West Virginia Department of Environmental Protection
Division of Air Quality

Earl Ray Tomblin
Governor

Randy C. Huffman
Cabinet Secretary

Permit to Operate

Pursuant to

Title V

of the Clean Air Act

Issued to:

E. I. du Pont de Nemours and Company
Washington Works
Research and Development (Part 11 of 14)
R30-10700001-2011

John A. Benedict
Director

Issued: July 11, 2011 • Effective: July 25, 2011
Expiration: July 11, 2016 • Renewal Application Due: January 11, 2016

Permit Number: **R30-10700001-2011**
Permittee: **E. I. du Pont de Nemours and Company**
Facility Name: **Washington Works**
Business Unit: **Research and Development (Part 11 of 14)**
Permittee Mailing Address: **P. O. Box 1217, Washington, WV 26181-1217**

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45CSR30 — Requirements for Operating Permits. The permittee identified at the above-referenced facility is authorized to operate the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Facility Location:	Washington, Wood County, West Virginia
Telephone Number:	(304) 863-4240
Type of Business Entity:	Corporation
Facility Description:	Process equipment and laboratories engaged in commercial product development activities as well as noncommercial research and development activities.
SIC Codes:	2821
UTM Coordinates:	442.368 km Easting • 4,346.679 km Northing • Zone 17

Permit Writer: Carrie McCumbers

Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§ 22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §22-5-14.

Issuance of this Title V Operating Permit does not supersede or invalidate any existing permits under 45CSR13, 14 or 19, although all applicable requirements from such permits governing the facility's operation and compliance have been incorporated into the Title V Operating Permit.

Table of Contents

1.0. Emission Units and Active R13, R14, and R19 Permits 3

2.0. General Conditions ..... ~~8~~9

3.0. Facility-Wide Requirements and Permit Shield ..... 1~~7~~8

Source-specific Requirements

4.0. ~~R13-2330 Emission Units &~~ Emission Units with no 45CSR13 Permit Requirements .. 3~~1~~2

5.0. 45CSR§21-30 Requirements for the Part Cleaner (R031S902) ..... 3~~8~~9

6.0. R13-2654 Emission Units ..... 4~~0~~1

7.0. R13-2692 Emission Units ..... 4~~2~~3

8.0. R13-2692 Laboratory Hoods 49

Appendix A: R13-~~2617E~~3223 Attachment

Appendix B: R13-2692A Attachments

1.0 Emission Units and Active R13, R14, and R19 Permits

1.1. Emission Units

Emission Point ID	Control Device	Emission Unit ID	Emission Unit Description	Design Capacity	Year Installed
~~**R13-2330 Emission Units**~~					
~~22-E-001~~	~~22-C-001 Bag Filter~~	~~22-S-001~~	~~Area Hoods to Bag Filter~~	~~7,200 ACFM~~	~~1988~~
		~~22-S-A11-007~~	~~A10/A11 Surface Coater~~	~~3 PU[1]~~	~~2000~~
~~22-E-A11-007~~	~~22-C-A11-007 Cyclone~~	~~22-S-A11-007~~	~~A10/A11 Surface Coater~~	~~3 PU[1]~~	~~2000~~
~~22-E-A6-001~~	~~None~~	~~22-S-A6-001A~~	~~A6 Vent Ports~~	~~3 PU[1]~~	~~1988~~
		~~22-S-A6-001B~~	~~A6 Vacuum Pump~~	~~3 PU[1]~~	~~1988~~
~~22-E-A6-002~~	~~None~~	~~22-S-A6-002~~	~~A6 Die~~	~~3 PU[1]~~	~~1988~~
		~~22-S-A6-003~~	~~A6 Cutter~~	~~3 PU[1]~~	~~1988~~
		~~22-S-A6-004~~	~~A6 Cooler/Screener~~	~~3 PU[1]~~	~~1988~~
		~~22-S-A6-005~~	~~Product Conveying~~	~~3 PU[1]~~	~~1988~~
		~~22-S-A6-006~~	~~Product Bin/Box~~	~~3 PU[1]~~	~~1988~~
~~22-E-A8-001~~	~~None~~	~~22-S-A8-001A~~	~~A8 Vent Ports~~	~~1 PU[1]~~	~~1988~~
		~~22-S-A8-001B~~	~~A8 Vacuum Pump~~	~~1 PU[1]~~	~~1988~~
~~22-E-A8-002~~	~~None~~	~~22-S-A8-002~~	~~A8 Die~~	~~1 PU[1]~~	~~1988~~
		~~22-S-A8-003~~	~~A8 Cutter~~	~~1 PU[1]~~	~~1988~~
		~~22-S-A8-004~~	~~A8 Cooler/Screener~~	~~1 PU[1]~~	~~1988~~
		~~22-S-A8-005~~	~~Product Conveying~~	~~1 PU[1]~~	~~1988~~
		~~22-S-A8-006~~	~~Product Bin/Box~~	~~1 PU[1]~~	~~1988~~
		~~22-S-A11-003~~	~~A11 Cutter~~	~~2 PU[1]~~	~~2000~~
		~~22-S-A11-004~~	~~A11 Cooler/Screener~~	~~2 PU[1]~~	~~2000~~
		~~22-S-A11-005~~	~~Product Conveying~~	~~2 PU[1]~~	~~2000~~
		~~22-S-A11-006~~	~~Product Bin/Box~~	~~2 PU[1]~~	~~2000~~
~~22-E-A10-001~~	~~None~~	~~22-S-A10-001A~~	~~A10 Vent Ports~~	~~3 PU[1]~~	~~2000~~
		~~22-S-A10-001B~~	~~A10 Vacuum Pump~~	~~3 PU[1]~~	~~2000~~
~~22-E-A10-002~~	~~None~~	~~22-S-A10-003~~	~~A10 Cutter~~	~~3 PU[1]~~	~~2000~~
		~~22-S-A10-004~~	~~A10 Cooler/Screener~~	~~3 PU[1]~~	~~2000~~
		~~22-S-A10-005~~	~~Product Conveying~~	~~3 PU[1]~~	~~2000~~
		~~22-S-A10-006~~	~~Product Bin/Box~~	~~3 PU[1]~~	~~2000~~
		~~22-S-A10-007~~	~~Box/Bin Sparge Station~~	~~3 PU[1]~~	~~2000~~

Emission Point ID	Control Device	Emission Unit ID	Emission Unit Description	Design Capacity	Year Installed
~~22-E-A11-001~~	~~None~~	~~22-S-A11-001A~~	~~A11 Vent Ports~~	~~2 PU[1]~~	~~2000~~
		~~22-S-A11-001B~~	~~A11 Vacuum Pump~~	~~2 PU[1]~~	~~2000~~
~~22-E-A11-002~~	~~22-C-A10-002 Scrubber~~	~~22-S-A10-002~~	~~A10 Die~~	~~3 PU[1]~~	~~2000~~
	~~22-C-A11-002 Scrubber~~	~~22-S-A11-002~~	~~A11 Die~~	~~2 PU[1]~~	~~2000~~
~~22-E-001~~	~~None~~	~~22-S-101~~	~~Research Laboratory Hood~~	~~2,830 ACFM~~	~~1970~~
~~22-E-109~~	~~None~~	~~22-S-109~~	~~Research Laboratory Hood~~	~~2,830 ACFM~~	~~1970~~
~~22-E-202~~	~~None~~	~~22-S-202~~	~~Research Laboratory Hood~~	~~2,830 ACFM~~	~~1970~~
~~22-E-208~~	~~None~~	~~22-S-208~~	~~Research Laboratory Hood~~	~~2,830 ACFM~~	~~1970~~
~~22-E-209~~	~~None~~	~~22-S-209~~	~~Research Laboratory Hood~~	~~2,830 ACFM~~	~~1970~~
~~200-E-211-15~~	~~None~~	~~200-S-211A~~	~~Research Laboratory Hood~~	~~2,800 ACFM~~	~~1960~~
~~200-E-211-16~~	~~None~~	~~200-S-211B~~	~~Research Laboratory Hood~~	~~2,800 ACFM~~	~~1960~~
~~200-E-211-17~~	~~None~~	~~200-S-211C~~	~~Research Laboratory Hood~~	~~2,800 ACFM~~	~~1960~~
~~200-E-212-18~~	~~None~~	~~200-S-212A~~	~~Research Laboratory Hood~~	~~2,800 ACFM~~	~~1960~~
~~200-E-212-19~~	~~None~~	~~200-S-212B~~	~~Research Laboratory Hood~~	~~2,800 ACFM~~	~~1960~~
~~200-E-213-20~~	~~None~~	~~200-S-213A~~	~~Research Laboratory Hood~~	~~2,800 ACFM~~	~~1960~~
~~200-E-213-21~~	~~None~~	~~200-S-213B~~	~~Research Laboratory Hood~~	~~2,800 ACFM~~	~~1960~~
~~200-E-214-22~~	~~None~~	~~200-S-214A~~	~~Research Laboratory Hood~~	~~2,800 ACFM~~	~~1960~~
~~200-E-214-23~~	~~None~~	~~200-S-214B~~	~~Research Laboratory Hood~~	~~2,800 ACFM~~	~~1960~~
R13-2654 Emission Units					
R022E-F025	None	R022S-002	Extruder Vent	2,815 ACFM	1975
R022E-F030	None	R022S-007	Extruder Vent	7,000 ACFM	1975
R022E F51	None	R022S-B05	Hood	2,815 ACFM	1950
R022E F52	None	R022S-B06	Hood	2,815 ACFM	1950
R022E F63	None	R022S-B17	Hood	2,815 ACFM	1950
R022E F65	None	R022S-B19	Hood	2,815 ACFM	1950
R022E F66	None	R022S-B20	Hood	2,815 ACFM	1950
R022E F74	None	R022S-B28	Hood	2,815 ACFM	1950
R022E F115	None	R022S-B36	Hood	2,815 ACFM	1985
R022E F117	None	R022S-B38	Hood	1,500 ACFM	1985
R022E F118	None	R022S-B40	Hood	2,815 ACFM	1985
R022E-F121	None	R022S-011	Extruder Vent	9,523 ACFM	1985

Emission Point ID	Control Device	Emission Unit ID	Emission Unit Description	Design Capacity	Year Installed
R022E-F123	None	R022S-008	Extruder Vent	2,000 ACFM	1990
R022E-F132	None	R022S-047	Local Vent	12,000 ACFM	1985
R022E-F155	None	R022S-009	Vacuum System	100 ACFM	1990
R022E-F157	None	R022S-003	Vacuum System	250 ACFM	1985
R022E-F160	None	R022S-005	Vacuum System	250 ACFM	1985
R022E-F168	None	R022S-012	Vacuum System	2,500 ACFM	1985
~~R200E-004~~	~~None~~	~~R200S-010~~	~~Oven~~	~~2.5 ft^3~~	~~1980~~
		~~R200S-012~~	~~Oven~~	~~2.5 ft^3~~	~~1980~~
		~~R200S-023~~	~~Oven~~	~~2.5 ft^3~~	~~1980~~
~~R200E-F16~~	~~None~~	~~R200S-022~~	~~Hood~~	~~780 ACFM~~	~~1960~~
~~R200E-F17~~	~~None~~	~~R200S-021~~	~~Hood~~	~~3,200 ACFM~~	~~1960~~
~~R200E-F18~~	~~None~~	~~R200S-014~~	~~Reactor Ventilation~~	~~1,636 ACFM~~	~~1960~~
		~~R200S-020~~	~~Hood~~	~~1,636 ACFM~~	~~1960~~
~~R200E-F19~~	~~None~~	~~R200S-019~~	~~Hood~~	~~1,242 ACFM~~	~~1960~~
~~R200E-F20~~	~~None~~	~~R200S-013~~	~~Hood~~	~~1,636 ACFM~~	~~1960~~
		~~R200S-018~~	~~Hood~~	~~1,636 ACFM~~	~~1960~~
~~R200E-F21~~	~~None~~	~~R200S-017~~	~~Hood~~	~~1,300 ACFM~~	~~1960~~
~~R200E-F22~~	~~None~~	~~R200S-016~~	~~Hood~~	~~1,440 ACFM~~	~~1960~~
~~R200E-F23~~	~~None~~	~~R200S-011~~	~~Hood~~	~~1,700 ACFM~~	~~1960~~
		~~R200S-015~~	~~Hood~~	~~1,700 ACFM~~	~~1960~~
~~R217E-001~~	~~None~~	~~R217S-001~~	~~Extruder~~	~~2.3 PU^1/hr~~	~~1989~~
		~~R217S-002~~	~~Extruder~~	~~1.4 PU^1/hr~~	~~1985~~
		~~R217S-003~~	~~Extruder~~	~~0.75 PU^1/hr~~	~~2000~~
		~~R217S-005~~	~~Extruder~~	~~2.3 PU^1/hr~~	~~1972~~
		~~R217S-023~~	~~Hood~~	~~750 ACFM~~	~~1989~~
~~R217E-002~~	~~None~~	~~R217S-006~~	~~Oven~~	~~27 ft^3~~	~~1982~~
		~~R217S-007~~	~~Oven~~	~~27 ft^3~~	~~1982~~
		~~R217S-008~~	~~Oven~~	~~27 ft^3~~	~~1985~~
~~R217E-003~~	~~None~~	~~R217S-009~~	~~Oven~~	~~27 ft^3~~	~~1982~~
		~~R217S-010~~	~~Oven~~	~~27 ft^3~~	~~1985~~
		~~R217S-011~~	~~Oven~~	~~27 ft^3~~	~~1985~~
		~~R217S-012~~	~~Oven~~	~~27 ft^3~~	~~1985~~
		~~R217S-013~~	~~Oven~~	~~27 ft^3~~	~~1985~~
~~R217E-005~~	~~None~~	~~R217S-024~~	~~Tank~~	~~24 Gallons~~	~~2000~~

Emission Point ID	Control Device	Emission Unit ID	Emission Unit Description	Design Capacity	Year Installed
R13-2692 Emission Units					
R022ECPV	None	R022S204	FP SW O2 Analyzers	---	1978
		R022S205A	FP SW TFE Tank #1 Vent	---	2004
		R022S206A	FP SW TFE Tank #2 Vent	---	1994
		R022S207A	FP SW TFE Tank #3 Vent	---	1985
		R022S213A	Reactor #4 Mixed Feed Vent	---	1974
		R022S247	Monomer Transfer Line	---	2002
R022EEF006	None	R022S233A	Drying Ovens	---	1965-1995
		R022S234	Hydraulic Presses Hood	---	1964-1992
		R022S235	Mixer	---	1996
		R022S236	#2 Oven	---	1973
R022EEF007	None	R022S213B	Reactor #4 Rxn Vent	---	1974
		R022S244	Coolant System #3	---	1985
R022EEF009	None	R022S208A	FP SW Aq Feeds Vent	---	1980-2000
R022EEF011	None	R022S237	Fume Hood	---	1964
R022EEF012	None	R022S209A	SW Nonaq Feeds Vent	---	1980-2000
R022EEF014	None	R022S243	Coolant System #2	---	1996
R022EEF016	None	R022S242	Coolant System #1	---	1988
R022EEF085	None	R022S240C	Feed Hopper	---	1976
R022EEF086	None	R022S239	Small Extruder	---	1974
R022EEF087	None	R022S240A	Large Extruder	---	1976
R022EEF089	None	R022S215	#1 Oven	---	1992
		R022S232A	Mixer Vent	---	1985
		R022S233B	Drying Ovens	---	1964
		R022S240B	Large Extruder	---	1976
R022EEF146	None	R022S238	Melt Indexers/Oven	---	1964
R022EEF176	None	R022S245	Drum Storage	---	1964
		R022S246	Coolant Storage	---	1964
R022EEVJ	None	R022S232B	Mixer Evac	---	1985
R022EPK1	None	R022S210A	Reactor #1 Vent	---	1969
R022EPK2	None	R022S211A	Reactor #2 Vent	---	1988
R022EPK3	None	R022S212A	Reactor #3 Vent	---	1994
R022EPK5	None	R022S214A	Reactor #5 Vent	---	1985

Emission Point ID	Control Device	Emission Unit ID	Emission Unit Description	Design Capacity	Year Installed
R022EPVJ	None	R022S200	HFP System Evac	---	1989
		R022S205B	FP SW TFE Tank #1 Evac	---	2004
		R022S206B	FP SW TFE Tank #2 Evac	---	1994
		R022S207B	FP SW TFE Tank #3 Evac	---	1985
		R022S208B	SW Aq Feeds Evac	---	1980-2000
		R022S209B	SW Nonaq Feeds Evac	---	1980-2000
		R022S210B	Reactor #1 Evac	---	1969
		R022S211B	Reactor #2 Evac	---	1988
		R022S212B	Reactor #3 Evac	---	1994
		R022S214B	Reactor #5 Evac	---	1985
R029EEF130	R029C229 Spray Tower	R029S230	Double Cone Fluorinator	---	1985
R029EEF130	R029C229 Spray Tower	R029S231	Vibrating Bed Fluorinator	---	1987
22-E-109	None	22-S-109	Research Laboratory Hood	2,830 ACFM	1970
22-E-202	None	22-S-202	Research Laboratory Hood	2,830 ACFM	1970
22-E-208	None	22-S-208	Research Laboratory Hood	2,830 ACFM	1970
22-E-209	None	22-S-209	Research Laboratory Hood	2,830 ACFM	1970
Emission Units with no 45CSR13 Permit Requirements					
R031E902	None	R031S902	Part Cleaner	50 Gallons	2002
R031E903 (Inside Vent)	Integral Cyclone and Bag Filter	R031S903	Bead Blast Unit	900 ACFM	1993
R031E904	None	R031S904	Burn Out Oven	0.15 ft^3	2002
22-E-215	None	22-S-215	Burn Out Oven	45 ft^3	2002
22-E-216	None	22-S-216A	Berringer Burn Out Oven #1	3.3 ft^3	1987
		22-S-216B	Berringer Burn Out Oven #2	3.3 ft^3	1987
		22-S-216C	Berringer Burn Out Oven #3	0.15 ft^3	2002

[1]PU represents a Production Unit as defined in traditional units of measure by confidential business information.

1.2. Active R13, R14, and R19 Permits

The underlying authority for any conditions from R13, R14, and/or R19 permits contained in this operating permit is cited using the original permit number (e.g. R13-1234). The current applicable version of such permit(s) is listed below.

Permit Number	Date of Issuance
~~R13-2330E~~	~~April 18, 2011~~
~~R13-2617E~~ R13-3223	~~November 30, 2010~~ December 8, 2014
~~R13-2654~~ R13-2654C	~~January 30, 2007~~ December 8, 2014
~~R13-2692~~ R13-2692A	~~April 30, 2007~~ December 8, 2014

2.0 General Conditions

2.1. Definitions

2.1.1. All references to the "West Virginia Air Pollution Control Act" or the "Air Pollution Control Act" mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.

2.1.2. The "Clean Air Act" means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.

2.1.3. "Secretary" means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.12.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.

2.1.4. Unless otherwise specified in a permit condition or underlying rule or regulation, all references to a "rolling yearly total" shall mean the sum of the monthly data, values or parameters being measured, monitored, or recorded, at any given time for the previous twelve (12) consecutive calendar months.

2.2. Acronyms

CAAA	Clean Air Act Amendments
CBI	Confidential Business Information
CEM	Continuous Emission Monitor
CES	Certified Emission Statement
C.F.R. *or* CFR	Code of Federal Regulations
CO	Carbon Monoxide
C.S.R. *or* CSR	Codes of State Rules
DAQ	Division of Air Quality
DEP	Department of Environmental Protection
FOIA	Freedom of Information Act
HAP	Hazardous Air Pollutant
HON	Hazardous Organic NESHAP
HP	Horsepower
lbs/hr *or* lb/hr	Pounds per Hour
LDAR	Leak Detection and Repair
m	Thousand
MACT	Maximum Achievable Control Technology
mm	Million
mmBtu/hr	Million British Thermal Units per Hour
mmft^3/hr *or* mmcf/hr	Million Cubic Feet Burned per Hour
NA *or* N/A	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAPS	National Emissions Standards for Hazardous Air Pollutants
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standards
PM	Particulate Matter
PM_{10}	Particulate Matter less than 10µm in diameter
pph	Pounds per Hour
ppm	Parts per Million
PSD	Prevention of Significant Deterioration
psi	Pounds per Square Inch
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
TAP	Toxic Air Pollutant
TPY	Tons per Year
TRS	Total Reduced Sulfur
TSP	Total Suspended Particulate
USEPA	United States Environmental Protection Agency
UTM	Universal Transverse Mercator
VEE	Visual Emissions Evaluation
VOC	Volatile Organic Compounds

2.3. Permit Expiration and Renewal

2.3.1. Permit duration. This permit is issued for a fixed term of five (5) years and shall expire on the date specified on the cover of this permit, except as provided in 45CSR§30-6.3.b. and 45CSR§30-6.3.c.
[45CSR§30-5.1.b.]

2.3.2. A permit renewal application is timely if it is submitted at least six (6) months prior to the date of permit expiration.
[45CSR§30-4.1.a.3.]

2.3.3. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with 45CSR§30-6.2. and 45CSR§30-4.1.a.3.
[45CSR§30-6.3.b.]

2.3.4. If the Secretary fails to take final action to deny or approve a timely and complete permit application before the end of the term of the previous permit, the permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted for the permit shall continue in effect during that time.
[45CSR§30-6.3.c.]

2.4. Permit Actions

2.4.1. This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
[45CSR§30-5.1.f.3.]

2.5. Reopening for Cause

2.5.1. This permit shall be reopened and revised under any of the following circumstances:

a. Additional applicable requirements under the Clean Air Act or the Secretary's legislative rules become applicable to a major source with a remaining permit term of three (3) or more years. Such a reopening shall be completed not later than eighteen (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 45CSR§§30-6.6.a.1.A. or B.

b. Additional requirements (including excess emissions requirements) become applicable to an affected source under Title IV of the Clean Air Act (Acid Deposition Control) or other legislative rules of the Secretary. Upon approval by U.S. EPA, excess emissions offset plans shall be incorporated into the permit.

c. The Secretary or U.S. EPA 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.

d. The Secretary or U.S. EPA determines that the permit must be revised or revoked and reissued to assure compliance with the applicable requirements.

[45CSR§30-6.6.a.]

2.6. Administrative Permit Amendments

2.6.1. The permittee may request an administrative permit amendment as defined in and according to the procedures specified in 45CSR§30-6.4.
[45CSR§30-6.4.]

2.7. Minor Permit Modifications

2.7.1. The permittee may request a minor permit modification as defined in and according to the procedures specified in 45CSR§30-6.5.a.
[45CSR§30-6.5.a.]

2.8. Significant Permit Modification

2.8.1. The permittee may request a significant permit modification, in accordance with 45CSR§30-6.5.b., for permit modifications that do not qualify for minor permit modifications or as administrative amendments.
[45CSR§30-6.5.b.]

2.9. Emissions Trading

2.9.1. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in the permit and that are in accordance with all applicable requirements.
[45CSR§30-5.1.h.]

2.10. Off-Permit Changes

2.10.1. Except as provided below, a facility may make any change in its operations or emissions that is not addressed nor prohibited in its permit and which is not considered to be construction nor modification under any rule promulgated by the Secretary without obtaining an amendment or modification of its permit. Such changes shall be subject to the following requirements and restrictions:

a. The change must meet all applicable requirements and may not violate any existing permit term or condition.

b. The permittee must provide a written notice of the change to the Secretary and to U.S. EPA within two (2) business days following the date of the change. Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change.

c. The change shall not qualify for the permit shield.

d. The permittee shall keep records describing all changes made at the source that result in emissions of regulated air pollutants, but not otherwise regulated under the permit, and the emissions resulting from those changes.

e. No permittee may make any change subject to any requirement under Title IV of the Clean Air Act (Acid Deposition Control) pursuant to the provisions of 45CSR§30-5.9.

f. No permittee may make any changes which would require preconstruction review under any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) pursuant to the provisions of 45CSR§30-5.9.

[45CSR§30-5.9.]

2.11. Operational Flexibility

2.11.1. The permittee may make changes within the facility as provided by § 502(b)(10) of the Clean Air Act. Such operational flexibility shall be provided in the permit in conformance with the permit application and applicable requirements. No such changes shall be a modification under any rule or any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) promulgated by the Secretary in accordance with Title I of the Clean Air Act and the change shall not result in a level of emissions exceeding the emissions allowable under the permit.
[45CSR§30-5.8]

2.11.2. Before making a change under 45CSR§30-5.8., the permittee shall provide advance written notice to the Secretary and to U.S. EPA, describing the change to be made, the date on which the change will occur, any changes in emissions, and any permit terms and conditions that are affected. The permittee shall thereafter maintain a copy of the notice with the permit, and the Secretary shall place a copy with the permit in the public file. The written notice shall be provided to the Secretary and U.S. EPA at least seven (7) days prior to the date that the change is to be made, except that this period may be shortened or eliminated as necessary for a change that must be implemented more quickly to address unanticipated conditions posing a significant health, safety, or environmental hazard. If less than seven (7) days notice is provided because of a need to respond more quickly to such unanticipated conditions, the permittee shall provide notice to the Secretary and U.S. EPA as soon as possible after learning of the need to make the change.
[45CSR§30-5.8.a.]

2.11.3. The permit shield shall not apply to changes made under 45CSR§30-5.8., except those provided for in 45CSR§30-5.8.d. However, the protection of the permit shield will continue to apply to operations and emissions that are not affected by the change, provided that the permittee complies with the terms and conditions of the permit applicable to such operations and emissions. The permit shield may be reinstated for emissions and operations affected by the change:

a. If subsequent changes cause the facility's operations and emissions to revert to those authorized in the permit and the permittee resumes compliance with the terms and conditions of the permit, or

b. If the permittee obtains final approval of a significant modification to the permit to incorporate the change in the permit.

[45CSR§30-5.8.c.]

2.11.4. "Section 502(b)(10) changes" are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.
[45CSR§30-2.39]

2.12. Reasonably Anticipated Operating Scenarios

2.12.1. The following are terms and conditions for reasonably anticipated operating scenarios identified in this permit.

a. Contemporaneously with making a change from one operating scenario to another, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating and to document the change in reports submitted pursuant to the terms of this permit and 45CSR30.

b. The permit shield shall extend to all terms and conditions under each such operating scenario; and

c. The terms and conditions of each such alternative scenario shall meet all applicable requirements and the requirements of 45CSR30.

[45CSR§30-5.1.i.]

2.13. Duty to Comply

2.13.1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.
[45CSR§30-5.1.f.1.]

2.14. Inspection and Entry

2.14.1. The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:

a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times (including all times in which the facility is in operation) 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 to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

[45CSR§30-5.3.b.]

2.15. Schedule of Compliance

2.15.1. For sources subject to a compliance schedule, certified progress reports shall be submitted consistent with the applicable schedule of compliance set forth in this permit and 45CSR§30-4.3.h., but at least every six (6) months, and no greater than once a month, and shall include the following:

a. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved; and

b. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measure adopted.

[45CSR§30-5.3.d.]

2.16. Need to Halt or Reduce Activity not a Defense

2.16.1. 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. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.
[45CSR§30-5.1.f.2.]

2.17. Emergency

2.17.1. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.
[45CSR§30-5.7.a.]

2.17.2. Effect of any emergency. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of 45CSR§30-5.7.c. are met.
[45CSR§30-5.7.b.]

2.17.3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;

b. The permitted facility was at the time being properly operated;

c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and

d. Subject to the requirements of 45CSR§30-5.1.c.3.C.1, the permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, and as applicable rules provide. This notice, report, and variance request fulfills the requirement of 45CSR§30-5.1.c.3.B. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

[45CSR§30-5.7.c.]

2.17.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
[45CSR§30-5.7.d.]

2.17.5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.
[45CSR§30-5.7.e.]

2.18. Federally-Enforceable Requirements

2.18.1. All terms and conditions in this permit, including any provisions designed to limit a source's potential to emit and excepting those provisions that are specifically designated in the permit as "State-enforceable only", are enforceable by the Secretary, USEPA, and citizens under the Clean Air Act.
[45CSR§30-5.2.a.]

2.18.2. Those provisions specifically designated in the permit as “State-enforceable only” shall become “Federally-enforceable” requirements upon SIP approval by the USEPA.

2.19. Duty to Provide Information

2.19.1. The permittee shall furnish to the Secretary within a reasonable time any information the Secretary 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 Secretary copies of records required to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.
[45CSR§30-5.1.f.5.]

2.20. Duty to Supplement and Correct Information

2.20.1. Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.
[45CSR§30-4.2.]

2.21. Permit Shield

2.21.1. Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance provided that such applicable requirements are included and are specifically identified in this permit or the Secretary has determined that other requirements specifically identified are not applicable to the source and this permit includes such a determination or a concise summary thereof.
[45CSR§30-5.6.a.]

2.21.2. Nothing in this permit shall alter or affect the following:

a. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance; or

b. The applicable requirements of the Code of West Virginia and Title IV of the Clean Air Act (Acid Deposition Control), consistent with § 408 (a) of the Clean Air Act.

c. The authority of the Administrator of U.S. EPA to require information under § 114 of the Clean Air Act or to issue emergency orders under § 303 of the Clean Air Act.

[45CSR§30-5.6.c.]

2.22. Credible Evidence

2.22.1. Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee including but not limited to any challenge to the credible evidence rule in the context of any future proceeding.
[45CSR§30-5.3.e.3.B. and 45CSR38]

2.23. Severability

2.23.1. The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid by a court of competent jurisdiction, the remaining permit terms and conditions or their application to other circumstances shall remain in full force and effect.
[45CSR§30-5.1.e.]

2.24. Property Rights

2.24.1. This permit does not convey any property rights of any sort or any exclusive privilege.
[45CSR§30-5.1.f.4]

2.25. Acid Deposition Control

2.25.1. Emissions shall not exceed any allowances that the source lawfully holds under Title IV of the Clean Air Act (Acid Deposition Control) or rules of the Secretary promulgated thereunder.

a. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid deposition control program, provided that such increases do not require a permit revision under any other applicable requirement.

b. No limit shall be placed on the number of allowances held by the source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement.

c. Any such allowance shall be accounted for according to the procedures established in rules promulgated under Title IV of the Clean Air Act.

[45CSR§30-5.1.d.]

2.25.2. Where applicable requirements of the Clean Air Act are more stringent than any applicable requirement of regulations promulgated under Title IV of the Clean Air Act (Acid Deposition Control), both provisions shall be incorporated into the permit and shall be enforceable by the Secretary and U. S. EPA.
[45CSR§30-5.1.a.2.]

3.0 Facility-Wide Requirements

3.1. Limitations and Standards

3.1.1. **Open burning.** The open burning of refuse by any person is prohibited except as noted in 45CSR§6-3.1. **[45CSR§6-3.1.]**

3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause or allow any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.
[45CSR§6-3.2.]

3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them.
[40 C.F.R. §61.145(b) and 45CSR34]

3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.
[45CSR§4-3.1 State-Enforceable only.]

3.1.5. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11.
[45CSR§11-5.2]

3.1.6. **Emission inventory.** The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality.
[W.Va. Code § 22-5-4(a)(14)]

3.1.7. **Ozone-depleting substances.** For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:

a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 82.156.

b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 C.F.R. § 82.158.

c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.

[40 C.F.R. 82, Subpart F]

3.1.8. **Risk Management Plan.** This stationary source, as defined in 40 C.F.R. § 68.3, is subject to Part 68. This stationary source shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. Part 68.10. This stationary source shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.
[40 C.F.R. 68]

3.1.9. **Reserved**~~When emissions on an annual basis of one or more of the greenhouse gases listed below are greater than the *de minimis* amounts listed below, all greenhouse gases emitted above the *de minimis* amounts shall be reported to the Secretary under 45CSR§42-4. (see Section 3.5.):~~

~~Greenhouse Gas Compound~~	~~tons/year~~
~~carbon dioxide~~	~~10,000~~
~~methane~~	~~476~~
~~nitrous oxide~~	~~32.6~~
~~hydrofluorocarbons~~	~~0.855~~
~~perfluorocarbons~~	~~1.09~~
~~sulfur hexafluoride~~	~~0.42~~

~~**[45CSR§42-3.1., State-Enforceable only.]**~~

3.1.10. **45CSR21 and 45CSR27.** The permittee shall comply with all hourly and annual emission limits set forth by the affected 45CSR13 permits, for each of the sources and associated emission points identified in Attachment A of Permit R13-~~2617~~3223 (Appendix A of this Permit).

Note: For the Research and Development Area, the affected permits are ~~R13-2330,~~ R13-2654~~,~~ and R13-2692; and the R13-~~2617~~3223 Attachment A listing for only those sources in the Research and Development Area is provided in Appendix A.

[45CSR13, R13-~~2617~~3223, 4.1.1~~; 45CSR13, R13-2330, 4.1.13~~; 45CSR13, R13-2654, 6.1.3 and 6.1.4; 45CSR13, R13-2692, 4.1.9]

3.1.11. **45CSR21.** The permitted sources identified in Appendix A and recognized as being subject to 45CSR21 shall comply with all applicable requirements of 45CSR21 – "Regulation to Prevent and Control Air Pollution from the Emission of Volatile Organic Compounds" provided, however, that compliance with any more stringent requirements under the affected 45CSR13 permit identified in Appendix A, are also demonstrated. The applicable requirements set forth by 45CSR21 shall include, but not be limited to, the following: **[45CSR13, R13-~~2617~~3223, 4.1.2; 45CSR13, R13-2654, 6.1.3; 45CSR13, R13-2692, 4.1.9]**

3.1.11.1. The permittee shall maintain the aggregated hourly and annual VOC control efficiency of 90% or greater, on a site-wide basis, for all existing sources listed or required to be listed as part of the original facility-wide Reasonably Available Control Measures (RACM) plan, as identified in Appendix A. **[45CSR13, R13-~~2617~~3223, 4.1.2.1; 45CSR13, R13-2654, 6.1.3; 45CSR13, R13-2692, 4.1.9; 45CSR§21-40.3.a.1 (State-Enforceable only)]**

3.1.11.2. On or after May 1, 1996, construction or modification of any emission source resulting in a maximum theoretical emissions (MTE) of VOCs equaling or exceeding six (6) pounds per hour and not listed or required to be listed in the facility-wide RACM plan shall require the prior approval by the Director of an emission control plan that meets the definition of reasonable available control technology (RACT) on a case-by-case basis for both fugitive and non-fugitive VOC emissions from such source. All sources constructed or modified on or after May 1, 1996 shall be subject to the following: **[45CSR13, R13-~~2617~~3223, 4.1.2.2; 45CSR13, R13-2654, 6.1.3; 45CSR13, R13-2692, 4.1.9; 45CSR§21-40.3.c (State-Enforceable only)]**

a. The RACT control plan(s) shall be embodied in a permit in accordance to 45CSR13. **[45CSR13, R13-~~2617~~3223, 4.1.2.2.a; 45CSR13, R13-2654, 6.1.3; 45CSR13, R13-2692, 4.1.9; 45CSR§21-40.4.e (State-Enforceable only)]**

b. The MTE and associated emission reductions of the constructed or modified source will not be calculated into the site-wide aggregate hourly and annual emissions reduction requirements set forth in Section 3.1.11.1. **[45CSR13, R13-~~2617~~3223, 4.1.2.2.b; 45CSR13, R13-2654, 6.1.3; 45CSR13, R13-2692, 4.1.9]**

3.1.11.3. If a modification to an existing source with current MTE below the threshold of six (6) pounds per hour of VOCs causes an increase in the MTE that results in the source exceeding the six (6) pounds per hour threshold for the first time, the source shall be subject to RACT in accordance to Section 3.1.11.2. **[45CSR13, R13-~~2617~~3223, 4.1.2.3; 45CSR13, R13-2654, 6.1.3; 45CSR13, R13-2692, 4.1.9; 45CSR§21-40.3.c (State-Enforceable only)]**

3.1.11.4. Physical changes to or changes in the method of operation of an existing emission source listed or required to be listed as part of the facility-wide RACM plan, that results in an increase in VOC emissions of any amount, shall require the prior approval by the Director of an emission control plan that meets the definition of RACT on a case-by-case basis for both fugitive and non-fugitive VOC emissions from the source. All sources modified on or after May 1, 1996 shall be subject to the following; **[45CSR13, R13-~~2617~~3223, 4.1.2.4; 45CSR13, R13-2654, 6.1.3; 45CSR13, R13-2692, 4.1.9; 45CSR§21-40.3.c (State-Enforceable only)]**

a. The RACT control plan (s) shall be embodied in a permit in accordance to 45CSR13. **[45CSR13, R13-~~2617~~3223, 4.1.2.4.a; 45CSR13, R13-2654, 6.1.3; 45CSR13, R13-2692, 4.1.9; 45CSR§21-40.4.e (State-Enforceable only)]**

b. The facility-wide RACM plan shall be modified to include the RACT analysis conducted on the modified source(s). **[45CSR13, R13-~~2617~~3223, 4.1.2.4.b; 45CSR13, R13-2654, 6.1.3; 45CSR13, R13-2692, 4.1.9]**

c. The MTE and associated emission reductions of the modified source shall be recalculated as part of the site-wide aggregate hourly and annual emissions reduction requirements to demonstrate compliance with the minimum 90% reduction rate as set forth in 3.1.11.1 of this permit. **[45CSR13, R13-~~2617~~3223, 4.1.2.4.c; 45CSR13, R13-2654, 6.1.3; 45CSR13, R13-2692, 4.1.9]**

3.1.11.5. In the event the facility-wide RACM plan is modified to delete an existing emission source, and any associated pollution control equipment, due to the source being permanently removed from service or reassigned to service not subject to the requirements of 45CSR§21-40, the MTE shall be recalculated to demonstrate that the 90% facility-wide VOC reduction requirement set forth in Section 3.1.11.1 is still being met. In the event such a modification results in the site-wide aggregate hourly and annual emissions reduction being recalculated to a rate less than 90%, the RACM plan shall be revised to include all new and/or modified sources and their associated

control technologies constructed on or after May 1, 1996, in order to meet the requirements set forth in 3.1.11.1. **[45CSR13, R13-~~2617~~3223, 4.1.2.5; 45CSR13, R13-2654, 6.1.3; 45CSR13, R13-2692, 4.1.9]**

3.1.11.6. In the event a source and associated emission point identified in Appendix A is subject to the New Source Performance Standards (NSPS) of 40 C.F.R. 60, the National Emission Standards for Hazardous Air Pollutants (NESHAP) of 40 C.F.R. 61, or the Maximum Achievable Control Technology (MACT) standards of 40 C.F.R. 63, then compliance with such requirements as defined in the affected 45CSR13 permit shall demonstrate compliance with the RACT requirements set forth in R13-~~2617~~3223. **[45CSR13, R13-~~2617~~3223, 4.1.2.6; 45CSR13, R13-2654, 6.1.3; 45CSR13, R13-2692, 4.1.9]**

Note: For the Research and Development Area, the affected permits are ~~R13-2330,~~ R13-2654~~,~~ and R13-2692; and the R13-~~2617~~3223 Attachment A listing for only those sources in the Research and Development Area is provided in Appendix A.

3.1.12. **45CSR27.** The permitted sources identified in Appendix A and recognized as being subject to 45CSR27 shall comply with all applicable requirements of 45CSR27 – "To Prevent and Control the Emissions of Toxic Air Pollutants" provided, however, that compliance with any more stringent requirements under the affected 45CSR13 permit identified in Appendix A are also demonstrated. The applicable requirements set forth by 45CSR27 shall include, but not be limited to, the following: **[45CSR13, R13-~~2617~~3223, 4.1.3; ~~45CSR13, R13-2330, 4.1.13;~~ 45CSR13, R13-2654, 6.1.4]**

3.1.12.1. The permittee shall employ the best available technology (BAT) for the purpose of reducing toxic air pollutants (TAP) associated with the applicable sources and emission points identified in Appendix A. **[45CSR13, R13-~~2617~~3223, 4.1.3.1; ~~45CSR13, R13-2330, 4.1.13;~~ 45CSR13, R13-2654, 6.1.4; 45CSR§27-3.1 (State-Enforceable only)]**

3.1.12.2. The permittee shall employ BAT for the purpose of preventing and controlling fugitive emissions of TAP to the atmosphere as a result of routing leakage from those sources and their associated equipment identified in Appendix A as operating in TAP service. **[45CSR13, R13-~~2617~~3223, 4.1.3.2; ~~45CSR13, R13-2330, 4.1.13;~~ 45CSR13, R13-2654, 6.1.4; 45CSR§27-4.1 (State-Enforceable only)]**

Note: For the Research and Development Area, the affected permits are ~~R13-2330,~~ R13-2654~~,~~ and R13-2692; and the R13-~~2617~~3223 Attachment A listing for only those sources in the Research and Development Area is provided in Appendix A.

3.1.13. **45CSR27.** In the event a source and associated emission point identified in Appendix A are subject to the MACT standards of 40 C.F.R. 63, then compliance with the applicable MACT requirements identified in the affected 45CSR13 permit shall demonstrate compliance with the BAT requirements set forth in 3.1.12.

Note: For the Research and Development Area, the affected permits are ~~R13-2330,~~ R13-2654~~,~~ and R13-2692; and the R13-~~2617~~3223 Attachment A listing for only those sources in the Research and Development Area is provided in Appendix A.

[45CSR13, R13-~~2617~~3223, 4.1.4; ~~45CSR13, R13-2330, 4.1.13;~~ 45CSR13, R13-2654, 6.1.4; 45CSR§27-3.1 (State-Enforceable only)]

3.1.14. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.1 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.11.; 45CSR13, R13-~~2617~~3223, 4.1.5; ~~45CSR13, R13-2330, 4.1.15;~~ 45CSR13, R13-2654, 6.1.5; 45CSR13, R13-2692, 4.1.13]

3.2. Monitoring Requirements

3.2.1. **45CSR21.** The permittee shall implement and maintain leak detection and repair (LDAR) programs for the reduction of fugitive VOC emissions in all manufacturing process units subject to 45CSR§21-40 producing a product or products intermediate or final, in excess of 1,000 megagrams (1,100 tons) per year in accordance with the applicable methods and criteria of 45CSR§21-37 or alternate procedures approved by the Director. Procedures approved by the Director, 40 C.F.R. 60, Subpart VV, 40 C.F.R. 61, Subpart V, 40 C.F.R. 63, Subpart H, 40 C.F.R. 63, Subpart TT, 40 C.F.R. 63, Subpart UU, 40 C.F.R. 65, Subpart F, and 40 C.F.R. 265, Subpart CC. This requirement shall apply to all units identified in Appendix A irrespective of whether or not such units produce as intermediates or final products, substances on the lists contained with 40 C.F.R. 60, 40 C.F.R. 61, or 40 C.F.R. 63.

Note: The R13-~~2617~~3223 Attachment A listing for only those sources in the Research and Development Area is provided in Appendix A.

[45CSR13, R13-~~2617~~3223, 4.2.1; 45CSR13, R13-2654, 6.1.3; 45CSR13, R13-2692, 4.1.9; 45CSR§21-40.3.a.2 (State-Enforceable only)]

3.2.2. **45CSR27.** The permittee shall implement and maintain a LDAR program for the applicable sources and emission points identified in Appendix A in order to reduce the emissions of TAP in accordance with the requirements of 40 C.F.R. 63, Subpart H – "National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks." Compliance with 40 C.F.R. 63, Subpart H shall be considered demonstration of compliance with the provisions of 45CSR§27-4 – "Fugitive Emissions of Toxic Air Pollutants."

Note: The R13-~~2617~~3223 Attachment A listing for only those sources in the Research and Development Area is provided in Appendix A.

[45CSR13, R13-~~2617~~3223, 4.2.2; ~~45CSR13, R13-2330, 4.1.13;~~ 45CSR13, R13-2654, 6.1.4; 45CSR§27-4.1 (State-Enforceable only)]

3.2.3. **45CSR21 and 45CSR27.** In the event a source and associated emission point identified in Appendix A are subject to the MACT standards of 40 C.F.R. 63, then compliance with any applicable LDAR program set forth by the MACT and identified in the affected 45CSR13 permit shall demonstrate compliance with the monitoring requirements set forth in this permit.

Note: For the Research and Development Area, the affected permits are ~~R13-2330,~~ R13-2654~~,~~ and R13-2692; and the R13-~~2617~~3223 Attachment A listing for only those sources in the Research and Development Area is provided in Appendix A.

[45CSR13, R13-~~2617~~3223, 4.2.3; 45CSR13, R13-2654, 6.1.3; 45CSR13, R13-2692, 4.1.9; 45CSR13, R13-45CSR§21-37.1.c (State-Enforceable only); 45CSR§27-4.1 (State-Enforceable only)]

3.3. Testing Requirements

3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63, if applicable, in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable.

b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit.

c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.

d. The permittee shall submit a report of the results of the stack test within 60 days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:

1. The permit or rule evaluated, with the citation number and language.

2. The result of the test for each permit or rule condition.

3. A statement of compliance or non-compliance with each permit or rule condition.

[WV Code §§ 22-5-4(a)(14-15) and 45CSR13]

3.3.2. **45CSR21.** Manufacturing process units may be exempted upon written request of the permittee to the Director. Exempted units are exempted from the frequency of testing as described in 45CSR§21-37, however, LDAR testing of this unit or certification of emission using approved fugitive emission factors will be required every three years, or upon request by the Director or his duly authorized representative. Waiver or scheduling of LDAR testing every three years may be granted by the Director if written request and justification are submitted by the permittee. Units exempted from testing are not exempted from testing which may be required under any other applicable State or Federal regulations, orders, or permits. The Director may periodically require verifications by the permittee that maintenance and repair procedures associated with approved exemptions are continued and practiced.

[45CSR13, R13-~~2617~~3223, 4.3.1; 45CSR13, R13-2654, 6.1.3; 45CSR13, R13-2692, 4.1.9; 45CSR§21-40.3.a.2 (State-Enforceable only)]

3.3.3. **45CSR21.** In the event a source and associated emission point identified in Appendix A are subject to the MACT standards of 40 C.F.R. 63, then compliance with the applicable LDAR testing requirements set forth by the MACT and identified in the affected 45CSR13 permit shall demonstrate compliance with the LDAR testing requirements set forth in this permit.

Note: For the Research and Development Area, the affected permits are ~~R13-2330,~~ R13-2654~~,~~ and R13-2692; and the R13-~~2617~~3223 Attachment A listing for only those sources in the Research and Development Area is provided in Appendix A.

[45CSR13, R13-~~2617~~3223, 4.3.2; 45CSR13, R13-2654, 6.1.3; 45CSR13, R13-2692, 4.1.9; 45CSR§21-37.1.c (State-Enforceable only); 45CSR§27-4.1 (State-Enforceable only)]

3.4. Recordkeeping Requirements

3.4.1. **Monitoring information.** The permittee shall keep records of monitoring information that include the following:

a. The date, place as defined in this 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 the analyses; and

f. The operating conditions existing at the time of sampling or measurement.

[45CSR§30-5.1.c.2.A.; 45CSR13, R13-~~2617~~3223, 4.4.1; ~~45CSR13, R13-2330, 4.4.1;~~ 45CSR13, R13-2654, 6.4.1; 45CSR13, R13-2692, 4.4.1 and 5.4.1]

3.4.2. **Retention of records.** The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. 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. Where appropriate, records may be maintained in computerized form in lieu of the above records.
[45CSR§30-5.1.c.2.B.]

3.4.3. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.
[45CSR§30-5.1.c. State-Enforceable only.]

3.4.4. **Record of Maintenance of Air Pollution Control Equipment**. For all pollution control equipment listed in Section 1.1, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

[45CSR13, R13-~~2617~~3223, 4.4.2; ~~45CSR13, R13-2330, 4.4.2;~~ 45CSR13, R13-2654, 6.4.2; 45CSR13, R13-2692, 4.4.2]

3.4.5. **Records of Malfunctions of Air Pollution Control Equipment**. For all air pollution control equipment listed in Section 1.1, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

a. The equipment involved.

b. Steps taken to minimize emissions during the event.

c. The duration of the event.

d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

e. The cause of the malfunction.

f. Steps taken to correct the malfunction.

g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

[45CSR13, R13-~~2617~~3223, 4.4.3; ~~45CSR13, R13-2330, 4.4.3;~~ 45CSR13, R13-2654, 6.4.3; 45CSR13, R13-2692, 4.4.3]

3.4.6. **45CSR21.** Unless granted a variance pursuant to 45CSR§21-9.3, or as approved by the Director as part of a required Start-up, Shutdown, and Malfunction (SSM) Plan mandated under 40 C.F.R. §63.6(e) or another applicable Section of 40 C.F.R. 63, the owner or operator of the facility shall operate all emission control equipment listed Appendix A as part of the facility-wide control efficiency plan at all times the facilities are in operation or VOC emissions are occurring from these sources or activities. In the event of a malfunction, and a variance has not been granted, the production unit shall be shutdown or the activity

discontinued as expeditiously as possible. The permittee shall comply with 45CSR§21-9.3 with respect to all periods of non-compliance with the emission limitations set forth in the affected 45CSR13 permits and the emissions reduction requests set forth in the facility-wide control efficiency plan resulting from unavoidable malfunctions of equipment.

Note: For the Research and Development Area, the affected permits are ~~R13-2330,~~ R13-2654~~,~~ and R13-2692; and the R13-~~2617~~3223 Attachment A listing for only those sources in the Research and Development Area is provided in Appendix A.

[45CSR13, R13-~~2617~~3223, 4.4.4; 45CSR13, R13-2654, 6.1.3; 45CSR13, R13-2692, 4.1.9]

3.4.7. **45CSR27.** The permittee shall maintain records of the results of all monitoring and inspections, emission control measures applied, and the nature, timing, and results of repair efforts conducted in accordance to 45CSR§27-10 and set forth in the affected 45CSR13 permits as identified in Appendix A.

Note: For the Research and Development Area, the affected permits are ~~R13-2330,~~ R13-2654~~,~~ and R13-2692; and the R13-~~2617~~3223 Attachment A listing for only those sources in the Research and Development Area is provided in Appendix A.

[45CSR13, R13-~~2617~~3223, 4.4.5; ~~R13-2330, 4.1.13;~~ 45CSR13, R13-2654, 6.1.4]

3.5. Reporting Requirements

3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
[45CSR§§30-4.4. *and* 5.1.c.3.D.]

3.5.2. A permittee may request confidential treatment for the submission of reporting required under 45CSR§30-5.1.c.3. pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.
[45CSR§30-5.1.c.3.E.]

3.5.3. Except for the electronic submittal of the annual certification to the USEPA as required in 3.5.5 below, all notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, mailed first class or by private carrier with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

If to the DAQ:

Director
WVDEP
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

Phone: 304/926-0475
FAX: 304/926-0478

If to the US EPA:

Associate Director
Office of Enforcement and Permits Review
(3AP12)
U. S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

3.5.4. **Certified emissions statement.** The permittee shall submit a certified emissions statement and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality.
[45CSR§30-8.]

3.5.5. **Compliance certification.** The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ. In addition to the annual compliance certification, the permittee may be required to submit certifications more frequently under an applicable requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year, and shall certify compliance for the period ending December 31. The annual certification to the USEPA shall be submitted in electronic format only. It shall be submitted by e-mail to the following address: R3_APD_Permits@epa.gov. The permittee shall maintain a copy of the certification on site for five (5) years from submittal of the certification.
[45CSR§30-5.3.e.]

3.5.6. **Semi-annual monitoring reports.** The permittee shall submit reports of any required monitoring on or before September 15 for the reporting period January 1 to June 30 and on or before March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with 45CSR§30-4.4.
[45CSR§30-5.1.c.3.A.]

3.5.7. **Emergencies.** For reporting emergency situations, refer to Section 2.17 of this permit.

3.5.8. **Deviations.**

a. In addition to monitoring reports required by this permit, the permittee shall promptly submit supplemental reports and notices in accordance with the following:

1. Any deviation resulting from an emergency or upset condition, as defined in 45CSR§30-5.7., shall be reported by telephone or telefax within one (1) working day of the date on which the permittee becomes aware of the deviation, if the permittee desires to assert the affirmative defense in accordance with 45CSR§30-5.7. A written report of such deviation, which shall include the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be submitted and certified by a responsible official within ten (10) days of the deviation.

2. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or telefax. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.

3. Deviations for which more frequent reporting is required under this permit shall be reported on the more frequent basis.

4. All reports of deviations shall identify the probable cause of the deviation and any corrective actions or preventative measures taken.

[45CSR§30-5.1.c.3.C.]

b. The permittee shall, in the reporting of deviations from permit requirements, including those attributable to upset conditions as defined in this permit, report the probable cause of such deviations and any corrective actions or preventive measures taken in accordance with any rules of the Secretary. **[45CSR§30-5.1.c.3.B.]**

3.5.9. **New applicable requirements.** If any applicable requirement is promulgated during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement.
[45CSR§30-4.3.h.1.B.]

3.5.10. **Reserved**~~**Greenhouse Gas Reporting Requirements**. When applicable, as determined in permit section 3.1., greenhouse gas emissions shall be reported pursuant to 45CSR§42-4. including the following:~~

~~a. In accordance with a reporting cycle provided by the Secretary, affected sources shall report to the Secretary the quantity of all greenhouse gases emitted above *de minimis* amounts in the years specified by the Secretary.~~
~~**[45CSR§42-4.1., State-Enforceable only.]**~~

~~b. Affected sources shall only be required to report annual quantities of anthropogenic non-mobile source greenhouse gases emitted at the stationary source, and shall not be required to report biogenic emissions of greenhouse gases.~~
~~**[45CSR§42-4.2., State-Enforceable only.]**~~

~~c. Reports of greenhouse gas emissions submitted to the Secretary under 45CSR§42-4. shall be signed by a responsible official and shall include the following certification statement: "I, the undersigned, hereby certify that the data transmitted to the West Virginia Department of Environmental Protection is true, accurate, and complete, based upon information and belief formed after reasonable inquiry.~~
~~**[45CSR§42-4.5., State-Enforceable only.]**~~

3.5.11. **45CSR21.** The permittee shall submit to the DAQ a plan for complete, facility-wide implementation of RACT requirements within one hundred eighty (180) days of notification by the Director that a violation of the National Ambient Air Quality Standards (NAAQS) for ozone (that were in effect on or before May 1, 1996) has occurred. Such plan shall include those sources listed in Appendix A as part of the site-wide control efficiency requirement and may contain an update of existing RACT analyses. Full implementation of such plan shall be completed within two (2) years of approval of the RACT plan by the Director.

Note: The R13-~~2617~~3223 Attachment A listing for only those sources in the Research and Development Area is provided in Appendix A.

[45CSR13, R13-~~2617~~3223, 4.5.1; 45CSR13, R13-2654, 6.1.3; 45CSR13, R13-2692, 4.1.9; 45CSR§40.4.c.1 (State-Enforceable only)]

3.6. Compliance Plan

3.6.1. None.

3.7. Permit Shield

3.7.1. The permittee is hereby granted a permit shield in accordance with 45CSR§30-5.6. The permit shield applies provided the permittee operates in accordance with the information contained within this permit.

3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.

a. 40 C.F.R. 60, Subpart K - "Standards of Performance For Storage Vessels For Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978." There are no storage tanks in Research and Development.

b. 40 C.F.R. 60, Subpart Ka - "Standards of Performance for Storage Vessels For Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984." There are no storage tanks in Research and Development.

c. 40 C.F.R. 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." There are no storage tanks in Research and Development.

d. 40 C.F.R. 60, Subpart VV - "Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry." Research and Development does not produce as intermediates or final products any of the materials listed in 40 C.F.R. §60.489.

e. 40 C.F.R. 60, Subpart DDD - "Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry." Research and Development does not manufacture polypropylene, polyethylene, polystyrene, or poly(ethylene terephthalate) for which this rule applies.

f. 40 C.F.R. 60, Subpart RRR - "Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes." Research and Development does not produce any of the chemicals listed in 40 C.F.R. §60.707 as a product, co-product, by-product, or intermediate.

g. 40 C.F.R. 61, Subpart V - "National Emission Standards for Equipment Leaks (Fugitive Emissions Sources)." Applies to sources in VHAP service as defined in 40 C.F.R. §61.241. VHAP service involves chemicals that are not used in a manner that qualifies them under the rule in Research and Development.

h. 40 C.F.R. 63, Subpart H - "National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks." 40 C.F.R. 63 Subparts F, G, and H do not apply to Research and Development, as it does not meet the criteria in 40 C.F.R. §§63.100(b)(1), (b)(2), and (b)(3).

i. 40 C.F.R. 63, Subpart T - "National Emission Standards for Halogenated Solvent Cleaning." There are no solvent cleaning units in Research and Development using halogenated solvents as listed in §63.460(a).

j. 40 C.F.R. 63, Subpart DD – "National Emission Standards for Hazardous Air Pollutants From Off-Site Waste and Recovery Operations." The Research and Development Area does not receive off-site materials as specified in paragraph 40 C.F.R. §63.680(b) and the operations are not one of the waste management operations or recovery operations as specified in 40 C.F.R. §§63.680(a)(2)(i) through (a)(2)(vi).

k. 40 C.F.R. 63, Subpart JJJ - "National Emission Standards for Hazardous Air Pollutant Emissions: Group IV Polymers and Resins. Research and Development does not produce the materials listed in 40 C.F.R. §63.1310.

l. 40 C.F.R. 63, Subpart EEEE – "National Emission Standards for Hazardous Air Pollutants: Organic Liquid Distribution (Non-Gasoline)." The Research and Development Area does not operate an organic liquids distribution (OLD) operation and does not handle material organic liquids as defined in §63.2406.

m. 40 C.F.R. 63, Subpart MMMM - "National Emission Standards for Hazardous Air Pollutants: Surface Coating of Miscellaneous Metal Parts and Products." There are no surface coating activities conducted in Research and Development subject to the requirements of this rule.

n. 40 C.F.R. 63, Subpart PPPP – "National Emission Standards for Hazardous Air Pollutants: Surface Coating of Plastic Parts and Products." The Research and Development Area does not produce an intermediate or final product that meets the definition of "surface coated" plastic part.

o. 40 C.F.R. 63, Subpart QQQQ - "National Emission Standards for Hazardous Air Pollutants: Surface Coating of Wood Building Products." The surface coating activities of Research and Development are excluded from the requirements of the rule because they are non-commercial operations using coatings supplied by non-refillable aerosol containers.

p. 40 C.F.R. 63, Subpart RRRR - "National Emission Standards for Hazardous Air Pollutants: Surface Coating of Metal Furniture." The surface coating activities of Research and Development use non-refillable aerosol containers for the purpose of repairing furniture for on-site use and are excluded from the requirements of the rule.

q. 40 C.F.R. 63, Subpart WWWW - "National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production." The Research and Development Area does not engage in reinforced plastics composites production as defined in 40 C.F.R. §63.5785 and does not manufacture composite material as defined in 40 C.F.R. §63.5935.

r. 40 C.F.R. 63, Subpart DDDDD – "National Emission Standards for Hazardous Air Pollutants: Industrial/Commercial/Institutional Boilers and Process Heaters." The Research and Development Area does not own or operate an industrial, commercial, or institutional boiler or process heater as defined in 40 C.F.R. §63.7575.

s. 40 C.F.R. 63, Subpart GGGGG – "National Emission Standards for Hazardous Air Pollutants: Site Remediation." Research and Development does not conduct site remediation as defined in §63.7957.

t. 40 C.F.R. 63, Subpart HHHHH – "National Emission Standards for Hazardous Air Pollutants: Miscellaneous Coating Manufacturing." Research and Development does not manufacture coatings as defined in 40 C.F.R. §63.8105.

u. 40 C.F.R. 63, Subpart NNNNN – "National Emission Standards for Hazardous Air Pollutants: Hydrochloric Acid Production." Research and Development does not produce a liquid HCl product.

v. 40 C.F.R. 82, Subpart B - "Protection of Stratospheric Ozone." Requires recycling of Chlorofluorocarbons (CFCs) from motor vehicles and that technicians servicing equipment need to be licensed. Research and Development does not conduct motor vehicle maintenance involving CFCs on site.

w. 40 C.F.R. 82, Subpart C – "Protection of Stratospheric Ozone." Bans non-essential products containing Class I substances and bans non-essential products containing or manufactured with Class II substances. The Research and Development Area does not use, manufacture, nor distribute these materials.

x. 45CSR2 – "To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers." The Research and Development Area does not contain any fuel burning units.

y. 45CSR10 – "To Prevent and Control Air Pollution from the Emission of Sulfur Oxides." The Research and Development Area does not have any emission sources of sulfur oxides subject to this rule.

z. 45CSR16 – "Standards of Performance for New Stationary Sources Pursuant to 40 C.F.R. 60." The Research and Development Area is not subject to any requirements under 40 C.F.R. 60.

aa. 45CSR17 – "To Prevent and Control Particulate Matter Air Pollution from Materials Handling, Preparation, Storage and Other Sources of Fugitive Particulate Matter." Per 45CSR§17-6.1, the Research and Development Area is not subject to 45CSR17 because it is subject to the fugitive particulate matter emission requirements of 45CSR7.

bb. 45CSR34 – "Emission Standards for Hazardous Air Pollutants." The Research and Development Area is not subject to any requirements under 40 C.F.R. 61 or 40 C.F.R. 63.

4.0 ~~R13-2330 Emission Units &~~ Emission Units with no 45CSR13 Permit Requirements

4.1. Limitations and Standards

4.1.1. Reserved ~~Section 4.0 covers the operation of the equipment specified in Section 1.1 of this permit, under the R13-2330 Emission Units Section, during periods designated as commercial production.~~

~~a. All other periods of operation not specifically defined as commercial production shall be operated in accordance with the requirements and limitations found in 45CSR13A and 45CSR13B.~~

~~b. The emissions limitations placed on the aggregated laboratory hoods in Section 4.1.2 of this permit for Toxic Air Pollutants (TAP) regulated under 45CSR27 shall apply during all periods of operation.~~

~~**[45CSR13, R13-2330, 4.1.1]**~~

4.1.2. Reserved ~~Emissions of condensable volatile organic compounds with a boiling point greater than 120 ºC [PM(VOC)], solid particulate matter [PM(solids)], volatile organic compounds (VOC), carbon monoxide (CO), and hazardous air pollutants (HAP), as identified below, shall not exceed the maximum hourly and annual emission limits listed in Tables 4.1.2(a), 4.1.2(b), and 4.1.2(c).~~

~~**Table 4.1.2(a)**~~

~~**Emission Point ID**~~	~~**PM (solids)**~~		~~**PM(VOC)**~~		~~**Total PM[1]**~~	
	~~**(lb/hr)**~~	~~**(TPY)**~~	~~**(lb/hr)**~~	~~**(TPY)**~~	~~**(lb/hr)**~~	~~**(TPY)**~~
~~22-E-A6-001~~	~~-~~	~~-~~	~~0.02~~	~~0.06~~	~~0.02~~	~~0.06~~
~~22-E-A6-002~~	~~0.01~~	~~0.02~~	~~1.30~~	~~5.66~~	~~1.31~~	~~5.68~~
~~22-E-A8-001~~	~~-~~	~~-~~	~~0.01~~	~~0.02~~	~~0.01~~	~~0.02~~
~~22-E-A8-002~~	~~0.01~~	~~0.02~~	~~0.44~~	~~1.89~~	~~0.44~~	~~1.91~~
~~22-E-A10-001~~	~~-~~	~~-~~	~~0.02~~	~~0.06~~	~~0.02~~	~~0.06~~
~~22-E-A11-002~~	~~-~~	~~-~~	~~0.55~~	~~2.41~~	~~0.55~~	~~2.41~~
~~22-E-A10-002~~	~~0.01~~	~~0.02~~	~~-~~	~~-~~	~~0.01~~	~~0.02~~
~~22-E-A11-001~~	~~-~~	~~-~~	~~0.01~~	~~0.04~~	~~0.01~~	~~0.04~~
~~22-E-001~~	~~0.04~~	~~0.16~~	~~-~~	~~-~~	~~0.04~~	~~0.16~~
~~RLabHoods[2]~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~
~~**Totals**~~	~~**0.05**~~	~~**0.20**~~	~~**2.32**~~	~~**10.14**~~	~~**2.37**~~	~~**10.35**~~

~~[1]Note that the Total PM is derived as the sum of the PM(VOC) and the PM(solid). The PM(HAP) listed in Table 4.1.2.c. is not included because the production of the material that generates the PM(VOC) and the material that generates the PM(HAP) cannot coincide.~~

~~[2]RLabHoods is a virtual emission point representing the sum of all identified Research and Development Laboratory Hoods.~~

~~Table 4.1.2(b)~~

~~Emission Point ID~~	~~CO~~		~~SO_2~~		~~VOC~~	
	~~(lb/hr)~~	~~(TPY)~~	~~(lb/hr)~~	~~(TPY)~~	~~(lb/hr)~~	~~(TPY)~~
~~22-E-A6-001~~	~~0.02~~	~~0.07~~	~~-~~	~~-~~	~~0.15~~	~~0.65~~
~~22-E-A6-002~~	~~0.02~~	~~0.07~~	~~-~~	~~-~~	~~0.22~~	~~0.93~~
~~22-E-A8-001~~	~~0.01~~	~~0.03~~	~~-~~	~~-~~	~~0.01~~	~~0.04~~
~~22-E-A8-002~~	~~0.01~~	~~0.03~~	~~-~~	~~-~~	~~0.01~~	~~0.05~~
~~22-E-A10-001~~	~~0.02~~	~~0.07~~	~~-~~	~~-~~	~~0.15~~	~~0.65~~
~~22-E-A11-002~~	~~0.03~~	~~0.11~~	~~-~~	~~-~~	~~0.04~~	~~0.17~~
~~22-E-A10-002~~	~~-~~	~~-~~	~~-~~	~~-~~	~~0.22~~	~~0.93~~
~~22-E-A11-001~~	~~0.01~~	~~0.05~~	~~-~~	~~-~~	~~0.02~~	~~0.07~~
~~22-E-001~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~
~~RLabHoods[1]~~	~~-~~	~~-~~	~~0.01~~	~~0.01~~	~~0.03~~	~~0.13~~
~~Totals~~	**~~0.09~~**	**~~0.40~~**	**~~0.01~~**	**~~0.01~~**	**~~0.83~~**	**~~3.61~~**

~~[1]RLabHoods is a virtual emission point representing the sum of all identified Research and Development Laboratory Hoods.~~

~~Table 4.1.2(c)~~

~~Emission Point ID~~	~~Methylene Chloride~~		~~Formaldehyde~~		~~Total HAP~~	
	~~(lb/hr)~~	~~(TPY)~~	~~(lb/hr)~~	~~(TPY)~~	~~(lb/hr)~~	~~(TPY)~~
~~22-E-A6-001~~	~~-~~	~~-~~	~~0.01~~	~~0.01~~	~~0.01~~	~~0.01~~
~~22-E-A6-002~~	~~-~~	~~-~~	~~0.01~~	~~0.02~~	~~0.01~~	~~0.02~~
~~22-E-A8-001~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~
~~22-E-A8-002~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~
~~22-E-A10-001~~	~~-~~	~~-~~	~~0.05~~	~~0.20~~	~~0.08~~	~~0.31~~
~~22-E-A10-002~~	~~-~~	~~-~~	~~0.05~~	~~0.20~~	~~0.05~~	~~0.20~~
~~22-E-A11-001~~	~~-~~	~~-~~	~~0.03~~	~~0.14~~	~~0.03~~	~~0.21~~
~~22-E-A11-002~~	~~-~~	~~-~~	~~0.01~~	~~0.02~~	~~0.09~~	~~0.41~~
~~22-E-001~~	~~-~~	~~-~~	~~-~~	~~-~~	~~0.01~~	~~0.01~~
~~RLabHoods[1]~~	~~0.02~~	~~0.05~~	~~0.02~~	~~0.05~~	~~0.02~~	~~0.05~~
~~Totals~~	**~~0.02~~**	**~~0.05~~**	**~~0.14~~**	**~~0.62~~**	**~~0.25~~**	**~~1.20~~**

~~[1]RLabHoods is a virtual emission point representing the sum of all identified Research and Development Laboratory Hoods.~~

~~Compliance with the hourly PM emission limits for 22-E-A6-001, 22-E-A6-002, 22-E-A8-001, 22-E-A8-002, 22-E-A10-001, 22-E-A11-002, 22-E-A10-002, 22-E-A11-001, and 22-E-001 from Table 4.1.2(a) shall demonstrate compliance with the less stringent hourly PM emission limits of 45CSR§7-4.1.~~ **~~[45CSR13, R13-2330, 4.1.2; 45CSR§7-4.1]~~**

4.1.3. Reserved ~~The emissions of total HAPs identified in Section 4.1.2 of this permit, may consist of any one, or combination of those pollutants listed in the following table:~~

~~Table 4.1.3.~~

~~Chemical~~	~~CAS Number~~
~~Acetaldehyde~~	~~75-07-0~~
~~Epichlorohydrin~~	~~106-89-8~~
~~Formaldehyde[1]~~	~~50-00-0~~
~~Methanol~~	~~67-56-1~~
~~Methylene Chloride[1]~~	~~75-09-2~~
~~Phenol~~	~~108-95-2~~
~~Sodium Antimonate~~	~~15432-85-6~~

~~[1]Toxic air pollutants shall not exceed the specific emission limits set forth in Table 4.1.2(c) of this permit.~~

~~[45CSR13, R13-2330, 4.1.3]~~

4.1.4. Reserved ~~Extrusion lines employing emission points 22-E-A6-001, 22-E-A6-002, 22-E-A8-001, and 22-E-A8-002 shall be limited to the production of LCP resin, nylon, modified nylon and HT nylon resins. The extrusion line employing emission points 22-E-A6-001, and 22-E-A6-002 shall also be allowed to process Polymer B resins in addition to the previously mentioned materials.~~ [**45CSR13, R13-2330, 4.1.4**]

4.1.5. Reserved ~~Extrusion lines employing emission points 22-E-A10-001, 22-E-A10-002, 22-E-A11-001, and 22-E-A11-002 shall be limited to the production of LCP resin, acetal, modified acetal, nylon, modified nylon, HT nylon resins, and polyester resins. The extrusion line employing emission points 22-E-A10-001, and 22-E-A10-002 shall also be allowed to process Polymer B resins in addition to the previously mentioned materials.~~ ~~**[45CSR13, R13-2330, 4.1.5]**~~

4.1.6. Reserved ~~Inherent process devices that, as part of their operation, remove pollutants prior to discharge into the atmosphere, must be used whenever the accompanying production line is operational for all product types except acetal and modified acetal resins. The inherent process equipment shall include sources 22-S-A6-001B, 22-S-A8-001B, 22-S-A10-001B, and 22-S-A11-001B.~~ ~~**[45CSR13, R13-2330, 4.1.6]**~~

4.1.7. Reserved ~~Emissions from sources 22-S-A10-002 and 22-S-A11-002 shall be routed through the scrubber control devices 22-C-A10-002 and 22-C-A11-002 respectively, during all periods of operation, prior to the emissions being discharged into the atmosphere. The scrubbers, referenced above, shall be maintained and operated per manufacturer's specifications and within the following parameters:~~

~~a. The Blower suction pressure drop shall be less than or equal to 41 inches water pressure based on a 15-minute average.~~

~~b. The water flow rate through the scrubber spray nozzles shall be greater than or equal to 25 gallons per minute based on a 15-minute average.~~

~~c. The fresh water make-up rate shall be greater than or equal to 1 gallon per minute based on a 15-minute average.~~

~~**[45CSR13, R13-2330, 4.1.7]**~~

4.1.8. Reserved ~~The A10/A11 Surface Coater (22-S-A11-007) has two emission points. Emissions from pellets being conveyed to the surface coater shall be routed through an integral cyclone, and then through a bag filter (22-C-001) before being released to the atmosphere through emission point 22-E-001. Emissions from the cooler/screener section of the surface coater shall be routed through a cyclone (22-C-A11-007) before being released to the atmosphere through emission point 22-E-A11-007. The pollution control equipment (22-C-001 and 22-C-A11-007) shall be operated at all times during surface coating operations. The integral devices and control equipment shall be maintained and operated per manufacturer's specifications as well as the specifications described in permit application R13-2330B and any subsequent amendments thereto.~~ ~~**[45CSR13, R13-2330, 4.1.8]**~~

4.1.9. The permittee shall not cause, suffer, allow or permit emissions of smoke and/or particulate matter into the open air from any process source operation which is greater than twenty (20) percent opacity, except as noted in Section 4.1.10 of this permit. *(~~22-E-001, 22-E-A6-001, 22-E-A6-002, 22-E-A8-001, 22-E-A8-002, 22-E-A10-001, 22-E-A10-002, 22-E-A11-001, 22-E-A11-002, 22-E-A11-007,~~ 22-E-215, 22-E-216, and R031E904)* **[~~45CSR13, R13-2330, 4.1.9;~~ 45CSR§7-3.1]**

4.1.10. The provisions of Section 4.1.9 in this permit shall not apply to smoke and/or particulate matter emitted from any process source operation which is less than forty (40) percent opacity for any period or periods aggregating no more than five (5) minutes in any sixty (60) minute period. *(~~22-E-001, 22-E-A6-001, 22-E-A6-002, 22-E-A8-001, 22-E-A8-002, 22-E-A10-001, 22-E-A10-002, 22-E-A11-001, 22-E-A11-002, 22-E-A11-007,~~ 22-E-215, 22-E-216, and R031E904)* **[~~45CSR13, R13-2330, 4.1.10;~~ 45CSR§7-3.2]**

4.1.11. The permittee shall not cause, suffer, allow or permit visible emissions from any storage structure(s) associated with any manufacturing process(es) that, pursuant to Section 4.1.12 of this permit, is required to have a full enclosure and be equipped with a particulate matter control device. **[45CSR13, R13-2330, 4.1.11; 45CSR§7-3.7]**

4.1.12. The permittee shall not cause, suffer, allow or permit any manufacturing process or storage structure generating fugitive particulate matter to operate that is not equipped with a system, which may include, but not be limited to, process equipment design, control equipment design or operations and maintenance procedures, to minimize the emission of fugitive particulate matter. To minimize means such system shall be installed, maintained and operated to ensure the lowest fugitive particulate emissions reasonably achievable. *(R031E903)* **[~~45CSR13, R13-2330, 4.1.12;~~ 45CSR§7-5.1]**

4.1.13. Reserved~~ Material processed in the equipment covered by Section 4.0 shall not exceed the amount indicated in the capacity column in the tables found in Section 1.1 of this permit under the R13-2330 Emission Units Section.~~ **~~[45CSR13, R13-2330, 4.1.14]~~**

4.1.14. Reserved~~ No person shall cause, suffer, allow or permit particulate matter to be vented into the open air from any type source operation or duplicate source operation, or from all air pollution control equipment installed on any type source operation or duplicate source operation in excess of the quantity specified under the appropriate source operation type in Table 45-7A of 45CSR7.~~

~~Emission Point~~	~~Emission Source~~	~~45CSR7 Hourly Particulate Emission Limit lb/hr~~
~~22-E-A11-007~~	~~22-S-A11-007~~	~~1.2~~

~~[45CSR§7-4.1.]~~

4.1.15. Reserved~~ The owner or operator of a plant shall maintain particulate matter control of the plant premises, and plant owned, leased or controlled access roads, by paving, application of asphalt, chemical dust suppressants or other suitable dust control measures. Good operating practices shall be implemented and when necessary particulate matter suppressants shall be applied in relation to stockpiling and general material handling to minimize particulate matter generation and atmospheric entrainment.~~ **~~[45CSR§7-5.2]~~**

4.1.16. Reserved~~ Due to unavoidable malfunction of equipment, emissions exceeding those set forth in 45CSR7 may be permitted by the Director for periods not to exceed ten (10) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the malfunction. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director.~~ **~~[45CSR§7-9.1.]~~**

4.1.17. The permittee shall conduct maintenance operations in a manner consistent with good air pollution control practice for minimizing emissions. *(22-E-215, 22-E-216, and R031E904)* **[45CSR§7-10.3]**

4.2. Monitoring Requirements

4.2.1. For the purpose of determining compliance with the opacity limits set forth in Sections 4.1.9 and 4.1.10, the permittee shall conduct visual emissions monitoring for all emission points and equipment subject to visual emissions or opacity limits under 45CSR7~~, including, but not limited to, the emission points addressed in Section 4.1.2~~.

Monitoring shall be conducted at least once per month with a maximum of forty-five (45) days between consecutive readings. These checks shall be performed during periods of operation of emission sources that vent from the referenced emission points for a sufficient time interval to determine if there is a visible emission. If visible emissions are identified during the visible emission check, or at any other time regardless of operations, the permittee shall conduct a visual emission evaluation per 45CSR7A within three (3) days of the first identification of visible emissions. A 45CSR7A evaluation shall not be required if the visible emission condition is corrected within seventy-two (72) hours after the visible emission and the sources are operating at normal conditions.

[~~45CSR13, R13-2330, 4.2.1~~45CSR§30-5.1.c.]

4.3. Testing Requirements

4.3.1. Any stack serving any process source operation or air pollution control device on any process source operation shall contain flow straightening devices or a vertical run of sufficient length to establish flow patterns consistent with acceptable stack sampling procedures. **[~~45CSR13, R13-2330, 4.3.1;~~ 45CSR§7-4.12]**

4.3.2. **Opacity testing.** Any test to determine compliance with the visible emission (opacity) limitations set forth in Section 4.1.9 and 4.1.10 shall be conducted by personnel appropriately trained for the task. Personnel performing the visual emissions observation shall be trained and familiar with the limitations and restrictions associated with 40 C.F.R. 60, Appendix A – Method 22. Any person performing an opacity observation for compliance assessment in the event of visible emissions must be a certified visible emission observer in accordance with 45CSR7A – "Compliance Test Procedures for 45CSR7 – *To Prevent and Control Particulate Air Pollution from Manufacturing Process Operations*." Nothing in this section, however, shall preclude any permittee or the Secretary from using opacity data from a properly installed, calibrated, maintained and operated continuous opacity monitor as evidence to demonstrate compliance or a violation of visible emission requirements. If continuous opacity monitoring data results are submitted when determining compliance with visible emission limitations for a period of time during which 45CSR7A or Method 22 data indicates non-compliance, the 45CSR7A or Method 22 data shall be used to determine compliance with the visible emission limitations. **[~~45CSR13, R13-2330, 4.3.2~~ 45CSR§30-5.1.c.]**

4.3.3. At such reasonable times as the Director may designate, the operator of any manufacturing process source operation may be required to conduct or have conducted stack tests to determine the particulate matter loading in exhaust gases. Such tests shall be conducted in such manner as the Director may specify and be filed on forms and in a manner acceptable to the Director. The Director, or his duly authorized representative, may at his option witness or conduct such stack tests. Should the Director exercise his option to conduct such tests, the operator will provide all the necessary sampling connections and sampling ports to be located in such manner as the Director may require, power for test equipment and the required safety equipment such as scaffolding, railings and ladders to comply with generally accepted good safety practices. **[45CSR§7-8.1]**

4.4. Recordkeeping Requirements

4.4.1. Reserved ~~To demonstrate compliance with the emission limits in Section 4.1.2 of this permit, the permittee shall maintain records of the maximum hourly production rate of each day. These records shall be maintained according to the conditions specified in 40 C.F.R. §63.10(b)(1). Such records shall be certified by a "Responsible Official" and made available to the Director or his duly authorized representative upon request.~~ **~~[45CSR13, R13-2330, 4.4.4]~~**

4.4.2. Reserved ~~To demonstrate compliance with the emission limits of Section 4.1.2 of this permit, the permittee shall maintain monthly records of the total annual production of each product. Annual production rates shall be based on a 12 month rolling total. These records shall be maintain according to the conditions specified in 40 C.F.R. §63.10(b)(1).~~ ~~**[45CSR13, R13-2330, 4.4.5]**~~

4.4.3. Reserved ~~To demonstrate compliance with the requirements of 4.1.7, the permittee shall continuously monitor the blower suction pressure drop, the scrubber spray nozzle water flow and the make-up water flow rate to each scrubber when the extrusion line feeding that scrubber is operational.~~ ~~**[45CSR13, R13-2330, 4.4.6]**~~

4.4.4. The permittee shall maintain records of all monitoring data required by Section 4.2.1 of this permit, documenting the date and time of each visible emission check, the emission point or equipment identification number, the name or means of identification of the responsible observer, the results of the check, and, if necessary, all corrective actions taken. Should a visible emission observation be required to be performed per the requirements specified in 45CSR7A, the data records of each observation shall be maintained per the requirements of 45CSR7A. For an emission unit out of service during the normal monthly evaluation, the record of observation may note "out of service" (OOS) or equivalent. These records shall be maintained according to the conditions specified in 40 C.F.R. §63.10(b)(1). **[~~45CSR13, R13-2330, 4.4.7~~45CSR§30-5.1.c.]**

4.4.5. In the event that an applicable MACT [Maximum Achievable Control Technology] standard is promulgated in the future that requires a Startup, Shutdown and Malfunction (SSM) Plan or the permittee voluntarily employs a SSM Plan, the SSM Plan shall supersede and replace the provisions of Section 4.4.4 of this permit. The permittee shall notify the Director in writing of the adoption of such SSM Plans. **[~~45CSR13, R13-2330, 4.4.8~~ 45CSR§30-5.1.c.]**

4.4.6. Reserved ~~To demonstrate compliance with the emission limits associated with the "Research Lab Hoods," identified in Section 4.1.2, Tables 4.1.2 (a) through 4.1.2(c) of this permit, the research facilities shall maintain a monthly record of the specific pollutants regulated and consumed by the hoods. This monthly consumption record will also be included in an annual consumption report for the Research Lab Hoods. This report shall document the amount of the chemicals regulated under 45CSR27 and processed through the Research Lab Hoods under the control of Research personnel. The affected sources shall include the following: 22-S-101, 22-S-109, 22-S-202, 22-S-208, 22-S-209, 200-S-211A, 200-S-211B, 200-S-211C, 200-S-212A, 200-S-212B, 200-S-213A, 200-S-213B, 200-S-214A, and 200-S-214B.~~ ~~**[45CSR13, R13-2330, 4.4.9]**~~

4.4.7. Reserved ~~To demonstrate compliance with the capacity limitations on the extrusion lines covered by this permit, including production lines A6, A8, A10, and A11, the permittee shall maintain daily records of the highest hourly operating rate achieved for each material family ran on each extruder.~~ ~~**[45CSR13, R13-2330, 4.4.10]**~~

4.4.8. The permittee shall monitor all fugitive particulate emission sources as required by 4.1.12 to ensure that a system to minimize fugitive emissions has been installed or implemented. Records shall be maintained on site for a period of no less than five (5) years stating the types of fugitive particulate capture and/or suppression systems used, the times these systems were inoperable, and the corrective actions taken to repair these systems. **[45CSR§30-5.1.c.]**

4.4.9. Reserved ~~The permittee shall maintain records indicating the use of any dust suppressants or any other suitable dust control measures as required by 4.1.15 applied at the facility. These records shall be maintained on site for a period of no less than five (5) years. **[45CSR§30-5.1.c.]**~~

4.5. Reporting Requirements

4.5.1. None.

4.6. Compliance Plan

4.6.1. None.

5.0 45CSR§21-30 Requirements for the Part Cleaner (R031S902)

5.1. Limitations and Standards

5.1.1. The owner or operator of a cold cleaning facility shall:

a. Provide a permanent, legible, conspicuous label, summarizing the operating requirements.

b. Store waste solvent in covered containers.

c. Close the cover whenever parts are not being handled in the cleaner.

d. Drain the cleaned parts until dripping ceases.

e. If used, supply a solvent spray that is a solid fluid stream (not a fine, atomized, or shower-type spray) at a pressure that does not exceed 10 pounds per square inch gauge.

f. Degrease only materials that are neither porous nor absorbent.

[45CSR§§21-30.3.a.4, 30.3.a.5, 30.3.a.6, 30.3.a.7, 30.3.a.8, 30.3.a.9]

5.2. Monitoring Requirements

5.2.1. None.

5.3. Testing Requirements

5.3.1. Test Method ASTM D323-72 shall be used for measuring the solvent true vapor pressure.
[45CSR§21-30.4.e]

5.4. Recordkeeping Requirements

5.4.1. Each owner or operator of a solvent metal cleaning source subject to this 45CSR§21-30 shall maintain the following records in a readily accessible location for at least 5 years and shall make these records available to the Director upon verbal or written request:

a. A record of central equipment maintenance, such as replacement of the carbon in a carbon adsorption unit.

b. The results of all tests conducted in accordance with the requirements in section 45CSR§21-30.4 (5.3.1).

[45CSR§21-30.5 and 45CSR§30-5.1.c]

5.5. Reporting Requirements

5.5.1. Except as provided in section 45CSR§21-9.3, the owner or operator of any facility containing sources subject to 45CSR§21-5 shall, for each occurrence of excess emissions expected to last more than 7 days, within 1 business day of becoming aware of such occurrence, supply the Director by letter with the following information.

a. The name and location of the facility;

b. The subject sources that caused the excess emissions;

c. The time and date of first observation of the excess emissions; and

d. The cause and expected duration of the excess emissions.

e. For sources subject to numerical emission limitations, the estimated rate of emissions (expressed in the units of the applicable emission limitation) and the operating data and calculations used in determining the magnitude of the excess emissions; and

f. The proposed corrective actions and schedule to correct the conditions causing the excess emissions.

[45CSR§21-5.2]

5.6. Compliance Plan

5.6.1. None.

6.0 R13-2654 Emission Units

6.1. Limitations and Standards

6.1.1. Sources identified in Table 6.1.1 of this permit shall be operated in accordance to the limits and requirements set forth in 45CSR13A and/or 45CSR13B. Operations shall be limited to research and development (R&D) and laboratory activities.

Table 6.1.1.

Source IDs		
R022S002	R022SB38	~~R217S023~~
R022S003	R022SB40	~~R217S024~~
R022S007	~~R217S001~~	~~R200S010~~
R022S008	~~R217S002~~	~~R200S011~~
R022S009	~~R217S003~~	~~R200S012~~
R022S011	~~R217S004~~	~~R200S014~~
R022S012	~~R217S005~~	~~R200S015~~
R022S047	~~R217S006~~	~~R200S016~~
R022SB05	~~R217S007~~	~~R200S017~~
R022SB06	~~R217S008~~	~~R200S018~~
R022SB17	~~R217S009~~	~~R200S019~~
R0SSSB19	~~R217S010~~	~~R200S020~~
R022SB20	~~R217S011~~	~~R200S021~~
R022SB28	~~R217S012~~	~~R200S022~~
R022SB36	~~R217S013~~	~~R200S023~~

[45CSR13, R13-2654, 6.1.1]

6.1.2. Toxic air pollutants released from the sources identified in Table 6.1.1 of this permit shall be limited to the total maximum combined emission rates as shown in Table 6.1.2 of this permit.

Table 6.1.2.

Pollutant	**Emission Rates**	
	Hourly (pound/hour)	**Annual (pound/year)**
Formaldehyde[1]	-	100
Methylene Chloride[1]	-	500

[1] Per 45CSR§13A-4.1.b.3, emission limits of toxic air pollutants shall be based on 45CSR§13-2.17.c and/or 2.17.d, which establishes limits based on 10% of the amounts set forth in Table-13A. Table-13A does not address potential hourly emission rates.

[45CSR13, R13-2654, 6.1.2]

6.2. Monitoring Requirements

6.2.1. For the purpose of determining compliance with the emission limits set forth in Section 6.1.2. of this permit, the permittee shall monitor formaldehyde and methylene chloride emissions released from the R&D and laboratory operations. **[45CSR13, Permit R13-2654, 6.2.1]**

6.3. Testing Requirements

6.3.1. None.

6.4. Recordkeeping Requirements

6.4.1. For the purpose of demonstrating compliance with the monitoring requirements set forth in Section 6.2.1 of this permit, the permittee shall maintain a record of annual emissions of formaldehyde and/or methylene chloride. Such annual records shall be based on a 12-month rolling total. **[45CSR13, R13-2654, 6.4.4]**

6.5. Reporting Requirements

6.5.1. None.

6.6. Compliance Plan

6.6.1. None.

7.0 R13-2692 Emission Units

7.1. Limitations and Standards

7.1.1. Section 7.0 covers the operation of the equipment specified in Section 1.1 of this permit, under the R13-2692 Emission Units Section, during periods designated as commercial production. **[45CSR13, R13-2692, 4.1.1]**

7.1.2. The permittee shall not exceed the following hourly and annual emission limits:

Table 7.1.2

Emission Point ID	Emission Sources	Pollutant	Emission Limit	
			lb/hr	TPY
R022ECPV	R022S247, R022S204, R022S205A, R022S206A, R022S207A, R022S213A	ODC	1.0	0.1
		Total HAP[1]	0.01	0.01
		VOC	267.2	8.3
R022EEF006	R022S233A, R022S234, R022S235, R022S236	APFO	0.0084	0.006
		ODC	0.1	0.1
		CO	0.1	0.1
		PM_{10}	0.1	0.1
		Total HAP[1]	0.01	0.01
		VOC	0.1	0.1
R022EEF007	R022S213B, R022S244	ODC	0.4	0.1
		Total HAP[1]	0.11	0.04
		VOC	2.4	0.8
R022EEF009	R022S208A	Total HAP[1]	0.01	0.01
		VOC	0.1	0.1
R022EEF011	R022S237	ODC	2.1	0.2
		Total HAP[1]	0.01	0.01
		VOC	2.1	0.8
R022EEF012	R022S209A	ODC	0.1	0.1
		Total HAP[1]	0.06	0.02
		VOC	0.1	0.1
R022EEF014	R022S243	Total HAP[1]	0.01	0.01
		VOC	0.1	0.1
R022EEF016	R022S242	Total HAP[1]	0.01	0.01
		VOC	0.1	0.1
R022EEF085	R022S240C	PM_{10}	0.1	0.1
R022EEF086	R022S239	ODC	0.1	0.1
		CO	0.1	0.1
		PM_{10}	0.1	0.1
		Total HAP[1]	0.02	0.01
		VOC	0.1	0.1
R022EEF087	R022S240A	ODC	0.1	0.1
		CO	0.1	0.1
		PM_{10}	0.1	0.1
		Total HAP[1]	0.91	0.71
		VOC	2.4	1.9

Emission Point ID	Emission Sources	Pollutant	Emission Limit	
			lb/hr	TPY
R022EEF089	R022S215, R022S232A, R022S233B, R022S240B	APFO	0.00042	0.0003
		ODC	0.1	0.1
		CO	0.1	0.1
		PM_{10}	0.1	0.1
		Total HAP[1]	0.92	0.71
		VOC	3.1	2.0
R022EEF146	R022S238	ODC	0.1	0.1
		CO	0.1	0.1
		PM_{10}	0.1	0.1
		Total HAP[1]	0.01	0.01
		VOC	0.1	0.1
R022EEF176	R022S245,R022S246	ODC	0.1	0.1
		Total HAP[1]	0.01	0.01
		VOC	0.1	0.1
R022EEVJ	R022S232B	VOC	0.7	0.1
R022EPK1	R022S210A	ODC	0.6	0.2
		Total HAP[1]	0.56	0.77
		VOC	7.8	4.8
R022EPK2	R022S211A	ODC	0.6	0.2
		Total HAP[1]	0.56	0.77
		VOC	7.8	4.8
R022EPK3	R022S212A	ODC	0.6	0.2
		Total HAP[1]	0.56	0.77
		VOC	7.8	4.8
R022EPK5	R022S214A	ODC	0.1	0.1
		Total HAP[1]	0.23	0.08
		VOC	1.3	0.5
R022EPVJ	R022S200, R022S205B, R022S206B, R022S207B, R022S208B, R022S209B, R022S210B, R022S211B, R022S212B, R022S214B	ODC	0.1	0.1
		Total HAP[1]	0.36	0.42
		VOC	56.0	1.0
R029EEF130	R022S230, R022S231	Fluorides	0.02	0.01
		Total HAP[1]	0.01	0.01

[1] Components of Total HAPs shall be defined under Section 7.1.3 of this permit.

7.1.3. The emissions of total HAPs identified in Section 7.1.2 of this permit, may consist of any one, or combination of those pollutants listed in the following table:

Table 7.1.3.

Chemical	CAS Number
Acetonitrile	75058
Ethylene Glycol	107211
Hydrogen Chloride	7647010
Hydrogen Fluoride	7664393
Maleic Anhydride	108316
Methanol	67561

Chemical	CAS Number
Methyl Methacrylate	80626
Titanium Tetrachloride	7550450
Toluene	108883
Trichloroethylene	79016
Vinyl Acetate	108054

[45CSR13, R13-2692, 4.1.3]

7.1.4. Emissions from sources R029S230 (Double Cone Fluorinator) and R022S231 (Vibrating Bed Fluorinator) shall be routed through control device R022C229 (Spray Tower), during all periods of commercial operation, prior to the emissions being discharged into the atmosphere. The Spray Tower, referenced above, shall be maintained and operated per manufacturer's specifications as well as the specifications addressed in permit application R13-2692 and any subsequent amendments thereto. **[45CSR13, R13-2692, 4.1.4]**

7.1.5. The permittee shall not cause, suffer, allow or permit emissions of smoke and/or particulate matter into the open air from any process source operation which is greater than twenty (20) percent opacity, except as noted in Section 7.1.6 of this permit. *(R022EEF006, R022EEF085, R022EEF086, R022EEF087, R022EEF089, and R022EEF146)* **[45CSR13, R13-2692, 4.1.5; 45CSR§7-3.1]**

7.1.6. The provisions of Section 7.1.5 in this permit shall not apply to smoke and/or particulate matter emitted from any process source operation which is less the forty (40) percent opacity for any period or periods aggregating no more than five (5) minutes in any sixty (60) minute period. *(R022EEF006, R022EEF085, R022EEF086, R022EEF087, R022EEF089, and R022EEF146)* **[45CSR13, R13-2692, 4.1.6; 45CSR§7-3.2]**

7.1.7. The permittee shall not cause, suffer, allow or permit any manufacturing process or storage structure generating fugitive particulate matter to operate that is not equipped with a system, which may include, but not be limited to, process equipment design, control equipment design or operations and maintenance procedures, to minimize the emission of fugitive particulate matter. To minimize means such system shall be installed, maintained and operated to ensure the lowest fugitive particulate emissions reasonably achievable. **[45CSR13, R13-2692, 4.1.8; 45CSR§7-5.1]**

7.1.8. **APFO Emission Concentration Limitation.** In accordance with Consent Order GWR-2001-019 and the Additional Obligations Notice dated March 13, 2003, the permittee shall limit the annual average modeled exposure levels for ammonium perfluorooctanoate (CAS 3825-26-1 and hereby abbreviated as APFO) to no more than the C-8 Assessment of Toxicity (CAT) Team recommended airborne screening level of 1 µg/m3 in any area not subject to controlled access by the permittee when modeled using Industrial Source Complex 3 Short Term (ISC3ST) modeling software. As stated in the referenced order, the 1 µg/m3 screening level will be the basis for compliance until such time as the United States Environmental Protection Agency promulgates a standard for APFO that is applicable for emissions from this facility. **[C.O. GWR-2001-019 (*State Enforceable Only)*; 45CSR13, R13-2692, 4.1.10]**

7.1.9. **APFO Emission Modeling Requirements.** As a threshold test for demonstrating compliance with the screening level described in Requirements 7.1.8, the actual annualized APFO emissions from the APFO source(s) in this permit shall be no greater than the permitted APFO emission limits set forth by Table 7.1.2.

In the event such actual annual APFO emissions exceed the permitted annual APFO emission limits or additional APFO sources not currently covered by a permit in accordance to 45CSR13 are identified, compliance with the screening level described in 7.1.8 shall be demonstrated by modeling actual annual APFO emissions from all sources at the facility.

In the event the permittee proposes a change in APFO emission parameters for equipment covered by this permit or additional APFO sources not currently covered by a permit in accordance to 45CSR13, compliance with the screening level described in 7.1.8 shall be demonstrated by modeling permitted annual APFO emissions from all sources at the facility, including emissions related to such proposed changes.

Modeling of facility-wide actual or permitted APFO emissions from all APFO emission sources shall use Air Dispersion Modeling in accordance with Appendix W to 40 CFR Part 51 (Guidelines on Air Quality Models), on-site meteorology data (1996 or more recent calendar year), and the most current and quantifiable stack-specific actual or permitted APFO emissions, as appropriate, as well as physical stack parameters.

All records specified above shall be maintained according to the conditions specified in 40 C.F.R. §63.10(b)(1) and shall be certified by a Responsible Official upon request or submittal to the Director, or his/her duly authorized representative.

[45CSR13, R13-2692, 4.1.11]

7.1.10. **APFO Emission Point Parameters.** For the purpose of modeling, as described in 7.1.9, the emissions of APFO from sources associated with this permit shall include the emission points and discharge specifications shown in Table 7.1.10.

Table 7.1.10.

Emission Point	Discharge Area (ft^2)	Height Above Grade (ft)	Volume Flow Rate (ACFM)	Temp. (^{O}F)	UTM Coordinates	
					Northing (m)	Easting (m)
R022EEF006	4.91	47	8,836	80	4346624	442086
R022EEF089	3.14	49	3,770	80	4346635	442063

[45CSR13, R13-2692, 4.1.12]

7.1.11. The owner or operator of a plant shall maintain particulate matter control of the plant premises, and plant owned, leased or controlled access roads, by paving, application of asphalt, chemical dust suppressants or other suitable dust control measures. Good operating practices shall be implemented and when necessary particulate matter suppressants shall be applied in relation to stockpiling and general material handling to minimize particulate matter generation and atmospheric entrainment. **[45CSR§7-5.2]**

7.1.12. Due to unavoidable malfunction of equipment, emissions exceeding those set forth in 45CSR7 may be permitted by the Director for periods not to exceed ten (10) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the malfunction. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director. **[45CSR§7-9.1.]**

7.2. Monitoring Requirements

7.2.1. For the purpose of determining compliance with the opacity limits set forth in Sections 7.1.5 and 7.1.6, the permittee shall conduct visual emissions monitoring during periods of commercial operation for all emission points and equipment subject to visual emissions or opacity limits under 45CSR7, including, but not limited to, the emission points addressed in Section 7.1.2.

If commercial production is nearly continuous, monitoring shall be conducted at least once per month with a maximum of forty-five (45) days between consecutive readings. If commercial production is intermittent, monitoring shall be conducted at least once per calendar month or a record shall be prepared to document that no commercial production was conducted in the month. These checks shall be performed during periods of commercial operation of emission sources that vent from the referenced emission points for a sufficient time interval to determine if there is a visible emission. If visible emissions are identified during the visible emission check, or at any other time regardless of operations, the permittee shall conduct a visual emission evaluation per 45CSR7A within three (3) days of the first identification of visible emissions. A 45CSR7A evaluation shall not be required if the visible emission condition is corrected within seventy-two (72) hours after the visible emission and the sources are operating at normal conditions.

[45CSR13, R13-2692, 4.2.1.]

7.3. Testing Requirements

7.3.1. Any stack serving any process source operation or air pollution control device on any process source operation shall contain flow straightening devices or a vertical run of sufficient length to establish flow patterns consistent with acceptable stack sampling procedures. **[45CSR13, R13-2692, 4.3.1; 45CSR§7-4.12]**

7.3.2. **Opacity testing.** Any test to determine compliance with the visible emission (opacity) limitations set forth in Sections 7.1.5 and 7.1.6 shall be conducted by personnel appropriately trained for the task. Personnel performing the visual emissions observation shall be trained and familiar with the limitations and restrictions associated with 40 CFR 60 Appendix A – Method 22. Any person performing an opacity observation for compliance assessment in the event of visible emissions must be a certified visible emission observer in accordance with 45CSR7A – "Compliance Test Procedures for 45CSR7 – *To Prevent and Control Particulate Air Pollution from Manufacturing Process Operations*". Nothing in this section, however, shall preclude any permittee or the Secretary from using opacity data from a properly installed, calibrated, maintained and operated continuous opacity monitor as evidence to demonstrate compliance or a violation of visible emission requirements. If continuous opacity monitoring data results are submitted when determining compliance with visible emission limitations for a period of time during which 45CSR7A or Method 22 data indicates noncompliance, the 45CSR7A or Method 22 data shall be used to determine compliance with the visible emission limitations. **[45CSR13, R13-2692, 4.3.2]**

7.3.3. At such reasonable times as the Director may designate, the operator of any manufacturing process source operation may be required to conduct or have conducted stack tests to determine the particulate matter loading in exhaust gases. Such tests shall be conducted in such manner as the Director may specify and be filed on forms and in a manner acceptable to the Director. The Director, or his duly authorized representative, may at his option witness or conduct such stack tests. Should the Director exercise his option to conduct such tests, the operator will provide all the necessary sampling connections and sampling ports to be located in such manner as the Director may require, power for test equipment and the required safety equipment such as scaffolding, railings and ladders to comply with generally accepted good safety practices. **[45CSR§7-8.1]**

7.4. Recordkeeping Requirements

7.4.1. The permittee shall maintain monthly records of production equivalent to the example form supplied as Appendix B, Attachment A. These records shall be maintained according to the conditions specified in 40 C.F.R. §63.10(b)(1). Such records shall be certified by a Responsible Official and made available to the Director or his duly authorized representative upon request. **[45CSR13, R13-2692, 4.4.4]**

7.4.2. The permittee shall maintain records equivalent to the example emission reports supplied as Appendix B, Attachments B and C. These records shall be maintained according to the conditions specified in 40 C.F.R. §63.10(b)(1). **[45CSR13, R13-2692, 4.4.5]**

7.4.3. The permittee shall maintain records of all monitoring data required by Section 7.2.1 of this permit, documenting the date and time of each visible emission check, the emission point or equipment identification number, the name or means of identification of the responsible observer, the results of the check, and, if necessary, all corrective actions taken. Should a visible emission observation be required to be performed per the requirements specified in 45CSR7A, the data records of each observation shall be maintained per the requirements of 45CSR7A. For an emission unit out of service during the normal monthly evaluation, the record of observation may note "out of service" (OOS) or equivalent. These records shall be maintained according to the conditions specified in 40 C.F.R. §63.10(b)(1). **[45CSR13, R13-2692, 4.4.6]**

7.4.4. In the event that an applicable MACT [Maximum Achievable Control Technology] standard is promulgated in the future that requires a Startup, Shutdown and Malfunction (SSM) Plan or the permittee voluntarily employs a SSM Plan, the SSM Plan shall supersede and replace the provisions of Section 7.4.3 of this permit. The permittee shall notify the Director in writing of the adoption of such SSM Plans. **[45CSR13, R13-2692, 4.4.7]**

7.5. Reporting Requirements

7.5.1. None.

7.6. Compliance Plan

7.6.1. None.

8.0. R13-2692 – Laboratory Hoods

8.1. Limitations and Standards

8.1.1. This Section covers the operation of laboratory hoods 22-S-109, 22-S-202, 22-S-208, and 22-S-209 during periods designated as commercial production.

a. All other periods of operation not specifically defined as commercial production shall be operated in accordance with the requirements and limitations found in 45CSR13A and 45CSR13B.

b. The emissions limitations placed on the aggregated laboratory hoods in Section 8.1.2 of this permit for Toxic Air Pollutants (TAP) regulated under 45CSR27 shall apply during all periods of operation.

[45CSR13, R13-2692, 5.1.1]

8.1.2. Emissions of Methylene chloride for the four laboratory hoods 22-S-109, 22-S-202, 22-S-208, 22-S-209 shall not exceed 0.01 lbs/hr or 0.03 TPY for all hoods combined.

[45CSR13, R13-2692, 5.1.2]

8.1.3. The permitted facility shall comply with all applicable requirements of 45CSR27 – "To Prevent and Control the Emissions of Toxic Air Pollutants." The facility shall limit total emissions of regulated pollutant from each specific emission point in Section 8.1.2 of this permit to the maximum hourly and annual limits set in Section 8.1.2. These requirements replace and supercede the methylene chloride limiting requirements pertaining to equipment covered by this permit found in the most current version of R13-3223.

[45CSR27, 45CSR13, R13-2692, 5.1.3]

8.2. Monitoring Requirements

N/A

8.3. Testing Requirements

N/A

8.4. Recordkeeping Requirements

8.4.1. To demonstrate compliance with emission limits in Section 8.1.2 of this permit, the permittee shall maintain records of the maximum hourly production rate of each day. These records shall be maintained according to the conditions specified in 40 CFR§63.10(b)(1). Such records shall be certified by a Responsible Official and made available to the Director or his duly authorized representative upon request.

[45CSR13, R13-2692, 5.4.2]

8.4.2. To demonstrate compliance with the emission limits of Section 8.1.2 of this permit, the permittee shall maintain monthly records of the total annual production of each product. Annual production rates shall be based on a 12-month rolling total. These records shall be maintained according to the conditions specified in 40 CFR§63.10(b)(1).

[45CSR13, R13-2692, 5.4.3]

8.4.3. To demonstrate compliance with the emission limits associated with the "Research Lab Hoods", identified in Section 8.1.2 of this permit, the research facilities shall maintain a monthly record of the specific pollutant regulated and consumed by the hoods. This monthly consumption record will also be included in an annual consumption report for the Research Lab Hoods. This report shall document the amount of the chemicals regulated under 45 CSR 27 and processed through the Research Lab Hoods under the control of Research personnel. The affected sources shall include the following: 22-S-109, 22-S-202, 22-S-208, and 22-S-209.

[45CSR13, R13-2692, 5.4.4]

8.5. Reporting Requirements

8.5.1. *[Reserved]*

Appendix A: R13-~~2617E~~3223 Attachment

ATTACHMENT A of R13-~~2617E~~3223 for Only the Research and Development Production Area

Emission Point Identification	Source Identification	Source Description	Control Device Identification	Service (VOC/HAP/TAP)	Affected R13 Permit	Included in Original R21 RACM Plan	Currently Subject to:		Other Applicable Regulations - Citation (MACT/BACT/NSPS/NESHAP etc.)
							R21	R27	
~~22-E-A10-001~~	~~22-S-A10~~	~~Extruder vacuum~~	~~None~~	~~TAP-F~~	~~R13-2330~~	~~No~~	~~No~~	~~Yes~~	-
~~22-E-A11-001~~	~~22-S-A11~~	~~Extruder vacuum~~	~~None~~	~~TAP-F~~	~~R13-2330~~	~~No~~	~~No~~	~~Yes~~	-
~~22-S-A6-001~~	~~22-S-A6~~	~~Extruder vacuum~~	~~None~~	~~TAP-F~~	~~R13-2330~~	~~No~~	~~No~~	~~Yes~~	-
~~22-E-A11-002~~	~~22-S-A10/22-S-A11~~	~~Extruder die heads~~	~~None~~	~~TAP-F~~	~~R13-2330~~	~~No~~	~~No~~	~~Yes~~	-
~~22-S-A6-002~~	~~22-S-A6~~	~~Extruder die head~~	~~None~~	~~TAP-F~~	~~R13-2330~~	~~No~~	~~No~~	~~Yes~~	-
~~22-E-A10-002~~	~~22-S-A10/22-S-A11~~	~~Extruder cutters~~	~~None~~	~~TAP-F~~	~~R13-2330~~	~~No~~	~~No~~	~~Yes~~	-
~~22-S-A6-003~~	~~22-S-A6~~	~~Extruder cutter~~	~~None~~	~~TAP-F~~	~~R13-2330~~	~~No~~	~~No~~	~~Yes~~	-
R022S002	R022S002	Laboratory Hoods	None	VOC / TAP-F -M	R13-2654	No	No	Yes	
R022S003	R022S003	Laboratory Hoods	None	VOC / TAP-F -M	R13-2654	No	No	Yes	
R022S007	R022S007	Laboratory Hoods	None	VOC / TAP-F -M	R13-2654	No	No	Yes	
R022S008	R022S008	Laboratory Hoods	None	VOC / TAP-F -M	R13-2654	No	No	Yes	
R022S009	R022S009	Laboratory Hoods	None	VOC / TAP-F -M	R13-2654	No	No	Yes	
R022S011	R022S011	Laboratory Hoods	None	VOC / TAP-F -M	R13-2654	No	No	Yes	
R022S012	R022S012	Laboratory Hoods	None	VOC / TAP-F -M	R13-2654	No	No	Yes	
R022S047	R022S047	Laboratory Hoods	None	VOC / TAP-F -M	R13-2654	No	No	Yes	
R022SB05	R022SB05	Laboratory Hoods	None	VOC / TAP-F -M	R13-2654	No	No	Yes	
R022SB06	R022SB06	Laboratory Hoods	None	VOC / TAP-F -M	R13-2654	No	No	Yes	
R022SB17	R022SB17	Laboratory Hoods	None	VOC / TAP-F -M	R13-2654	No	No	Yes	
R0SSSB19	R0SSSB19	Laboratory Hoods	None	VOC / TAP-F -M	R13-2654	No	No	Yes	
R022SB20	R022SB20	Laboratory Hoods	None	VOC / TAP-F -M	R13-2654	No	No	Yes	
R022SB28	R022SB28	Laboratory Hoods	None	VOC / TAP-F -M	R13-2654	No	No	Yes	
R022SB36	R022SB36	Laboratory Hoods	None	VOC / TAP-F -M	R13-2654	No	No	Yes	
R022SB38	R022SB38	Laboratory Hoods	None	VOC / TAP-F -M	R13-2654	No	No	Yes	
R022SB40	R022SB40	Laboratory Hoods	None	VOC / TAP-F -M	R13-2654	No	No	Yes	
~~R200S010~~	~~R200S010~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-

Emission Point Identification	Source Identification	Source Description	Control Device Identification	Service (VOC/HAP/TAP)	Affected R13 Permit	Included in Original R21 RACM Plan	Currently Subject to:		Other Applicable Regulations - Citation (MACT/BACT/NSPS/NESHAP etc.)
							R21	R27	
~~R200S011~~	~~R200S011~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
~~R200S012~~	~~R200S012~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
~~R200S014~~	~~R200S014~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
~~R200S015~~	~~R200S015~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
~~R200S016~~	~~R200S016~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
~~R200S017~~	~~R200S017~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
~~R200S018~~	~~R200S018~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
~~R200S019~~	~~R200S019~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
~~R200S020~~	~~R200S020~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
~~R200S021~~	~~R200S021~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
~~R200S022~~	~~R200S022~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
~~R200S023~~	~~R200S023~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
~~R217S001~~	~~R217S001~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
~~R217S002~~	~~R217S002~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
~~R217S003~~	~~R217S003~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
~~R217S004~~	~~R217S004~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
~~R217S005~~	~~R217S005~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
~~R217S006~~	~~R217S006~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
~~R217S007~~	~~R217S007~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
~~R217S008~~	~~R217S008~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
~~R217S009~~	~~R217S009~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
~~R217S010~~	~~R217S010~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
~~R217S011~~	~~R217S011~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
~~R217S012~~	~~R217S012~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
~~R217S013~~	~~R217S013~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
~~R217S023~~	~~R217S023~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
~~R217S024~~	~~R217S024~~	~~Laboratory Hoods~~	~~None~~	~~VOC / TAP-F -M~~	~~R13-2654~~	~~No~~	~~No~~	~~Yes~~	-
R022ECPV	R022S205A	TFE Feed System #1	None	VOC	R13-2692	No	Yes	No	
R022ECPV	R022S206A	TFE Feed System #2	None	VOC	R13-2692	No	Yes	No	

Emission Point Identification	Source Identification	Source Description	Control Device Identification	Service (VOC/HAP/TAP)	Affected R13 Permit	Included in Original R21 RACM Plan	Currently Subject to:		Other Applicable Regulations - Citation (MACT/BACT/NSPS/NESHAP etc.)
							R21	R27	
R022ECPV	R022S207A	TFE Feed System #3	None	VOC	R13-2692	No	Yes	No	
R022EPK1	R022S210A	Rx#1 Vent	None	VOC	R13-2692	No	Yes	No	No commercial production prior to R13-2692
R022EPK2	R022S211A	Rx#2 Vent	None	VOC	R13-2692	Yes	Yes	No	
R022EPK3	R022S212A	Rx#3 Vent	None	VOC	R13-2692	No	Yes	No	No commercial production prior to R13-2692
R022EPVJ	R022S200	HFP Evac	None	VOC	R13-2692	No	Yes	No	
~~R LabHoods~~	~~22-S-101~~	~~Laboratory Hoods~~	~~None~~	~~TAP-M~~	~~R13-2330~~	~~No~~	~~No~~	~~Yes~~	-
R LabHoods	22-S-109	Laboratory Hoods	None	TAP-M	R13-~~2330~~2692	No	No	Yes	
R LabHoods	22-S-202	Laboratory Hoods	None	TAP-M	R13-~~2330~~2692	No	No	Yes	
R LabHoods	22-S-208	Laboratory Hoods	None	TAP-M	R13-~~2330~~2692	No	No	Yes	
R LabHoods	22-S-209	Laboratory Hoods	None	TAP-M	R13-~~2330~~2692	No	No	Yes	
~~200-E-211-15~~	~~200-S-211A~~	~~Laboratory Hood~~	~~None~~	~~TAP-F~~	~~R13-2330~~	~~No~~	~~No~~	~~Yes~~	-
~~200-E-211-16~~	~~200-S-211B~~	~~Laboratory Hood~~	~~None~~	~~TAP-F~~	~~R13-2330~~	~~No~~	~~No~~	~~Yes~~	-
~~200-E-211-17~~	~~200-S-211C~~	~~Laboratory Hood~~	~~None~~	~~TAP-F~~	~~R13-2330~~	~~No~~	~~No~~	~~Yes~~	-
~~200-E-212-18~~	~~200-S-212A~~	~~Laboratory Hood~~	~~None~~	~~TAP-F~~	~~R13-2330~~	~~No~~	~~No~~	~~Yes~~	-
~~200-E-212-19~~	~~200-S-212B~~	~~Laboratory Hood~~	~~None~~	~~TAP-F~~	~~R13-2330~~	~~No~~	~~No~~	~~Yes~~	-
~~200-E-213-20~~	~~200-S-213A~~	~~Laboratory Hood~~	~~None~~	~~TAP-F~~	~~R13-2330~~	~~No~~	~~No~~	~~Yes~~	-
~~200-E-213-21~~	~~200-S-213B~~	~~Laboratory Hood~~	~~None~~	~~TAP-F~~	~~R13-2330~~	~~No~~	~~No~~	~~Yes~~	-
~~200-E-214-22~~	~~200-S-214A~~	~~Laboratory Hood~~	~~None~~	~~TAP-F~~	~~R13-2330~~	~~No~~	~~No~~	~~Yes~~	-
~~200-E-214-23~~	~~200-S-214B~~	~~Laboratory Hood~~	~~None~~	~~TAP-F~~	~~R13-2330~~	~~No~~	~~No~~	~~Yes~~	-

Note #1 - Formaldehyde (TAP-F) does not qualify as a MACT Wastewater under any Standard.

Note #2 - MON MACT has a process vent definition cut-off at 50 ppm. Below this there are no controls since it is not considered to be a process vent.

Note #3 - The WWTP located at Washington Works does not receive any Group 1 Streams as defined by the rule. Hence the applicability of 40 C.F.R. §§ 63.135 and 63.145 are very, very limited.

Note #4 - ~~Sources identified as being "Removed from Service" are considered permanently removed and must undergo 45CSR13 review prior to being returned to service.~~

~~Note #5 -~~ ~~Permits are referenced by their number. The revision letter has been left off but the reference is to the most current revision of the numbered permit.~~ The affected R13 Permit refers to the most current version of that Permit.

Appendix B: R13-2692 Attachments

Attachment A
Page 1 of 2

DuPont Washington Works
Fluoroproducts Semiworks – Commercial Production
Monthly Data Input

Month:

Production Parameters – Autoclaves

Source ID	Source Description	Production Parameter	Number of Batches	
			Complete	Aborted
R022S210	Reactor #1	Commercial Batches		
R022S211	Reactor #2	Commercial Batches		
R022S212	Reactor #3	Commercial Batches		
R022S213	Reactor #4	Commercial Batches, Type A		
R022S213	Reactor #4	Commercial Batches, Type B		
R022S214	Reactor #5	Commercial Batches		

Production Parameters – Other Equipment

Source ID	Source Description	Parameter	Value	Units
R022S233A	Drying Ovens (5)	Pounds of Polymer (dry wt)		lb
R022S233B	Drying Oven	Pounds of Polymer (dry wt)		lb
R022S237	Fume Hood	Pounds of Polymer A (dry wt)		lb
R022S237	Fume Hood	Pounds of Polymer B (dry wt)		lb
R022S239	28 mm Extruder	Pounds of Polymer		lb
R022S240	53/57 mm Extruder	Pounds of Polymer		lb
R029S230	Double Cone Fluorinator	Pounds of Polymer		lb
R029S230	Double Cone Fluorinator	F2 Rate, Max.		lb/hr
R029S230	Double Cone Fluorinator	Temperature (F), Max.		deg C
R029S231	Vibrating Bed Fluorinator	Pounds of Polymer		lb
R029S231	Vibrating Bed Fluorinator	F2 Rate, Max.		lb/hr
R029S231	Vibrating Bed Fluorinator	Temperature (F), Max.		deg C

Scrubber Parameters

Control Device ID	Description	Parameter	Value	Units
R029C229	KOH Scrubber	KOH Concentration (most recent test)		%
R029C229	KOH Scrubber	Date of Most Recent Test		
R029C229	KOH Scrubber	F2 Cylinders Used Since Test		#
R029C229	KOH Scrubber	Any Interlock Events This Month?		Y/N

Maintenance Parameters

Source ID	Source Description	Maintenance Event	Events This Month[1]
R022S200	HFP Metering System	Maintenance Outage (R022S200)	
R022S247	Monomer Transfer Line	De-inventory for maintenance (R022S247)	
R022S205A	TFE System #1	Deinventory System (R022S205A)	
R022S205B	TFE System #1	Evacuate System (R022S205B)	
R022S206A	TFE System #2	Deinventory System (R022S206A)	
R022S206B	TFE System #2	Evacuate System (R022S206B)	
R022S207A	TFE System #3	Deinventory System (R022S207A)	
R022S207B	TFE System #3	Evacuate System (R022S207B)	

[1]Note: Count Maintenance Events only if they are associated with commercial production.

Attachment A
Page 2 of 2

DuPont Washington Works
Fluoroproducts Semiworks – Commercial Production
Monthly Data Input

Month:

Monthly Default Sources

Days of the month with Commercial Production	

Source ID	Source Description		Events Or Rate	Units
R022S204	Oxygen Analyzers	Process Emissions		lb/hr
R022S208	Aqueous Additive Feed System	Maintenance Vent/Evacuations (R022S208)		per year
R022S209	Non-Aq Additive Feed System	Maintenance Vent/Evacuations (R022S209)		per year
R022S215	Beringer Oven	Maintenance Equipment		lb/yr
R022S232	Ross Mixer	Process Emissions		lb/yr
R022S234	Hydraulic Presses	Test Emissions		lb/yr
R022S235	Haake Mixer	Process Emissions		lb/yr
R022S236	Grieve Oven	Process Emissions		lb/yr
R022S245	Drum Storage	Process Emissions		lb/yr
R022S246	Coolant Storage	Process Emissions		lb/yr

Attachment B
Page 1 of 2

DuPont Washington Works
Fluoroproducts Semiworks – Commercial Production
Emissions by Individual Equipment ID

Month:

Process Equipment & Maintenance

Emission Point ID	Emission Sources	Pollutant	Max lb/hr	Actual lb/month
R022ECPV	R022S247, R022S204, R022S205A, R022S206A, R022S207A, R022S213A	ODC		
R022ECPV	R022S247, R022S204, R022S205A, R022S206A, R022S207A, R022S213A	Total HAP		
R022ECPV	R022S247, R022S204, R022S205A, R022S206A, R022S207A, R022S213A	VOC		
R022EEF006	R022S233A, R022S235, R022S235, R022S236	APFO		
R022EEF006	R022S233A, R022S235, R022S235, R022S236	PM_{10}		
R022EEF006	R022S233A, R022S235, R022S235, R022S236	Total HAP		
R022EEF006	R022S233A, R022S235, R022S235, R022S236	VOC		
R022EEF007	R022S213B	ODC		
R022EEF007	R022S213B	Total HAP		
R022EEF007	R022S213B	VOC		
R022EEF009	R022S208A	Total HAP		
R022EEF009	R022S208A	VOC		
R022EEF011	R022S237	ODC		
R022EEF011	R022S237	Total HAP		
R022EEF011	R022S237	VOC		
R022EEF012	R022S209A	Total HAP		
R022EEF012	R022S209A	VOC		
R022EEF085	R022S240C	PM_{10}		
R022EEF086	R022S239	PM_{10}		
R022EEF086	R022S239	Total HAP		
R022EEF086	R022S239	VOC		
R022EEF087	R022S240A	CO		
R022EEF087	R022S240A	PM_{10}		
R022EEF087	R022S240A	Total HAP		
R022EEF087	R022S240A	VOC		
R022EEF089	R022S215, R022S232A, R022S233B, R022S240B	APFO		
R022EEF089	R022S215, R022S232A, R022S233B, R022S240B	CO		
R022EEF089	R022S215, R022S232A, R022S233B, R022S240B	PM_{10}		
R022EEF089	R022S215, R022S232A, R022S233B, R022S240B	Total HAP		
R022EEF089	R022S215, R022S232A, R022S233B, R022S240B	VOC		
R022EEF176	R022S245, R022S246	ODC		
R022EEVJ	R022S232B	VOC		
R022EPK1	R022S210A	ODC		
R022EPK1	R022S210A	Total HAP		
R022EPK1	R022S210A	VOC		
R022EPK2	R022S211A	ODC		
R022EPK2	R022S211A	Total HAP		
R022EPK2	R022S211A	VOC		
R022EPK3	R022S212A	ODC		
R022EPK3	R022S212A	Total HAP		
R022EPK3	R022S212A	VOC		
R022EPK5	R022S214A	ODC		

Attachment B
Page 2 of 2

DuPont Washington Works
Fluoroproducts Semiworks – Commercial Production
Emissions by Individual Equipment ID

Month:

Process Equipment & Maintenance

Emission Point ID	Emission Sources	Pollutant	Max lb/hr	Actual lb/month
R022EPK5	R022S214A	Total HAP		
R022EPK5	S022S214A	VOC		
R022EPVJ	R022S200, R022S205B, R022S206B, R022S207B, R022S208B, R022S209B, R022S210B, R022S211B, R022S212B, R022S214B	ODC		
R022EPVJ	R022S200, R022S205B, R022S206B, R022S207B, R022S208B, R022S209B, R022S210B, R022S211B, R022S212B, R022S214B	Total HAP		
R022EPVJ	R022S200, R022S205B, R022S206B, R022S207B, R022S208B, R022S209B, R022S210B, R022S211B, R022S212B, R022S214B	VOC		
R029EEF130	R022S230, R022S231	Fluorides		
R029EEF130	R022S230, R022S231	Total HAP		

Attachment C
Page 1 of 3

DuPont Washington Works
Fluoroproducts Semiworks – Commercial Production
Annual Emission Summary Report

Month:

Emission Pt. ID	VOC Emissions (lb)												12 Month Total (TPY)
R022ECPV													
R022EEF006													
R022EEF007													
R022EEF009													
R022EEF011													
R022EEF012													
R022EEF086													
R022EEF087													
R022EEF089													
R022EEVJ													
R022EPK1													
R022EPK2													
R022EPK3													
R022EPK5													
R022EPVJ													
Total													

Emission Pt. ID	ODC Emissions (lb)												12 Month Total (TPY)
R022ECPV													
R022EEF007													
R022EEF011													
R022EEF176													
R022EPK1													
R022EPK2													
R022EPK3													
R022EPK5													
R022EPVJ													
Total													

Attachment C
Page 2 of 3

DuPont Washington Works
Fluoroproducts Semiworks – Commercial Production
Annual Emission Summary Report

Month:

Emission Pt. ID	CO Emissions (lb)												12 Month Total (TPY)
R022EEF087													
R022EEF089													
Total													

Emission Pt. ID	Fluoride Emissions (lb)												12 Month Total (TPY)
R029EEF130													
Total													

Emission Pt. ID	PM_{10} Emissions (lb)												12 Month Total (TPY)
R022EEF006													
R022EEF085													
R022EEF086													
R022EEF087													
R022EEF089													
Total													

Emission Pt. ID	APFO Emissions (lb)												12 Month Total (TPY)
R022EEF006													
R022EEF089													
Total													

Attachment C
Page 3 of 3

DuPont Washington Works
Fluoroproducts Semiworks – Commercial Production
Annual Emission Summary Report

Month:

Emission Pt. ID	Total HAP Emissions (lb)												12 Month Total (TPY)
R022ECPV													
R022EEF006													
R022EEF007													
R022EEF009													
R022EEF011													
R022EEF012													
R022EEF086													
R022EEF087													
R022EEF089													
R022EPK1													
R022EPK2													
R022EPK3													
R022EPK5													
R022EPVJ													
R029EEF130													
Total													