic fume incinerator in proper working order.

Records of maintenance, inspections and training shall be maintained on site for a period of five (5) years and shall be made available to DEQ personnel upon request.  
(9 VAC 5-50-20E, Condition VII.B.4 of 6/6/2003 SOP)

2. The WTP catalytic fume incinerator shall be equipped with devices to continuously measure and record the temperature before and after the catalyst bed and the pressure drop across the catalyst bed. These temperatures and differential pressure shall be measured at least once each hour that the WTP catalytic fume incinerator is in operation. These instruments shall be operated continuously except for brief periods of equipment maintenance and malfunction.  
(9 VAC 5-80-10 H & Condition VII.B.5 of 6/6/2003 SOP)

**Recordkeeping:**

1. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Director, West Central Regional Office. These records shall include, but are not limited to:
  - a. Results of all stack tests, visible emission evaluations and performance evaluations.
  - b. Scheduled and unscheduled maintenance, and operator training for the catalytic fume incinerator.

- c. The annual throughput of wastewater, calculated monthly as the sum of each consecutive twelve (12) month period.
- d. The temperature before and after the catalyst bed and the pressure drop across the catalyst bed for the catalytic fume incinerator.
- e. The manufacturer's recommendations for catalyst bed replacement and records of actual catalyst bed replacement for the WTP catalytic fume incinerator.
- f. Liquid level of diversion tanks while catalytic fume incinerator is out of service.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.  
(9 VAC 5-50-50, 9 VAC 5-50-260, 9 VAC 5-80-10 H, Condition VII.C.2..e,f, g, h, I, & j. of 6/6/2003 SOP)

**Testing:** The permit does not require source tests for this process. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

- 1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports shall be provided at the appropriate locations.  
(9 VAC 5-50-30, Condition VII.D.1 of 6/6/2003 SOP)

**Reporting:** Title V semi-annual reports of the results of monitoring and recordkeeping for each first and second half calendar year are required to be submitted to DEQ by each March 1 and September 1 respectively.

### **EMISSION UNIT APPLICABLE REQUIREMENTS – Jet Department**

The Jet Department consists of two departments: Jet Manufacturing and Jet Assembly. Jet Manufacturing produces dope extrusion jets for sale to both Celco and other Celanese operations for use in metiers. Jet Assembly receives used jets from the onsite metiers and recovers the jets and candle filters for reuse.

In Jet Manufacturing, purchased metal sheets are punched to form jet "cups" and each cup is machined with multiple extrusion holes. The cups are cleaned, etched, and then electroplated. The chromium plating equipment is subject to 40 CFR 63 Subpart N, National Emission Standards for Chromium Emissions for Hard and Decorative Chromium Electroplating and

### Chromium Anodizing Tanks.

In Jet Assembly, spent jet assemblies from the extrusion metiers are disassembled. The jet cups and candle filters are soaked in acetone to dissolve the dope. The jets are cleaned in an acid bath, rinsed in acetone/water, and then returned to stock.

The permittee is required to submit semiannual Ongoing Compliance Status Reports to the Virginia DEQ and EPA.

### **Limitations:**

1. Except where this permit is more restrictive than the applicable requirement, the chromium plating equipment shall be operated in accordance with 40 CFR 63 Subpart N, National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks and in accordance with 40 CFR 63 Subpart A, General Provisions, according to the applicability of 40 CFR 63 Subpart A as identified in Table 1 of 40 CFR 63 Subpart N. Note: 40 CFR Part 63, Subpart N allows for the use of a control device(s) for compliance purposes. The use of control device(s) was not required to comply with this MACT. Therefore, for conciseness, MACT terms and conditions identified as potentially pertaining only to control devices have not been included in this permit.  
(9 VAC 5-80-110, 9 VAC 5-60-80, 9 VAC 5-60-100, & 40 CFR 63.340)
2. Emissions of Chromium from the plating bath shall not exceed  $1.3 \times 10^{-5}$  gr./dscf. This limit applies at all times except during periods of malfunction.  
(9 VAC 5-80-110, 9 VAC 5-60-90, 9 VAC 5-60-100, & 40 CFR 63.342(c)(1)(ii))

### **Monitoring/O & M/Recordkeeping:**

The permit includes requirements for monitoring and maintaining records of all monitoring and testing required by the permit. The inspections, maintenance, monitoring and recordkeeping requirements in this section, plus monitoring and recordkeeping under the Facility Wide and General Conditions Sections below, constitute the **periodic monitoring** requirements for this equipment group. The monitoring and records include:

1. Monitor and record once per shift the pressure drop, temperature, bath concentration, amperage, fan operation and general working condition of the equipment according to the Operation and Maintenance Manual required in Condition B.2 of this section of the permit.  
(9 VAC 5-80-110, 9 VAC 5-60-90, 9 VAC 5-60-100, & 40 CFR 63.343(c))
2. **Work Practice Standards:** The permittee shall prepare an Operations and Maintenance Plan. The plan shall include the following:

- a. The operational and maintenance criteria for the affected source and a standardized checklist documenting operations and maintenance of the equipment.
- b. The plan shall specify procedures to be followed to ensure that malfunctions due to poor maintenance or preventable conditions do not occur.
- c. The plan shall include a system for identifying malfunctions of equipment and monitoring devices and implementing corrective actions.
- d. If the plan fails to address or inadequately addresses a malfunction, the plan shall be revised within 45 days to adequately address a similar malfunction. Revisions or modifications to the plan do not require a revision of the source's Title V permit. (9 VAC 5-80-110, 9 VAC 5-60-90, 9 VAC 5-60-100, & 40 CFR 63.342(f)(3))

**Recordkeeping:**

The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Director, West Central Regional Office. These records shall include, but are not limited to:

1. Records of compliance monitoring required by Condition B.1 of this section of the permit.
2. Inspection reports and scheduled and non-scheduled maintenance for the chrome plating bath tank; for the rectifier and its amperage monitor; for the tank heating system and temperature controller; and for the chrome plating bath tank ventilation fan, its fume collection system, and its pressure monitor.
3. Copies of reports required by condition E.1 of this section of the permit.
4. Plating bath equipment operator training.
5. The operations and maintenance plan shall be retained for the life of the affected source, or until the source is no longer subject to 40 CFR 63 Subpart N. Superseded versions of the plan shall be maintained for 5 years from the date superseded.
6. Records of the actions taken during a malfunction, of the determination whether actions taken during a malfunction are inconsistent with the operating plan, and of the malfunction report submitted to WCRO, DEQ.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.

(9 VAC 5-40-50, 9 VAC 5-60-90, 9 VAC 5-60-100, 9 VAC 5-80-110, and 40 CFR 63.342(f)(3))

**Testing:** The permit does not require source tests for this process. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports shall be provided at the appropriate locations.

(9 VAC 5-40-30 & 9 VAC 5-8--110)

**Reporting:**

The reporting period is changed to a calendar semi-annual period to coordinate the reporting period for this report with the semi-annual Title 5 permit deviation report.

The permittee shall submit a semiannual Ongoing Compliance Status Report to the Director, West Central Regional Office. The time periods to be addressed are January 1 to June 30 and July 1 to December 31. The permittee shall submit the report to DEQ no later than **March 1** and **September 1** of each calendar year. The report shall contain the following information:

1. Name and address of the company.
2. Identification of the operating parameter that is monitored.
3. The emission limitation for the affected source, and the operating parameter value or range that corresponds to compliance with the emission limitation.
4. The beginning and ending dates of the reporting period.
5. A brief description of the type of process.
6. The total operating time of the affected source during the reporting period.
7. Summary of operating parameter values, total duration of excess emissions and a breakdown total duration of excess emissions due to process upsets, other known causes, and unknown causes.
8. Certification by a responsible official that the work practice standards in 40 CFR 63.342 were

followed, or an explanation of the reasons for not following the Operations and Maintenance Plan, an assessment of excess emissions and a copy of the reports required by 40 CFR 63.342(f)(3)(iv) documenting the plan was not followed.

9. Description of any changes in monitoring, processes, or controls since the last reporting period.
10. The report shall be dated and include the name, title and signature of the person certifying accuracy of the report.
11. If, for any reason, the affected facilities fail or malfunction and may cause excess emissions for more than one hour, the owner shall notify the Director, West Central Regional Office according to Failure/Malfunction Reporting condition in the General Conditions section of this permit. If actions taken during a malfunction are inconsistent with the operating plan, the permittee shall record the actions taken during the malfunction and report to the Director, WCRO, DEQ, by phone or fax, and to the EPA Region 3, MACT Compliance Coordinator, by phone, within two days of commencing activities inconsistent with the plan, followed by a written letter within seven (7) days after the end of the event.  
(9 VAC 5-80-110, 9 VAC 5-60-90, 9 VAC 5-60-100, 40 CFR 63.347(f)(3), & 40 CFR 63.347(g)(3))

### **Streamlined Requirements**

Streamlining 1: Obsolete conditions: The conditions in the NSR permit are streamlined out which deal with new equipment installation time frames and startup initial notifications, initial visible emissions evaluations, and initial stack tests because these conditions are obsolete due to having been completed for all permitted equipment.

Streamlining 2: State operating permit condition III.A.2 was streamlined from the Title V. The monthly limit for cellulose acetate flake production (SOP condition III.A.3) is more restrictive than the annual CA flake production limit in III.A.2.

Streamlining 3: Conditions V.A.3 and VII.C.1 from the SOP were streamlined from the Title V. These conditions referred to specific storage tanks subject to 40 CFR 60, Subpart Kb. New facility wide conditions were included in the Title V to address all storage tanks at the facility subject to Kb.

### **FACILITY-WIDE CONDITIONS**

**Existing Source Standard for Visible Emissions**

Unless otherwise specified in this permit, no owner or other person shall cause or permit to be discharged into the atmosphere from any existing source any visible emissions which exhibit greater than 20% opacity, except for one six-minute period in any one hour of not more than 60% opacity. Failure to meet the requirements of this section because of the presence of water vapor shall not be a violation of this section. Opacity shall be determined in accordance with 40 CFR, Part 60, Appendix A, Method 9. (9 VAC 5-170-160, 9 VAC 5-80-110 & 9 VAC 5-40-80)

**New Source Standard for Visible Emissions**

Unless otherwise specified in this permit, no owner or other person shall cause or permit to be discharged into the atmosphere from any new source, visible emissions which exhibit greater than 20% opacity, except for one six-minute period in any one hour of not more than 30% opacity. Failure to meet the requirements of this section because of the presence of water vapor shall not be a violation of this section. Opacity shall be determined in accordance with 40 CFR, Part 60, Appendix A, Method 9.  
(9 VAC 5-170-160, 9 VAC 5-80-110 9 VAC 5-50-80, and Condition VIII.A.1 of 6/6/2003 SOP)

**Violation of Ambient Air Quality Standard** - The permittee shall, upon request of the DEQ, reduce the level of operation or shut down a facility, as necessary to avoid violating any primary ambient air quality standard and shall not return to normal operation until such time as the ambient air quality standard will not be violated.  
(9 VAC 5-20-180 I, 9 VAC 5-80-110 & Condition , and Condition VIII.A.2 of 6/6/2003 SOP)

The permittee shall operate the affected facilities in compliance with all applicable requirements of the National Emission Standards for Hazardous Air Pollutants; Subpart M- National Emission Standards for Asbestos (40 CFR Part 61 Subpart M):

(9 VAC 5-170-160, 9 VAC 5-80-110, 9 VAC 5-60-60, 9 VAC 5-60-70, 40 CFR 61 Subpart M & and Condition VIII.A.3 of 6/6/2003 SOP).

Process particulate emissions from the Celco site maintenance operations, including everything but fuel burning equipment, shall be less than or equal to 195.5 lbs./hr.  
(9 VAC 5-40-260.A)

**Visible Emissions:** -

1. At least one time per calendar week, an observation for the presence of visible emissions from each emissions unit capable of generating opacity and with a visible emissions requirement specified in sections II through section IX of this permit shall be made. If visible emissions are observed the permittee shall:

- a. take timely corrective action and re-conduct the observation for the presence of visible emissions to ensure that the emissions unit capable of generating opacity has resumed operation with no visible emissions, or
- b. conduct a visible emission evaluation (VEE) in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A) for a minimum of six minutes, to assure visible emissions from the emissions unit capable of generating opacity are less than or equal to 20 percent opacity or the limit established for an emissions unit specified in sections II through section IX of this permit. If the 6-minute average opacity recorded during this VEE exceeds the opacity limitation established for an emissions unit specified in sections II through section IX of this permit that is capable of generating opacity, the observation period shall continue until a total of three 6-minute periods of observation have been completed. Timely corrective action shall be taken, if necessary, such that the emissions unit capable of generating opacity resumes operation within its opacity limit.
- c. If visible emissions inspections conducted during twelve (12) consecutive weeks show no visible emissions for a particular emissions unit capable of generating opacity, the permittee may reduce the monitoring frequency to once per month for that stack. The permittee shall notify the Director, West Central Regional Office, when the monitoring frequency is reduced from at least each calendar week to at least each calendar month. Anytime a monthly visible emissions evaluation (conducted in accordance with 2. above) show visible emissions, or when requested by DEQ, the monitoring frequency shall be increased to once per week for that stack.

The permittee shall maintain an observation log to demonstrate compliance. The log shall include the date and time of the observations, name of the observer, whether or not there were visible emissions, any VEE recordings and any necessary corrective action. (9 VAC 5-80-110 E)

**NSPS Subpart Kb Recordkeeping**

4. Except where this permit is more restrictive, the permittee shall keep readily accessible records for the life of each storage vessel subject to Kb showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel for each of the following vessels:

<u>Emission Unit ID</u>	<u>Emission Unit Description</u>
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3WWTK004S1, 3WWTK005S1	WWTP Diversion Tanks
3WWTP003S1	WWTP Equalization Tank
	Acetic Anhydride Storage Tanks Nos. 110 & 111 114 & 115
	Glacial Acetic Acid Storage Tanks No. 112
	Glacial Acetic Acid Storage Tank No. 113
	Tanks 101, 102, 103, 104, 105, 107
1ARTK001S1	Tank 130 - IPAC Storage
1ARTK002S1	Tank 131 - IPAC Storage
1ARTK003S1	Tank 132 - MEK Storage
1ARTK004S1	Tank 133 - Hexane Storage
1ARTK005S1	Storage Tank 134 VOL Storage
	Acetyl Storage Tanks No. 116 & No. 117 in Ketene Area
	Vats 19&20
1D6TK001S1	Mag Acetate Storage Tank
1D6TK001S2	Mag Acetate Storage Tank
	A-mix Holding Tanks 1,4,5,6,9,&10
	Replacement A-Mix Holding Tank Nos. 2 & 8 (Future)
	Replacement A-mix Blend Tank No. 106
	Replacement Vats B-2, B-3, B-4 (Future)
	Replacement Vats 21 and 22 (Future)
	Replacement Vats 33, 34, and 35 (Future)

(9 VAC 5-50-400, 9 VAC 5-50-410, 9 VAC 5-80-110, 40 CFR 60.116b(c), and Conditions V.A.1 & VII.C.1 of 6/6/2003 SOP)

The permittee shall maintain a record of the volatile organic liquid (VOL) stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period for each of the following vessels subject to Kb:

Tank ID:

<b><u>Emission Unit Description</u></b>
Glacial Acetic Acid Storage Tank No. 113

Acetyl Storage Tank No. 116 in Ketene Area
Acetyl Storage Tank No. 117 in Ketene Area
Tank 105
Tank107
Replacement A-mix Blend Tank No. 106 , Replacement Vats 21 and 22 (Future Replacement Vats 33, 34, and 35 (Future

(9 VAC 5-50-400, 9 VAC 5-50-410, 9 VAC 5-80-110, 40 CFR 60.116b(c) , Condition V.A.3 & VIII.C.1 of 6/6/2003 SOP

The permittee shall notify the Director, West Central Region, within 30 days, when the maximum true vapor pressure of the VOL stored in the vessel exceeds 27.6 kPa, for each of the vessels listed in Condition X.C.2.

(9 VAC 5-50-400, 9 VAC 5-50-410, 9 VAC 5-80-110, 40 CFR 60.116b(c) )

**GENERAL CONDITIONS**

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110, that apply to all Federal operating permit sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or excess emissions, including those caused by upsets, within four daytime business hours.

**STATE ONLY APPLICABLE REQUIREMENTS**

The following Virginia Administrative Codes have specific requirements only enforceable by the State and have been identified as applicable by the applicant:

State toxics conditions are included in a state-only section of the source’s state operating permit but are not included in the Title V.

**FUTURE APPLICABLE REQUIREMENTS**

**MACT FFFF** Miscellaneous Organic Chemical Production and Processes (MON)

**Insignificant Emission Units**

The following emission units at the facility are identified in the application as insignificant emission units under 9 VAC 5-80-720:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted	Rated Capacity
1D6TK005S2	Sulfuric Acid Head Tank	9 VAC 5-80-720 A-42	NA	

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted	Rated Capacity
1D9TK008S1	Hydrogen Peroxide Tank	9 VAC 5-80-720 A-42	NA	
1D9TK009S1	Hydrogen Peroxide Tank	9 VAC 5-80-720 A-42	NA	
<b>PREPARATION/FILAMENT/FILTER PRODUCTS/EXTRUSION/SOLVENT RECOVERY</b>				
4TXVT001S1	Bobbin Stripper (Hot Air Knife) (2)	9 VAC 5-80-720 B	NA	
4TXVT002S1	Beam Cleaning (water based "Handi Spray")	9 VAC 5-80-720 B	NA	
	No. 18, 19 Chiller room (emergency exhaust to outside - R123 chillers)	9 VAC 5-80-720 B	CFC	
4TXMS001S1	Plastic Heat Sealer in Reclaim Battery Charging Stations (2)	9 VAC 5-80-720 B	NA	
2SRAD001S1	Carbon Adsorber Unit No. 1	9 VAC 5-80-720 B-1.	PM10	
2SRAD002S1	Carbon Adsorber Unit No. 2	9 VAC 5-80-720 B-1.	PM10	
2SRAD003S1	Carbon Adsorber Unit No. 3	9 VAC 5-80-720 B-1.	PM10	
2SRAD004S1	Carbon Adsorber Unit No. 4	9 VAC 5-80-720 B-1.	PM10	
2SRAD005S1	Carbon Adsorber Unit No. 5	9 VAC 5-80-720 B-1.	PM10	
2SRAD006S1	Carbon Adsorber Unit No. 6	9 VAC 5-80-720 B-1.	PM10	
2SRAD007S1	Carbon Adsorber Unit No. 7	9 VAC 5-80-720 B-1.	PM10	
2SRAD008S1	Carbon Adsorber Unit No. 8	9 VAC 5-80-720 B-1.	PM10	
2SRAD009S1	Carbon Adsorber Unit No. 9	9 VAC 5-80-720 B-1.	PM10	
2SRAD010S1	Carbon Adsorber Unit No. 10	9 VAC 5-80-720 B-1.	PM10	
2SRAD011S1	Carbon Adsorber Unit No. 11	9 VAC 5-80-720 B-1.	PM10	
<b><u>Equipment Linked to Adsorbers:</u></b>	Preparation Mixer (13) Preparation Plate Bath (3) Preparation Bldg. 2 MeO Storage Tank Preparation Residue Mixer (12) Preparation Basket Soak Tank (4) Solvent Recovery Tank Farm Vent Condenser Jet Manufacturing Acetone Baths Metier Stations Bobbin Cleaning Station Managed Building Air	9 VAC 5-80-720 B-1.	PM10	
	Prep Mineral Oil Storage Tanks (2)	9 VAC 5-80-720 B-2	VOC	7,500 gal
	FP G-Oil & Mineral Oil Storage Tanks (3)	9 VAC 5-80-720 B-2	VOC	13,000 gal
	FP ST-90 Mineral Oil Storage Tank	9 VAC 5-80-720 B-2	VOC	3,100 gal
	FP Finish Oil Tank	9 VAC 5-80-720 B-2	VOC	800 gal
	Filament Finish Oil Tanks (3)	9 VAC 5-80-720 B-2	VOC	800 gal
	Filament ST-90 Emulsion Tanks (3)	9 VAC 5-80-720 B-2	VOC	8000 gal
2SRTK004S1	Biocide Storage Tank	9 VAC 5-80-720 B-2	VOC	
2SRTK005S1	MeO Storage Tank	9 VAC 5-80-720 B-2	VOC	1500 gal
2SRTK006S1	B32 MeO Drawoff Holding Tank	9 VAC 5-80-720 B-2	VOC	
2SRBG001S1	"Blue Goose" Carbon Bed Adsorber Removal System	9 VAC 5-80-720 B-1	PM	
2SRTK001S1	50% Caustic Storage Tank	9 VAC 5-80-720 A-42.	NA	
2SRTK002S1	50% Caustic Storage Tank	9 VAC 5-80-720 A-42	NA	
2SRTK003S1	Cooling Tower Caustic Storage Tank	9 VAC 5-80-720 A-42	NA	

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted	Rated Capacity
	<b>WWTP</b>			
3WWGN001S1	WWTP IPS Backup Emergency Diesel Generator	9 VAC 5-80-720 C	PM10	890 HP
3WWGN002S1	WWTP IPS Backup Emergency Diesel Generator	9 VAC 5-80-720 C	PM10	890 HP
3WWTK001S1	IPS Backup Emergency Generator Diesel Tank #1	9 VAC 5-80-720 B-2	VOC	1000 gal
3WWTK002S1	IPS Backup Emergency Generator Diesel Tank #2	9 VAC 5-80-720 B-2	VOC	1000 gal
	Ammonium Bisulfate Storage Tank	9 VAC 5-80-720 A-42	NA	8000 gal
WWTK006S1	Ferric Chloride Tank	9 VAC 5-80-720 A-42	NA	
3MSDC001S1	Drum Cleaning Station and Oil/Water Separator	9 VAC 5-80-720 B-2	VOC	
	<b>MAINTENANCE COMPLEX/GENERAL FACILITIES</b>			
3MTPB001S1	Maintenance Paint Spray Booth	9 VAC 5-80-720 B	VOC	< 2000 gal paint sprayed/ yr
3MSPM001S1	Fire Water Pump Diesel Motor	9 VAC 5-80-720 C	PM10	235 BHP
3MSPM002S1	Fire Water Pump Diesel Motor	9 VAC 5-80-720 C	PM10	235 BHP
3MSPM003S1	Fire Water Pump Diesel Motor	9 VAC 5-80-720 C	PM10	357 BHP
3MSPM004S1	Fire Water Pump Diesel Motor	9 VAC 5-80-720 C	PM10	357 BHP
3MSTK001S1	#3 Fire Water Pump Diesel Tank	9 VAC 5-80-720 B	VOC	< 500 gal
3MSTK002S1	#4 Fire Water Pump Diesel Tank	9 VAC 5-80-720 B	VOC	< 500 gal
3MSTK003S1	#5 Fire Water Pump Diesel Tank	9 VAC 5-80-720 B	VOC	< 500 gal
3MSTK004S1	#6 Fire Water Pump Diesel Tank	9 VAC 5-80-720 B	VOC	< 500 gal
3BHVT001S1	CaCl <sub>2</sub> Freon Purge Unit - (#1,3,4)	9 VAC 5-80-720 B	CFC	
3BHVT002S1	MeCl <sub>2</sub> Freon Purge Unit - (#6,7,8)	9 VAC 5-80-720 B	CFC	
3MSTK008S1	Diesel Tank at Landfill	9 VAC 5-80-720 A-41	VOC	
3MTCY001S1	Carpenter Shop Cyclone	9 VAC 5-80-720 A-11	PM10	

The citation criteria for insignificant activities are as follows:

- 9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application
- 9 VAC 5-80-720 B - Insignificant due to emission levels
- 9 VAC 5-80-720 C - Insignificant due to size or production rate

These insignificant emission units are presumed to be in compliance with all requirements of the federal Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping, or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

**INAPPLICABLE REQUIREMENTS**

Citation	Title of Citation	Description of Applicability
40 CFR 61 Subpart FF	NESHAP for Benzene Waste Operations	Plant no longer actually uses benzene.
40 CFR 60 Subpart NNN	Standards of Performance for Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry Distillation Operations	1/26/96 memo from DEQ documents that NSPS does not apply to the Isopropanol still installed as the AR unit.
40 CFR 63 Subpart UUUU	National Emission Standards for Hazardous Air Pollutants for Cellulose Products Manufacturing	8/1/2002 memo from T. Thompson of DEQ documents that this MACT regulation does not apply to the facility
40 CFR 61 Subpart J	National Emission Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene	Plant no longer actually uses benzene.

**COMPLIANCE PLAN**

NA because this facility is considered to be in compliance.

**CONFIDENTIAL INFORMATION**

There is no confidential information contained in the Title V application.

**PUBLIC PARTICIPATION**

A public notice regarding the draft permit was published in The Virginian Leader. EPA was given a chance to comment. The public comment period closed December 27, 2002. No comments were received from EPA or the public.