The Chemours Company
Washington Works
8480 DuPont Road
PO Box 1217
Washington, WV 26181

304-863-4000
chemours.com

January 13, 2016

CERTIFIED MAIL – 7014 1820 0001 2876 1710
RETURN RECEIPT REQUESTED

RECEIVED
JAN 15 2016
WV DEP / DIV OF AIR QUALITY

Mr. William F. Durham, Director
Division of Air Quality
WV Department of Environmental Protection
601 57th Street, SE
Charleston, WV 25304-2345

Permit Determination – Area T6 – Fine Powder-Dispersion Production

Dear Mr. Durham:

Chemours is requesting a permit determination for the installation of a solid - liquid separation vessel to be used in the T6 area. This new vessel, identified as T6SJ, along with a new stack, identified as T6SJE, are planned to be installed to assist in the separation of tramp solids and solid polymerization waste from a water stream originating from product isolation.

The proposed installation has an estimated emission rate of 0.14 pounds per hour of VOC and an annual emission rate of 0.24 tons per year of VOC. These numbers are significantly below those required for a permit under 45 CSR 13.

Also attached you will find the Attachment S for addition of the proposed equipment to the appropriate Title V permit. This Title V permit is for Segment 2 of 14 for Chemours Washington Works and the permit renewal for permit R30-107-00182-2010 is currently out to public notice.

If you have questions or concerns with this permit determination request, please contact me at (304) 863-4271 or Mr. John J. Mentink at (304) 863-4033 or by email at john.j.mentink@chemours.com.

I.D. No. 107 00182 Reg. 13
Company Chemours
Facility WW Region 3
Initials ME

Sincerely,

David F. Altman
EHS Competency Manager
Chemours Washington Works

Enclosure
DFA:jjm/slb

CC: Ms. Carrie McCumbers
Division of Air Quality
WV Department of Environmental Protection
601 57th Street, SE
Charleston, WV 25304-2345

WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY
601 57th Street, SE
Charleston, WV 25304
Phone: (304) 926-0475
www.wvdep.org

PERMIT DETERMINATION FORM (PDF)

FOR AGENCY USE ONLY: PLANT I.D. # _____

PDF # _____ PERMIT WRITER: _____

1. NAME OF APPLICANT (AS REGISTERED WITH THE WV SECRETARY OF STATE'S OFFICE):
The Chemours Company – FP, LLC

2. NAME OF FACILITY (IF DIFFERENT FROM ABOVE):
Chemours Washington Works

3. STANDARD INDUSTRIAL CLASSIFICATION
(SIC) CODE: - 2821 NACS Code - 325211

4A. MAILING ADDRESS:
Chemours Washington Works, Building 1
P.O. Box 1217
Washington WV 26181-1217

4B. PHYSICAL ADDRESS:
Chemours Washington Works, Building 1
8480 DuPont Road
Washington WV 26181

5A. DIRECTIONS TO FACILITY (PLEASE PROVIDE **MAP** AS **ATTACHMENT A**): See Map - From Charleston take I-77 north to the Route 50. Turn West on to Route 50 and use the bypass around Parkersburg. At the DuPont Road Exit - exit and at DuPont Road turn Left. The plant is approximately ¾ - 1 mile on the right side.

5B. NEAREST ROAD:
DuPont Road

5C. NEAREST CITY OR TOWN:
Parkersburg

5D. COUNTY:
Wood

5E. UTM NORTHING (KM):
4346833.1

5F. UTM EASTING (KM):
442376.7

5G. UTM ZONE:
17

6A. INDIVIDUAL TO CONTACT IF MORE INFORMATION IS REQUIRED:
David F. Altman

6B. TITLE:
Sr. Environmental Control Consultant

6C. TELEPHONE:
(304) 863-4271

6D. FAX:
(304) 863-4862

6E. E-MAIL:
David.F.Altman@chemours.com

7A. DAQ PLANT I.D. NO. (FOR AN EXISTING FACILITY ONLY):
107 – 00182

7B. PLEASE LIST ALL CURRENT 45CSR13, 45CSR14, 45CSR19 AND/OR TITLE V (45CSR30) PERMIT NUMBERS ASSOCIATED WITH **THIS** PROCESS (FOR AN EXISTING FACILITY ONLY):
R30-10700182-2010 Segment 2 of 14, 45 CSR 13 R13-0815J

7C. IS THIS PDF BEING SUBMITTED AS THE RESULT OF AN ENFORCEMENT ACTION? IF YES, PLEASE LIST:
No

8A. TYPE OF EMISSION SOURCE (CHECK ONE):
☒ **NEW SOURCE** ☐ **ADMINISTRATIVE UPDATE**
☐ **MODIFICATION** ☐ **OTHER** (PLEASE EXPLAIN IN 11B)

8F. IF ADMINISTRATIVE UPDATE, DOES DAQ HAVE THE APPLICANT'S CONSENT TO UPDATE THE EXISTING PERMIT WITH THE INFORMATION CONTAINED HEREIN?
☐ **YES** ☒ **NO**

9. IS *DEMOLITION* OR PHYSICAL *RENOVATION* AT AN EXISTING FACILITY INVOLVED? ☐ **YES** ☒ **NO**

10A. DATE OF ANTICIPATED INSTALLATION OR CHANGE:
11/01/2016

10B. DATE OF ANTICIPATED START-UP:
12/01/2016

11A. PLEASE PROVIDE A **DETAILED PROCESS FLOW DIAGRAM** SHOWING EACH PROPOSED OR MODIFIED PROCESS EMISSION POINT AS **ATTACHMENT B.**

11B. PLEASE PROVIDE A **DETAILED PROCESS DESCRIPTION** AS **ATTACHMENT C.**

12. PLEASE PROVIDE **MATERIAL SAFETY DATA SHEETS (MSDS)** FOR ALL MATERIALS PROCESSED, USED OR PRODUCED AS **ATTACHMENT D.** FOR CHEMICAL PROCESSE, PLEASE PROVIDE A MSDS FOR EACH COMPOUND EMITTED TO AIR.

13A. **REGULATED AIR POLLUTANT EMISSIONS:**

⇒ **FOR A NEW FACILITY,** PLEASE PROVIDE PLANT WIDE EMISSIONS BASED ON THE POTENTIAL TO EMIT (PTE) FOR THE FOLLOWING AIR POLLUTANTS INCLUDING ALL PROCESSES.

⇒ **FOR AN EXISTING FACILITY,** PLEASE PROVIDE THE PROPOSED CHANGE IN EMISSIONS BASED ON THE PTE OF ALL PROCESS CHANGES FOR THE FOLLOWING AIR POLLUTANTS.

PTE FOR A GIVEN POLLUTANT IS TYPICALLY BEFORE AIR POLLUTION CONTROL DEVICES AND IS COLLECTED BASED ON THE MAXIMUM DESIGN CAPACITY OF PROCESS EQUIPMENT.

POLLUTANT	HOURLY PTE (LB/HR)	YEARLY PTE (TON/YR) (HOURLY PTE MULTIPLIED BY 8760 HR/YR) DIVIDED BY 2000 LB/TON
PM	N/A	N/A
PM_{10}	N/A	N/A
VOCs	0.14	0.24
CO	N/A	N/A
NO_x	N/A	N/A
SO_2	N/A	N/A
Pb	N/A	N/A
HAPs (AGGREGATE AMOUNT)	N/A	N/A
TAPs (INDIVIDUALLY)*	N/A	N/A
OTHER (INDIVIDUALLY)*	N/A	N/A

* ATTACH ADDITIONAL PAGES AS NEEDED

13B. PLEASE PROVIDE ALL **SUPPORTING CALCULATIONS** AS **ATTACHMENT E.**

CALCULATE AN HOURLY AND YEARLY PTE OF EACH PROCESS EMISSION POINT (SHOWN IN YOUR DETAILED PROCESS FLOW DIAGRAM) FOR ALL AIR POLLUTANTS LISTED ABOVE INCLUDING INDIVIDUAL HAP'S (LISTED IN SECTION 112[b] OF THE 1990 CAAA), TAP'S (LISTED IN 45CSR27), AND OTHER AIR POLLUTANTS (E.G. POLLUTANTS LISTED IN TABLE 45-13A OF 45CSR13, MINERAL ACIDS PER 45CSR7, ETC.).

14. **CERTIFICATION OF DATA**

I, (ROBERT J. FEHRENBACHER)) ATTEST THAT ALL THE REPRESENTATIONS CONTAINED IN THIS APPLICATION, OR APPENDED HERETO, ARE TRUE, ACCURATE, AND COMPLETE TO THE BEST OF MY KNOWLEDGE BASED ON INFORMATION AND BELIEF AFTER REASONABLE INQUIRY, AND THAT I AM A ***RESPONSIBLE OFFICIAL**** (*PRESIDENT, VICE PRESIDENT, SECRETARY OR TREASURER, GENERAL PARTNER OR SOLE PROPRIETOR*) OF THE APPLICANT.

SIGNATURE OF RESPONSIBLE OFFICIAL: Robert J Fehrenbacher

TITLE: PLANT MANAGER DATE: Jan / 13 / 2016.

** THE DEFINITION OF THE PHRASE '***RESPONSIBLE OFFICIAL***' CAN BE FOUND AT 45CSR13, SECTION 2.23.

NOTE: PLEASE CHECK ENCLOSED ATTACHMENTS:

☒ **ATTACHMENT A** ☒ **ATTACHMENT B** ☒ **ATTACHMENT C** ☒ **ATTACHMENT D** ☒ **ATTACHMENT E**

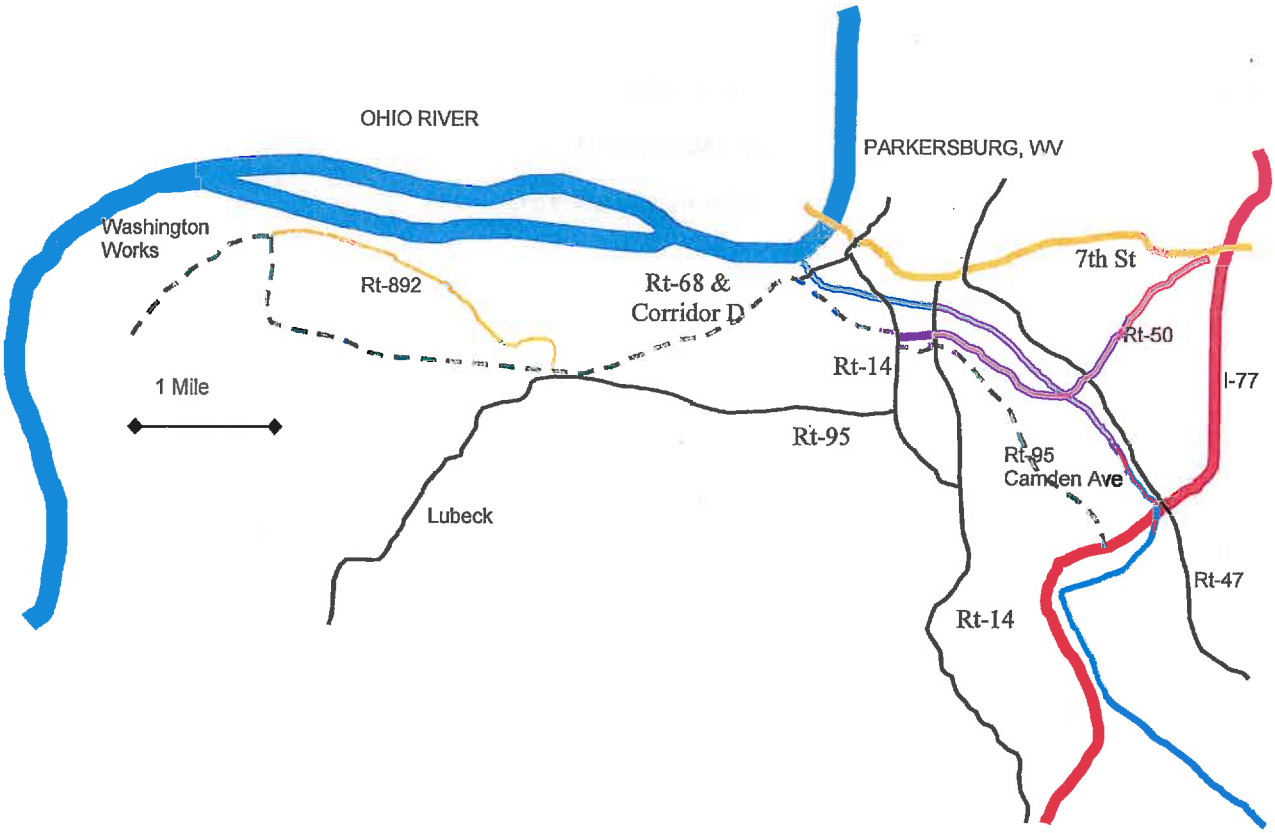
RECORDS ON ALL CHANGES ARE REQUIRED TO BE KEPT AND MAINTAINED ON-SITE FOR TWO (2) YEARS.

THE PERMIT DETERMINATION FORM WITH THE INSTRUCTIONS CAN BE FOUND ON DAQ'S PERMITTING SECTION WEB SITE:

www.wvdep.org

ATTACHMENT A

MAP to the Facility



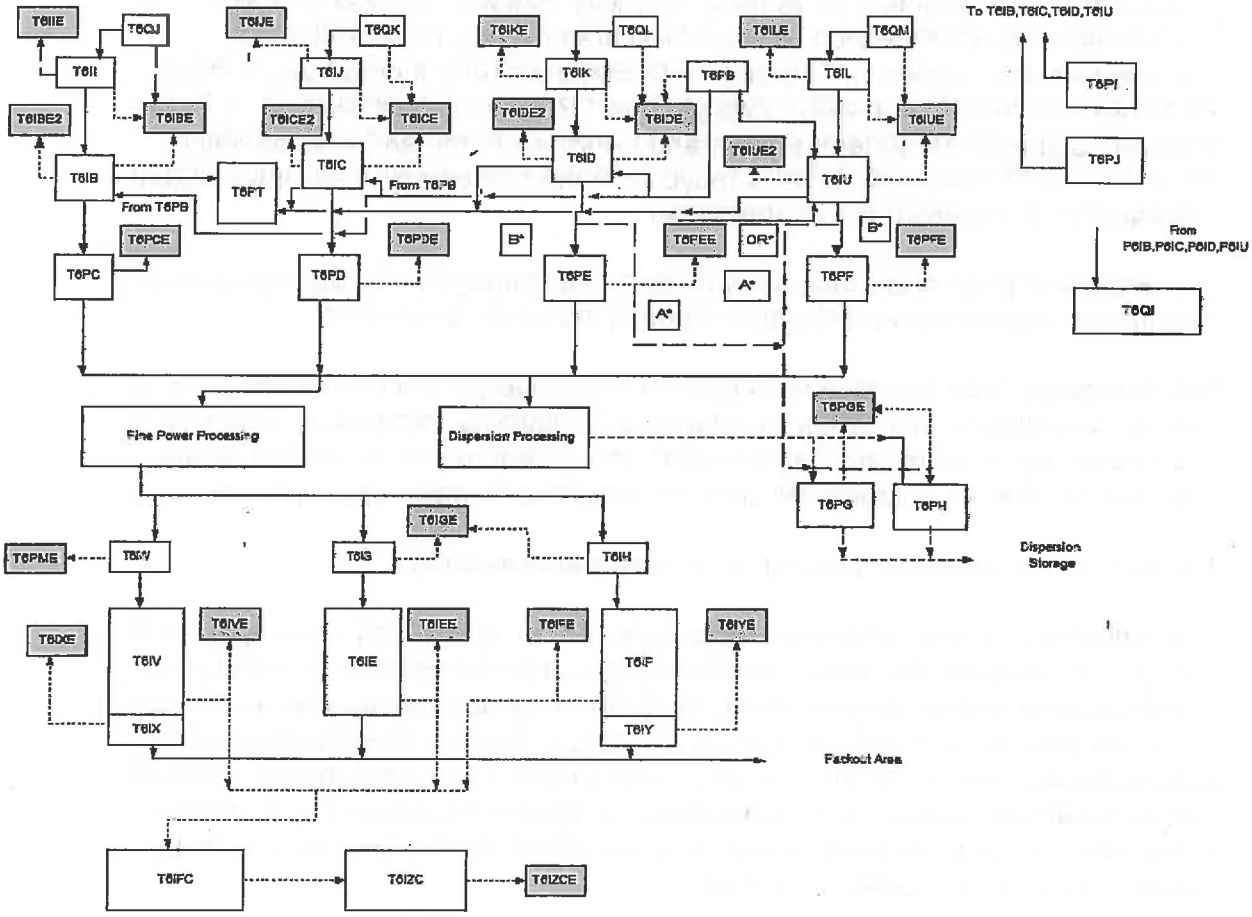
Directions:

From Interstate 77, take exit for Rte. 50 by-pass around Parkersburg (Rte-50 West)
Proceed west until intersection / exit just before the bridge over the Ohio River.(DuPont Road)
Turn left (south) onto DuPont Rd, Rt-892 at the bottom of the exit ramp.
Proceed approx. 1 mile to the Chemours facility on right.

ATTACHMENT B

Process Flow Diagram

FP/Disp Flow Chart



ATTACHMENT C

Process/Project Description

Teflon® T6 area produces TFE based homopolymers in four agitated batch reactors. The reaction takes place in an aqueous medium, and a milk white raw polymer dispersion in water is produced. A portion of the raw dispersion production is dried and sold as powder, and a portion is processed and sold as a finished aqueous dispersion. A batch is started by adding water and other ingredients to the reactor. The major raw material, Tetrafluoroethylene, is fed to the reactors from high-pressure weigh tanks. Polymerization takes place in the aqueous phase at high temperature and pressure. At the end of each batch, most of the unreacted material is recycled to the monomers area for reuse, but a small portion is vented to the atmosphere.

The dispersion product is made by partially concentrating the reactor output in a water/solids separation vessel where some of the water is removed.

Pollution control equipment to reduce water discharges to the Ohio River (W9) involves a system to treat water by addition of flocculants followed by filtration and carbon bed absorption. The flocculant, and activated carbon used in a later step, are handled as dry materials that are slurried with water shortly before use.

The changes submitted in this Permit Determination include:

1. Installation of a new solids separation tank (T6SJ), with a new emissions stack (T6SJE), to serve the dispersion manufacturing. It will be used to separate a low density polymerization aid and solid polymer from a water stream that will be sent to the W9 process for treatment prior to discharge. We are altering our existing processing aid concentration in the dispersion process and need to further isolate the solid material recovery to better control the amount of processing aid present in the water that is processed through polymerization aid recovery prior to being recycled back to other production lines.

2. Calculations to reflect the claim the separation tank qualifies as candidate for approval via a Permit Determination under 45 CSR 13.

ATTACHMENT D

Material Data Safety Sheets

No new materials are being introduced into the process as a result of this change

ATTACHMENT E

Supporting Calculations Public

The new separation tank (T6SJ) will have a 1000 gal capacity and will utilize a 6"-8" free vent (T6SJE) exiting the building and ending approximately 20 ft above ground, pending final design calculations. The vessel vapor space has an air sweep to ensure that there is constant flow out of the free vent. The out breathing for the new free vent is determined for all process conditions and the largest amount used for these calculations.

Separation tank contents w/ estimated percent composition:

- Water > 90%
- Polymerization Aid < 10%
- PTFE Polymer < 1%
- Processing Aid << 1%
- Residual TFE from upstream process (trace)

TFE is a vapor under all process conditions and will vent through the free vent. TFE will only be supplied to the vessel during batch operations. Using out breathing rate and the batch cycle times a calculated daily amount of TFE released from the vent can be estimated by considering.

- Batch Drop Time
- Batches / day
- Instantaneous trace TFE concentration
- Vent out breathing rate

Breathing rate X TFE concentration X Drop Time X drops/day = TFE vented lb/day

350 days x TFE vented lb/day = Annual TFE vented in lbs / yr.

In addition to TFE the free vent will contain the same content as the tank vapor space. The vapor space make up will depend on the temperature and relative vapor pressures of all components. TFE is not considered because it is a vapor under all process conditions and is accounted in the overall mass balance. PTFE polymer does not have a vapor pressure and will not contribute to the vapor space.

- Water ~ 18.6 mmHg
- Polymerization Aid < 0.05 mmHg
- Processing Aid < $1X10^{-11}$ mmHg

The contribution of each component to the vapor space is also dependent on the mole fraction of each component. Per Raoult's Law the sum of all the products of vapor pressure and mole fraction will yield the system vapor pressure.

With less than 1 mol% of the contributing components to the vapor pressure being something other than water the vapor pressure for the system is effectively the saturated vapor pressure of the system for water. The humidity ratio of the vent can be calculated to give the mass of water vapor for a given mass of vented air.

REDACTED

Dimensional constants X System vapor press / (Ambient press – System vapor press) = Mass ratio of water to air

Based on out breathing rate and batch assumptions used above for TFE calculation, the water vapor emitted from the free vent is:

Breathing rate X water to air ratio X Drop Time X drops/day = water vapor vented lb/day

Annual water vapor released through vent = 350 days x water vapor vented lb/day = Annual water vapor vented in lbs / yr.

Using mole fractions for polymerization aid and processing aid annual releases through the free vent:

Annual water vapor vented X mole fraction X dimensional constants = Annual polymerization aid released

Annual water vapor vented X mole fraction X dimensional constants = Annual processing aid released

REDACTED

Attachment S

Title V Permit Revision Information

Attachment S

Title V Permit Revision Information

1. New Applicable Requirements Summary

Mark all applicable requirements associated with the changes involved with this permit revision:

☐ SIP	☐ FIP
☒ Minor source NSR (45CSR13)	☐ PSD (45CSR14)
☐ NESHAP (45CSR15)	☐ Nonattainment NSR (45CSR19)
☐ Section 111 NSPS Subpart(s)_____)	☐ Section 112(d) MACT (Subpart(s)_____)
☐ Section 112(g) Case-by-case MACT	☐ 112(r) RMP
☐ Section 112(i) Early reduction of HAP	☐ Consumer/commercial prod. reqts., section 183(e)
☐ Section 129 Standards/Reqts.	☐ Stratospheric ozone (Title VI)
☐ Tank vessel reqt., section 183(f)	☐ Emissions cap 45CSR§30-2.6.1
☐ NAAQS, increments or visibility (temp. sources)	☒ 45CSR27 State enforceable only rule
☐ 45CSR4 State enforceable only rule	☐ Acid Rain (Title IV, 45CSR33)
☐ Emissions Trading and Banking (45CSR28)	☐ Compliance Assurance Monitoring (40CFR64) (1)
☐ NO_x Budget Trading Program Non-EGUs (45CSR1)	☐ NO_x Budget Trading Program EGUs (45CSR26)

(1) If this box is checked, please include **Compliance Assurance Monitoring (CAM) Form(s)** for each Pollutants Specific Emission Unit (PSEU) (See Attachment H to Title V Application). If this box is not checked, please explain why **Compliance Assurance Monitoring** is not applicable:

Compliance Assurance Monitoring requirements were evaluated at the renewal of the Title V permit for this segment of the DuPont Washington Works. The proposed changes included in R13-1353F do not change the results of the Title V renewal evaluation.

2. Non Applicability Determinations

List all requirements, which the source has determined not applicable to this permit revision and for which a permit shield is requested. The listing shall also include the rule citation and a rationale for the determination.

There are no changes proposed to this listing as a result of this permit determination.

☐ **Permit Shield Requested** *(not applicable to Minor Modifications)*

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

3. Suggested Title V Draft Permit Language

Are there any changes involved with this Title V Permit revision outside of the scope of the NSR Permit revision? ☐ Yes

☒ No If Yes, describe the changes below.

Also, please provide **Suggested Title V Draft Permit language** for the proposed Title V Permit revision (including all applicable requirements associated with the permit revision and any associated monitoring /recordkeeping/ reporting requirements), OR attach a marked up pages of current Title V Permit. Please include appropriate citations (Permit or Consent Order number, condition number and/or rule citation (e.g. 45CSR§7-4.1)) for those requirements being added / revised.

Specific Changes to be made in the associated Title V permit are –

1. Add into the equipment table the process vessel T6SJ with the associated emission point of T6JSE.

4. Active NSR Permits/Permit Determinations/Consent Orders Associated With This Permit Revision

Permit or Consent Order Number	Date of Issuance	Permit/Consent Order Condition Number
R13-3223	12/08/2014	No changes
Permit Determination	01/11/2016	Attached

5. Inactive NSR Permits/Obsolete Permit or Consent Orders Conditions Associated With This Revision		
Permit or Consent Order Number	Date of Issuance	Permit/Consent Order Condition Number
	MM/DD/YYYY	

6. Change in Potential Emissions	
Pollutant	Change in Potential Emissions (+ or -), TPY
VOC	+0.24
All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.	

7. Certification For Use Of Minor Modification Procedures *(Required Only for Minor Modification Requests)*

Note:	*This certification must be signed by a responsible official. Applications without a signed certification will be returned as incomplete. The criteria for allowing the use of Minor Modification Procedures are as follows:*

i. Proposed changes do not violate any applicable requirement;

ii. Proposed changes do not involve significant changes to existing monitoring, reporting, or recordkeeping requirements in the permit;

iii. Proposed changes do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient air quality impacts, or a visibility increment analysis;

iv. Proposed changes do not seek to establish or change a permit term or condition for which there is no underlying applicable requirement and which permit or condition has been used to avoid an applicable requirement to which the source would otherwise be subject (synthetic minor). Such terms and conditions include, but are not limited to a federally enforceable emissions cap used to avoid classification as a modification under any provision of Title I or any alternative emissions limit approved pursuant to regulations promulgated under § 112(j)(5) of the Clean Air Act;

v. Proposed changes do not involve preconstruction review under Title I of the Clean Air Act or 45CSR14 and 45CSR19;

vi. Proposed changes are not required under any rule of the Director to be processed as a significant modification;

Notwithstanding subparagraph 45CSR§30-6.5.a.1.A. (items i through vi above), minor permit modification procedures may be used for permit modifications involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches, to the extent that such minor permit modification procedures are explicitly provided for in rules of the Director which are approved by the U.S. EPA as a part of the State Implementation Plan under the Clean Air Act, or which may be otherwise provided for in the Title V operating permit issued under 45CSR30.

Pursuant to 45CSR§30-6.5.a.2.C., the proposed modification contained herein meets the criteria for use of Minor permit modification procedures as set forth in Section 45CSR§30-6.5.a.1.A. The use of Minor permit modification procedures are hereby requested for processing of this application.

(Signed):	Robert J. Fehrenbacher *(Please use blue ink)*	Date:	Jan. / 13 / 2016 *(Please use blue ink)*
Named (typed):	*Robert J. Fehrenbacher*	Title:	*Plant Manager*

Note: Please check if the following included (if applicable):

☐	Compliance Assurance Monitoring Form(s)
☐	Suggested Title V Draft Permit Language

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.