



COMMONWEALTH of VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY

Molly Joseph Ward
Secretary of Natural Resources

PIEDMONT REGIONAL OFFICE
4949-A Cox Road, Glen Allen, Virginia 23060
(804) 527-5020 Fax (804) 527-5106
www.deq.virginia.gov

David K. Paylor
Director

Michael P. Murphy
Regional Director

September 28, 2016

Mr. Paul Tuck
Ashland Specialty Ingredients
1111 Hercules Road
Hopewell, VA 23860

Location: Hopewell
Registration No.: 50363

Dear Mr. Tuck:

Attached is a renewal Title V permit to operate your facility pursuant to 9 VAC 5 Chapter 80 of the Virginia Regulations for the Control and Abatement of Air Pollution.

This permit contains legally enforceable conditions. Failure to comply may result in a Notice of Violation and civil penalty. Please read all conditions carefully.

This approval to operate does not relieve Ashland Specialty Ingredients of the responsibility to comply with all other local, state, and federal permit regulations.

Issuance of this permit is a case decision. The Regulations, at 9 VAC 5-170-200, provide that you may request a formal hearing from this case decision by filing a petition with the Board within 30 days after this permit is mailed or delivered to you. Please consult that and other relevant provisions for additional requirements for such requests.

Additionally, as provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date you actually received this permit or the date on which it was mailed to you, whichever occurred first, within which to initiate an appeal to court by filing a Notice of Appeal with:

Mr. David K. Paylor, Director
Department of Environmental Quality
P. O. Box 1105
Richmond, VA 23218

In the event that you receive this permit by mail, three days are added to the period in which to file an appeal. Please refer to Part Two A of the Rules of the Supreme Court of Virginia for additional information including filing dates and the required content of the Notice of Appeal.

If you have any questions concerning this permit, please contact the regional office at (804) 527-5020.

Sincerely,



Kyle Ivar Winter, P.E.
Deputy Regional Director

KIW/CLM/50363-32

Attachments: Permit
40 CFR 60, Subpart IIII
40 CFR63, Subpart G
40 CFR 63, Subpart UUUU
40 CFR 63, Subpart ZZZZ
Source Testing Report Format

cc: Director, OAPP (electronic file submission)
Manager, Data Analysis (electronic file submission)
Chief, Air Enforcement Branch (3AP13), U.S. EPA, Region III
Manager/Inspector, Air Compliance



COMMONWEALTH of VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY

Federal Operating Permit
Article 1

This permit is based upon the requirements of Title V of the Federal an Air Act and Chapter 80, Article 1, of the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution. Until such time as this permit is reopened and revised, modified, revoked, terminated or expires, the permittee is authorized to operate in accordance with the terms and conditions contained herein. This permit is issued under the authority of Title 10.1, Chapter 13, §10.1-1322 of the Air Pollution Control Law of Virginia. This permit is issued consistent with the Administrative Process Act, and 9 VAC 5-80-50 through 9 VAC 5-80-300 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution of the Commonwealth of Virginia.

Authorization to operate a Stationary Source of Air Pollution as described in this permit is hereby granted to:

Permittee Name: Ashland Specialty Ingredients
Facility Name: Ashland Hopewell Facility
Facility Location: 1111 Hercules Road
Hopewell, Virginia

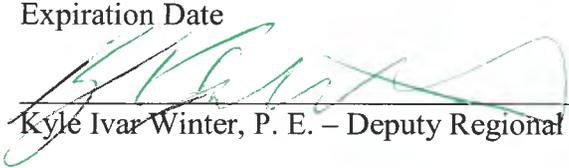
Registration Number: 50363
Permit Number: PRO50363

This permit includes the following programs:

Federally Enforceable Requirements - Clean Air Act (Pages 18 through 66)
State Only Enforceable Requirements (Pages 67-70)

September 28, 2016
Effective Date

September 27, 2021
Expiration Date



Kyle Ivar Winter, P. E. – Deputy Regional Director

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I. Facility Information

Permittee

Ashland Specialty Ingredients
1111 Hercules Road
Hopewell, Virginia 23860

Responsible Official

Paul Tuck
Plant Manager

Facility

Ashland Hopewell Facility
1111 Hercules Road
Hopewell, Virginia 23860

Contact Person

Ashley Miller
Environmental Engineer
(804) 541-4399

County-Plant Identification Number: 51-670-0006

Facility Description: NAICS 325199 – Ashland Specialty Ingredients owns and operates a manufacturing facility in Hopewell, Virginia. A variety of cellulose products used in the production of a wide range of consumer products and product packaging are manufactured at this facility.

II. Emission Units

Equipment to be operated consists of:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Fuel Burning Equipment							
EG-AEU-001	EG-ACD-001	Emergency Generator	300 hp	N/A	N/A	N/A	N/A
CMC Process Area							
CM-AEU-001	CM-ACD-001	Primary Cutter #1	---	Cellulose Weigh Bin Baghouse	CM-ACD-001	PM/PM ₁₀	December 18, 2014
CM-AEU-002	CM-ACD-001	Secondary Cutter #1	---	Cellulose Weigh Bin Baghouse	CM-ACD-001	PM/PM ₁₀	December 18, 2014
CM-AEU-003	CM-ACD-001	Primary Cutter #2	---	Cellulose Weigh Bin Baghouse	CM-ACD-001	PM/PM ₁₀	December 18, 2014
CM-AEU-004	CM-ACD-001	Secondary Cutter #2	---	Cellulose Weigh Bin Baghouse	CM-ACD-001	PM/PM ₁₀	December 18, 2014
CM-AEU-005	CM-ACD-001	Primary Cutter #3	---	Cellulose Weigh Bin Baghouse	CM-ACD-001	PM/PM ₁₀	December 18, 2014
CM-AEU-006	CM-ACD-001	Secondary Cutter #3	---	Cellulose Weigh Bin Baghouse	CM-ACD-001	PM/PM ₁₀	December 18, 2014
CM-AEU-007	CM-ACD-001	Primary Cutter #4	---	Cellulose Weigh Bin Baghouse	CM-ACD-001	PM/PM ₁₀	December 18, 2014
CM-AEU-115	CM-ACD-001	Secondary Cutter #4	---	Cellulose Weigh Bin Baghouse	CM-ACD-001	PM/PM ₁₀	December 18, 2014
CM-AEU-008	N/A	Vent Intake Filters (4)	---	N/A	N/A	N/A	December 18, 2014
CM-ACD-002	CM-ACD-002	Cellulose Preparation Housekeeping Vacuum System	---	Cellulose Preparation Housekeeping Vacuum Baghouse	CM-ACD-002	PM/PM ₁₀	December 18, 2014
CM-ACD-003	CM-ACD-003	Cellulose Conveyance System including cyclone and zero point filter	---	Cellulose Conveyance System Zero Point Filter (ZPF)	CM-ACD-003	PM/PM ₁₀	December 18, 2014
CM-ACD-009	CM-ACD-009	Cellulose Conveyance System – Surge Bin	---	Cellulose Surge Bin Baghouse	CM-ACD-009	PM/PM ₁₀	December 18, 2014

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
CM-AEU-011	CM-ACD-005; CM-ACD-006	Alkali Cellulose Vessel	7,000 gallons	Alkali Cellulose Scrubber (loading); CMC Building Scrubber (all other periods)	CM-ACD-005; CM-ACD-006	VOC	December 18, 2014
CM-AEU-012	CM-ACD-005; CM-ACD-006	Alkali Cellulose Vessel	7,000 gallons	Alkali Cellulose Scrubber (loading); CMC Building Scrubber (all other periods)	CM-ACD-005; CM-ACD-006	VOC	December 18, 2014
CM-AEU-013	CM-ACD-005; CM-ACD-006	Alkali Cellulose Vessel	7,000 gallons	Alkali Cellulose Scrubber (loading); CMC Building Scrubber (all other periods)	CM-ACD-005; CM-ACD-006	VOC	December 18, 2014
CM-AEU-014	CM-ACD-005; CM-ACD-006	Pre-Mixers (2)	---	Alkali Cellulose Scrubber (loading); CMC Building Scrubber (all other periods)	CM-ACD-005; CM-ACD-006	VOC	December 18, 2014
CM-AEU-015	CM-ACD-006	Caustic/IPA Mix Tank	---	CMC Building Scrubber	CM-ACD-006	VOC	December 18, 2014
CM-AEU-016	CM-ACD-006	Caustic/IPA Mix Tank	---	CMC Building Scrubber	CM-ACD-006	VOC	December 18, 2014
CM-AEU-017	CM-ACD-004; CM-ACD-006	Reactor #1	7,000 gallons	Oxygen Scrubber (viscosity reduction); CMC Building Scrubber (all other periods)	CM-ACD-007; CM-ACD-006	VOC	December 18, 2014
CM-AEU-018	CM-ACD-004; CM-ACD-006	Reactor #2	7,000 gallons	Oxygen Scrubber (viscosity reduction); CMC Building Scrubber (all other periods)	CM-ACD-007; CM-ACD-006	VOC	December 18, 2014
CM-AEU-019	CM-ACD-004; CM-ACD-006	Reactor #3	7,000 gallons	Oxygen Scrubber (viscosity reduction); CMC Building Scrubber (all other periods)	CM-ACD-007; CM-ACD-006	VOC	December 18, 2014
CM-AEU-020	CM-ACD-006	Hold Tub	---	CMC Building Scrubber	CM-ACD-006	VOC/HAP	December 18, 2014
CM-AEU-021	CM-ACD-006	Hold Tub	---	CMC Building Scrubber	CM-ACD-006	VOC/HAP	December 18, 2014
CM-AEU-022	CM-ACD-006	Reslurry Tub	---	CMC Building Scrubber	CM-ACD-006	VOC/HAP	December 18, 2014
CM-AEU-023	CM-ACD-006	Reslurry Tub	---	CMC Building Scrubber	CM-ACD-006	VOC/HAP	December 18, 2014
CM-AEU-024	CM-ACD-006	Reslurry Tub	---	CMC Building Scrubber	CM-ACD-006	VOC/HAP	December 18, 2014
CM-AEU-025	CM-ACD-006	Reslurry Tub	---	CMC Building Scrubber	CM-ACD-006	VOC/HAP	December 18, 2014
CM-AEU-026	CM-ACD-006	Reslurry Tub	---	CMC Building Scrubber	CM-ACD-006	VOC/HAP	December 18, 2014
CM-AEU-027	CM-ACD-006	Centrifuge	---	CMC Building Scrubber	CM-ACD-006	VOC/HAP	December 18, 2014
CM-AEU-028	CM-ACD-006	Centrifuge	---	CMC Building Scrubber	CM-ACD-006	VOC/HAP	December 18, 2014
CM-AEU-029	CM-ACD-006	Centrifuge	---	CMC Building Scrubber	CM-ACD-006	VOC/HAP	December 18, 2014

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
CM-AEU-030	CM-ACD-006	Centrifuge	---	CMC Building Scrubber	CM-ACD-006	VOC/HAP	December 18, 2014
CM-AEU-031	CM-ACD-006	Centrifuge	---	CMC Building Scrubber	CM-ACD-006	VOC/HAP	December 18, 2014
CM-AEU-032	CM-ACD-201	#3 Dryer	---	West Dryer Scrubber	CM-ACD-201	VOC/HAP	December 18, 2014
CM-AEU-033	CM-ACD-201	#4 Dryer	---	West Dryer Scrubber	CM-ACD-201	VOC/HAP	December 18, 2014
CM-AEU-036	CM-ACD-201	Dryer Centrifuge #5	---	West Dryer Scrubber	CM-ACD-201	VOC/HAP	December 18, 2014
CM-AEU-037	CM-ACD-201	Dryer Centrifuge #6	---	West Dryer Scrubber	CM-ACD-201	VOC/HAP	December 18, 2014
CM-AEU-038	CM-ACD-201	Blend Tub #5	---	West Dryer Scrubber	CM-ACD-201	VOC/HAP	December 18, 2014
CM-AEU-039	CM-ACD-201	Blend Tub #6	---	West Dryer Scrubber	CM-ACD-201	VOC/HAP	December 18, 2014
CM-AEU-040	CM-ACD-201	Blend Tub #7	---	West Dryer Scrubber	CM-ACD-201	VOC/HAP	December 18, 2014
CM-AEU-041	CM-ACD-201	Blend Tub #8	---	West Dryer Scrubber	CM-ACD-201	VOC/HAP	December 18, 2014
CM-AEU-047	CM-ACD-203	#5 Dryer	---	East Dryer Scrubber	CM-ACD-203	VOC/HAP	December 18, 2014
CM-AEU-048	CM-ACD-203	#6 Dryer	---	East Dryer Scrubber	CM-ACD-203	VOC/HAP	December 18, 2014
CM-AEU-051	CM-ACD-203	Dryer Centrifuge #7	---	East Dryer Scrubber	CM-ACD-203	VOC/HAP	December 18, 2014
CM-AEU-052	CM-ACD-203	Dryer Centrifuge #8	---	East Dryer Scrubber	CM-ACD-203	VOC/HAP	December 18, 2014
CM-AEU-053	CM-ACD-203	Blend Tub #9	---	East Dryer Scrubber	CM-ACD-203	VOC/HAP	December 18, 2014
CM-AEU-054	CM-ACD-203	Blend Tub #10	---	East Dryer Scrubber	CM-ACD-203	VOC/HAP	December 18, 2014
CM-AEU-060-067	CM-ACD-301	Eight Dryer Storage Bins (#1 – #8)	---	Dryer Storage Bin Vent Filter	CM-ACD-301	PM/PM ₁₀	December 18, 2014
CM-AEU-068	CM-ACD-312	#1 Prescreener	---	#1 Mill Product Baghouse	CM-ACD-312	PM/PM ₁₀	December 18, 2014
CM-AEU-068	CM-ACD-312	#1 Mill System	---	#1 Mill Product Baghouse	CM-ACD-312	PM/PM ₁₀	December 18, 2014
CM-AEU-068	CM-ACD-312	#1 Mill Screener	---	#1 Mill Product Baghouse	CM-ACD-312	PM/PM ₁₀	December 18, 2014
CM-AEU-071-076	CM-ACD-319	Six #1 Mill Blend Bins	30,000 lbs each	Aspirator Baghouse	CM-ACD-319	PM/PM ₁₀	December 18, 2014
CM-AEU-077	CM-ACD-313	#2 Prescreener	---	#2 Mill Product Baghouse	CM-ACD-313	PM/PM ₁₀	December 18, 2014
CM-AEU-078	CM-ACD-313	#2 Mill System	---	#2 Mill Product Baghouse	CM-ACD-313	PM/PM ₁₀	December 18, 2014
CM-AEU-079	CM-ACD-313	#2 Mill Screener	---	#2 Mill Product Baghouse	CM-ACD-313	PM/PM ₁₀	December 18, 2014
CM-AEU-080-085	CM-ACD-319	Six #2 Mill Blend Bins	30,000 lbs each	Aspirator Baghouse	CM-ACD-319	PM/PM ₁₀	December 18, 2014
CM-AEU-089	CM-ACD-314	Regrind Mill System	---	Regrind Mill Product Baghouse	CM-ACD-314	PM/PM ₁₀	December 18, 2014
CM-AEU-090	CM-ACD-314	Regrind Mill Screener	---	Regrind Mill Product Baghouse	CM-ACD-314	PM/PM ₁₀	December 18, 2014
CM-AEU-091	CM-ACD-319	Regrind Mill Blend Bin	30,000 lbs	Aspirator Baghouse	CM-ACD-319	PM/PM ₁₀	December 18, 2014
CM-AEU-092	CM-ACD-319	Regrind Mill Blend Bin	30,000 lbs	Aspirator Baghouse	CM-ACD-319	PM/PM ₁₀	December 18, 2014
CM-AEU-093	CM-ACD-311	Addback Feed System	---	Regrind Mill Feed Baghouse	CM-ACD-311	PM/PM ₁₀	December 18, 2014

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
CM-AEU-094	CM-ACD-315	#1 Airmix Blender	40,000 lbs/hr	#1 AMB Baghouse	CM-ACD-315	PM/PM ₁₀	December 18, 2014
CM-AEU-095	CM-ACD-316	#2 Airmix Blender	40,000 lbs/hr	#2 AMB Baghouse	CM-ACD-316	PM/PM ₁₀	December 18, 2014
CM-AEU-096	CM-ACD-317	Custom Blender	10,000 lbs/hr	Custom Blender Baghouse	CM-ACD-317	PM/PM ₁₀	December 18, 2014
CM-AEU-097	N/A	Packaging System	15,000 lbs/hr	N/A	N/A	N/A	December 18, 2014
CM-ACD-318	CM-ACD-318	Packaging Housekeeping Vacuum System	---	Packaging Housekeeping Vacuum Baghouse	CM-ACD-318	PM/PM ₁₀	December 18, 2014
CM-AEU-098	CM-ACD-406	C-1 (A635) Distillation System	117,000 lbs/hr mixed solvent-water feed	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-AEU-109	CM-ACD-406	D-1 (A640) Distillation System	117,000 lbs/hr mixed solvent-water feed	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-AEU-110	CM-ACD-406	D-1(A641) Distillation System	117,000 lbs/hr mixed solvent-water feed	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-AEU-111	CM-ACD-008	MCA Dissolution Mix Tank	3000 gallons	MCA Sewer Scrubber	CM-ACD-008	VOC/HAP	December 18, 2014
CM-AEU-112	CM-ACD-008	MCA Dissolution Mix Tank	3000 gallons	MCA Sewer Scrubber	CM-ACD-008	VOC/HAP	December 18, 2014
CM-TNK-401	CM-ACD-400	MCA Storage Tank	7500 gallons	MCA Tank Scrubber	CM-ACD-400	VOC/HAP	December 18, 2014
CM-TNK-402	CM-ACD-400	MCA Storage Tank	10,000 gallons	MCA Tank Scrubber	CM-ACD-400	VOC/HAP	December 18, 2014
CM-TNK-403	CM-ACD-400	MCA Storage Tank	7500 gallons	MCA Tank Scrubber	CM-ACD-400	VOC/HAP	December 18, 2014
CM-TNK-405a	N/A	Acetic Acid Storage Tank	---	N/A	N/A	VOC	September 24, 2010
CM-TNK-407	CM-ACD-406	Spent Methanol Tank	106,000 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-408	CM-ACD-406	Swing Tank	---	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-409	CM-ACD-406	Spent Methanol Tank	200,000 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-410	CM-ACD-406	Spent Methanol Tank	18,000 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-411	CM-ACD-406	Spent Methanol Tank	18,000 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
CM-TNK-412	CM-ACD-406	Spent Methanol Tank	12,000 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-413	CM-ACD-406	Reuse Methanol Tank	40,400 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-414	CM-ACD-406	Reuse Methanol Tank	40,400 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-415	CM-ACD-406	Reuse Methanol Tank	18,000 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-416	CM-ACD-406	Spent IPA Tank	150,000 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-417	CM-ACD-406	Reuse IPA Tank	18,000 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-418	CM-ACD-406	Reuse IPA Tank	21,000 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-419	CM-ACD-406	Reuse IPA Tank	18,000 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-420	CM-ACD-406	Fresh Methanol Tank	150,000 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-421	CM-ACD-406	Brine Tank	---	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-422	CM-ACD-406	Fresh IPA Tank	49,000 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-423	CM-ACD-406	Fresh IPA Tank	49,000 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
MC-TNK-294	N/A	Acetic Acid Storage Tank (T-94)	---	N/A	N/A	N/A	N/A
MC-TNK-295	N/A	Acetic Acid Storage Tank (T-95)	---	N/A	N/A	N/A	N/A
Natrosol Process Area							
NA-AEU-001	NA-ACD-001	#1 Primary Cutter	3,400 lbs/hr	Cellulose Weigh Bin Dust Collector (baghouse)	NA-ACD-001	PM/PM ₁₀	January 28, 2011
NA-AEU-002	NA-ACD-001	#1 Secondary Cutter	3,400 lbs/hr	Cellulose Weigh Bin Dust Collector (baghouse)	NA-ACD-001	PM/PM ₁₀	January 28, 2011
NA-AEU-003	NA-ACD-001	#2 Primary Cutter	3,400 lbs/hr	Cellulose Weigh Bin Dust Collector (baghouse)	NA-ACD-001	PM/PM ₁₀	January 28, 2011
NA-AEU-004	NA-ACD-001	#2 Secondary Cutter	3,400 lbs/hr	Cellulose Weigh Bin Dust Collector (baghouse)	NA-ACD-001	PM/PM ₁₀	January 28, 2011

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
NA-AEU-005	NA-ACD-001	#3 Primary Cutter	3,400 lbs/hr	Cellulose Weigh Bin Dust Collector (baghouse)	NA-ACD-001	PM/PM ₁₀	January 28, 2011
NA-AEU-006	NA-ACD-001	#3 Secondary Cutter	3,400 lbs/hr	Cellulose Weigh Bin Dust Collector (baghouse)	NA-ACD-001	PM/PM ₁₀	January 28, 2011
NA-AEU-007	NA-ACD-001	Herbold (or equivalent) Cutter	1,200 lbs/hr	Cellulose Weigh Bin Dust Collector (baghouse)	NA-ACD-001	PM/PM ₁₀	January 28, 2011
NA-AEU-008	NA-ACD-001	Herbold (or equivalent) Cutter	1,200 lbs/hr	Cellulose Weigh Bin Dust Collector (baghouse)	NA-ACD-001	PM/PM ₁₀	January 28, 2011
NA-AEU-011	NA-ACD-001	Cellulose Weigh Bin	830 ft ³	Cellulose Weigh Bin Dust Collector (baghouse)	NA-ACD-001	PM/PM ₁₀	January 28, 2011
NA-AEU-012	NA-ACD-001	Cellulose Weigh Bin	830 ft ³	Cellulose Weigh Bin Dust Collector (baghouse)	NA-ACD-001	PM/PM ₁₀	January 28, 2011
NA-AEU-013	NA-ACD-004	Intermediate Cellulose receiver	850 ft ³	Intermediate Receiver Dust Collector (baghouse)	NA-ACD-004	PM/PM ₁₀	January 28, 2011
NA-ACD-002	NA-ACD-002	Cellulose Preparation Housekeeping Vacuum System	---	Cellulose Preparation Housekeeping Vacuum Dust Collector (baghouse)	NA-ACD-002	PM/PM ₁₀	January 28, 2011
NA-ACD-003	NA-ACD-003	Cellulose Reactor Conveyance System including two cyclones	---	Cellulose Reactor Conveyance System ZPF (baghouse)	NA-ACD-003	PM/PM ₁₀	January 28, 2011
NA-AEU-014	NA-ACD-101	Pre-Mixer #1	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-015	NA-ACD-101	Pre-Mixer #2	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-016	NA-ACD-101	#1 Reactor	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-017	NA-ACD-101	#2 Reactor	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-018	NA-ACD-101	#3 Reactor	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-019	NA-ACD-101	#4 Reactor	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-020	NA-ACD-101	#1 Hold Tub	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-021	NA-ACD-101	#2 Hold Tub	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
NA-AEU-022	NA-ACD-101	#1 Caustic/TBA Mix Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-023	NA-ACD-101	#2 Caustic/TBA Mix Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-TNK-370	NA-AEE-027	Emergency Blow Tank	---	N/A	N/A	N/A	January 28, 2011
NA-AEU-024	NA-ACD-101	#1 TBA Centrifuge	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-025	NA-ACD-101	#2 TBA Centrifuge	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-026	NA-ACD-101	#1 Reslurry Tank	2,800 gallons	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-027	NA-ACD-101	#2 Reslurry Tank	2,800 gallons	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-028	NA-ACD-101	#3 Reslurry Tank	2,800 gallons	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-029	NA-ACD-101	#4 Reslurry Tank	3,800 gallons	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-031	NA-ACD-101	#5 Centrifuge	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-033	NA-ACD-101	Turbilizer	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-034	NA-ACD-101	Allis-Chalmers Washer and Crusher/Drag Chain System	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-035	NA-ACD-101	#1 Dump Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-036	NA-ACD-101	#2 Dump Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-037	NA-ACD-101	#6 Centrifuge	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-038	NA-ACD-101	#7 Centrifuge	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-040	NA-ACD-101	#2 Viscosity Reduction Vessel	3,800 gallons	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-041	NA-ACD-101	#3 Viscosity Reduction Vessel	3,800 gallons	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
NA-AEU-042	NA-ACD-101	#4 Viscosity Reduction Vessel	3,800 gallons	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-045	NA-ACD-101	#3 Centrifuge	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-046	NA-ACD-101	#4 Centrifuge	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-047	NA-ACD-101	#1 Blend Tub	11,400 gallons	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-048	NA-ACD-101	#2 Blend Tub	11,400 gallons	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-049	NA-ACD-101	#3 Blend Tub	11,400 gallons	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-050	NA-ACD-101	#4 Blend Tub	11,400 gallons	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-051	NA-ACD-101	#1 Dryer	100,000 lbs/day	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-052	NA-ACD-101	#2 Dryer	(combined for #1 and #2 Dryers)	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-055	NA-ACD-101	#1 Condensate Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-AEU-060	NA-ACD-101	#2 Condensate Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	January 28, 2011
NA-ACD-103	NA-ACD-103	Dryer Unloading Conveyance System including cyclone	---	Dryer Unloading Conveyance System ZPF (baghouse)	NA-ACD-103	PM/PM ₁₀	January 28, 2011
NA-AEU-062-065	NA-ACD-201a; NA-ACD-202a (parallel)	Four Dryer Storage Bins (DSB) (#1-#4)	---	DSB to South Mill System Dust Collector (baghouse); DSB to East Mill System Dust Collector (baghouse)	NA-ACD-201a; NA-ACD-202a (parallel)	PM/PM ₁₀	January 28, 2011
NA-AEU-066	NA-ACD-201c	Screener #1 – South Mill System	7,000 lbs/hr	Netzch-Condux Grinding Mill (North) Dust Collector (baghouse)	NA-ACD-201c	PM/PM ₁₀	January 28, 2011
NA-AEU-067	NA-ACD-201b	Screener #2 – South Mill System	7,000 lbs/hr	Netzch-Condux Grinding Mill (South) Dust Collector (baghouse)	NA-ACD-201b	PM/PM ₁₀	January 28, 2011

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
NA-AEU-068	NA-ACD-201c	#1 Mill – South Mill System	7,000 lbs/hr	Netzch-Condux Grinding Mill (North) Dust Collector (baghouse)	NA-ACD-201c	PM/PM ₁₀	January 28, 2011
NA-AEU-069	NA-ACD-201b	#2 Mill – South Mill System	7,000 lbs/hr	Netzch-Condux Grinding Mill (South) Dust Collector (baghouse)	NA-ACD-201b	PM/PM ₁₀	January 28, 2011
NA-AEU-070	NA-ACD-202b	Screener #1 – East Mill System	7,000 lbs/hr	Bauermeister Grinding Mill Dust Collector (baghouse)	NA-ACD-202b	PM/PM ₁₀	January 28, 2011
NA-AEU-071	NA-ACD-202b	Screener #2 – East Mill System	7,000 lbs/hr	Bauermeister Grinding Mill Dust Collector (baghouse)	NA-ACD-202b	PM/PM ₁₀	January 28, 2011
NA-AEU-072	NA-ACD-202b	#1 Mill – East Mill System	7,000 lbs/hr	Bauermeister Grinding Mill Dust Collector (baghouse)	NA-ACD-202b	PM/PM ₁₀	January 28, 2011
NA-AEU-073	NA-ACD-202b	#2 Mill – East Mill System	7,000 lbs/hr	Bauermeister Grinding Mill Dust Collector (baghouse)	NA-ACD-202b	PM/PM ₁₀	January 28, 2011
NA-AEU-080	NA-ACD-203; or NA-ACD-204	Six Blend Storage Bins (#1 - #6)	---	Blend Storage Bins Bottom Turnhead ZPF; Blend Storage Bins Top Turnhead ZPF (baghouses)	NA-ACD-203; or NA-ACD-204	PM/PM ₁₀	January 28, 2011
NA-ACD-205	NA-ACD-205	North (#1) Air Mix Blender Loading Cyclone	---	North (#1) Air Mix Blender Loading ZPF (baghouse)	NA-ACD-205	PM/PM ₁₀	January 28, 2011
NA-ACD-206	NA-ACD-206	South (#2) Air Mix Blender Loading Cyclone	---	South (#2) Air Mix Blender Loading ZPF (baghouse)	NA-ACD-206	PM/PM ₁₀	January 28, 2011
NA-AEU-081	NA-ACD-210	#1 Air Mix Blender (AMB)	---	#1 Air Mix Blender Dust Collector	NA-ACD-210	PM/PM ₁₀	January 28, 2011
NA-AEU-082	NA-ACD-211	#2 Air Mix Blender	---	#2 Air Mix Blender Dust Collector	NA-ACD-211	PM/PM ₁₀	January 28, 2011
NA-AEU-083	NA-ACD-213	AMB Weigh Bin #1	---	AMB Weigh Bin #1 (North) Bag Filter Breather (baghouse)	NA-ACD-213	PM/PM ₁₀	January 28, 2011
NA-AEU-084	NA-ACD-214	AMB Weigh Bin #2	---	AMB Weigh Bin #2 (South) Bag Filter Breather (baghouse)	NA-ACD-214	PM/PM ₁₀	January 28, 2011
NA-AEU-085	NA-ACD-215	AMB Weigh Bin #3	---	AMB Weigh Bin #3 (Southeast) Bag Filter Breather (baghouse)	NA-ACD-215	PM/PM ₁₀	January 28, 2011
NA-ACD-209	NA-ACD-209	Addback Hopper	---	Addback Hopper Dust Collector (baghouse)	NA-ACD-209	PM/PM ₁₀	January 28, 2011

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
NA-ACD-212	NA-ACD-212	Packaging Housekeeping Vacuum System	---	N/A	NA-ACD-212	PM/PM ₁₀	January 28, 2011
NA-AEU-100	NA-ACD-208	Packaging System	200,000 lbs/day	Air Mix Blender Unload to Packout ZPF (baghouse)	NA-ACD-208	PM/PM ₁₀	January 28, 2011
NA-AEU-086	NA-ACD-101	Distillation Column System A-670	21,000 gallons/hr solvent feed combined three columns	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC	January 28, 2011
NA-AEU-087	NA-ACD-101	Distillation Column System A-672	21,000 gallons/hr solvent feed combined three columns	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC	January 28, 2011
NA-AEU-088	NA-ACD-101	Distillation Column System A-673	21,000 gallons/hr solvent feed combined three columns	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC	January 28, 2011
NA-AEU-095	NA-ACD-301	Three Ethylene Oxide Scale Tanks	---	EO/PO Emergency Scrubber	NA-ACD-301	VOC/HAP	January 28, 2011
NA-TNK-330	NA-ACD-301	Ethylene Oxide Storage/Transfer/Inerting System	---	EO/PO Emergency Scrubber	NA-ACD-301	VOC/HAP	January 28, 2011
NA-TNK-341	NA-ACD-101	Spent TBA Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC	January 28, 2011
NA-TNK-342	NA-ACD-101	Fresh TBA Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC	January 28, 2011
NA-TNK-343	NA-ACD-101	Fresh TBA Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC	January 28, 2011
NA-TNK-347	NA-ACD-101	Reuse TBA Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC	January 28, 2011
NA-TNK-344	NA-ACD-101	Spent Acetone Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC	January 28, 2011
NA-TNK-348	NA-ACD-101	Reuse Acetone Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC	January 28, 2011

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
NA-TNK-349	NA-ACD-101	Reuse Acetone Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC	January 28, 2011
NA-TNK-345	NA-ACD-101	Weak Acetone Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC	January 28, 2011
NA-AEU-097	NA-AEU-097	Glyoxal Storage Tank	---	N/A	N/A	N/A	January 28, 2011
Klucel Process Area							
KL-AEU-001	KL-ACD-001	Cellulose Shredder #1 – primary and secondary	---	Klucel Cellulose Bin Fabric Filter	KL-ACD-001	PM/PM ₁₀	November 19, 2015
KL-AEU-002	KL-ACD-001	Cellulose Shredder #2 – primary and secondary	---	Klucel Cellulose Bin Fabric Filter	KL-ACD-001	PM/PM ₁₀	November 19, 2015
KL-ACD-002	KL-ACD-002	Process Conveyance System including cyclone	---	Process Conveyance System ZPF (fabric filter)	KL-ACD-002	PM/PM ₁₀	November 19, 2015
KL-AEU-003	KL-ACD-001	Condux Cutter	---	Klucel Cellulose Bin Fabric Filter	KL-ACD-001	PM/PM ₁₀	November 19, 2015
KL-AEU-004	KL-ACD-001	Cellulose Weigh Bin	---	Klucel Cellulose Bin Fabric Filter	KL-ACD-001	PM/PM ₁₀	November 19, 2015
KL-AEU-037	KL-ACD-001	Cellulose Shredder #3 – primary and secondary	---	Klucel Cellulose Bin Fabric Filter	KL-ACD-001	PM/PM ₁₀	November 19, 2015
KL-AEU-005	KL-ACD-101	#2 Reactor and associated feed and discharge systems	6,600 gallons	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	November 19, 2015
KL-AEU-038	KL-ACD-101	#3 Reactor	6,600 gallons	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	November 19, 2015
KL-AEU-006	KL-ACD-102	Ambergum Mix Tank with associated vacuum pump	4,000 gallons	Venturi Scrubber	KL-ACD-102	VOC/HAP	November 19, 2015
KL-AEU-007	KL-ACD-101	Purification Centrifuge #1	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	November 19, 2015
KL-AEU-008	KL-ACD-101	Purification Centrifuge #2	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	November 19, 2015
KL-AEU-009	KL-ACD-101	Purification Centrifuge #3	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	November 19, 2015
KL-AEU-010	KL-ACD-101	Purification Wash Tub #1	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	November 19, 2015
KL-AEU-011	KL-ACD-101	Purification Wash Tub #2	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	November 19, 2015
KL-AEU-012	KL-ACD-101	Purification Wash Tub #3	5,300 gallons	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	November 19, 2015
KL-AEU-014	KL-ACD-103	Acetic Acid Head Tank and Transfer System	---	Acetic Acid Scrubber	KL-ACD-103	VOC	November 19, 2015
KL-AEU-015	N/A	Dryer #1	42" x 60"	N/A	N/A	N/A	November 19, 2015
KL-AEU-016	N/A	Dryer #2	42" x 60"	N/A	N/A	N/A	November 19, 2015
KL-AEU-017	N/A	Dryer Feed Tub	---	N/A	N/A	N/A	November 19, 2015
KL-AEU-018	N/A	Dryer Centrifuge #1	---	N/A	N/A	N/A	November 19, 2015

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
KL-AEU-019	N/A	Dryer Centrifuge #2	---	N/A	N/A	N/A	November 19, 2015
KL-AEU-044	KL-ACD-101	Dryer Centrifuge #3	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	November 19, 2015
KL-AEU-020	N/A	Shredder #1	---	N/A	N/A	N/A	November 19, 2015
KL-AEU-021	N/A	Shredder #2	---	N/A	N/A	N/A	November 19, 2015
KL-AEU-022	N/A	Shredder #3	---	N/A	N/A	N/A	November 19, 2015
KL-AEU-023	N/A	Shredder #4	---	N/A	N/A	N/A	November 19, 2015
KL-AEU-040	N/A	Dryer/Shredder Unit #5	---	N/A	N/A	N/A	November 19, 2015
KL-AEU-024	N/A	Mill #1	---	N/A	N/A	N/A	November 19, 2015
KL-AEU-025	N/A	Mill #2	---	N/A	N/A	N/A	November 19, 2015
KL-AEU-026	N/A	Mill #3	---	N/A	N/A	N/A	November 19, 2015
KL-AEU-027	N/A	Mill #4	---	N/A	N/A	N/A	November 19, 2015
KL-AEU-041	N/A	Mill #5	---	N/A	N/A	N/A	November 19, 2015
KL-AEU-028	KL-ACD-201A	Air Mix Blender #1	---	Blender Fabric Filter #1	KL-ACD-201A	PM/PM ₁₀	November 19, 2015
KL-AEU-029	KL-ACD-201B	Air Mix Blender #2	---	Blender Fabric Filter #2	KL-ACD-201B	PM/PM ₁₀	November 19, 2015
KL-AEU-030	KL-ACD-201C	Air Mix Blender #3	---	Blender Fabric Filter #3	KL-ACD-201C	PM/PM ₁₀	November 19, 2015
KL-AEU-042	KL-ACD-201	Air Mix Blender #4	---	Blender Fabric Filter #4	KL-ACD-201D	PM/PM ₁₀	November 19, 2015
KL-AEU-043	KL-ACD-201E	Fluidized mill grinder and product handling	---	Blender Fabric Filter #5	KL-ACD-201E	PM/PM ₁₀	November 19, 2015
KL-AEU-031	KL-ACD-202	Automated Packaging System including one 50 cu. ft. fill hopper and associated conveyor	6,000 lbs/hr	Packaging/Addback Fabric Filter	KL-ACD-202	PM/PM ₁₀	November 19, 2015
KL-AEU-032	KL-ACD-202	Addback Hopper	---	Packaging/Addback Fabric Filter	KL-ACD-202	PM/PM ₁₀	November 19, 2015
KL-ACD-202	KL-ACD-202	KPR Process Vacuum System	---	Housekeeping Vacuum Fabric Filter	KL-ACD-202	PM/PM ₁₀	November 19, 2015
KL-ACD-203	KL-ACD-203	Housekeeping Vacuum System	---	Housekeeping Vacuum Fabric Filter	KL-ACD-203	PM/PM ₁₀	November 19, 2015
KL-AEU-033	KL-ACD-101	Separator	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	November 19, 2015
KL-AEU-034	KL-ACD-101	Extraction Column and Feed Tank	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	November 19, 2015

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
KL-AEU-035	KL-ACD-101	Distillation Column (A-671)	27 gallons/min	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	November 19, 2015
KL-AEU-036	KL-ACD-101	Product Cooler	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	November 19, 2015
KL-TNK-306	KL-ACD-101	Extraction Feed Tank	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	November 19, 2015
KL-TNK-307	KL-ACD-101	Fresh Heptane Tank (T-7)	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	November 19, 2015
KL-TNK-337	KL-ACD-101	Fresh Heptane Tank (T-37)	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	November 19, 2015
KL-TNK-308	KL-ACD-101	Fresh TBA Tank (T-8)	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	November 19, 2015
KL-TNK-322	KL-ACD-101	Spent Solvent Tank (T-22)	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	November 19, 2015
KL-TNK-309	KL-ACD-101	Distillation Feed Tank (T-9)	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	November 19, 2015
KL-TNK-303	KL-TNK-303	Emergency Blow Tank	---	N/A	N/A	N/A	November 19, 2015
KL-TNK-363	KL-ACD-302	Propylene Oxide Storage Tank	---	EO/PO Emergency Scrubber	KL-ACD-302	VOC/HAP	November 19, 2015
KL-TNK-364	KL-ACD-302	Propylene Oxide Scale Tank	---	EO/PO Emergency Scrubber	KL-ACD-302	VOC/HAP	November 19, 2015
KL-AEU-039	KL-ACD-302	Pressure Bleed for PO Unloading / Storage / Transfer	---	EO/PO Emergency Scrubber	KL-ACD-302	VOC/HAP	November 19, 2015
Ethyl Cellulose (EC) Production Area							
EC-AEU-001	EC-ACD-001	Cellulose Shredder #1	---	Cellulose Conveyance Cyclone	EC-ACD-001	PM/PM ₁₀	February 24, 2006
EC-AEU-003	EC-ACD-001	#11 Autoclave	4,700 gallons	Vent Scrubber System	EC-ACD-101	PM/PM ₁₀	February 24, 2006
EC-AEU-004	EC-ACD-001	#12 Autoclave	4,700 gallons	Vent Scrubber System	EC-ACD-101	PM/PM ₁₀	February 24, 2006
EC-AEU-005	EC-ACD-001	#13 Autoclave	4,700 gallons	Vent Scrubber System	EC-ACD-101	PM/PM ₁₀	February 24, 2006
EC-AEU-006	N/A	Wetting Screw	---	N/A	N/A	N/A	February 24, 2006
EC-AEU-007	N/A	Loading Screw	---	N/A	N/A	N/A	February 24, 2006
EC-AEU-008	N/A	Leach Tub	3,000 gallons	N/A	N/A	N/A	February 24, 2006
EC-AEU-009	N/A	Leach Tub	3,000 gallons	N/A	N/A	N/A	February 24, 2006
EC-AEU-011	N/A	Wet Grinding Mill #2	---	N/A	N/A	N/A	February 24, 2006
EC-AEU-012	N/A	Wash Tub	3,000 gallons	N/A	N/A	N/A	February 24, 2006
EC-AEU-013	N/A	Wash Tub	3,000 gallons	N/A	N/A	N/A	February 24, 2006
EC-AEU-014	N/A	Wash Tub	3,000 gallons	N/A	N/A	N/A	February 24, 2006
EC-AEU-015	N/A	Centrifuge Feed Tubs	---	N/A	N/A	N/A	February 24, 2006
EC-AEU-016	N/A	Centrifuge #2	---	N/A	N/A	N/A	February 24, 2006
EC-AEU-017	N/A	Centrifuge #3	---	N/A	N/A	N/A	February 24, 2006
EC-AEU-018	EC-ACD-201	Vacuum Dryer #1	---	Wet Scrubber Vacuum Vent #1	EC-ACD-201	PM/PM ₁₀	February 24, 2006

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
EC-AEU-019	EC-ACD-206	Vacuum Dryer #2	---	Wet Scrubber Vacuum Vent #2	EC-ACD-206	PM/PM ₁₀	February 24, 2006
EC-AEU-020	EC-ACD-202	Screener System	---	Dryer Unloading ZPF (baghouse)	EC-ACD-202	PM/PM ₁₀	February 24, 2006
EC-AEU-021	EC-ACD-202	Milling System	---	Dryer Unloading ZPF (baghouse)	EC-ACD-202	PM/PM ₁₀	February 24, 2006
EC-AEU-022	EC-ACD-205	Air Mix Blender	---	Air Mix Blender ZPF (baghouse)	EC-ACD-205	PM/PM ₁₀	February 24, 2006
EC-AEU-023	EC-ACD-204	Packaging System	---	Packroom Vacuum Dust Collector (baghouse)	EC-ACD-204	PM/PM ₁₀	February 24, 2006
EC-AEU-024	EC-ACD-202	Tote Bin Unloading System	---	Dryer Unloading ZPF (baghouse)	EC-ACD-202	PM/PM ₁₀	February 24, 2006
EU-AEU-029	EC-ACD-101	Stripper Column	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EU-AEU-029	EC-ACD-101	Still Preheater	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EU-AEU-029	EC-ACD-101	Distillation Column	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EU-AEU-029	EC-ACD-101	Scrubber Feed Cooler #A	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EC-TNK-294	EC-TNK-294	Acetic Acid Storage Tank	---	N/A	N/A	N/A	February 24, 2006
EC-TNK-310	EC-ACD-101	Low Wine Feed Tank	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EC-TNK-315	EC-ACD-101	Low Wine Feed Tank	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EC-TNK-301	EC-ACD-101	Low Pressure Residue Tank	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EC-TNK-322	EC-ACD-101	Low Wine Storage Tank	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EC-TNK-325	EC-ACD-101	Low Wine Storage Tank	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EC-TNK-327	EC-ACD-101	Low Wine Storage Tank	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EC-TNK-345	EC-ACD-101	Low Wine High-Pressure Tank #1	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EC-TNK-346	EC-ACD-101	Low Wine High-Pressure Tank #2	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EC-TNK-326	EC-ACD-101	Ethyl Chloride Storage Tank	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EC-TNK-328	EC-ACD-101	Ethyl Chloride Storage Tank	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EC-TNK-348	EC-ACD-101	Ethyl Chloride Storage Tank	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
Technical Facility							
TF-AEU-001-004	TF-ACD-001	Pilot-Scale 10-gal Reactor Line	---	Process Scrubber	TF-ACD-001	VOC/HAP	December 7, 2009

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
TF-AEU-007	TF-ACD-001	Hold Tub	---	Process Scrubber	TF-ACD-001	VOC/HAP	December 7, 2009
TF-AEU-008	TF-ACD-001	Effluent Tub	---	Process Scrubber	TF-ACD-001	VOC/HAP	December 7, 2009
TF-AEU-009	TF-ACD-001	Purification Tub	---	Process Scrubber	TF-ACD-001	VOC/HAP	December 7, 2009
TF-AEU-010	TF-ACD-001	Mill	---	Process Scrubber	TF-ACD-001	VOC/HAP	December 7, 2009
TF-AEU-015-017	TF-ACD-001	Three Pulverizers	---	Process Scrubber	TF-ACD-001	VOC/HAP	December 7, 2009
TF-AEU-023-024	TF-ACD-001	Two Screeners	---	Process Scrubber	TF-ACD-001	VOC/HAP	December 7, 2009
TF-AEU-006	TF-ACD-001	250-gal Reactor	---	Process Scrubber	TF-ACD-001	VOC/HAP	December 7, 2009
TF-AEU-011-012	TF-ACD-001	Two Dryers	---	Process Scrubber	TF-ACD-001	VOC/HAP	December 7, 2009
TF-AEU-013		Bepex Dryer	---				N/A
TF-AEU-014		Littleford Mixer	---				N/A
TF-TNK-510	TF-ACD-001	Acetone/Methanol Tank #1	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
TF-TNK-520	TF-ACD-001	Acetone/Methanol Tank #2	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
TF-TNK-530	TF-ACD-001	Isopropyl Alcohol Tank	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
TF-TNK-540	TF-ACD-001	Methanol Tank	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
TF-TNK-550	TF-ACD-001	Acetone Tank	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
TF-TNK-560	TF-ACD-001	Distilled Solvent Tank	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
TF-TNK-570	TF-ACD-001	Spent Solvent Tank	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
TF-AEU-050	TF-ACD-001	West Dust Knockdown Pot	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
TF-AEU-013-016	TF-ACD-001	Four Mix Tanks	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
TF-AEU-056	TF-ACD-001	Autoclave	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
TF-AEU005	TF-ACD-001	Blow Tank	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
TF-AEU-053-055	TF-ACD-001	Three Purification Vessels	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
TF-AEU-020-022	TF-ACD-001	Three Wash Tubs	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
TF-AEU-043-044	TF-ACD-001	Two EO/PO Storage Tanks	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
Waste Water Operations**							
WT-AEU-001	Fugitive	Neutralization/Containment Basin (CDLNS)	---	N/A	N/A	N/A	N/A
WT-AEU-002	Fugitive	HEC/HPC Wet Well	---	N/A	N/A	N/A	N/A
WT-AEU-003	Fugitive	Main Lift Station	---	N/A	N/A	N/A	N/A

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
WT-AEU-004	Fugitive	Retention Basin	---	N/A	N/A	N/A	N/A
WT-AEU-005	Fugitive	Equalization Basin	---	N/A	N/A	N/A	N/A
WT-AEU-006	Fugitive	Purging Station to Hopewell Regional WWTP	---	N/A	N/A	N/A	N/A
MCA Chlorine Unloading Platform***							
MC-AEU-001	MC-ACD-001	Chlorine Unloading	--	Chlorine Scrubber	MC-ACD-001	Chlorine	April 3, 2003

*The Size/Rated capacity and PCD efficiency is provided for informational purposes only, and is not an applicable requirement.

**Wastewater operations are subject to recordkeeping requirements of 40 CFR 63, Subpart UUUU only.

***Limits on the chlorine unloading area are State-Only Enforceable.

III. CMC Process Area

1. **CMC Process Area – Limitations – Emission Controls** – Particulate matter and PM₁₀ emissions from the CMC process, including the two CMC cellulose weigh/storage bins (CM-ACD-001) shall be controlled by baghouses. Each fabric filter listed in Condition 8 shall be equipped with a device to continuously measure the differential pressure drop across the fabric filter. The devices shall be installed in an accessible location and shall be maintained by the permittee such that they are in proper working order at all times. The baghouses shall be provided with adequate access for inspection.
(9 VAC 5-80-110 and Condition 2 of the 12/18/14 Permit)
2. **CMC Process Area – Limitations – Emission Controls** – Volatile Organic Compound emissions from the CMC process solvent recovery system and subsequent wastewater streams shall be controlled by the following operating practices:
 - a. The installation and operation of a spiral heat exchanger on the bottom stream of the distillation column C-1; and
 - b. The installation and operation of limit switches on all automatic valves on the vent streams from the CMC distillation columns (Ref. Nos. C-1, D-1, and D-2).

The heat exchanger and automatic valve systems shall be provided with adequate access for inspection.

(9 VAC 5-80-110 and Condition 3 of the 12/18/14 Permit)

3. **CMC Process Area – Limitations – Emission Controls** – Volatile Organic Compound emissions from the CMC Process Area point sources shall be controlled as indicated in the table below. Each scrubber listed below shall be equipped with a scrubber liquid flow meter. The flow meters shall be installed in an accessible location and shall be maintained by the permittee such that they are in proper working order at all times. The scrubbers shall be provided with adequate access for inspection and shall be in operation when any of the equipment is operating.

Emission/Process Unit	Control Device
Three Alkali Cellulose Vessels (CM-AEU-011, 012, 013) during loading phase only	Alkali Cellulose Scrubber – CM-ACD-005
Three Reactor Vessels (CM-AEU-017, 018, 019) during loading phase only	Oxygen Scrubber – CM-ACD-004

Emission/Process Unit	Control Device
Three Alkali Cellulose Vessels (CM-AEU-011, 012, 013) during all phases except loading; Three Reactor Vessels (CM-AEU-017, 018, 019) during all phases except loading; Two Hold Tubs (CM-AEU-020, 021) Five Reslurry Tubs (CM-AEU-022, 023, 024, 025, 026) Five Purification Centrifuges (CM-AEU-027, 028, 029, 030, 031) Two Caustic/IPA Mix Tanks (CM- AEU-015, 016)	CMC Building Scrubber – CM-ACD-006
CMC Dryer #3 (CM-AEU-032) CMC Dryer #4 (CM-AEU-033) Four Blend Tubs (CM-AEU-038, 039, 040, 041) Two Drying Centrifuges (CM-AEU-036, 037)	West Dryer Scrubber – CM-ACD-201
CMC Dryer #5 (CM-AEU-047) CMC Dryer #6 (CM-AEU-048) Two Blend Tubs (CM-AEU-053, 054) Two Drying Centrifuges (CM-AEU-051, 052)	East Dryer Scrubber – CM-ACD-203
Five Methanol Spent Tanks (CM-TNK-407, 409, 410, 411, 412) Three Methanol Reuse Tanks (CM-TNK-413, 414, 415) Methanol Fresh Tank (CM-TNK-420) IPA Spent Tank (CM-TNK-416) Three IPA Reuse Tanks (CM-TNK-417, 418, 419) Two IPA Fresh Tanks (CM-TNK-421, 422) Three Distillation Columns (CM-AEU-098, 109, 110)	Field Tank Scrubber – CM-ACD-406
Three MCA Storage Tanks (CM-TNK-401, 402, 403)	MCA Tank Scrubber – CM-ACD-400
Two MCA Mix Tanks (CM-AEU-111, CM-AEU-112)	MCA Scrubber – ACD-008

(9 VAC 5-80-110 and Condition 4 of the 12/18/14 Permit)

4. **CMC Process Area – Limitations – VOC Work Practice Standards** – At all times the disposal of volatile organic compounds shall be accomplished by taking measures to the extent practicable, consistent with air pollution control practices for minimizing emissions. Volatile organic compounds shall not be intentionally spilled, discarded in sewers which are not connected to a

treatment plant, or stored in open containers, or handled in any other manner that would result in evaporation beyond that consistent with air pollution practices for minimizing emissions.
(9 VAC 5-80-110 and Condition 6 of the 12/18/14 Permit)

5. **CMC Process Area – Limitations – Emission Standard** – VOC emissions from the CMC Process Area shall be controlled by the use of solvent recovery and process scrubbers having an overall VOC control efficiency of at least 99% on a mass basis, calculated monthly as a six-month rolling average. Compliance with this requirement shall be demonstrated by material balance according to the following equation:

$$\sum_{i=1}^{i=6} (V_T - V_A)_i / \sum_{i=1}^{i=6} (V_T)_i \times 100 \geq 99\%$$

where:

V_T = mass of VOC (in pounds) circulated/used through the process area during a one-month period, as calculated from measured flow and VOC concentration of still output

V_A = mass of VOC (in pounds) lost to the air from point, nonpoint and fugitive sources which cannot be accounted for as other losses (including but not limited to reaction consumption, recycle/recovery, product retention, sewer loss, product transfer and salt/acetone formation), as determined by material balance, using the equation:

$$V_A = V_{LOSS} - V_{OTHER}$$

where:

V_{LOSS} = mass of final inventory from current month, minus mass of starting inventory from current month, minus mass of solvent purchased in the current 1-month period (as determined from purchase records and cost sheets which show changes in inventory)

V_{OTHER} = mass of non-air VOC losses which include but are not limited to: reaction consumption, recycle/recovery, product retention, sewer loss, product transfer and salt/acetone formation

i = month number one through month number six of the 6-month rolling average

- a. Sewer losses shall be calculated based on continuous flow-weighted composite samples of wastewater and physical flow measurements.
- b. Product residual losses shall be determined from previous sampling and product-specific data on solvent remaining in the product as it leaves the plant.
- c. At least once each semi-annual period, the permittee shall conduct a 7-day sampling and analysis evaluation to verify the salt conversion factor mass balance correction. At the conclusion of each evaluation, the permittee shall adjust the salt conversion factors, for future

use, as necessary to incorporate the results of the evaluation. Within 45 days of the completion of each evaluation, the permittee shall submit a report to the Piedmont Regional Office. Each report shall include the results of the evaluation and any adjustment to the salt conversion factors. After the completion of four such evaluations, the permittee may petition DEQ to reduce or eliminate these periodic evaluations. Results of the compliance calculation shall be reported to the Virginia Department of Environmental Quality annually, and records will be maintained for a period of at least five years.

(9 VAC 5-80-110, Conditions E.5 and E.13 of the 7/12/96 RACT Agreement and Condition 8 of the 12/18/14 Permit)

6. **CMC Process Area – Limitations – Production** – The production of CMC from the CMC Process Area shall not exceed 53,000,000 lb/yr, calculated monthly as the sum of the previous consecutive 12 month period.

(9 VAC 5-80-110 and Condition 7 of the 12/18/14 Permit)

7. **CMC Process Area – Limitations – Emission Limits** – Emissions from the operation of the CMC process shall not exceed the limits specified below, calculated monthly as the sum of the previous consecutive 12 month period:

Volatile Organic Compounds 422 tons/yr

(9 VAC 5-80-110 and Condition 9 of the 12/18/14 Permit)

8. **CMC Process Area – Limitations – Emission Limits** – Particulate Matter and PM₁₀ emissions from the operation of the CMC shredding and packaging operations, as exhausted through the baghouses listed below, shall not exceed the following limits:

Reference No.	Description	Emission Limits	
		lb/hr	tons/yr
CM-ACD-001	Cellulose Prep Area (Shredders/Storage Bins)	0.4	1.4
CM-ACD-002	Cellulose Prep Area (Shredders/Storage Bins)	0.5	2.0
CM-ACD-009	Cellulose Prep Area (Cellulose Surge Bin)	0.5	2.0
CM-ACD-309	#1 Mill Feed Baghouse	0.2	0.9
CM-ACD-310	#2 Mill Feed Baghouse	0.2	0.9
CM-ACD-311	Regrind Mill Feed Dust Baghouse	0.2	0.9
CM-ACD-312	#1 Mill Feed Product Dust Baghouse	0.5	2.0
CM-ACD-313	#2 Mill Feed Product Dust Baghouse	0.5	2.0
CM-ACD-314	Regrind Mill Product Baghouse	0.5	2.0
CM-ACD-315	#1 Blender Baghouse (Convey)	0.3	0.5
CM-ACD-315	#1 Blender Baghouse (Pulse)	0.6	0.5
CM-ACD-316	#2 Blender Baghouse (Convey)	0.3	0.5
CM-ACD-316	#2 Blender Baghouse (Pulse)	0.6	0.5
CM-ACD-317	Custom Blender Dust Collector	0.3	0.5
CM-ACD-318	Vacuum Baghouse Dust Collector	0.1	0.5
CM-ACD-319	Aspirator Dust Collector	0.2	0.8

Reference No.	Description	Emission Limits	
		lb/hr	tons/yr
CMC-ACD-301 through CMC-ACD-308	Dryer Storage Bin Vent Filters	0.1	0.5
Totals		6.0	18.4

(9 VAC 5-80-110 and Condition 10 of the 12/18/14 Permit)

9. **CMC Process Area – Limitations – Visible Emission Limit** – Visible emissions from the CMC Process Area baghouses shall not exceed 5% opacity as determined by EPA Method 9 (reference 40 CFR Part 60, Appendix A). This condition applies at all times except during startup, shutdown and malfunction.

(9 VAC 5-80-110 and Condition 11 of the 12/18/14 Permit)

10. **CMC Process Area – Limitations – Operating Limits** – The permittee shall maintain the daily average scrubber pressure drop and scrubber liquid flow rate within the values in this Condition. The permittee shall collect the scrubber pressure drop and scrubber liquid flow rate data according to §63.5545, reducing the scrubber parameter data to daily averages, and maintaining the daily scrubber parameter values within the range of values in this Condition. This permit may be administratively amended to change the values upon approval of a newer compliance demonstration.

<u>Control Device</u>	<u>Daily Average Operating Limit</u>
CM-ACD-006	Liquid Flow: ≥ 6.7 gallons per minute Pressure Drop: ≤ 10.0" WC
CM-ACD-005	Liquid Flow: ≥ 2.3 gallons per minute Pressure Drop: ≤ 10.0" WC
CM-ACD-004	Liquid Flow: ≥ 2.9 gallons per minute Pressure Drop: ≤ 12.0" WC
CM-ACD-201	Liquid Flow: ≥ 2.3 gallons per minute Pressure Drop: ≤ 2.0" WC
CM-ACD-203	Liquid Flow: ≥ 3.6 gallons per minute Pressure Drop: ≤ 2.0" WC
CM-ACD-406	Liquid Flow: ≥ 5.1 gallons per minute Pressure Drop: ≤ 2.0" WC

(9 VAC 5-80-110, 40 CFR 63.5505 and Table 2 to Subpart UUUU of Part 63)

11. **CMC Process Area – Monitoring** – The CMC Process Area VOC still output shall be continuously measured and the totalized flow recorded once per shift.

(9 VAC 5-80-110 and Condition E.10 of the 7/12/96 RACT Agreement)

12. **CMC Process Area – Monitoring** – A monthly inspection shall be conducted on each fabric filter listed in Condition 8 (including a visual inspection of structural integrity and a differential pressure reading of 0.2 to 15.0 inches water) to ensure the proper operation of each control system. The permittee shall maintain records of the results of the results of the monthly inspections and details of any corrective actions taken as a result of these inspections. These records shall be available onsite for inspection by the DEQ and shall be current for the most recent five years.
(9 VAC 5-80-110 E)
13. **CMC Process Area – Monitoring** – Each fabric filter subject to Condition 9 shall be observed visually at least once each operating month for at least a brief time period to determine which emission units have any visible emissions (does not include condensed water vapor/steam), unless a 40 CFR 60, Appendix A, Method 9 visible emissions evaluation is performed on the emissions unit. Each emissions unit observed having any visible emissions shall be followed up with a 40 CFR 60, Appendix A, Method 9 visible emissions evaluation unless the visible emission condition is corrected as expeditiously as possible and recorded, and the cause and corrective measures taken are recorded.
(9 VAC 5-80-110 E)
14. **CMC Process Area – 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 Piedmont Regional Office. These records shall include, but are not limited to:
- a. Annual VOC emissions from the CMC Process Area, calculated monthly as the sum of each consecutive twelve (12) month period, and any emission factors, material throughputs or material balance calculations used in calculating these emissions.
 - b. The annual production of CMC, calculated monthly as the sum of the previous consecutive 12 months' production.
 - c. All records necessary to demonstrate compliance with the emission standard contained in Condition 5, including:
 - inventory records, purchase records and cost sheets which show changes in inventory;
 - cumulative records of solvent throughput as specified in Condition 11;
 - wastewater sampling and flow measurement data;
 - derivation loss correlation data;
 - product residual data; and
 - calculations and all background data used to calculate VOC control efficiency in accordance with Condition 5 of this permit.
 - d. Daily records necessary to demonstrate compliance with Condition 10.
 - e. Records of monthly inspections required by Condition 12.

- f. The annual particulate emissions from the equipment listed in Condition 8, calculated monthly as the sum of each consecutive 12 month period, and any emission factors, material throughputs and/or material balance calculations used in calculating these emissions.
- g. The results of the monthly visible emission surveys required by Condition 13 and details of any corrective action taken as a result of these inspections.
- h. Maximum hourly particulate emissions from the equipment listed in Condition 8, calculated at the end of each month for that month, and any emission factors, operating hours, material throughputs and/or material balance calculations used in calculating these emissions.
- i. The results of the semi-annual salt/acetone conversion factor evaluations.
- j. Scheduled and unscheduled maintenance, and operator training.

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 5-80-110, Condition E.14 of the 7/12/96 RACT Agreement and Condition 12 of the 12/18/14 Permit)

- 15. **CMC Process Area – Reporting** – The permittee shall report the results of any 40 CFR Part 60 Method 9 opacity test performed as a result of Condition 13 above. If the test indicates the facility is out of compliance with the standard contained in Condition 9, the source shall also report the length of time associated with any exceedance of the standard and the corrective actions taken to correct the exceedance. This report shall be sent to the Piedmont Regional Office within seven days of the applicable test unless otherwise noted in Condition 112.
(9 VAC 5-80-110)
- 16. **CMC Process Area – Notification for Control Equipment Maintenance** – The permittee shall furnish notification to the Piedmont Regional Office of the intention to shut down or bypass, or both, air pollution control equipment for necessary scheduled maintenance which results in excess emissions for more than one hour at least 24 hours prior to the shutdown. The notification shall include, but is not limited to, the following information:
 - a. Identification of the specific process to be taken out of service, as well as its location, and registration number;
 - b. The expected length of time that the air pollution control equipment will be out of service;
 - c. The nature and quantity of air pollutants likely to occur during the shutdown period;
 - d. Measures that will be taken to minimize the length of the shutdown or to negate the effect of the outage.

(9 VAC 5-80-110 and Condition 14 of the 12/18/14 Permit)

IV. Natrosol Process Area

17. **Natrosol Process Area – Limitations – Emission Controls** – Particulate Matter and PM₁₀ emissions from the Natrosol process, including the cellulose shredding operation, the two Netzch-Condux (or equivalent) grinding mills, the Bauermeister (or equivalent) grinding mill and the automatic air packer and pneumatic transfer systems, shall be controlled by baghouses (reference NA-AEU-001 through NA-AEU-008, NA-ACD-002, and NA-ACD-003). Each baghouse shall be equipped with a device to sense and alarm or read out high differential pressure drop across the baghouse. The device shall be installed in an accessible location and shall be maintained by the permittee such that it is in proper working order at all times. The baghouses shall be operated at all times when their associated Natrosol process equipment is in operation, and the baghouses shall be provided with adequate access for inspection. Fugitive emissions from the weigh bins (reference NA-AEU-011 and NA-AEU-012) shall be controlled by bag filters, at minimum. The bag filters shall be in operation at all times when the weigh bins are in operation, and the bag filters shall be provided with adequate access for inspection.
(9 VAC 5-80-110 and Condition 2 of the 1/28/11 Permit)
18. **Natrosol Process Area – Limitations – Emission Controls** – Volatile organic compound emissions from the Natrosol reactors, viscosity reduction vessels, purification process, centrifuges, dryers and solvent recovery distillation columns shall be controlled by the Natrosol solvent vent scrubber NA-ACD-101. The scrubber shall be equipped with a device to continuously measure the differential pressure through the scrubber. The scrubber shall be in operation at all times when the Natrosol process is in operation, and the scrubber and continuous measurement devices shall be provided with adequate access for inspection.
(9 VAC 5-80-110 and Condition 3 of the 1/28/11 Permit)
19. **Natrosol Process Area – Limitations – Production** – The annual production of Natrosol shall not exceed 22,000 tons/yr, calculated as the sum of each consecutive 12 month period.
(9 VAC 5-80-110 and Condition 5 of the 1/28/11 Permit)
20. **Natrosol Process Area – Emission Standard** – Best Available Control Technology and compliance with the annual VOC emission limit contained in Condition 23 shall be demonstrated by material balance according to the following equation:

$$\sum_{i=1}^{i=6} (V_T - V_A)_i / \sum_{i=1}^{i=6} (V_T)_i \times 100 \geq 98\%$$

where:

V_T = mass of VOC (in pounds) circulated/used through the process area during a one-month period, as determined from inventory measurements and/or measured flow and VOC concentration of still output

V_A = mass of VOC (in pounds) lost to the air from point, nonpoint and fugitive sources which cannot be accounted for as other losses (including but not limited to reaction consumption, recycle/recovery, product retention, sewer loss, and product transfer), as determined by material balance, using the equation:

$$V_A = V_{LOSS} - V_{OTHER}$$

where:

V_{LOSS} = mass of final inventory from current month, minus mass of starting inventory from current month, minus mass of solvent purchased in the current 1-month period (as determined from purchase records and cost sheets which show changes in inventory)

V_{OTHER} = mass of non-air VOC losses which include but are not limited to: reaction consumption, recycle/recovery, product retention, sewer loss and product transfer

i = month number one through month number six of the 6-month rolling average

Results of the compliance calculation shall be reported to the Virginia Department of Environmental Quality annually, and records will be maintained for a period of at least five years. (9 VAC 5-80-110, Conditions E.6 and E.13 of the 7/12/96 RACT Agreement and Condition 15 of the 1/28/11 Permit)

21. **Natrosol Process Area –Limitations – Emission Limits** – Particulate Matter and PM₁₀ emissions from the operation of the Natrosol process reference points below, shall not exceed the following limits:

Reference No.	Description	Emission Limits	
		lb/hr	tons/yr
001	Intermediate cellulose receiver D.C. to Weigh Bin D.C.	1.4	4.0
002	Housekeeping Vacuum-East Cutter Room (D.C.)	*	*
003	Cellulose Weigh Bins to Process (ZPF)	*	*
004	Shredders to Intermediate Cellulose Receiver D.C.	1.4	4.0
005	Primary Cutter (Sprout-Waldron #1) D.C.	*	*
006	Primary Cutter (Sprout-Waldron #2) D.C.	*	*
007	Primary Cutter (Sprout-Waldron #3) D.C.	*	*
103	Dryers to Dryer Storage Bins (DSB) (ZPF)	*	*
201a	DSB to S-mill system – DSB D.C.	0.3	1.1
201b	Netzch-Condux grinding mill (South) D.C.	0.2	0.9
201c	Netzch-Condux grinding mill (North) D.C.	0.2	0.9
202a	Bauermeister Grinding Mill Feed System D.C.	0.1	0.3
202b	Bauermeister Grinding Mill D.C.	0.2	0.7
203	Bulk Storage Bin (BSB) Bottom Turnhead (ZPF)	*	*
204	BSB Top Turnhead (ZPF)	*	*
205	N-Air Mix Blender (AMB) Loading (W Cyclone) (ZPF)	*	*

Reference No.	Description	Emission Limits	
		lb/hr	tons/yr
206	BSB to S-Load S-AMB Loading (SE Cyclone) (ZPF)	*	*
207	Regrind Mill to N-AMB (East Cyclone) (ZPF)	*	*
208	AMB Unload to N-PO (D.C)	0.4	1.5
209	Addback Hopper Fugitives (D.C.)	0.4	1.6
210	N-AMB Pulse and Convey D.C.	*	*
211	S-AMB Pulse and Convey D.C.	*	*
212	Secondary Vac System for S-PO fugitives (D.C.)	0.2	0.9
213	North Weigh Bin Bag Filter Breather	*	*
214	South Weigh Bin Bag Filter Breather	*	*
215	Southeast Weigh Bin Bag Filter Breather	*	*

Note: (*) denotes units where baghouses/emission points exist and are subject to Conditions 17 and 24 of this permit, but have insignificant mass emission rates for the purposes of this Condition. Also, ZPF = Zero Point Filter & D.C. = Dust Collector

(9 VAC 5-80-110 and Condition 9 of the 1/28/11 Permit)

22. **Natrosol Process Area – Limitations – Emission Limit** – Emissions from the operation of each of the dust collectors identified as Reference Numbers 201b, 201c, 202a and 202b in Condition 21 shall not exceed the limit specified below:

Particulate Matter 0.005 gr/dscf

(9 VAC 5-80-110 and Condition 8 of the 1/28/11 Permit)

23. **Natrosol Process Area – Limitations – Emission Limit** – Emissions from the operation of the Natrosol process shall not exceed the limit specified below:

Volatile Organic Compounds 66.6 tons/yr

(9 VAC 5-80-110 and Condition 7 of the 1/28/11 Permit)

24. **Natrosol Process Area – Limitations – Visible Emissions Limit** – Visible emissions from the Natrosol production area baghouses shall not exceed 5% opacity as determined by EPA Method 9 (reference 40 CFR Part 60, Appendix A). This condition applies at all times except during startup, shutdown and malfunction.

(9 VAC 5-80-110 and Condition 10 of the 1/28/11 Permit)

25. **Natrosol Process Area – Limitations – Operating Limits** – The permittee shall maintain the daily average scrubber pressure drop and scrubber liquid flow rate within the values in this Condition. The permittee shall collect the scrubber pressure drop and scrubber liquid flow rate data according to §63.5545, reducing the scrubber parameter data to daily averages, and maintaining the daily scrubber parameter values within the range of values in this Condition. This

permit may be administratively amended to change the values upon approval of a newer compliance demonstration.

Control Device	Daily Average Operating Limit
NA-ACD-101	Makeup Liquid Flow: ≥ 7.5 gallons per minute Recirculating Liquid Flow: ≥ 26.5 gallons per minute Pressure Drop: ≤ 2.0 " W.C.

(9 VAC 5-80-110, 40 CFR 63.5505 and Table 2 to Subpart UUUU of Part 63)

26. **Natrosol Process Area –Monitoring/Recordkeeping** – A monthly inspection shall be conducted on each fabric filter in the Natrosol production area (including the weigh bins bag filter) and its associated differential pressure device listed in Condition 17 to ensure the proper operation of each fabric filter and its associated differential pressure device (indicated by a differential pressure of 0.1 to 20.0 inches water). The permittee shall maintain records of the results of the monthly inspections and details of any corrective actions taken as a result of these inspections. These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.
(9 VAC 5-80-110)
27. **Natrosol Process Area –Monitoring/Recordkeeping** – Each fabric filter subject to Condition 24 shall be observed visually at least once each operating month for at least a brief time period to determine which emissions units have any visible emissions (does not include condensed water vapor/steam), unless a 40 CFR 60 Appendix A Method 9 visible emissions evaluation is performed on the emissions unit. Each emissions unit observed having any visible emissions shall be followed up with a 40 CFR 60 Appendix A Method 9 visible emissions evaluation unless the visible emission condition is corrected as expeditiously as possible and recorded, and the cause and corrective measures taken are recorded.
(9 VAC 5-80-110)
28. **Natrosol Process Area –Monitoring/Recordkeeping** – The Natrosol Process Area VOC still output shall be continuously measured and the totalized flow recorded once per shift.
(9 VAC 5-80-110 and Condition E.10 of the 7/12/96 RACT Agreement)
29. **Natrosol Process Area –Recordkeeping** – The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Piedmont Regional Office. These records shall include, but are not limited to:
- a. The yearly production of Natrosol, calculated as the sum of each consecutive 12 month period.

- b. All records necessary to show compliance with Conditions 20 and 23, including:
- inventory records, purchase records and cost sheets which show changes in inventory;
 - cumulative records of solvent throughput as specified in Condition 28;
 - wastewater sampling and flow measurement data;
 - derivation loss correlation data;
 - product residual data;
 - calculations and all background data used to determine VOC emissions and VOC control efficiency in accordance with Conditions 20 and 23 of this permit.
- c. Daily records necessary to demonstrate compliance with Condition 25.
- d. Records of monthly inspections required by Condition 26.
- e. The annual particulate emissions from the equipment listed in Condition 21, calculated monthly as the sum of each consecutive 12 month period, and any emission factors, material throughputs and/or material balance calculations used in calculating these emissions.
- f. The results of the monthly visible emission surveys of the Natrosol production area fabric filters (required by Condition 27) and details of any corrective action taken as a result of these inspections.
- g. The maximum hourly particulate emissions from the equipment listed in Condition 21, calculated at the end of each month for that month, and any emission factors, operating hours, material throughputs and/or material balance calculations used in calculating these emissions.
- h. Results of all stack tests, visible emission evaluations and performance evaluations.
- i. Scheduled and unscheduled maintenance, and operator training.

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

(9 VAC 5-80-110, Condition E.14 of the 7/12/96 RACT Agreement and Condition 15 of the 1/28/11 Permit)

30. **Natrosol Process Area – Reporting** – The permittee shall report the results of any 40 CFR Part 60 Method 9 opacity test performed as a result of Condition 27 above. If the test indicates the facility is out of compliance with the standard contained in Condition 24, the source shall also report the length of time associated with any exceedance of the standard and the corrective actions taken to correct the exceedance. This report shall be sent to the Piedmont Regional Office within seven days of the applicable test unless otherwise noted in Condition 112.
(9 VAC 5-80-110)
31. **Natrosol Process Area – Notification** – The permittee shall furnish notification of the following to the Piedmont Regional Office:

- a. Quarterly status reports for the modified Natrosol process. The quarterly reports shall be submitted to the Piedmont Regional Office within 30 days after the end of the calendar quarter. Each status report shall include a list of the completed modifications for the report period, the date each such modification was completed/implemented, a description of each such modification and its role in the Natrosol production process and the status of the overall project.
- b. The final quarterly report (the report submitted within 30 days after the calendar quarter in which all projects are completed) shall contain the information contained in Condition 31a, as well as notification of the actual start-up date of the modified Natrosol Production Area.

(9 VAC 5-80-110 and Condition 13 of the 1/28/11 Permit)

32. **Natrosol Process Area – Notification for Control Equipment Maintenance** – The permittee shall furnish notification to the Piedmont Regional Office of the intention to shut down or bypass, or both, air pollution control equipment for necessary scheduled maintenance which results in excess emissions for more than one hour at least 24 hours prior to the shutdown. The notification shall include, but is not limited to, the following information:

- a. Identification of the specific process to be taken out of service, as well as its location, and registration number;
- b. The expected length of time that the air pollution control equipment will be out of service;
- c. The nature and quantity of air pollutants likely to occur during the shutdown period;
- d. Measures that will be taken to minimize the length of the shutdown or to negate the effect of the outage.

(9 VAC 5-80-110)

V. Klucel Process Area

33. **Klucel Process Area – Limitations – Emission Controls** – Particulate emissions from the Klucel process area shall be controlled by fabric filters having control efficiencies of at least 99% as specified below. The fabric filters shall be provided with adequate access for inspection. Each fabric filter shall be equipped with a device to continuously measure the differential pressure drop across the fabric filter. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's recommended requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when its associated fabric filter is operating.

Emission/Process Unit	Control Device
Cellulose shredders #1 – 3 (KL-AEU-001, KL-AEU-002, KL-AEU-037); Condux cutter (KL-AEU-003); cellulose weigh bin (KL-AEU-004)	Klucel cellulose bin fabric filter (KL-ACD-001)
Cellulose process conveyance system (KL-AEU-002)	Klucel cellulose process fabric filter (KL-ACD-002)
Airmix blenders # 1–# 4 (KL-AEU-028, KL-AEU-029, KL-AEU-030, and KL-AEU-042)	Klucel blender fabric filters #1 –#4 (KL-ACD-201A-D); one filter for each blender
Automated packing system (KL-AEU-031) and addback hopper (KL-AEU-032)	Klucel packing/addback fabric filter (KL-ACD-202)
KPR Process Vacuum System (KL-AEU-202)	Klucel housekeeping fabric filter (KL-ACD-203)
Housekeeping vacuum system (KL-AEU-203)	Klucel housekeeping fabric filter (KL-ACD-203)
Fluidized mill grinder and product handling (KL-AEU-204)	Klucel blender fabric filter #5 (KL-ACD-201E)

(9 VAC 5-80-110 and Condition 1 of the 11/19/15 Permit)

34. **Klucel Process Area – Limitations – Emission Controls** – Particulate emissions from the pack fill hopper section of the automated packing system (KL-AEU-031) shall be controlled by a hopper vent filter. The hopper vent filter shall be provided with adequate access for inspection.
(9 VAC 5-80-110 and Condition 2 of the 11/19/15 Permit)
35. **Klucel Process Area – Limitations – Emission Controls** – Volatile organic compound emissions from the three purification centrifuges (KL-AEU-007, KL-AEU-008, KL-AEU-009) shall be controlled by mechanical seals. The centrifuges and mechanical seals shall be provided with adequate access for inspection.
(9 VAC 5-80-110 and Condition 3 of the 11/19/15 Permit)

36. **Klucel Process Area – Limitations – Emission Controls** – Volatile organic compound emissions from the Klucel process area point sources shall be controlled by packed bed scrubbers as follows:

Emission/Process Unit	Control Device
Reactor #2 (KL-AEU-005)	Klucel process scrubber (KL-ACD-101)
Reactor #3 (KL-AEU-038)	Klucel process scrubber (KL-ACD-101)
Dryer feed tub (KL-AEU-017)	Klucel process scrubber (KL-ACD-101)
Three purification centrifuges (KL-AEU-007, KL-AEU-008, KL-AEU-009)	Klucel process scrubber (KL-ACD-101)
Three purification wash tubs (KL-AEU-010, KL-AEU-011, KL-AEU-012)	Klucel process scrubber (KL-ACD-101)
Acetic acid head tank and transfer system (KL-AEU-014)	Klucel process scrubber (KL-ACD-103)
Distillation Column A-671 (KL-AEU-033 to 036)	Klucel process scrubber (KL-ACD-101)
Heptane tank KL-TNK-307	Klucel process scrubber (KL-ACD-101)
TBA tank KL-TNK-308	Klucel process scrubber (KL-ACD-101)
Distillation feed tank KL-TNK-309	Klucel process scrubber (KL-ACD-101)
Spent tank KL-TNK-322	Klucel process scrubber (KL-ACD-101)
Heptane tank KL-TNK-337	Klucel process scrubber (KL-ACD-101)
PO storage tank KL-TNK-363 (purge only)	EO/PO scrubber (NA-ACD-301)
PO scale tank KL-TNK-364 (purge only)	EO/PO scrubber (NA-ACD-301)

The scrubbers shall be provided with adequate access for inspection.
(9 VAC 5-80-110 and Condition 4 of the 11/19/15 Permit)

37. **Klucel Process Area – Limitations – Production** – The annual production of Klucel shall not exceed 4,800 tons/yr, calculated as the sum of each consecutive 12 month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-110 and Condition 6 of the 11/19/15 Permit)
38. **Klucel Process Area – Limitations – Emission Standard** – Best Available Control Technology and compliance with the annual VOC emission limit contained in Condition 39 shall be demonstrated by material balance according to the following equation:

$$\sum_{i=1}^{i=6} (V_T - V_A)_i / \sum_{i=1}^{i=6} (V_T)_i \times 100 \geq 96\%$$

where:

V_T = mass of VOC (in pounds) circulated/used through the process area during a one-month period, as calculated from measured VOC flow

V_A = mass of VOC (in pounds) lost to the air from point, nonpoint and fugitive sources which cannot be accounted for as other losses (including but not limited to reaction consumption, recycle/recovery, product retention, sewer loss, and product transfer), as determined by material balance, using the equation:

$$V_A = V_{\text{LOSS}} - V_{\text{OTHER}}$$

where:

V_{LOSS} = mass of final inventory from current month, minus mass of starting inventory from current month, minus mass of solvent purchased in the current 1-month period (as determined from purchase records and cost sheets which show changes in inventory)

V_{OTHER} = mass of non-air VOC losses which include but are not limited to: reaction consumption, recycle/recovery, product retention, sewer loss and product transfer

i = month number one through month number six of the 6-month rolling average

Results of the compliance calculation shall be reported to the Virginia Department of Environmental Quality annually, and records will be maintained for a period of at least five (5) years.

(9 VAC 5-80-110, Conditions E.3 and E.11 of the 7/12/96 RACT Agreement and Condition 7 of the 11/19/15 Permit)

39. **Klucel Process Area – Limitations – Emission Limit** – Emissions from the operation of the Klucel process area shall not exceed the limit specified below:

Volatile Organic Compounds	181.0 tons/yr
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Compliance with this emission limit may be determined as stated in Condition 38.
(9 VAC 5-80-110 and Condition 8 of the 11/19/15 Permit)

40. **Klucel Process Area – Limitations – Visible Emissions Limit** – Visible emissions from the fabric filters and hopper vent filter specified in Conditions 33 and 34 shall not exceed 5% opacity as determined by EPA Method 9 (reference 40 CFR Part 60, Appendix A). This condition applies at all times except during startup, shutdown and malfunction.
(9 VAC 5-80-110 and Condition 9 of the 11/19/15 Permit)
41. **Klucel Process Area – Limitations – Operating Limits** – The permittee shall maintain the daily average scrubber pressure drop and scrubber liquid flow rate within the values in this Condition. The permittee shall collect the scrubber pressure drop and scrubber liquid flow rate data according to §63.5545, reducing the scrubber parameter data to daily averages, and maintaining the daily scrubber parameter values within the range of values in this Condition. This permit may be administratively amended to change the values upon approval of a newer compliance demonstration.

<u>Control Device</u>	<u>Daily Average Operating Limit</u>
KL-ACD-101	Liquid Flow: ≥ 7.5 gallons per minute Pressure Drop: ≤ 3.0 " W.C.

(9 VAC 5-80-110, 40 CFR 63.5505 and Table 2 to Subpart UUUU of Part 63)

42. **Klucel Process Area – Monitoring** – Volatile Organic Compound emissions from the Klucel Process Area shall be controlled by solvent recovery and process scrubbers, having an overall VOC control efficiency of at least 96% on a mass basis, calculated monthly as a 6-month rolling average. VOC flow shall be measured and the totalized flow recorded for each batch.
(9 VAC 5-80-110 and Conditions E.3 and E.9 of the 7/12/96 RACT Agreement)
43. **Klucel Process Area – Monitoring/Recordkeeping** – A monthly inspection shall be conducted on the mechanical seals on the centrifuges, Centrifuge #1 – 3, the hopper vent filter, as well as each fabric filter listed in Condition 33 to insure proper operation of each seal, vent filter, fabric filter and each fabric filter's differential pressure device. The permittee shall maintain records of the results of the monthly inspections and details of any corrective actions taken as a result of these inspections. These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.
(9 VAC 5-80-110)
44. **Klucel Process Area – Monitoring/Recordkeeping** – Each fabric filter subject to Condition 40 shall be observed visually at least once each operating month for at least a brief time period to determine which emissions units have any visible emissions (does not include condensed water vapor/steam), unless a 40 CFR 60, Appendix A Method 9 visible emissions evaluation is performed on the emissions unit. Each emissions unit observed having any visible emissions shall be followed up with a 40 CFR 60, Appendix A Method 9 visible emissions evaluation unless the visible emission condition is corrected as expeditiously as possible and recorded, and the cause and corrective measures taken are recorded.
(9 VAC 5-80-110)
45. **Klucel Process Area – Recordkeeping** – The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Piedmont Regional Office. These records shall include, but are not limited to:
- a. The yearly production of Klucel, calculated monthly as the sum of each consecutive 12 month period.
 - b. Monthly VOC inventory and throughput records which demonstrate compliance with Conditions 38, 39, and 42, including:
 - Records of VOC flow for each batch, inventory records, purchase records and cost sheets which show changes in inventory;
 - Wastewater sampling and flow management data;
 - Derivation loss correlation data;
 - Product residual data; and

- Calculations used to determine VOC emissions and VOC control efficiency in accordance with Conditions 38, 39, and 42 of this permit.
- c. Daily records necessary to demonstrate compliance with Condition 41.
- d. Records of monthly inspections required by Condition 43.
- e. The results of the monthly visible emission surveys required by Condition 44 and details of any corrective action taken as a result of these inspections.
- f. The maximum hourly particulate and VOC emissions from the Klucel process, calculated at the end of each month for that month, and any emission factors, operating hours, material throughputs and/or 6-month rolling average material balance calculations used in calculating these emissions.
- g. Scheduled and unscheduled maintenance, and operator training.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.

(9 VAC 5-80-110, Condition E.14 of the 7/12/96 RACT Agreement and Condition 10 of the 11/19/15 Permit)

46. **Klucel Process Area – Reporting** – The permittee shall report the results of any 40 CFR Part 60 Method 9 opacity test performed as a result of Condition 44 above. If the test indicates the facility is out of compliance with the standard contained in Condition 40, the source shall also report the length of time associated with any exceedance of the standard and the corrective actions taken to correct the exceedance. This report shall be sent to the Piedmont Regional Office within seven days of the applicable test unless otherwise noted in Condition 112.
(9 VAC 5-80-110)
47. **Klucel Process Area – Notification** – The permittee shall furnish notification of the following to the Piedmont Regional Office:
- a. Quarterly status reports for the modified Klucel process. The quarterly reports shall be submitted to the Piedmont Regional Office within 30 days after the end of the calendar quarter. Each status report shall include a list of the completed modifications for the report period, the date each such modification was completed/implemented, a description of each such modification and its role in the Klucel production process and the status of the overall project.
 - b. The final quarterly report (the report submitted within 30 days after the calendar quarter in which all projects are completed) shall contain the information contained in Condition 47a, as well as notification of the actual start-up date of the modified Klucel Production Area.

(9 VAC 5-80-110 and Condition 11 of the 11/19/15 Permit)

48. **Klucel Process Area – Notification for Control Equipment Maintenance** – The permittee shall furnish notification to the Piedmont Regional Office of the intention to shut down or bypass, or

both, air pollution control equipment for necessary scheduled maintenance which results in excess emissions for more than one hour at least 24 hours prior to the shutdown. The notification shall include, but is not limited to, the following information:

- a. Identification of the specific process to be taken out of service, as well as its location, and registration number;
- b. The expected length of time that the air pollution control equipment will be out of service;
- c. The nature and quantity of air pollutants likely to occur during the shutdown period;
- d. Measures that will be taken to minimize the length of the shutdown or to negate the effect of the outage.

(9 VAC 5-80-110)

VI. Ethyl Cellulose Process Area

49. **Ethyl Cellulose Process Area – Limitations – Emission Controls** – Particulate emissions from the EC process shall be controlled by fabric filters or wet scrubbers as specified in Condition 55. Each fabric filter shall be equipped with a device to 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 it is in proper working order at all times.
(9 VAC 5-80-110 and Condition 3 of the 2/24/06 Permit)

50. **Ethyl Cellulose Process Area – Limitations – Emission Controls** – Volatile organic compound emissions from the EC autoclave reactors, volatile organic liquid tanks and chemical recovery distillation columns shall be controlled by the EC vent scrubber (ref. EC-ACD-101). The scrubber shall be provided with adequate access for inspection. The scrubber shall be equipped with a scrubber liquid flow meter and a device to continuously measure the differential pressure through the scrubber.
(9 VAC 5-80-110 and Condition 4 of the 2/24/06 Permit)

51. **Ethyl Cellulose Process Area – Limitations – Emission Controls** – The permittee shall maintain and implement a Volatile Organic Compounds control plan for the EC process area. The permittee shall keep a copy of the plan on the premises of the facility and the plan shall be available for inspection by the DEQ. The plan shall include, but not be limited to, the following elements:

- Maximizing the VOC control efficiency of the EC vent scrubber;
- The establishment of appropriate monitoring parameters and ranges to demonstrate compliance with the plan.

(9 VAC 5-80-110 and Condition 5 of the 2/24/06 Permit)

52. **Ethyl Cellulose Process Area – Limitations – Emission Standard** – Best Available Technology for VOC from the EC process shall be demonstrated by material balance according to the following equation:

$$\sum_{i=1}^{i=6} (V_T - V_A)_i / \sum_{i=1}^{i=6} (V_T)_i \times 100 \geq 90\%$$

where:

V_T = mass of VOC (in pounds) circulated/used through the process area during a one-month period, as calculated from inventory measurements

V_A = mass of VOC (in pounds) lost to the air from point, nonpoint and fugitive sources which cannot be accounted for as other losses (including but not limited to reaction consumption, recycle/recovery, product retention, sewer loss, and product transfer), as determined by material balance, using the equation:

$$V_A = V_{\text{LOSS}} - V_{\text{OTHER}}$$

where:

V_{LOSS} = mass of final inventory from current month, minus mass of starting inventory from current month, minus mass of solvent purchased in the current 1-month period (as determined from purchase records and cost sheets which show changes in inventory)

V_{OTHER} = mass of non-air VOC losses which include but are not limited to: reaction consumption, recycle/recovery, product retention, sewer loss and product transfer

i = month number one through month number six of the 6-month rolling average

- Sewer losses are calculated based on continuous flow-weighted composite samples of wastewater and physical flow measurements
- Derivation losses are calculated based on product-specific correlation between production rate and solvent loss taken from previous study of this type of loss
- Product residual losses are determined from previous sampling and product-specific data on solvent remaining in the product as it leaves the plant

Results of the compliance calculation shall be reported to the Virginia Department of Environmental Quality annually, and records will be maintained for a period of at least five years. (9 VAC 5-80-110, Conditions E.4 and E.12 of the 7/12/96 RACT Agreement and Condition 8 of the 2/24/06 Permit)

53. **Ethyl Cellulose Process Area – Limitations – Production** – The annual production of ethyl cellulose shall not exceed 3,500 tons per year, calculated monthly as the sum of each consecutive 12 month period.
(9 VAC 5-80-110 and Condition 7 of the 2/24/06 Permit)

54. **Ethyl Cellulose Process Area – Limitations – Emission Limits** – Emissions from the operation of the EC process shall not exceed the limits specified below:

Volatile Organic Compounds	135.6 lbs/batch*	126.0 tons/yr**
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(*) The lbs/batch limit above shall be applied as the sum of the outlets from the EC vent scrubber and from the combined leach tub vent. Compliance shall be determined as a three (3) batch average.

(**) The tons/yr limit above shall apply to the entire EC process area (the sum of the outlets from the EC vent scrubber and from the combined leach tub vent as well as fugitive emissions from all EC process equipment) and compliance shall be determined monthly as the sum of each consecutive 12 month period.

(***) The EC fugitive VOC emissions shall be calculated using the following basis: 0.0009 lb/hr for liquid and vapor connections; 0.008 lb/hr for liquid valves; 0.006 lb/hr for vapor valves; and 0.0545 lb/hr for pumps/agitators.

(9 VAC 5-80-110 and Condition 9 of the 2/24/06 Permit)

55. **Ethyl Cellulose Process Area – Limitations – Emission Limits** – Particulate and PM₁₀ emissions from the operation of the EC process reference points shall not exceed the limits specified below:

Reference No.	Description	Emission Limits	
		lb/hr	tons/yr
EC-ACD-001	EC Cellulose Open Top Cyclone	4.2	8.8
EC-ACD-201	EC Dryer Wet Scrubber Vacuum Pump Vent #1	*	*
EC-ACD-206	EC Dryer Wet Scrubber Vacuum Pump Vent #2	*	*
EC-ACD-202	EC Dryer Unloading ZPF	*	*
EC-ACD-203	EC Blender Loading ZPF	*	*
EC-ACD-204	EC Packroom Vacuum D.C.	*	*
EC-ACD-205	EC Air Mix Blender ZPF	*	*

Note: (*) denotes units where emission points exist and are subject to Condition 49, but have insignificant mass emission rates for the purposes of this Condition. Also, ZPF = Zero Point Filter & D.C. = Dust Collector

(9 VAC 5-80-110 and Condition 10 of the 2/24/06 Permit)

56. **Ethyl Cellulose Process Area – Limitations – Visible Emission Limitation** – Visible emissions from all emission units and control devices in the EC Process Area shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30% opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).

(9 VAC 5-80-110 and 9 VAC 5-50-80)

57. **Ethyl Cellulose Process Area – Limitations – Operating Limits** – The permittee shall maintain the daily average scrubber pressure drop and scrubber liquid flow rate for the EC Production Area vent system scrubber within the range of values in this condition. The permittee shall collect the scrubber pressure drop and scrubber liquid flow rate data according to §63.5545, reducing the scrubber parameter data to daily averages, and maintaining the daily scrubber parameter values within the range of values in this condition. This permit may be administratively amended to change the values upon approval of a newer compliance demonstration.

<u>Control Device</u>	<u>Daily Average Operating Limit</u>
EC-ACD-101	Liquid Flow: ≥ 7.3 gallons per minute Pressure Drop: $\leq 0.9''$ WC Temperature: ≤ 33.5 °F

(9 VAC 5-80-110, 40 CFR 63.5505, and Table 2 to Subpart UUUU of Part 63)

58. **Ethyl Cellulose Process Area – Monitoring** – Each emission unit and control device with an atmospheric vent subject to Condition 56 shall be observed visually at least once each operating month for at least a brief time period to determine which emissions units have any visible emissions (does not include water vapor/steam), unless a 40 CFR 60, Appendix A Method 9

visible emissions evaluation is performed on the emissions unit. Each emissions unit observed having any visible emissions shall be followed up with a 40 CFR 60, Appendix A Method 9 visible emissions evaluation unless the visible emission condition is corrected as expeditiously as possible and recorded, and the cause and corrective measures taken are recorded.

(9 VAC 5-80-110)

59. **Ethyl Cellulose Process Area – Recordkeeping** – The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Piedmont Regional Office. These records shall include, but are not limited to:
- a. The yearly production of EC, calculated monthly as the sum of each consecutive 12 month period.
 - b. The annual quantity of EC production batches, calculated monthly as the sum of each consecutive 12 month period.
 - c. Daily records necessary to demonstrate compliance with Condition 57.
 - d. The annual VOC and particulate emissions from the emission units listed in Conditions 50 and 55, calculated monthly as the sum of each consecutive 12 month period, and any emission factors, material throughputs and/or material balance calculations used in calculating the VOC emissions.
 - e. Records of stack test results demonstrating compliance with the batch emission limit specified in Condition 54 and records of any process changes that may have affected compliance with the batch emission limit.
 - f. The results of the monthly visible emission surveys required by Condition 58 and details of any corrective action taken as a result of these inspections.
 - g. Monthly VOC inventory and throughput records which demonstrate compliance with Conditions 52 and 54, including but not limited to:
 - Inventory records, purchase records and cost sheets which show changes in inventory;
 - Wastewater sampling and flow management data;
 - Derivation loss correlation data;
 - Product residual data; and
 - Calculations used to determine VOC emissions and VOC control efficiency in accordance with Conditions 52 and 54 of this permit (mass balance for Condition 52; batch emission calculations for Condition 54).

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

(9 VAC 5-80-110, Condition E.14 of the 7/12/96 RACT Agreement and Condition 14 of the 2/24/06 Permit)

60. **Reporting** – The permittee shall report the results of any 40 CFR Part 60 Method 9 opacity test performed as a result of Condition 58 above. If the test indicates the facility is out of compliance with the standard contained in Condition 56, the source shall also report the length of time associated with any exceedance of the standard and the corrective actions taken to correct the exceedance. This report shall be sent to the Piedmont Regional Office within seven days of the applicable test unless otherwise noted in Condition 112.
(9 VAC 5-80-110)
61. **Notification for Control Equipment Maintenance** – The permittee shall furnish notification to the Piedmont Regional Office of the intention to shut down or bypass, or both, air pollution control equipment for necessary scheduled maintenance which results in excess emissions for more than one hour at least 24 hours prior to the shutdown. The notification shall include, but is not limited to, the following information:
- a. Identification of the specific process to be taken out of service, as well as its location, and registration number;
 - b. The expected length of time that the air pollution control equipment will be out of service;
 - c. The nature and quantity of air pollutants likely to occur during the shutdown period;
 - d. Measures that will be taken to minimize the length of the shutdown or to negate the effect of the outage.

(9 VAC 5-80-110 and Condition 12 of the 2/24/06 Permit)

VII. Technical Facility

62. **Technical Facility – Limitations – Emission Limits** – Volatile organic compound emissions from the Technical Facility Process Area shall be controlled by solvent recovery and process scrubbers, and shall not exceed 15 tons per year. Compliance with this emission limit shall be demonstrated by annual reporting of VOC emissions.
(9 VAC 5-80-110 and Condition E.8 of the 7/12/96 RACT Agreement)
63. **Technical Facility – Limitations – Visible Emissions Limit** – Visible emissions from the Technical Facility Process Area shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30% opacity, as determined by EPA Method 9 (reference 40 CFR Part 60, Appendix A). This condition applies at all times except during startup, shutdown and malfunction.
(9 VAC 5-80-110 and 9 VAC 5-50-80)
64. **Technical Facility – Monitoring** – The emissions from the Technical Facility process scrubbers shall be observed visually at least once a month for at least a brief time period during normal operations to determine if there are visible emissions from each (does not include condensed water vapor/steam), unless a 40 CFR 60, Appendix A Method 9 visible emissions evaluation is performed on each emission unit/source. Each emission unit/source observed having visible emissions shall be followed up with a 40 CFR 60, Appendix A Method 9 visible emissions evaluation unless the visible emission condition is corrected as expeditiously as possible and recorded, and the cause and corrective measures taken are recorded. The permittee shall keep a log of the visible emissions observations.
(9 VAC 5-80-110 E and F)
65. **Technical Facility – Monitoring** – Each process scrubber shall be equipped with a scrubber liquid flow meter. Each flow meter shall be installed in an accessible location and shall be maintained by the permittee such that it is in proper working order at all times. The scrubbers shall be provided with adequate access for inspection and shall be in operation when any of the equipment is operating. The scrubber liquid flow shall be recorded once per shift when the equipment is operating. If the flow rate is less than 7.5 gpm, then the permittee shall record the cause and any corrective measures taken.
(9 VAC 5-80-110)
66. **Technical Facility – Recordkeeping** – The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Piedmont Regional Office. These records shall include, but are not limited to:
- a. Annual VOC emissions from the Technical Facility, calculated monthly as the sum of each consecutive 12 month period, and any emission factors, material throughputs and/or material balance calculations used in calculating the VOC emissions.
 - b. Records of visible emissions evaluations required by Condition 64.

- c. Records of scrubber liquid flow rate and any corrective measures taken as required by Condition 65.

(9 VAC 5-80-110 and Condition E.14 of the 7/12/96 RACT Agreement)

VIII. Storage Tanks

67. **Storage Tanks – Limitations** – The storage tanks listed in the table below are subject to the Conditions of this section as specified:

AREA	Tank ID #	Subject to Condition 68	Subject to Condition 69	Subject to Condition 71d
CMC	CM-TNK-413	x	x	
CMC	CM-TNK-414	x	x	
CMC	CM-TNK-416	x	x	
CMC	CM-TNK-408	x	x	x
CMC	CM-TNK-418	x		
CMC	CM-TNK-420	x	x	
CMC	CM-TNK-407	x	x	
CMC	CM-TNK-411	x		
CMC	CM-TNK-409	x	x	
CMC	CM-TNK-410	x		
CMC	CM-TNK-422	x	x	
CMC	CM-TNK-423	x	x	
CMC	T-1	x	x	
CMC	T-2	x	x	
CMC	CM-TNK-417	x		
CMC	CM-TNK-419	x		
CMC	CM-TNK-415	x		
CMC	CM-TNK-412	x		
CMC	MC-TNK-294 (T-94)	x		
CMC	MC-TNK-295 (T-95)	x		
Natrosol	NA-TNK-341	x	x	
Natrosol	NA-TNK-347	x		
Natrosol	NA-TNK-342	x	x	
Natrosol	NA-TNK-343	x	x	
Natrosol	NA-TNK-330	x	x	
Klucel	KL-TNK-306	x		
Klucel	KL-TNK-322	x		x
Klucel	KL-TNK-309	x	x	
Klucel	KL-TNK-308	x		
Klucel	KL-TNK-307	x		
Klucel	KL-TNK-337	x		
Klucel	KL-TNK-363	x		
Klucel	KL-TNK-364	x		
EC	EC-TNK-315	x		
EC	EC-TNK-322	x		
EC	EC-TNK-324	x		

AREA	Tank ID #	Subject to Condition 68	Subject to Condition 69	Subject to Condition 71d
EC	EC-TNK-325	x		x
EC	EC-TNK-326	x		
EC	EC-TNK-327	x		
EC	EC-TNK-321	x		
EC	EC-TNK-328	x		
EC	EC-TNK-310	x		
TechFac	TF-TNK-510	x		
TechFac	TF-TNK-520	x		
TechFac	TF-TNK-530	x		
TechFac	TF-TNK-540	x		
TechFac	TF-TNK-550	x		
TechFac	TF-TNK-560	x		
TechFac	TF-TNK-570	x		

(9 VAC 5-80-110)

68. **Storage Tanks – Limitations – Emission Controls** - Each storage tank indicated in Condition 67 shall be equipped with a control method that will remove, destroy, or prevent the discharge into the atmosphere of at least 60% by weight of VOC emissions during the filling of such tank. The use of a submerged fill pipe shall be considered acceptable achievement of this standard.
(9 VAC 5-80-110, 9 VAC 5-40-3430A and 9 VAC 5-40-3440B)
69. **Storage Tanks – Limitations – Emission Controls** - Each storage tank indicated in Condition 67 shall be equipped with a control method that will remove, destroy or prevent the discharge into the atmosphere of at least 90% by weight of VOC emissions.
(9 VAC 5-80-110, 9 VAC 5-40-3430B and 9 VAC 5-40-3440B)
70. **Storage Tanks – Monitoring/Recordkeeping** – A monthly inspection shall be conducted on each control device (including, but not limited to, the CMC Field Tank Vent Scrubber (CM-ACD-406), the Natrosol EO/PO and Solvent Vent Scrubbers (NA-ACD-301 and NA-ACD-101) and the Klucel Process Vent Scrubber (KL-ACD-301)) used to achieve compliance with Condition 69 for any storage tank so indicated in Condition 67. The inspection shall include both the structural integrity and the operating parameters of each control device. The permittee shall maintain records of the results of the monthly inspections and details of any corrective actions taken as a result of these inspections. These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.
(9 VAC 5-80-110)
71. **Storage Tanks – Monitoring/Recordkeeping** – The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Piedmont Regional Office. These records shall include, but are not limited to:
- a. Certification of submerged fill pipe for each storage tank subject to Condition 68.

- b. Certification/demonstration that each control device used to achieve compliance with Condition 69 is capable of achieving 90% VOC control efficiency as well as the appropriate operating range for each operating parameter necessary to demonstrate that each control device is continuing to meet or exceed the 90% VOC control efficiency requirement.
- c. Records of monthly inspections indicated in Condition 70.
- d. For each storage tank indicated in Condition 67, the dimensions of each storage tank and an analysis showing the capacity of the storage tank.

(9 VAC 5-80-110 and 40 CFR 63.123(a))

IX. Fuel Burning Equipment (emission unit ID #EG-AEU-001)

72. **Fuel Burning Equipment Requirements – (emission unit ID #EG-AEU-001) – Fuel** – The distillate oil used in the emergency generator (EG-AEU-001) shall meet the specifications below:

DISTILLATE OIL which meets the ASTM D396 specification for numbers 1 or 2 fuel oil or the ASTM D975 specification for numbers 1 or 2 diesel oil:

Maximum sulfur content per shipment: 0.0015%

(9 VAC 5-80-110, 40 CFR 60.4207(b), and 40 CFR 63.6590(c))

73. **Fuel Burning Equipment Requirements - (emission unit ID#EG-AEU-001) – Hours of Operation** - The emergency generator (EG-AEU-001) shall not be operated other than for emergency operation, and maintenance, testing, and operation in non-emergency situations for more than 50 hours per year or it will not be considered an emergency engine and must meet the requirements for non-emergency engines. The emergency generator shall be equipped with a non-resettable hour metering device to monitor the operating hours. The monitoring device shall be installed, maintained (as appropriate) and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. The monitoring device shall be provided with adequate access for inspection and shall be in operation when the emergency generator is operating.

(9 VAC 5-80-110, 40 CFR 60.4209(a), 40 CFR 60.4211(f), and 40 CFR 63.6590(c))

74. **Fuel Burning Equipment Requirements - (emission unit ID#EG-AEU-001) – Maintenance Plan** - The permittee shall operate and maintain the emergency generator (EG-AEU-001) according to the manufacturer's emission-related written instructions or develop their own maintenance plan which must provide for the maintenance and operation of the generator in a manner consistent with good air pollution control practices for minimizing emissions. Operators shall be trained on proper operation and maintenance of the generator.

(9 VAC 5-80-110, 40 CFR 60.4211 and 40 CFR 63.6590(c))

75. **Fuel Burning Equipment Requirements – (emission unit ID#EG-AEU-001) – Emission Standards** – The emergency generator (EG-AEU-001) must be certified as meeting emission standards for NMHC+NO_x, CO and PM in Table 4 to Subpart IIII of Part 60.

(9 VAC 5-80-110, 40 CFR 60.4205(c), and Table 4 to Subpart IIII of Part 60)

76. **Fuel Burning Equipment Requirements - (emission unit ID#EG-AEU-001) – Visible Emissions** - Visible emissions from the emergency generator (EG-AEU-001) shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30% opacity.

(9 VAC 5-50-80 and 9 VAC 5-80-110)

77. **Fuel Burning Equipment Requirements - (emission unit ID#EG-AEU-001) - Monitoring** – Compliance with the operational requirements in Condition 73 for the emergency generator shall be to keep a log of any emergency and non-emergency operating hours on a monthly basis.

(9 VAC 5-80-110)

78. **Fuel Burning Equipment Requirements - (emission unit ID#EG-AEU-001) - 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 Piedmont Regional Office. These records shall include, but are not limited to:
- a. Annual hours of operation of the emergency generator (EG-AEU-001) including hours spent for non-emergency operation, calculated monthly as the sum of each consecutive 12-month period.
 - b. Diesel shipments purchased, indicating sulfur content per shipment.
 - c. The occurrence and duration of each malfunction of the generator.
 - d. A log of actions taken during periods of malfunction to minimize emissions, including any corrective actions.

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 5-80-110)

79. **Fuel Burning Equipment Requirements - (emission unit ID#EG-AEU-001) – Requirements by Reference** – Except where this permit is more restrictive than the applicable requirement, the emergency generator (EG-AEU-001) shall be operated in compliance with the requirements of 40 CFR 60, Subpart IIII.
(9 VAC 5-80-110)

80. **Fuel Burning Equipment Requirements - (emission unit ID#EG-AEU-001) – Requirements by Reference** – Except where this permit is more restrictive than the applicable requirement, the emergency generator (EG-AEU-001) shall be operated in compliance with 40 CFR 63, Subpart ZZZZ.
(9 VAC 5-80-110)

X. Facility Wide Conditions

81. **Facility Wide Conditions – Periodic Monitoring/Recordkeeping** - 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.
 - b. Maintain an inventory of spare parts.
 - c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.
 - d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of the trainees, the date of training and the nature of the training.

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

(9 VAC 5-80-110 and Condition 18 of the 2/24/06 Permit, Condition 13 of the 12/7/09 Permit, Condition 17 of the 1/28/11 Permit, Condition 20 of the 12/18/14 Permit, and Condition 15 of the 11/19/15 Permit)

82. **Facility Wide Conditions – Testing** - 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 5-80-110, 9 VAC 5-50-30 and Condition 5 of the 12/18/14 Permit)
83. **Facility Wide Conditions – Testing** - If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the appropriate test method(s) in accordance with procedures approved by the DEQ.
(9 VAC 5-80-110)

XI. 40 CFR 63, SUBPART UUUU – NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR CELLULOSE PRODUCTS MANUFACTURING

84. **Emission Limits and Work Practice Standards** – For each cellulose ether operation (as defined in 40 CFR 63.5610), the permittee shall:
- a. Reduce total uncontrolled organic HAP emission by at least 99% for the sum of all cellulose ether process vents;
 - b. For each vent stream controlled using a control device, route the vent stream through a closed-vent system to the control device for the sum of all cellulose ether process vents;
 - c. Comply with the work practice standard for closed vent systems for the sum of all cellulose ether process vents;
 - d. Comply by operating the closed loop system for each closed loop system;
 - e. Comply with the applicable equipment leak standards 40 CFR 63.162 through 63.179 (except that references to “process unit” mean “cellulose ether process unit” for the purposes of this subpart); or comply with the applicable equipment leak standards of 40 CFR 63.1021 through 63.1037 (except that references to “process unit” mean “cellulose ether process unit” for the purposes of this subpart) for equipment leaks;
 - f. Comply with the applicable wastewater provisions of §§63.105 and 63.132 through 63.140 for all sources of wastewater emissions; and
 - g. Comply with the applicable provisions of §63.149 (except that references to “chemical manufacturing process unit” means “cellulose ether process unit” for the purposes of this subpart) for liquid streams in open systems.

(9 VAC 5-80-110 and 40 CFR 63.5505, Table 1 to Subpart UUUU of Part 63)

85. **Work Practice Standards** – For each existing or new affected source (as defined in 40 CFR 63.5610), the permittee shall:
- a. Conduct annual inspections, repair leaks, and maintain records as specified in §63.148 for each closed-vent system used to route emissions to a control device;
 - b. Install, calibrate, maintain, and operate a flow indicator as specified in §63.148(f)(1); or secure the bypass line valve in the closed position with a car-seal or lock-and-key type configuration and inspect the seal or closure mechanism at least once per month as specified in §63.148(f)(2) for each closed-vent system containing a bypass line that could divert a stream away from a control device, except for equipment needed for safety purposes (described in §63.148(f)(3)); and

- c. Monitor and repair the heat exchanger system according to §63.104(a) through (e) (except that references to “chemical manufacturing process unit” mean “cellulose food casing, rayon, cellulosic sponge, cellophane, or cellulose ether process unit” for the purposes of this subpart) for each heat exchanger system that cools process equipment or materials in the process unit.

(9 VAC 5-80-110 and 40 CFR 63.5505, Table 1 to Subpart UUUU of Part 63)

86. **Operating Limits** – For each scrubber used to achieve compliance with 40 CFR 63, Subpart UUUU, the permittee shall maintain the daily average scrubber pressure drop and scrubber liquid flow rate within the range of values established during the 40 CFR 63, Subpart UUUU compliance demonstration.
(9 VAC 5-80-110 and 40 CFR 63.5505, Table 2 to 40 CFR 63, Subpart UUUU)
87. **Continuous Compliance** – The permittee shall be in compliance with the emission limits, operating limits, and work practice standards in 40 CFR 63, Subpart UUUU at all times, except during periods of startup, shutdown, and malfunction.
(9 VAC 5-80-110 and 63.5515(a))
88. **Monitoring** – The permittee shall always operate and maintain the affected source, including air pollution control and monitoring equipment, according to the provisions in §63.6(e)(1)(i). The permittee shall develop a written startup, shutdown, and malfunction (SSM) plan according to the provisions in §63.6(e)(3).
(9 VAC 5-80-110 and 40 CFR 63.5515(b-c))
89. **Requirements by Reference** – Except where this permit is more restrictive than the applicable requirement, the permittee shall operate in compliance with all applicable requirements of 40 CFR 63, Subpart UUUU. The permittee shall be in compliance with the provisions of 40 CFR 63, Subpart A, except as noted in Table 10 to Subpart UUUU of Part 63.
(9 VAC 5-80-110, 40 CFR 63.5515(h), and 40 CFR 63 Subparts A and UUUU)
90. **Initial Compliance and Work Practice Standards** – The permittee shall demonstrate initial compliance with 40 CFR 63, Subpart UUUU in accordance with 40 CFR 63.5530(a) and Table 3 to Subpart UUUU of Part 63.
(9 VAC 5-80-110, 40 CFR 63.5530(a), and Table 3 to Subpart UUUU of Part 63)
91. **Testing** – The permittee shall conduct each performance test in Table 4 to Subpart UUUU of Part 63 that applies to the affected source. The performance tests shall be conducted in accordance with 40 CFR 63.5535, 40 CFR 63.7(e)(1) and Table 4 to Subpart UUUU of Part 63.
(9 VAC 5-80-110, 40 CFR 63.5535, and Table 4 to Subpart UUUU of Part 63)
92. **Continuous Monitoring Systems** – The permittee shall, for each Continuous Monitoring System (CMS) required by 40 CFR 63, Subpart UUUU, develop and make available for inspection by the Piedmont Regional Office upon request, a site-specific monitoring plan that addresses the provisions in 40 CFR 63.5545(a)(1-3) and (b)(1-3). The permittee shall conduct a performance evaluation of each CMS in accordance with the facility’s site-specific monitoring plan. The permittee shall operate and maintain the CMS in continuous operation according to the site-

specific monitoring plan. The permittee shall also meet the requirements of 40 CFR 63.5545(f) for each CMS.

(9 VAC 5-80-110 and 40 CFR 63.5545(a-d, f))

93. **Continuous Compliance** – The permittee shall demonstrate continuous compliance with each emission limit, operating limit, and work practice standard in Conditions 82 and 83 according to methods specified in Tables 5 and 6 to Subpart UUUU of Part 63.
(9 VAC 5-80-110 and 40 CFR 63.5555(a))
94. **Monitoring** – The permittee shall monitor and collect data in accordance with 40 CFR 63.5560. Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permittee shall monitor continuously (or collect data at all required intervals) at all times that the affected source is operating, including periods of startup, shutdown, and malfunction.
(9VAC 5-80-110 and 40 CFR 63.5560(a-b))
95. **Notification of Compliance Status** – The permittee shall submit each notification in Table 7 to Subpart UUUU of Part 63 that applies to the affected source by the date specified in Table 7 to Subpart UUUU of Part 63.
(9 VAC 5-80-110, 40 CFR 63.5575, and Table 7 to Subpart UUUU of Part 63)
96. **Reporting** – The permittee shall submit each report to Table 8 to Subpart UUUU of Part 63 that applies to the affected source. Unless the Administrator has approved a different schedule for submitting reports under §63.10, the permittee shall submit each compliance report by the date in Table 8 to Subpart UUUU of Part 63 and according to the requirements in 40 CFR 63.5580(b)(1-5). Each compliance report shall contain all applicable information specified in 40 CFR 63.5580(c-e).
(9 VAC 5-80-110, 40 CFR 63.5580, and Table 8 to Subpart UUUU of Part 63)
97. **Reporting** – The permittee shall report all deviations as defined in 40 CFR 63, Subpart UUUU in the semi-annual monitoring report required by Condition 110 of this permit. If a compliance report is submitted according to Table 8 to Subpart UUUU of Part 63, and the compliance report includes all required information concerning deviations from any emission limit, operating limit, or work practice standard in 40 CFR 63, Subpart UUUU, then submitting the compliance report will satisfy any obligation to report the same deviations in the semi-annual monitoring report. However, submitting a compliance report will not otherwise affect any obligation the permittee has to report permit deviations from permit requirements to the Piedmont Regional Office as required in Conditions 112 and 113 of this permit.
(9 VAC 5-80-110 and 40 CFR 63.5580(f), and Table 8 to Subpart UUUU of Part 63)
98. **Recordkeeping** – The permittee shall keep the records in Table 9 to Subpart UUUU of Part 63 that apply to the affected source. These records shall include, but not be limited to, the following:
 - a. A copy of each notification and report submitted to comply with 40 CFR 63, Subpart UUUU including all documentation supporting any Initial Notification or Notification of Compliance Status Report submitted by the permittee according to the requirements in §63.10(b)(2)(xiv), and any compliance report required under 40 CFR 63, Subpart UUUU.

- b. The records in §63.6(e)(3)(iii) through (iv) related to startup, shutdown, and malfunction. These records shall include (i.) the SSM plan; (ii.) when actions taken during a startup, shutdown, or malfunction are consistent with the procedures specified in the SSM plan, records demonstrating that the procedures in the plan were followed; (iii.) records of the occurrence and duration of each startup, shutdown, or malfunction; and (iv.) when actions taken during a startup, shutdown, or malfunction are not consistent with the procedures specified in the SSM plan, records of the actions taken for that event.
- c. A site-specific monitoring plan including (i.) information regarding the installation of the CMS sampling source probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device); (ii.) performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction system; (iii.) performance evaluation procedures and acceptance criteria (e.g. calibrations); (iv.) ongoing operation and maintenance procedures in accordance with the general requirements of §63.8(c)(1), (3), and (4)(ii) and 63.5580(c)(6); (v.) ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d)(2); and (vi.) ongoing recordkeeping and reporting procedures in accordance with the general requirements of §§63.10(c), (e)(1), and (e)(2)(i) and 63.5585.
- d. Records of performance tests and CEMS performance evaluations, as required in §63.10(b)(2)(viii), and any other initial compliance demonstrations including all results of performance tests, CEMS performance evaluations, and any other initial compliance demonstrations, including analysis of samples, determination of emissions, and raw data.
- e. Records for each CPMS including (i.) records required in Table 6 to Subpart UUUU of Part 63 to show continuous compliance with each operating limit that applies to the facility; and (ii.) results of each CPMS calibration, validation check, and inspection required by §63.5545(b)(4).
- f. Records of closed-loop systems including records certifying that a closed-loop system is in use for cellulose ether operations.
- g. Extended cookout records for each affected unit including (i.) the amount of HAP charged to the reactor; (ii.) the grade of product produced, (iii.) the calculated amount of HAP remaining before extended cookout; and (iv.) information showing that extended cookout was employed.
- h. Equipment leak records including (i.) the records specified in §63.181 for equipment leaks; or (ii.) the records specified in 63.1038 for equipment leaks.
- i. Wastewater records including the records specified in §§63.105, 63.147, and 63.152(f) and (g) for wastewater.
- j. Closed-vent system records including the records specified in §63.148(i).
- k. Bypass line records including (i.) hourly records of flow indicator operation and detection of any diversion during the hour and records of all periods when the vent stream is diverted from

the control stream or the flow indicator is not operating; or (ii.) the records of the monthly and visual inspection of the seal or closure mechanism and of all periods when the seal mechanism is broken, the bypass line valve position has changed, or the key for a lock-and-key type lock has been checked out and records of any car-seal that has broken.

- l. Heat exchanger system records including records of the results of inspections and repair according to source §63.104(f)(1).
- m. Planned routine maintenance records for control devices used to comply with the percent reduction emission limit for storage vessels in Table 1 to Subpart UUUU of Part 63.
- n. Safety device records including a record of each time a safety device is opened to avoid unsafe conditions according to §63.5505(d).

(9 VAC 5-80-110 and 40 CFR 63.5585, Table 9 to Subpart UUUU of Part 63)

XII. INSIGNIFICANT EMISSION UNITS

99. **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 (9 VAC 5-80-720B)	Rated Capacity (9 VAC 5-80-720C)
N/A	Used-Oil Storage Tanks	9 VAC 5-80-270 C		7 @ 275 gallons ea
EC T-40	Caustic Storage Tank	9 VAC 5-80-270 A		
EC T-41	Caustic Storage Tank	9 VAC 5-80-270 A		
EC T-59	Spent Caustic Tank	9 VAC 5-80-270 A		
EC T-58	Spent Caustic Tank	9 VAC 5-80-270 A		
EC T-55	Spent Caustic Tank	9 VAC 5-80-270 A		
EC T-54	Spent Caustic Tank	9 VAC 5-80-270 A		
EC-TNK-335	Caustic Mix Tank	9 VAC 5-80-270 A		
EC-TNK-343	Caustic Storage Tank	9 VAC 5-80-270 A		
EC-TNK-306	Caustic Scale Tank	9 VAC 5-80-270 A		
EC-TNK-SCI	Caustic Collection Tank	9 VAC 5-80-270 A		
EC-TNK-324	Caustic Receiving Tank	9 VAC 5-80-270 A		
EC-TNK-351	Caustic Neutralization Tank	9 VAC 5-80-270 A		
EC-AEU-041	Liquid Carbon Dioxide Storage Tank	9 VAC 5-80-270 A		
CM T-801	Caustic Storage Tank	9 VAC 5-80-270 A		
CM T-802	Caustic Storage Tank	9 VAC 5-80-270 A		
CM PER 1	North Hydrogen Peroxide Storage Tank	9 VAC 5-80-270 A		
CM PER 2	South Hydrogen Peroxide Storage Tank	9 VAC 5-80-270 A		
NA-TNK-300	Nitric Acid Storage Tank	9 VAC 5-80-270 A		
NA-TNK-313	Caustic Storage Tank	9 VAC 5-80-270 A		
NA-TNK-363	Caustic Storage Tank	9 VAC 5-80-270 A		
NA-AEU-098 and 099	Caustic Scale Tanks	9 VAC 5-80-270 A		
NA-TNK-339	Hydrogen Peroxide Storage Tank	9 VAC 5-80-270 A		
KL-TNK-362	Caustic Scale Tank	9 VAC 5-80-270 A		
KL-TNK-365	Caustic Storage Tank	9 VAC 5-80-270 A		
KL-TNK-366	Hydrogen Peroxide Storage Tank	9 VAC 5-80-270 A		
KL-TNK-368	Hydrogen Peroxide Storage Tank	9 VAC 5-80-270 A		
KL-TNK-350	Hydrogen Peroxide Storage Tank	9 VAC 5-80-270 A		
FP-AEU-001	#1 Mix Tank	9 VAC 5-80-270 B	PM/PM ₁₀ /VOC	
FP-AEU-002	#2 Mix Tank	9 VAC 5-80-270 B	PM/PM ₁₀ /VOC	

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720B)	Rated Capacity (9 VAC 5-80-720C)
FP-AEU-003	Bag Dump Station and Conveyance System	9 VAC 5-80-270 B	PM/PM ₁₀ /VOC	
FP-AEU-004	Hydrogen Peroxide Tank	9 VAC 5-80-270 A		
FP-AEU-005	Hydrogen Peroxide Tank	9 VAC 5-80-270 A		
FP-AEU-006	Peroxide Head Tank	9 VAC 5-80-270 A		
FP-AEU-007	Process Storage Tank #3	9 VAC 5-80-270 B	PM/PM ₁₀ /VOC	
FP-AEU-008	Process Storage Tank #4	9 VAC 5-80-270 B	PM/PM ₁₀ /VOC	
FP-AEU-009	Process Storage Tank #6	9 VAC 5-80-270 B	PM/PM ₁₀ /VOC	
FP-AEU-010	Mineral Oil Storage Tank #1	9 VAC 5-80-270 B	PM/PM ₁₀ /VOC	
FP-AEU-011	Mineral Oil Storage Tank #2	9 VAC 5-80-270 B	PM/PM ₁₀ /VOC	
N/A	Diesel Fuel Storage Tanks	9 VAC 5-80-270 B,C	VOC/HAP	4@ 275 gallons ea 1@ 500 gallons
N/A	Gasoline Storage Tank	9 VAC 5-80-270 B,C	VOC/HAP	1000 gallons

These 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.

XIII. PERMIT SHIELD & INAPPLICABLE REQUIREMENTS

100. **Permit Shield & Inapplicable Requirements** - Compliance with the provisions of this permit shall be deemed compliance with all applicable requirements in effect as of the permit issuance date as identified in this permit. This permit shield covers only those applicable requirements covered by terms and conditions in this permit and the following requirements which have been specifically identified as being not applicable to this permitted facility:

Citation	Title of Citation	Description of Applicability
40 CFR 60, Subpart Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels (including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction , or Modification Commenced after July 23, 1984	Does not apply to a facility subject to the HON MACT.
40 CFR 60, Subpart III	VOC Emissions from the SOCM I Air Oxidation Unit Processes	Applies to facilities constructed, modified, or reconstructed after 10/21/83 that produce chemicals listed in 40 CFR 60.617.
40 CFR 60, Subpart NNN	VOC Emissions from the SOCM I Distillation Operations	Applies to facilities constructed, modified, or reconstructed after 12/30/83 that produce chemicals listed in 40 CFR 60.667.
40 CFR 60, Subpart RRR	VOC Emissions from the SOCM I Reactor Processes	Applies to facilities constructed, modified, or reconstructed after 6/29/90 that produce chemicals listed in 40 CFR 60.707.
40 CFR 63, Subpart VVV	National Emission Standards for Hazardous Air Pollutants: Publicly Owned Treatment Works	Applies to Publicly Owned Treatment Works.
9 VAC 5 Chapter 40, Article 8	Emission Standards for Fuel Burning Equipment (Rule 4-8)	9 VAC 5-40-880E states that the provisions of this article do not apply to stationary internal combustion engines.
9 VAC 5, Chapter 40, Article 25	Emission Standards for Volatile Organic Compound Storage and Transfer Operations (Rule 4-25)	Does not apply to tanks listed as Insignificant Emission Units (based on tank volume and/or vapor pressure).

Nothing in this permit shield shall alter the provisions of §303 of the federal Clean Air Act, including the authority of the administrator under that section, the liability of the owner for any violation of applicable requirements prior to or at the time of permit issuance, or the ability to obtain information by (i) the administrator pursuant to §114 of the federal Clean Air Act, (ii) the Board pursuant to §10.1-1314 or §10.1-1315 of the Virginia Air Pollution Control Law or (iii) the Department pursuant to §10.1-1307.3 of the Virginia Air Pollution Control Law.
 (9 VAC 5-80-140)

XIV. GENERAL CONDITIONS

101. **General Conditions – Federal Enforceability** - All terms and conditions in this permit are enforceable by the administrator and citizens under the federal Clean Air Act, except those that have been designated as only state-enforceable.
(9 VAC 5-80-110 N)
102. **General Conditions – Permit Expiration** - This permit has a fixed term of five years. The expiration date shall be the date five years from the date of issuance. Unless the owner submits a timely and complete application for renewal to the Department consistent with the requirements of 9 VAC 5-80-80, the right of the facility to operate shall be terminated upon permit expiration.
(9 VAC 5-80-80 B, C, and F, 9 VAC 5-80-110 D and 9 VAC 5-80-170 B)
103. **General Conditions – Permit Expiration** - The owner shall submit an application for renewal at least six months but no earlier than eighteen months prior to the date of permit expiration.
(9 VAC 5-80-80 B, C, and F, 9 VAC 5-80-110 D and 9 VAC 5-80-170 B)
104. **General Conditions – Permit Expiration** - If an applicant submits a timely and complete application for an initial permit or renewal under this section, the failure of the source to have a permit or the operation of the source without a permit shall not be a violation of Article 1, Part II of 9 VAC 5 Chapter 80, until the Board takes final action on the application under 9 VAC 5-80-150.
(9 VAC 5-80-80 B, C, and F, 9 VAC 5-80-110 D and 9 VAC 5-80-170 B)
105. **General Conditions – Permit Expiration** - No source shall operate after the time that it is required to submit a timely and complete application under subsections C and D of 9 VAC 5-80-80 for a renewal permit, except in compliance with a permit issued under Article 1, Part II of 9 VAC 5 Chapter 80.
(9 VAC 5-80-80 B, C, and F, 9 VAC 5-80-110 D and 9 VAC 5-80-170 B)
106. **General Conditions – Permit Expiration** - If an applicant submits a timely and complete application under section 9 VAC 5-80-80 for a permit renewal but the Board fails to issue or deny the renewal permit before the end of the term of the previous permit, (i) the previous permit shall not expire until the renewal permit has been issued or denied and (ii) all the terms and conditions of the previous permit, including any permit shield granted pursuant to 9 VAC 5-80-140, shall remain in effect from the date the application is determined to be complete until the renewal permit is issued or denied.
(9 VAC 5-80-80 B, C, and F, 9 VAC 5-80-110 D and 9 VAC 5-80-170 B)
107. **General Conditions – Permit Expiration** - The protection under subsections F 1 and F 5 (ii) of section 9 VAC 5-80-80 F shall cease to apply if, subsequent to the completeness determination made pursuant section 9 VAC 5-80-80 D, the applicant fails to submit by the deadline specified in writing by the Board any additional information identified as being needed to process the application.
(9 VAC 5-80-80 B, C, and F, 9 VAC 5-80-110 D and 9 VAC 5-80-170 B)

108. **General Conditions – Recordkeeping and Reporting** - All records of monitoring information maintained to demonstrate compliance with the terms and conditions of this permit shall contain, where applicable, the following:
- a. The date, place as defined in the permit, and time of sampling or measurements;
 - b. The date(s) analyses were performed;
 - c. The company or entity that performed the analyses;
 - d. The analytical techniques or methods used;
 - e. The results of such analyses; and
 - f. The operating conditions existing at the time of sampling or measurement.
- (9 VAC 5-80-110 F)
109. **General Conditions – Recordkeeping and Reporting** - Records of all monitoring data and support information shall be retained for at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.
- (9 VAC 5-80-110 F)
110. **General Conditions – Recordkeeping and Reporting** - The permittee shall submit the results of monitoring contained in any applicable requirement to DEQ no later than **March 1** and **September 1** of each calendar year. This report must be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:
- a. The time period included in the report. The time periods to be addressed are January 1 to June 30 and July 1 to December 31; and
 - b. All deviations from permit requirements. For purpose of this permit, deviations include, but are not limited to:
 - i. Exceedance of emissions limitations or operational restrictions;
 - ii. Excursions from control device operating parameter requirements, as documented by continuous emission monitoring, periodic monitoring, or Compliance Assurance Monitoring (CAM) which indicates an exceedance of emission limitations or operational restrictions; or,
 - iii. Failure to meet monitoring, recordkeeping, or reporting requirements contained in this permit.

- c. If there were no deviations from permit conditions during the time period, the permittee shall include a statement in the report that "no deviations from permit requirements occurred during this semi-annual reporting period."

(9 VAC 5-80-110 F)

111. **General Conditions – Annual Compliance Certification** - Exclusive of any reporting required to assure compliance with the terms and conditions of this permit or as part of a schedule of compliance contained in this permit, the permittee shall submit to EPA and DEQ no later than **March 1** each calendar year a certification of compliance with all terms and conditions of this permit including emission limitation standards or work practices for the period ending December 31. The compliance certification shall comply with such additional requirements that may be specified pursuant to §114(a)(3) and §504(b) of the federal Clean Air Act. The permittee shall maintain a copy of the certification for five (5) years after submittal of the certification. This certification shall be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:

- a. The time period included in the certification. The time period to be addressed is January 1 to December 31;
- b. The identification of each term or condition of the permit that is the basis of the certification;
- c. The compliance status;
- d. Whether compliance was continuous or intermittent, and if not continuous, documentation of each incident of non-compliance;
- e. Consistent with subsection 9 VAC 5-80-110 E, the method or methods used for determining the compliance status of the source at the time of certification and over the reporting period;
- f. Such other facts as the permit may require to determine the compliance status of the source; and
- g. One copy of the annual compliance certification shall be submitted to EPA in electronic format only. The certification document should be sent to the following electronic mailing address:

R3_APD_Permits@epa.gov

(9 VAC 5-80-110 K.5)

112. **General Conditions – Permit Deviation Reporting** - The permittee shall notify the Piedmont Regional Office within four daytime business hours after discovery of any deviations from permit requirements which may cause excess emissions for more than one hour, including those attributable to upset conditions as may be defined in this permit. In addition, within 14 days of the discovery, the permittee shall provide a written statement explaining the problem, any corrective actions or preventative measures taken, and the estimated duration of the permit deviation. The

occurrence should also be reported in the next semi-annual compliance monitoring report pursuant to Condition 110 of this permit.

(9 VAC 5-80-110 F.2 and 9 VAC 5-80-250)

113. **General Conditions – Failure/Malfunction Reporting** - In the event that any affected facility or related air pollution control equipment fails or malfunctions in such a manner that may cause excess emissions for more than one hour, the owner shall, as soon as practicable but no later than four daytime business hours after the malfunction is discovered, notify the Piedmont Regional Office by facsimile transmission, telephone or telegraph of such failure or malfunction and shall within 14 days of discovery provide a written statement giving all pertinent facts, including the estimated duration of the breakdown. Owners subject to the requirements of 9 VAC 5-40-50 C and 9 VAC 5-50-50 C are not required to provide the written statement prescribed in this paragraph for facilities subject to the monitoring requirements of 9 VAC 5-40-40 and 9 VAC 5-50-40. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the owner shall notify the Piedmont Regional Office.
(9 VAC 5-20-180 C)
114. **General Conditions – Severability** - The terms of this permit are severable. If any condition, requirement or portion of the permit is held invalid or inapplicable under any circumstance, such invalidity or inapplicability shall not affect or impair the remaining conditions, requirements, or portions of the permit.
(9 VAC 5-80-110 G.1)
115. **General Conditions – Duty to Comply** - The permittee shall comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Air Act or the Virginia Air Pollution Control Law or both and is ground for enforcement action; for permit termination, revocation and reissuance, or modification; or, for denial of a permit renewal application.
(9 VAC 5-80-110 G.2)
116. **General Conditions – Need to Halt or Reduce Activity not a Defense** - It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
(9 VAC 5-80-110 G.3)
117. **General Conditions – Permit Modification** - A physical change in, or change in the method of operation of, this stationary source may be subject to permitting under State Regulations 9 VAC 5-80-50, 9 VAC 5-80-1100, 9 VAC 5-80-1605, or 9 VAC 5-80-2000 and may require a permit modification and/or revisions except as may be authorized in any approved alternative operating scenarios.
(9 VAC 5-80-190 and 9 VAC 5-80-260)
118. **General Conditions – Property Rights** - The permit does not convey any property rights of any sort, or any exclusive privilege.
(9 VAC 5-80-110 G.5)
119. **General Conditions – Duty to Submit Information** - The permittee shall furnish to the Board, within a reasonable time, any information that the Board may request in writing to determine

whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Board copies of records required to be kept by the permit and, for information claimed to be confidential, the permittee shall furnish such records to the Board along with a claim of confidentiality.

(9 VAC 5-80-110 G.6)

120. **General Conditions – Duty to Submit Information** - Any document (including reports) required in a permit condition to be submitted to the Board shall contain a certification by a responsible official that meets the requirements of 9 VAC 5-80-80 G.

(9 VAC 5-80-110 K.1)

121. **General Conditions – Duty to Pay Permit Fees** - The owner of any source for which a permit under 9 VAC 5-80-50 through 9 VAC 5-80-300 was issued shall pay permit fees consistent with the requirements of 9 VAC 5-80-310 through 9 VAC 5-80-350 in addition to an annual permit maintenance fee consistent with the requirements of 9 VAC 5-80-2310 through 9 VAC 5-80-2350. The actual emissions covered by the permit program fees for the preceding year shall be calculated by the owner and submitted to the Department by April 15 of each year. The calculations and final amount of emissions are subject to verification and final determination by the Department. The amount of the annual permit maintenance fee shall be the largest applicable base permit maintenance fee amount from Table 8-11A in 9 VAC 5-80-2340, adjusted annually by the change in the Consumer Price Index.

(9 VAC 5-80-110 H, 9 VAC 5-80-340 C and 9 VAC 5-80-2340 B)

122. **General Conditions – Fugitive Dust Emission Standards** - During the operation of a stationary source or any other building, structure, facility, or installation, no owner or other person shall cause or permit any materials or property to be handled, transported, stored, used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions may include, but are not limited to, the following:

- a. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land;
- b. Application of asphalt, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which may create airborne dust; the paving of roadways and the maintaining of them in a clean condition;
- c. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty material. Adequate containment methods shall be employed during sandblasting or similar operations;
- d. Open equipment for conveying or transporting material likely to create objectionable air pollution when airborne shall be covered or treated in an equally effective manner at all times when in motion; and,

- e. The prompt removal of spilled or tracked dirt or other materials from paved streets and of dried sediments resulting from soil erosion.

(9 VAC 5-50-90)

123. **General Conditions – Startup, Shutdown, and Malfunction** - At all times, including periods of startup, shutdown, and soot blowing, and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Board, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

(9 VAC 5-50-20 E)

124. **General Conditions – Alternative Operating Scenarios** - Contemporaneously with making a change between reasonably anticipated operating scenarios identified in this permit, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating. The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions under each such operating scenario. The terms and conditions of each such alternative scenario shall meet all applicable requirements including the requirements of 9 VAC 5 Chapter 80, Article 1.

(9 VAC 5-80-110 J)

125. **General Conditions – Inspection and Entry Requirements** - The permittee shall allow DEQ, upon presentation of credentials and other documents as may be required by law, to perform the following:

- a. Enter upon the premises where the source is located or emissions-related activity is conducted, or where records must be kept under the terms and conditions of the permit.
- b. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of the permit.
- c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit.
- d. Sample or monitor at reasonable times' substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

(9 VAC 5-80-110 K.2)

126. **General Conditions – Reopening For Cause** - The permit shall be reopened by the Board if additional federal requirements become applicable to a major source with a remaining permit term of three years or more. Such reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 9 VAC 5-80-80 F. The conditions for reopening a permit are as follows:

- a. The permit shall be reopened if the Board or the administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
- b. The permit shall be reopened if the administrator or the Board determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
- c. The permit shall not be reopened by the Board if additional applicable state requirements become applicable to a major source prior to the expiration date established under 9 VAC 5-80-110 D.

(9 VAC 5-80-110 L)

127. **General Conditions – Permit Availability** - Within five days after receipt of the issued permit, the permittee shall maintain the permit on the premises for which the permit has been issued and shall make the permit immediately available to DEQ upon request.
(9 VAC 5-80-150 E)
128. **General Conditions – Transfer of Permits** - No person shall transfer a permit from one location to another, unless authorized under 9 VAC 5-80-130, or from one piece of equipment to another.
(9 VAC 5-80-160)
129. **General Conditions – Transfer of Permits** - In the case of a transfer of ownership of a stationary source, the new owner shall comply with any current permit issued to the previous owner. The new owner shall notify the Board of the change in ownership within 30 days of the transfer and shall comply with the requirements of 9 VAC 5-80-200.
(9 VAC 5-80-160)
130. **General Conditions – Transfer of Permits** - In the case of a name change of a stationary source, the owner shall comply with any current permit issued under the previous source name. The owner shall notify the Board of the change in source name within 30 days of the name change and shall comply with the requirements of 9 VAC 5-80-200.
(9 VAC 5-80-160)
131. **General Conditions – Malfunction as an Affirmative Defense** - A malfunction constitutes an affirmative defense to an action brought for noncompliance with technology-based emission limitations if the requirements stated in Condition 132 are met.
(9 VAC 5-80-250)
132. **General Conditions – Malfunction as an Affirmative Defense** - The affirmative defense of malfunction shall be demonstrated by the permittee through properly signed, contemporaneous operating logs, or other relevant evidence that show the following:
 - a. A malfunction occurred and the permittee can identify the cause or causes of the malfunction.
 - b. The permitted facility was at the time being properly operated.

- c. During the period of the malfunction the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit.
- d. The permittee notified the Board of the malfunction within two working days following the time when the emission limitations were exceeded due to the malfunction. This notification shall include a description of the malfunction, any steps taken to mitigate emissions, and corrective actions taken. The notification may be delivered either orally or in writing. The notification may be delivered by electronic mail, facsimile transmission, telephone, or any other method that allows the permittee to comply with the deadline. This notification fulfills the requirements of 9 VAC 5-80-110 F.2.b to report promptly deviations from permit requirements. This notification does not release the permittee from the malfunction reporting requirement under 9 VAC 5-20-180 C.

(9 VAC 5-80-250)

- 133. **General Conditions – Malfunction as an Affirmative Defense** - In any enforcement proceeding, the permittee seeking to establish the occurrence of a malfunction shall have the burden of proof.
(9 VAC 5-80-250)
- 134. **General Conditions – Malfunction as an Affirmative Defense** - The provisions of Conditions 131-133 are in addition to any malfunction, emergency or upset provision contained in any applicable requirement.
(9 VAC 5-80-250)
- 135. **General Conditions – Permit Revocation or Termination for Cause** - A permit may be revoked or terminated prior to its expiration date if the owner knowingly makes material misstatements in the permit application or any amendments thereto or if the permittee violates, fails, neglects or refuses to comply with the terms or conditions of the permit, any applicable requirements, or the applicable provisions of 9 VAC 5 Chapter 80 Article 1. The Board may suspend, under such conditions and for such period of time as the Board may prescribe any permit for any grounds for revocation or termination or for any other violations of these regulations.
(9 VAC 5-80-190 C and 9 VAC 5-80-260)
- 136. **General Conditions – Duty to Supplement or Correct Application** - Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrections. An applicant shall also provide additional information as necessary to address any requirements that become applicable to the source after the date a complete application was filed but prior to release of a draft permit.
(9 VAC 5-80-80 E)
- 137. **General Conditions – Stratospheric Ozone Protection** - If the permittee handles or emits one or more Class I or II substances subject to a standard promulgated under or established by Title VI (Stratospheric Ozone Protection) of the federal Clean Air Act, the permittee shall comply with all applicable sections of 40 CFR Part 82, Subparts A to F.
(40 CFR Part 82, Subparts A-F)

138. **General Conditions – Asbestos Requirements** - The permittee shall comply with the requirements of National Emissions Standards for Hazardous Air Pollutants (40 CFR 61) Subpart M, National Emission Standards for Asbestos as it applies to the following: Standards for Demolition and Renovation (40 CFR 61.145), Standards for Insulating Materials (40 CFR 61.148), and Standards for Waste Disposal (40 CFR 61.150).
(9 VAC 5-60-70 and 9 VAC 5-80-110 A.1)
139. **General Conditions – Accidental Release Prevention** - If the permittee has more, or will have more than a threshold quantity of a regulated substance in a process, as determined by 40 CFR 68.115, the permittee shall comply with the requirements of 40 CFR Part 68.
(40 CFR Part 68)
140. **General Conditions – Changes to Permits for Emissions Trading** - No permit revision shall be required under any federally approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit.
(9 VAC 5-80-110 I)
141. **General Conditions – Emissions Trading** - Where the trading of emissions increases and decreases within the permitted facility is to occur within the context of this permit and to the extent that the regulations provide for trading such increases and decreases without a case-by-case approval of each emissions trade:
- a. All terms and conditions required under 9 VAC 5-80-110, except subsection N, shall be included to determine compliance.
 - b. The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions that allow such increases and decreases in emissions.
 - c. The owner shall meet all applicable requirements including the requirements of 9 VAC 5-80-50 through 9 VAC 5-80-300.

(9 VAC 5-80-110 I)

XV. State-Only Enforceable Requirements

142. **State-Only Enforceable Requirements** - The following terms and conditions (Conditions 143–156) are not required under the federal Clean Air Act or under any of its applicable federal requirements, and are not subject to the requirements of 9 VAC 5-80-290 concerning review of proposed permits by EPA and draft permits by affected states.
(9 VAC 5-80-110 N and 9 VAC 5-80-300)

143. **Toxic Pollutants** – As of the date of this permit, the permittee is limited to use of the following toxic pollutants in the manufacture of CMC and operations:

<u>Toxic Compounds</u>	<u>CAS Number</u>
Chloroacetic Acid	79-11-8
Methanol	67-56-1

The permittee may use additional toxic compounds in the manufacture of CMC under 9 VAC 5-60-300 without obtaining a new permit provided the following conditions are met:

- a. Notification shall be given to the Piedmont Regional Office. Such notification shall be made within fifteen (15) days after the use of additional toxic compounds, and shall include identification of the toxic compound, the date the toxic compound was first used, and the anticipated maximum throughput of that compound in lbs/hr and tons/yr. Additional details of the notification should be arranged with the Piedmont Regional Office.
- b. The permittee shall operate this facility in compliance with 9 VAC Chapter 60, Article 5, for all toxic compounds.
- c. If a permit is required, failure to obtain the permit prior to the change in process formulation or the use of any additional toxic compound may result in enforcement action.

(9 VAC 5-80-110, 9 VAC 5-60-340 and Condition 25 of 12/18/14 Permit)

144. **Emission Controls** – Methyl Chloride and Toluene emissions from the mix tanks, reactors and dryers of the 10-gallon research and development cellulose ether process line (TF-AEU-001-004) shall be controlled by the technical facility scrubber (TF-ACD-001). The technical facility scrubber shall be provided with adequate access for inspection and shall be in operation when the 10-gallon research and development cellulose ether process line (TF-AEU-004) is in operation (Methyl Chloride and Toluene emitting activities).
(9 VAC 5-80-110 and Condition 2 of the 12/7/09 Permit)

145. **Emission Controls** – The technical facility scrubber (TF-ACD-001), in conjunction with other recovery equipment (condensers), shall reduce the potential emissions (as specified in Condition 149) of the Methyl Chloride and Toluene solvent/reactant feed to the 10-gallon research and development cellulose ether process line (TF-AEU-001-004) by at least 90%. Compliance with this requirement shall be calculated monthly by material balance which incorporates the quantities

of solvent/reactant feed, the quantities of solvent/reactant consumed, the quantities of solvent/reactant recovered and any other terms as agreed to by the Piedmont Regional Office.
(9 VAC 5-80-110 and Condition 3 of the 12/7/09 Permit)

146. **Emission Controls** – Volatile Organic Compound and chloroacetic acid emissions from the three (3) chloroacetic acid storage tanks shall be controlled by a shared packed tower scrubber with a rated control efficiency equal to or greater than 99.8%. The water supply to the scrubber shall be equipped with a flow meter. The water supply flow meter shall be maintained such that it is in proper working order at all times. An annual inspection shall be conducted on the scrubber. The inspection shall note the placement and physical condition of the packing. In addition, the inspection shall note the alignment and condition of the atomizing spray nozzle. The scrubber shall be provided with adequate access for inspection.
(9 VAC 5-80-110 and Condition 26 of the 12/18/14 Permit)
147. **Emission Controls** – The chloroacetic acid transfer system shall be operated in accordance with good air pollution control practices. The hoses, pipes, connectors, valves, seals, and other transfer components of the chloroacetic acid transfer system shall be maintained in good condition at all times.
(9 VAC 5-80-110 and Condition 27 of the 12/18/14 Permit)
148. **Emission Controls** – Chlorine emissions from the chlorine unloading platform shall be controlled by a caustic scrubber followed by a mist eliminator. The scrubber and mist eliminator shall be provided with adequate access for inspection.
(9 VAC 5-80-110 and Condition 3 of the 4/3/03 Permit)
149. **Throughput Limit** – The permittee shall not introduce more than 88 tons/yr of Methyl Chloride to the 10-gallon research and development cellulose ether process line (TF-AEU-001-004) as solvent/reactant feed. The permittee shall not introduce more than 88 tons/yr of Toluene to the 10-gallon research and development cellulose ether process line (TF-AEU-001-004) as solvent feed. These annual consumption limits shall be calculated monthly as the sum of each consecutive 12 month period.
(9 VAC 5-80-110 and Condition 4 of the 12/7/09 Permit)
150. **Throughput Limit** – The throughput of chloroacetic acid through the three storage tanks shall not exceed 28,000,000 pounds (14 tons) per year, calculated monthly as the sum of the previous consecutive 12 months' period.
(9 VAC 5-80-110 and Condition 28 of the 12/18/14 Permit)
151. **Throughput Limit** – The annual throughput of chlorine for the chlorine unloading platform shall not exceed 8,000 tons/yr, calculated monthly as the sum of the previous consecutive 12 month period. The hourly throughput of the chlorine unloading platform shall not exceed 1.25 tons/hr.
(9 VAC 5-80-110 and Condition 4 of the 4/3/03 Permit)
152. **Emission Limits** – Emissions from the operation of the 10-gallon research and development cellulose ether process line (TF-AEU-001-004) shall not exceed the limits specified below:

Methyl Chloride

2.4 lbs/hr

8.8 tons/yr

Toluene

2.4 lbs/hr

8.8 tons/yr

Annual emissions shall be calculated monthly as the sum of each consecutive 12 month period.

(9 VAC 5-80-110 and Condition 5 of the 12/7/09 Permit)

153. **Emission Limits** – Emissions from the three chloroacetic acid storage tanks shall not exceed the limits specified below:

Ref. No.	Chloroacetic Acid Emissions Description	Emission Limits	
		lbs/hr	lbs/yr
T-811, T-812, and T-813	Three chloroacetic acid storage tanks	0.022	10.4

(9 VAC 5-80-110 and Condition 29 of the 12/18/14 Permit)

154. **Emission Limits** – Chlorine emissions from the chlorine unloading platform shall not exceed the limits specified below:

Chlorine

0.023 lbs/hr

0.0012 tons/yr

(9 VAC 5-80-110 and Condition 5 of the 4/3/03 Permit)

155. **Stack Height** – The MCA scrubber stack shall be constructed to a minimum height of 5 meters as measured from ground level.

(9 VAC 5-80-110 and Condition 30 of the 12/18/14 Permit)

156. **Recordkeeping** – The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Piedmont Regional Office. These records shall include, but are not limited to:
- The monthly and annual amount of Methyl Chloride and Toluene processed (as solvent/reactant feed) by the 10-gallon research and development cellulose ether process line (TF-AEU-001-004). Annual usage shall be calculated monthly as the sum of each consecutive 12 month period.
 - The yearly throughput of chloroacetic acid, calculated monthly as the sum of the previous consecutive 12 month period.
 - The yearly throughput of chlorine for the chlorine unloading platform, calculated monthly as the sum of the previous consecutive 12 month period.
 - Process information and emission calculations necessary to demonstrate compliance with the emission reduction efficiency requirement of Condition 145 (rolling 12-month material balance)

- e. Process information and emission calculations necessary to demonstrate compliance with the hourly emission limits of Condition 152 (solvent/reactant feed per batch, batch duration, emission reduction efficiency, etc. as necessary).
- f. The annual emissions of Methyl Chloride and Toluene from the 10-gallon research and development cellulose ether process line (TF-AEU-001-004) calculated monthly as the sum of each consecutive 12 month period.
- g. The annual inspection records required in Condition 146 of this permit.

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

(9 VAC 5-80-110, Condition 6 of the 12/7/09 Permit, and Condition 31 of the 12/18/14 Permit)