

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Application Review

Issue Date: March XX, 2022

Region: Washington Regional Office
County: Pitt
NC Facility ID: 7400021
Inspector's Name: Yongcheng Chen
Date of Last Inspection: 09/17/2021
Compliance Code: 3 / Compliance - inspection

<p style="text-align: center;">Facility Data</p> <p>Applicant (Facility's Name): DSM Protective Materials LLC</p> <p>Facility Address: DSM Protective Materials LLC 5750 Martin Luther King Jr. Highway Greenville, NC 27834</p> <p>SIC: 2824 / Organic Fibers, Noncellulosic NAICS: 325222 / Noncellulosic Organic Fiber Manufacturing</p> <p>Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V</p>	<p style="text-align: center;">Permit Applicability (this application only)</p> <p>SIP: 15A NCAC 02Q .0504, 02Q .0501(c)(2) NSPS: NA NESHAP: NA PSD: NA PSD Avoidance: NA 15A NCAC 02D .0530(u) NC Toxics: NA 112(r): NA Other: NA</p>
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Contact Data			Application Data
<p style="text-align: center;">Facility Contact</p> <p>Myrna Pacheco SHE-Environmental Engineer (252) 406-5872 5750 Martin Luther King Jr. Highway Greenville, NC 27834+8928</p>	<p style="text-align: center;">Authorized Contact</p> <p>Scott McIntyre Site Director (252) 707-3535 5750 Martin Luther King Jr. Highway Greenville, NC 27834+8928</p>	<p style="text-align: center;">Technical Contact</p> <p>Myma Pacheco SHE-Environmental Engineer (252) 406-5872 5750 Martin Luther King Jr. Highway Greenville, NC 27834+8928</p>	<p>Application Number: 7400021.21A Date Received: 10/21/2021 Application Type: Modification Application Schedule: TV-Sign-501(b)(2) Part II</p> <p style="text-align: center;">Existing Permit Data</p> <p>Existing Permit Number: 05754/T99 Existing Permit Issue Date: 03/09/2021 Existing Permit Expiration Date: 08/31/2023</p>

Total Actual emissions in TONS/YEAR:							
CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2020	0.0500	7.17	39.63	6.78	2.37	3.89	1.99 [Toluene]
2019	3.32	47.99	55.91	31.63	5.74	4.23	2.11 [Toluene]
2018	2.73	45.36	68.01	30.30	5.74	4.63	2.73 [Toluene]
2017	4.27	55.89	68.91	34.19	5.95	5.73	2.53 [Triethylamine]
2016	4.47	51.47	48.37	33.33	5.63	3.09	1.32 [Toluene]

<p>Review Engineer: Richard Simpson</p> <p>Review Engineer's Signature: _____ Date: _____</p>	<p style="text-align: center;">Comments / Recommendations:</p> <p>Issue: 05754/T100 Permit Issue Date: March XX, 2022 Permit Expiration Date: August 31, 2023</p>
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I. Introduction:

The DSM Protective Materials LLC (DSM) facility is located in Greenville, Pitt County, North Carolina at the intersection of Highway 264 and Highway 13. The facility currently holds Title V Permit No. 05754T99 with an expiration date of August 31, 2023 for a fiber and non-woven fabrics manufacturing facility.

II. Description of Facility:

The facility production is highly proprietary. This facility manufactures fiber and non-woven fabrics and employs approximately 350 persons operating 24/7, as workload dictates. The facility has six main buildings totaling over 500,000 square feet.

III. Purpose of Application:

Permit Application No. 7400021.21A was received by the Division on October 21, 2021 but was not considered complete until October 25, 2021 when the application fee was received. This application is for the second step of a two-step modification per 15A NCAC 02Q .0501(b)(2) that requires public and EPA notice. The proposed modification is for a production increase with Polyethylene Fiber Production Lines Nos. 1 through No. 6 (ID Nos. DAP1 through DAP6). There are no new sources with this application. Due to the anticipated VOC emission increases from the first step application, DSM has elected to use *projected actual emissions* to avoid the applicability of PSD requirements per 15A NCAC 02D .0530(u). The Permittee shall continue to comply with all other existing permit requirements. This permit action will address the following sources and control devices associated with the application:

- Removed all knife cutters (ID Nos. X1418, X2418, X3418, X4418, X5418A, and X5418B) as they have been removed from the facility,
- Removed suspension make-up tank (ID No. V5114B) since it has been removed from the facility and changed ID No. V5114A to ID No. 5114,
- Removed suspension mixing vessel (ID No. V5115B) since it has been removed from the facility and changed ID No. V5115A to ID No. 5115,
- Removed the wet scrubber control device (ID No. V-0932) since it is no longer at the facility. Fiber line ID No. FL-5 was moved to the other fiber lines,
- Updated solvent tanks from “ID Nos. T0901 through T0908” to “ID Nos. T0901, T0902, T0905, and T0906”,
- Updated the volatile organic compound projected to actual annual emission rate requirements for avoidance of PSD and,
- Update emission calculations using different materials.

Based on the anticipated improvements in DAP production line performance, DSM has projected increases in solvent usage following completion of the project. In addition to the increases in solvent usage, some supporting equipment operations associated with each DAP are also anticipated to increase. The most notable is an increase in hot oil demand that will require additional natural gas usage by the hot oil furnaces. The projects will involve upgrading each DAP production line through component replacements and design changes such as the following:

- New extruder gear boxes that will increase speed through the extruder to improve product quality,
- Upgrade booster pumps to improve and increase extruder efficiency,
- Upgrade spinnerets that will increase the number of filaments produced through the P-Ovens.

IV. History/Background/Application Chronology

March 9, 2021 – Permit 05754T99 and review were signed and sent to the facility as a first step significant modification.

September 17, 2021 – This facility was inspected by Yongcheng Chen of the WaRO and the facility appeared to operate in compliance with all applicable air quality regulations and permit conditions.

October 21, 2021 – Title V permit application 7400021.21A was received for a second step modification per 15A NCAC 02Q .0501(b)(2) but was considered incomplete.

October 25, 2021 – The facility completed payment for the \$1,002 fee for the application and the application was considered complete.

January 26, 2022 – Emails were made with the facility representative, Jack Martin, for clarification to the suspension vessels and solvent tanks.

January 31, 2022 - The facility, Washington Regional Office, and Stationary Compliance Section were requested by the Permits Section to comment on the draft permit and review. Comments were received and included in the permit.

February XX, 2022 – TVEE was approved by Jenny Sheppard TVEE Coordinator.

February##, 2022 – DRAFT permit sent to public notice and EPA for review prior to issuance. The 30-day public comment period ended **March ##, 2022** with the receipt of no comments. The 45-day EPA review period ended **April ##, 2022** with the receipt of no comments.

March ##, 2021 – The final permit and review were signed and sent to the facility.

V. Permit Modifications/Changes and ESMDiscussion

The following table lists all modifications associated with this permit action and provides a summary of the changes from Permit No. 05754T99*.

Page No.	Section	Description of Changes
Cover and throughout	Throughout	Updated all tables, dates, and permit revision numbers. Permit was updated with the latest Permit Shell 7.0.
3	NA	The list of acronyms was moved from the last page to page 3 of the permit.
4	Section 1	Removed footnote ‘***’ from a previous permit modification
5, 13	Section 1, Section 2.1 A	Removed all knife cutters (ID Nos. X1418, X2418, X3418, X4418, X5418A, and X5418B) as they have been removed from the facility
5, 13	Section 1, Section 2.1 A	Updated ID No. GBL4-2 description to include exhausts points F9 and F10, and instead of F12 and F13.
10, 14	Section 1, Section 2.1 A	Removed suspension make-up tank (ID No. V5114B) since it has been removed from the facility and changed ID No. V5114A to ID No. 5114.
10, 14	Section 1, Section 2.1 A	Removed suspension mixing vessel (ID No. V5115B) since it has been removed from the facility and changed ID No. V5115A to ID No. 5115.
10	Section 1	Updated ID No. GBL5-2 description to include exhausts point F12 and delete exhaust point F14.

11	Section 1	Updated ID No. GBL6-2 description to include exhausts point F14.
11, 24, 32	Section 1, Section 2.1 B, Section 2.2 B.1.f.	Removed the wet scrubber control device (ID No. V-0932) since it is no longer at the facility. Fiber line ID No. FL-5 was moved to the other fiber lines.
12, 24, 32	Section 1, Section 2.1 B, Section 2.2 B.1.f.	Updated the number of fiber lines from seven to five. Removed fiber lines F-1 and FL-4 and added FL-7.
20	Section 2.1 A.6.f.	Added data substitution requirements for excess emissions using 40 CFR Part 75 procedures including periods during startup, shutdown, and malfunctions. Added monitor downtime requirements for the VOC CEMs.
20	Section 2.1 A.6.g.	Updated solvent tanks from “ID Nos. T0901 through T0908” to “ID Nos. T0901, T0902, T0905, and T0906”.
24	Section 2.1 A.8	Removed 15A NCAC 02Q .0504 since this permit application meets the requirements.
25	Section 2.1 B.1.d.	Updated the equation to exclude the wet scrubber since it has been removed from the facility.
12, 26	Section 1, Section 2.1 C.	Removed air to cloth ratio with each control device and added square feet of filter area for each device. Removed bagfilter S-M1112 since the device vents indoors.
31	Section 2.2 B.1.b. through e. and f.iii.	Removed testing, inspection, and monitoring requirements for wet scrubber (ID No. V-0932) since the device is no longer at the facility.
20	Section 2.3	Moved the Insignificant Activities to Section 2.3
20-30	Section 3	The General Conditions in Section 3 of the permit were updated to the latest version.

*This list is not intended to be a detailed record of every change made to the permit but a summary of those changes.

There were changes made to the Title V Equipment Editor (TVEE) under this permit modification.

VI. Potential Emission Estimates

DSM potential emissions are limited by avoidance conditions for PSD, MACT, and BACT. Detailed emission calculations are provided in Section VIII and Appendix 1.

Emission Scenario	CO (tpy)	NO _x (tpy)	VOC (tpy)	PM (tpy)	PM ₁₀ (tpy)	PM _{2.5} (tpy)	SO ₂ (tpy)	Total HAPs (tpy)
Potential Emission	26.1	21.6	109.7	2.5	2.5	2.5	0.3	0.61

VII. Regulatory Review/Equipment Changes

The facility is currently subject to the following regulations:

- a. 15A NCAC 02D .0503, “Particulates from Fuel Burning Indirect Heat Exchangers”
- b. 15A NCAC 02D .0515, “Particulates from Miscellaneous Industrial Processes”

- c. 15A NCAC 02D .0516, “Sulfur Dioxide Emissions from Combustion Sources”
- d. 15A NCAC 02D .0521, “Control of Visible Emissions”
- e. 15A NCAC 02D.1806, “Control and Prohibition of Odorous Emissions”
- f. 15A NCAC 02D .0524, “New Source Performance Standards (40 CFR 60, Subpart HHH)”
- g. 15A NCAC 02D .0530, “Prevention of Significant Deterioration (BACT for VOC)”
- h. 15A NCAC 02D .1100, “Toxic Air Pollutant Emissions Limitation and Reporting Requirements”
- i. 15A NCAC 02D .1111, “Maximum Achievable Control Technology (MACT - Avoidance)”
- j. 15A NCAC 02Q .0317, “Avoidance Conditions (for 15A NCAC 02D .1111, MACT Avoidance)”
- k. 15A NCAC 02Q .0317, “Avoidance Conditions (VOC, SO₂, and NO_x limitations to avoid PSD permitting per 15A NCAC 02D .0530)”
- l. 15A NCAC 02Q .0711, “Emission Rates Requiring a Permit”
- m. 15A NCAC 02D .0530(u), “Use of Projected Actual Emissions to Avoid Applicability of PSD Requirement.”

An extensive review for most of the applicable regulations are not included in this document because the facility’s status with respect to all existing regulations has not changed. However, 15A NCAC 02Q .0504 was removed since this permit application meets the requirement. 15A NCAC 02D .0530(u) is discussed in the next section. For a discussion of MACT, CAM, and PSD requirements, see Section VIII. Detail changes are noted in the above Table of Changes.

1. 15A NCAC 02D .0503, Particulates from Fuel Burning Indirect Heat Exchangers: This rule applies to the process heaters and hot water heaters. Process heaters with **ID Nos. F0951, F0952, F0953, F0954, and F0955** shall not exceed 0.31 pounds per million Btu heat input of particulate matter into the atmosphere. Process heaters with **ID Nos. F0956** and hot water heaters with **ID Nos. HWH1, HWH2, HWH3, HWH4, HWH5, HWH6-A, HWH6-B and HWH6-C** shall not exceed 0.22 pounds per million Btu heat input particulate matter into the atmosphere. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas and No. 2 fuel oil in these sources. Continued compliance is anticipated.

2. 15 NCAC 02D .0515, Particulates from Miscellaneous Industrial Processes: This rule applies to the bagfilters (**ID Nos. S1114, S2114, S3114, S4114, S5114, and S6114**) and limits the allowable PM emission from these sources to:

$$E = 4.10(P)^{0.67} = 4.10(0.3)^{0.67} = 1.83 \text{ lb PM/hr} \quad \text{for process rates} \leq 30 \text{ ton/hr}$$

where: P = the process weight rate (ton/hr)

E = allowable emissions (lb PM/hr)

The permit requires annual inspections of the bagfilters to ensure they provide effective control. Continued compliance is anticipated.

3. 15 NCAC 02D .0516, Sulfur Dioxide Emission from Combustion Sources: This rule limits sulfur dioxide emissions to 2.3 pounds per million BTU heat input from the process heaters and hot water heaters. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of natural gas and No. 2 fuel oil in these sources. Continued compliance is anticipated.
4. 15 NCAC 02D .0521, Control of Visible Emissions: This rule limits visible emissions to 20% opacity (except a six-minute averaging period can exceed 20% once per hour and four times per 24-hour period, provided visible emissions do not exceed 87% opacity). No monitoring/recordkeeping/reporting is required for the combustion of natural gas, No. 2 fuel oil, or VOC emission at the process heaters, hot water heaters, concentrators or regenerative thermal

oxidizers. No monitoring/recordkeeping/reporting is required for the evaporative losses from the uncontrolled general building exhaust points. Continued compliance is anticipated.

5. 15 NCAC 02D .1806, Control and Prohibition of Odorous Emissions: The Permittee shall not operate the facility without implementing management practices or installing and operating odor control equipment sufficient to prevent odorous emissions from the facility from causing or contributing to objectionable odors beyond the facility's boundary. Continued compliance is anticipated.

VIII. NSPS, NESHAP/MACT, PSD, CAM, 112(r), and RACT:

New Source Performance Standards (NSPS)

15A NCAC 02D .0524 – New Source Performance Standard for Synthetic Fibers Production Facilities – NSPS (Subpart HHH) applies to solvent-spun synthetic fiber processes. The rule defines a solvent-spun synthetic fiber process to include “spinning solution preparation, spinning, fiber processing, and solvent recovery....”.

The existing DAP lines are affected by the NSPS. Because the overall VOC emissions from the fiber manufacturing lines currently appear to be in compliance with the far more stringent BACT emissions limitations, the NC DAQ anticipates that DAP lines will continue to be in compliance with the NSPS standard. This permit modification does not affect this status.

40 CFR 60, Subpart HHH limits overall VOC emissions from the fiber manufacturing process to no greater than 34 pounds per ton of solvent used (lbs/ton solvent). In the existing permit, testing, monitoring, and recordkeeping associated with the NSPS limit are identical to the requirements for demonstrating compliance with the BACT limit. The BACT limit for each fiber manufacturing line shall not exceed 12 pounds per ton of solvent feed on a calendar month basis. This permit modification does not affect this status.

National Emission Standards for Hazardous Air Pollutants (NESHAP)/Maximum Achievable Control Technology (MACT)/ Generally Achievable Control Technology (GACT)

The existing permit has a MACT avoidance condition (15A NCAC 2Q .0317) in Section 2.2. B.1. that requires monthly monitoring of facility-wide hazardous air pollutant (HAP) emissions and semiannual reporting of such emissions. Facility-wide emissions shall not exceed 10 tons per year (tpy) of any individual HAP or 25 tpy combined total HAPs to avoid applicability of any potentially applicable MACT standards. DSM proposes to continue complying with this 10 tpy/25 tpy emission limitation to avoid MACT applicability. This permit modification does not affect this status.

Prevention of Significant Deterioration (PSD)/National Ambient Air Quality Standards (NAAQS)

The facility is currently classified as a Major stationary source for the purpose of the Prevention of Significant Deterioration (PSD) permitting program. VOC, SO₂, and NO_x requirements and limitations are applicable to avoid PSD permitting per 15A NCAC 02D .0530.

Permit Section 2.1 A.6.a. requirements include a Best Available Control Technology (BACT) determination required pursuant to 15A NCAC 02D .0530. The facility's 6-month average VOC emission rate from each of the fiber manufacturing lines (**ID Nos. DAP1 through DAP6**), including emissions from the solvent tanks and undrawn yarn (UDY) tote loading operations, shall not exceed 12 pounds per ton of solvent feed (lbs/ton solvent) on a calendar month basis. With this modification, the Quality Assurance/ Quality Control (QA/QC) measure for all the CERMS (THC and flow monitors) were updated to include the following requirements in Section 2.1 A.6.f:

The QA/QC shall at the minimum include a provision for Calibration Drift (CD) determination and adjustments, data accuracy assessment, preventive maintenance, and program for corrective action for

malfunctioning CERMS.

- (A) Excess Emissions: The excess emissions shall be defined as six month rolling average period that exceeds the limit specified in Section 2.1 6.a. The CERMS (THC and flow monitors) data reported to meet the requirements of this section shall include data substitution using 40 CFR Part 75 procedures.
- (B) Monitor downtime: For CEMS required by Section 2.1 A.6.f above, monitor downtime:
- (1) shall not exceed 5.0 percent of the operating time in a calendar quarter;
 - (2) shall be calculated using the following equation:

$$\%MD = \left(\frac{\text{Total Monitor Downtime}}{\text{Total Source Operating Time}} \right) \times 100$$

Where:

"Total Monitor Downtime" = number of hours in a calendar quarter where an emission source was operating but data from the associated CEMS are invalid, not available, and/or filled with missing data procedure.

"Total Source Operating Time" = number of hours in a calendar quarter where the emission source associated with the CEMS was operating.

- (C) The Permittee shall report excess emissions for all periods of operation, including start-up, shutdown, and malfunction.

If the associated CERMS does not comply with these requirements or the CERMS (THC and flow monitors) emissions exceed the limits in Section 2.1 A.6.a., the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Permit Section 2.1 B.1 requires VOC emissions from Building 12 Fiber Lines 1 through 5 to not exceed 25 tons per consecutive 12-month period. Permit Section 2.2 A.1. limits the total annual NO_x emissions from the combustion of natural gas and No. 2 fuel oil associated with the DAP process heaters, DAP hot water heaters and the Bldg. 46 Concentrator to not exceed 28 tons in any 12-consecutive month period to avoid applicability of 15A NCAC 02D.0530 for major sources and major modifications. Per permit Section 2.2 A.2, the total annual SO₂ emissions must not exceed 39 tons. This modification will stay below the existing NO_x and SO₂ limitations and conditions. This permit modification does not affect this status.

Permit Section 2.2 A.1. limits the total annual NO_x emissions from the combustion of natural gas and No. 2 fuel oil associated with the DAP process heaters, DAP hot water heaters and the Bldg. 46 Concentrator to not exceed 28 tons in any 12-consecutive month period to avoid applicability of 15A NCAC 02D.0530 for major sources and major modifications. Per permit Section 2.2 A.2, the total annual SO₂ emissions must not exceed 39 tons. This modification will stay below the existing NO_x and SO₂ limitations and conditions. This permit modification does not affect this status.

PSD Applicability Evaluation for this Modification

DSM performed a Prevention of Significant Deterioration (PSD) applicability analysis to determine whether the project resulted in an emission increase of any regulated NSR pollutant above the applicable significance levels listed in 40 CFR 51.166(b)(23)(i). The PSD applicability analysis evaluated PSD-regulated air pollutants to be emitted, including PM (filterable), PM₁₀, PM_{2.5}, NO_x, SO₂, CO, VOCs, all other PSD regulated pollutants including, sulfuric acid, lead, and carbon dioxide as CO₂e were well below the thresholds. In the first step of this modification, the following describes the methodology used to determine the emission increases for the requested increase in production on fiber manufacturing lines (**ID Nos. DAP1 through DAP6**). As presented in Table 1 below, the calculations demonstrate that the PSD requirements are not triggered because project increases are below the PSD significant emissions rates when using Projected Actual Emissions. Appendix A contains the project emissions calculations.

PSD Applicability Test for fiber manufacturing lines (ID Nos. DAP1 through DAP6)

For these existing lines (**ID Nos. DAP1 through DAP6**), DSM has elected to use the *actual-to-projected actual test* to compare the difference between the *projected actual emissions* and the *baseline actual emissions* in accordance with 40 CFR 51.166(a)(7)(iv)(c) for each existing emissions line as shown below. A significant emissions increase of a regulated New Source Review (NSR) pollutant is projected to occur if the sum of the difference between the *projected actual emissions* and the *baseline actual emissions* for each existing emissions unit, equals or exceeds the significant amount for that pollutant as defined in 40 CFR 51.166 (b)(23).

Baseline Actual Emissions (BAE)

In accordance with 15A NCAC 2D .0530(b)(1)(A), *baseline actual emissions* for an existing emissions unit are calculated as the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the five-year period immediately preceding the date that a complete permit application is received. However, the Director shall allow a different time period, not to exceed 10 years immediately preceding the date on which a complete permit application is received by the Division, if the owner or operator demonstrates that it is more representative of normal source operation. A different consecutive 24-month period for each regulated NSR pollutant may be used for each regulated NSR pollutant. *Baseline actual emissions* represent the highest historical 24-month average annual emissions in tons per year for each pollutant. For this project, the selected baseline periods are March 2017 through February 2019 for VOC and January 2018 through December 2019 for NO_x, SO₂, PM and CO. The baseline actual emissions were based on certified continuous emissions monitoring systems (CEMS) data for VOC, natural gas fuel usage data from site billing meters for VOC, NO_x, SO₂, PM and CO and annual emission inventories for PM emissions associated with the PE Silos. Appendix A provided as an attachment to this letter provides summary of the baseline actual emissions for each emissions parameter.

Could Have Accommodated including Demand Growth

Emissions the unit could have accommodated (CHA) during the selected baseline period that are above baseline actual emissions and the portion of the increase in emissions that is unrelated to the particular project. The applicant did not use CHA in the calculations for the analysis in this project.

Projected Actual Emissions (PAE)

In accordance with 40 CFR 40 51.166(b)(40)(i), *projected actual emissions* means the maximum annual rate, in tons per year, at which an existing emissions unit is projected to emit a regulated NSR pollutant in any one of the 5 years (12-month period) following the date the unit resumes regular operation after the project, or in any one of the 10 years following that date, if the project involves increasing the emissions unit's design capacity or its potential to emit that regulated NSR pollutant, and full utilization of the unit would result in a significant emissions increase, or a significant net emissions increase at the major stationary source. For this modification, the Best Available Control Technology (BACT) permit limits remain unchanged.

To determine the PAE annual rate, the owner or operator shall consider all relevant information, including historical operational data, the company's own representations, the company's expected business activity and the company's highest projections of business activity, the company's filings with the State or Federal regulatory authorities, and compliance plans under the approved plan.

In addition, pursuant to 40 CFR 51.166(b)(40)(ii)(c), in determining the PAE, the owner or operator shall exclude, in calculating any increase in emissions that results from the particular

project, that portion of the unit's emissions following the project that an existing unit CHA during the consecutive 24-month period used to establish the *baseline actual emissions* and that are also unrelated to the particular project, including any increased utilization due to product demand growth.

Based on the anticipated improvements in DAP production line performance, DSM has projected increases in solvent usage following completion of the project. In addition to the increases in solvent usage, some supporting equipment operations associated with each DAP are also anticipated to increase. The most notable is an increase in hot oil demand that will require additional natural gas usage by the hot oil furnaces. Table 1 provides the projected increases in solvent usage for each DAP and projected increases in natural gas combustion related to increases in hot oil demand.

Table 1: Projected Increases in Solvent & Natural Gas Usage from Current Levels

5-year Projected Increase	DAP-1		DAP-2		DAP-3	
	Solvent	Natural Gas	Solvent	Natural Gas	Solvent	Natural Gas
	(%)	(%)	(%)	(%)	(%)	(%)
	46%	39%	46%	39%	46%	39%
5-year Projected Increase	DAP-4		DAP-5		DAP-6	
	Solvent	Natural Gas	Solvent	Natural Gas	Solvent	Natural Gas
	(%)	(%)	(%)	(%)	(%)	(%)
	69%	58%	69%	58%	54%	46%

The projected actual emissions of VOC associated with solvent usage during fiber production were based on the projected solvent usage increases (See Table 1), solvent usage during the baseline period and the average ratio of pound of VOC emitted per ton of solvent used (lb/ton) measured during the baseline period by the source's certified CEMS. Projected increases in emissions associated with the combustion of natural gas were based on projected increases in natural gas combustion associated with the hot oil furnaces associated with each DAP production line. The project is not anticipated to increase demand for the hot water heaters associated with each DAP production line or natural gas usage associated with combustion in VOC control devices (i.e., F0395, S0936, S0961, F0962, S0970 and F0970), although this equipment is conservatively included in the PSD applicability analysis because it could be affected. A summary of the projected emissions after completion of the 5-year project is presented in Table A-2 (See Appendix A).

Table 2 provides a summary of the baseline, projected and projected increase in emissions as a result of implementing all the planned equipment upgrades. Based on a review of the project objectives and anticipated increases in criteria pollutant emissions, the project will not trigger established PSD review standards.

Table 2: Summary of PSD Emissions Evaluation

Period	VOC	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	PM
	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)
Baseline	50.66	0.06	11.59	9.59	1.08	1.08	1.08
Projection	78.03	0.08	14.92	12.20	1.11	1.11	1.11
Projected Increase	27.4	0.02	3.3	2.6	0.03	0.03	0.03
PSD Significant Level	40	40	40	100	15	10	25
Initiates PSD Review	No	No	No	No	No	No	No

As a result of this modification, the following new regulations apply to on fiber manufacturing lines (**ID Nos. DAP1 through DAP6**). Appendix A contains detailed emission calculations.

15A NCAC 02D .0530(u) Condition

Under 15A NCAC 02D .0530(u), for projects at existing emissions units at a major stationary source, as stated previously, DSM has elected to use *projected actual emissions* to avoid applicability of PSD requirements. DSM has demonstrated that the PAE for the project is less than the *significant emissions increase* (as defined by 40 CFR 40 51.166(b)(23)), as shown in Table 2 for all pollutants above.

However, under the 15A NCAC 02D .0530(u) rule, if the projected actual emissions, calculated pursuant to 40 CFR 51.166(b)(40)(ii)(a) and (b), minus baseline actual emissions, is 50 percent or greater of the amount that is a significant emissions increase, without reference to the amount that is a significant net emissions increase, for the regulated NSR pollutant, then a permit condition is required for monitoring, recordkeeping and reporting of the annual emissions related to the project in tons per year, for 10 years following resumption of regular operations after the change if the project involves increasing the emissions unit's design capacity or its potential to emit for the regulated NSR pollutant; otherwise, these records shall be maintained for five years following resumption of regular operations after the change. Since DSM's PAE was calculated pursuant to 40 CFR 51.166(b)(40)(ii)(a) and (b), minus baseline actual emissions and the calculated result for VOCs is higher than 50% of the significance threshold; the following 02D .0530(u) condition is being placed in the permit for VOCs only.

15A NCAC 02D .0530(u): USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF PREVENTION OF SIGNIFICANT DETERIORATION REQUIREMENTS

Monitoring/Recordkeeping/Reporting [15A NCAC 02D .0530(u)]

Since the Permittee used projected actual emissions to avoid applicability of prevention of significant deterioration requirements and the emissions for VOCs was calculated to be higher than 50% of the significance threshold (40 tpy) for VOCs, a 02D .0530(u) regulation shall be added into the current permit.

The Permittee shall perform the following:

- i. The Permittee shall maintain records of annual emissions in tons per year, on a calendar year basis related to the modifications, for five years following resumption of regular operations after the change is made.
- ii. The Permittee shall submit a report to the director within 60 days after the end of each calendar year during which these records must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c).
- iii. The Permittee shall make the information documented and maintained under this condition available to the Director or the general public pursuant to the requirements in 40 CFR 70.4(b)(3)(viii).
- iv. The reported actual emissions (post-construction emissions) for each of the five calendar years will be compared to the projected actual emissions (pre-construction projection) as included below:

Regulated NSR Pollutant	Projected Actual Emissions* (tons per year)
VOC	78.0

* The projected actual emissions are not enforceable limitations. If the reported actual emissions exceed the projected actual emissions, the Permittee shall include in its annual report an explanation as to why actual emissions exceeded the projected actual emissions. These projected actual emissions include the “could have accommodated” emissions as used in the application.

CAM – 40 CFR 64 requires that a continuous assurance monitoring plan be developed for all equipment located at a major facility, that have pre-controlled emissions above the major source threshold, and use a control device to meet an applicable standard. CAM was found not to be applicable for all control devices because potential uncontrolled emissions were below the applicability threshold. This permit modification does not affect this status.

112(r) – The facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store any of the regulated substances in quantities above the thresholds in the Rule. This permit modification does not affect this status.

RACT – This facility is not located in one of the areas listed in 02D .0902(e) or 02D .1402(d) and is therefore not subject to the existing source Reasonably Available Control Technology (RACT) requirements.

VII. Facility Wide Air Toxics (State Enforceable Only)

Pursuant to 15A NCAC 02D .1100, the permit requires the facility to either (1) maintain records sufficient to demonstrate that facility-wide emissions of those toxic air pollutants (TAPs) are below the associated toxic air pollutant permitting emissions rates (TPER), or (2) obtain a permit to emit a TAP before exceeding the TPER associated with that TAP as well as 02D .1100 modeled emission rates. Based on this toxics evaluation method, the DAQ believes that the modification and changes associated with this application do not present an unsafe health risk to the public. This permit modification does not affect this status.

VIII. Facility Emissions Review

The actual emissions of the last five years are listed on the first page of this review.

IX. Stipulation Review

This facility was last inspected on September 17, 2021 by Yongcheng Chen of the Washington Regional Office. According to Mr. Chen's report, this facility "appeared to operate in compliance with all applicable air quality regulations and permit conditions at the time of the inspection."

IX. Compliance Status

Over the past five years, the facility was issued an NOV on March 26, 2017 for violating 15A NCAC 02D .0515. The facility responded to the violation and corrective actions were implemented by the facility in a timely manner.

XI. Public Notice/EPA and Affected State(s) Review

A thirty-day public notice period and a forty-five-day EPA review period is required for this step 2 significant modification of the Title V permit. A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant shall be provided to the EPA. Also pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice is provided to the public under 02Q .0521 above.

EPA's 45 Day Review period

Michael Sparks (U.S. EPA, Region IV) was provided a PROPOSED permit for review on February ##, 2022. EPA 45-day review period ended on April ##, 2022. No comments were offered or received.

Public Notice

The 30-day public notice of the PROPOSED permit was posted on the NCDAQ website on February ##, 2022. No comments were offered or received.

X. Other Regulatory Considerations

- A P.E. seal is NOT required for this application.
- A zoning consistency determination was required for the first step of this modification. City of Greenville lead planner, Elizabeth Blount, approved the request on December 4, 2020.
- An application fee of \$1002 is required for this modification and confirmed receipt was on October 25, 2021.
- Pitt County has triggered increment tracking under PSD for nitrogen oxide, (NO_x). However, this modification does not consume or expand increments for any pollutants.
- The application was signed by Mr. Scott McIntyre, Site Director, on October 21, 2021.

XI. Recommendations

The permit modification application for DSM Protective Materials LLC, Pitt County, North Carolina has been reviewed by DAQ to determine compliance with all procedures and requirements. DAQ has determined that this facility is complying or will achieve compliance, as specified in the permit, with all requirements that are applicable to the affected sources. The DAQ recommends the issuance of Air Permit No. 05754T100.

Appendix A

Table A-3: Summary of Baseline Emissions (January 2017 to December 2019)

Source	Source ID	VOC	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	PM
		(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)
Fiber Production	DAP-1	12.81	0.00	0.22	0.18	0.02	0.02	0.02
PE Silo	T1101					0.04	0.04	0.04
Hot Oil Furnace	F0951	0.09	0.01	1.66	1.34	0.01	0.01	0.01
Hot Water Heater	HWH1	0.01	0.00	0.09	0.09	0.01	0.01	0.01
Fiber Production	DAP-2	11.52	0.00	0.87	0.81	0.02	0.02	0.02
PE Silo	T2101					0.10	0.10	0.10
Hot Oil Furnace	F0952	0.08	0.01	1.37	1.22	0.01	0.01	0.01
Hot Water Heater	HWH2	0.00	0.00	0.05	0.05	0.00	0.00	0.00
Fiber Production	DAP-3	7.82	0.00	0.87	0.81	0.02	0.02	0.02
PE Silo	T3101					0.10	0.10	0.10
Hot Oil Furnace	F0953	0.08	0.01	1.31	1.17	0.01	0.01	0.01
Hot Water Heater	HWH3	0.00	0.00	0.05	0.06	0.01	0.01	0.01
Fiber Production	DAP-4	6.01	0.00	0.25	0.21	0.02	0.02	0.02
PE Silo	T4101					0.04	0.04	0.04
Hot Oil Furnace	F0954	0.08	0.01	2.21	1.17	0.01	0.01	0.01
Hot Water Heater	HWH4	0.00	0.00	0.08	0.06	0.01	0.01	0.01
Fiber Production	DAP-5	5.31	0.00	0.25	0.21	0.02	0.02	0.02
PE Silo	T5101					0.09	0.09	0.09
Hot Oil Furnace	F0955	0.07	0.01	1.63	1.10	0.01	0.01	0.01
Hot Water Heater	HWH5	0.00	0.00	0.02	0.02	0.00	0.00	0.00
Fiber Production	DAP-6	6.72	0.00	0.32	0.27	0.02	0.02	0.02
PE Silo	T6101					0.53	0.53	0.53
Hot Oil Furnace	F0956	0.05	0.01	0.36	0.80	0.01	0.01	0.01
Hot Water Heaters	HWH6A-C	0.00	0.00	0.01	0.03	0.00	0.00	0.00

Table A-2: Summary of 5-Year Projected Emissions

Source	Source ID	VOC	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	PM
		(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)
Fiber Production	DAP-1	16.71	0.00	0.22	0.19	0.02	0.02	0.02
PE Silo	T1101					0.04	0.04	0.04
Hot Oil Furnace	F0951	0.12	0.01	2.31	1.87	0.01	0.01	0.01
Hot Water Heater	HWH1	0.01	0.00	0.13	0.13	0.01	0.01	0.01
Fiber Production	DAP-2	17.02	0.00	0.89	0.83	0.02	0.02	0.02
PE Silo	T2101					0.10	0.10	0.10
Hot Oil Furnace	F0952	0.09	0.01	1.59	1.42	0.01	0.01	0.01
Hot Water Heater	HWH2	0.01	0.00	0.07	0.08	0.01	0.01	0.01
Fiber Production	DAP-3	14.92	0.00	0.89	0.83	0.02	0.02	0.02
PE Silo	T3101					0.10	0.10	0.10
Hot Oil Furnace	F0953	0.11	0.01	1.81	1.61	0.01	0.01	0.01
Hot Water Heater	HWH3	0.01	0.00	0.07	0.08	0.01	0.01	0.01
Fiber Production	DAP-4	9.11	0.00	0.25	0.21	0.02	0.02	0.02
PE Silo	T4101					0.04	0.04	0.04
Hot Oil Furnace	F0954	0.11	0.01	3.10	1.64	0.01	0.01	0.01
Hot Water Heater	HWH4	0.01	0.00	0.13	0.11	0.01	0.01	0.01
Fiber Production	DAP-5	8.61	0.00	0.25	0.21	0.02	0.02	0.02
PE Silo	T5101					0.09	0.09	0.09
Hot Oil Furnace	F0955	0.11	0.01	2.38	1.61	0.01	0.01	0.01
Hot Water Heater	HWH5	0.00	0.00	0.03	0.03	0.00	0.00	0.00
Fiber Production	DAP-6	11.02	0.00	0.30	0.26	0.02	0.02	0.02
PE Silo	T6101					0.53	0.53	0.53
Hot Oil Furnace	F0956	0.07	0.01	0.47	1.07	0.01	0.01	0.01
Hot Water Heaters	HWH6A-C	0.00	0.00	0.02	0.05	0.00	0.00	0.00

Table A-3: Summary of 5-Year Projected Emission Increases

Source	Source ID	VOC	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	PM
		(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)
Fiber Production	DAP-1	3.9	0.0	0.0	0.0	0.0	0.0	0.0
PE Silo	T1101					0.0	0.0	0.0
Hot Oil Furnace	F0951	0.0	0.0	0.7	0.5	0.0	0.0	0.0
Hot Water Heater	HWH1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fiber Production	DAP-2	5.5	0.0	0.0	0.0	0.0	0.0	0.0
PE Silo	T2101					0.0	0.0	0.0
Hot Oil Furnace	F0952	0.0	0.0	0.2	0.2	0.0	0.0	0.0
Hot Water Heater	HWH2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fiber Production	DAP-3	7.1	0.0	0.0	0.0	0.0	0.0	0.0
PE Silo	T3101					0.0	0.0	0.0
Hot Oil Furnace	F0953	0.0	0.0	0.5	0.4	0.0	0.0	0.0
Hot Water Heater	HWH3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fiber Production	DAP-4	3.1	0.0	0.0	0.0	0.0	0.0	0.0
PE Silo	T4101					0.0	0.0	0.0
Hot Oil Furnace	F0954	0.0	0.0	0.9	0.5	0.0	0.0	0.0
Hot Water Heater	HWH4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fiber Production	DAP-5	3.3	0.0	0.0	0.0	0.0	0.0	0.0
PE Silo	T5101					0.0	0.0	0.0
Hot Oil Furnace	F0955	0.0	0.0	0.8	0.5	0.0	0.0	0.0
Hot Water Heater	HWH5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fiber Production	DAP-6	4.3	0.0	0.0	0.0	0.0	0.0	0.0
PE Silo	T6101					0.0	0.0	0.0
Hot Oil Furnace	F0956	0.0	0.0	0.1	0.3	0.0	0.0	0.0
Hot Water Heaters	HWH6A-C	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Project Increases:		27.4	0.0	3.2	2.5	0.0	0.0	0.0
Significant Level:		40.0	40.0	40.0	100.0	15.0	10.0	25.0
Project Increase is Significant?		No	No	No	No	No	No	No

Table A-4: Summary of VOC Emission Calculations from Solvent Usage

Parameter	DAP-1	DAP-2	DAP-3	DAP-4	DAP-5	DAP-6
Baseline Solvent Usage (tons):	10,506.78	8,625.38	11,485.74	8,090.09	8,253.89	9,660.39
Estimated % Increase in Solvent Usage:	46%	46%	46%	69%	69%	54%
Projected Annual Solvent Used After Project Implementation (ton of solvent):	15,339.9	12,593.00	16,769.20	13,672.30	13,949.10	14,877.00
24-Month 70th Percentile 2018-19 (lb/ton):	2.17	2.62	1.71	1.33	1.23	1.48
Estimated Annual VOC Emissions after Project Implementation (tons):	16.7	16.5	14.4	9.1	8.6	11.0
Annualized Average Based on Rolling 24-Month Period 2017-2019 (tons):	12.8	11.0	7.3	6.0	5.3	6.7
Estimated Increase in VOC Emissions (tons):	3.9	5.5	7.1	3.1	3.3	4.3

Table A-5: Summary of Emission Calculations for Natural Gas Combustion – Hot Oil Furnaces

End Month Year	DAP1 Hot Oil Furnace (F0951)	DAP2 Hot Oil Furnace (F0952)	DAP3 Hot Oil Furnace (F0953)	DAP4 Hot Oil Furnace (F0954)	DAP5 Hot Oil Furnace (F0955)	DAP6 Hot Oil Furnace (F0956)
	(Cubic feet)	(Cubic feet)	(Cubic feet)	(Cubic feet)	(Cubic feet)	(Cubic feet)
Baseline Natural Gas Usage:	3.556E+07	2.703E+07	3.067E+07	2.799E+07	2.750E+07	1.903E+07
Estimated Increase in Natural Gas Usage PDY:	39%	39%	39%	58%	58%	46%
Estimated Increase in Natural Gas Usage FDY:	11%	11%	11%	21%	21%	21%
Estimated Total Gas Usage Increase (scf):	4.445E+07	3.379E+07	3.833E+07	3.904E+07	3.837E+07	2.541E+07
End Month Year	DAP1 Hot Oil Furnace (F0951)	DAP2 Hot Oil Furnace (F0952)	DAP3 Hot Oil Furnace (F0953)	DAP4 Hot Oil Furnace (F0954)	DAP5 Hot Oil Furnace (F0955)	DAP6 Hot Oil Furnace (F0956)
	(tons)	(tons)	(tons)	(tons)	(tons)	(tons)
NOx @3% O2:	84	76	76	128	100	30
Estimated NOx Emissions Post-Project (Tons):	2.3147	1.5922	1.8063	3.0983	2.3787	0.4725
2019 NOx Emissions (Tons):	1.6557	1.3684	1.3126	2.2079	1.6278	0.3554
Estimated NOx Emissions Increase (Tons):	0.66	0.22	0.49	0.89	0.75	0.12
Total Estimated NOx Increase (Tons):	3.13					
End Month Year	DAP1 Hot Oil Furnace (F0951)	DAP2 Hot Oil Furnace (F0952)	DAP3 Hot Oil Furnace (F0953)	DAP4 Hot Oil Furnace (F0954)	DAP5 Hot Oil Furnace (F0955)	DAP6 Hot Oil Furnace (F0956)
	(tons)	(tons)	(tons)	(tons)	(tons)	(tons)
Estimated SO2 Emissions Post-Project (Tons):	0.0133	0.0101	0.0115	0.0117	0.0115	0.0076
2019 SO2 Emissions (Tons):	0.0095	0.0087	0.0084	0.0083	0.0079	0.0057
Estimated SO2 Emissions Increase (Tons):	0.00	0.00	0.00	0.00	0.00	0.00
Total Estimated SO2 Increase (Tons):	0.02					
End Month Year	DAP1 Hot Oil Furnace (F0951)	DAP2 Hot Oil Furnace (F0952)	DAP3 Hot Oil Furnace (F0953)	DAP4 Hot Oil Furnace (F0954)	DAP5 Hot Oil Furnace (F0955)	DAP6 Hot Oil Furnace (F0956)
	(tons)	(tons)	(tons)	(tons)	(tons)	(tons)
Estimated CO Emissions Post-Project (Tons):	1.8667	1.4192	1.6100	1.6397	1.6114	1.0670
2019 CO Emissions (Tons):	1.3353	1.2197	1.1700	1.1685	1.1027	0.8025
Estimated CO Emissions Increase (Tons):	0.53	0.20	0.44	0.47	0.51	0.26
Total Estimated CO Increase (Tons):	2.42					

Table A-5: Continued

End Month Year	DAP1 Hot Oil Furnace (F0951)	DAP2 Hot Oil Furnace (F0952)	DAP3 Hot Oil Furnace (F0953)	DAP4 Hot Oil Furnace (F0954)	DAP5 Hot Oil Furnace (F0955)	DAP6 Hot Oil Furnace (F0956)
	(Cubic feet)	(Cubic feet)	(Cubic feet)	(Cubic feet)	(Cubic feet)	(Cubic feet)
Baseline Natural Gas Usage:	3.556E+07	2.703E+07	3.067E+07	2.799E+07	2.750E+07	1.903E+07
Estimated Increase in Natural Gas Usage PDY:	39%	39%	39%	58%	58%	46%
Estimated Increase in Natural Gas Usage FDY:	11%	11%	11%	21%	21%	21%
Estimated Total Gas Usage Increase (scf):	4.445E+07	3.379E+07	3.833E+07	3.904E+07	3.837E+07	2.541E+07
End Month Year	DAP1 Hot Oil Furnace (F0951)	DAP2 Hot Oil Furnace (F0952)	DAP3 Hot Oil Furnace (F0953)	DAP4 Hot Oil Furnace (F0954)	DAP5 Hot Oil Furnace (F0955)	DAP6 Hot Oil Furnace (F0956)
	(tons)	(tons)	(tons)	(tons)	(tons)	(tons)
Estimated VOC Emissions Post-Project (Tons):	0.1222	0.0929	0.1054	0.1074	0.1055	0.0699
2019 VOC Emissions (Tons):	0.0874	0.0799	0.0766	0.0765	0.0722	0.0525
Estimated VOC Emissions Increase (Tons):	0.03	0.01	0.03	0.03	0.03	0.02
Total Estimated VOC Increase (Tons):	0.16					
End Month Year	DAP1 Hot Oil Furnace (F0951)	DAP2 Hot Oil Furnace (F0952)	DAP3 Hot Oil Furnace (F0953)	DAP4 Hot Oil Furnace (F0954)	DAP5 Hot Oil Furnace (F0955)	DAP6 Hot Oil Furnace (F0956)
	(tons)	(tons)	(tons)	(tons)	(tons)	(tons)
Estimated PM Emissions Post-Project (Tons):	0.0116	0.0088	0.0100	0.0102	0.0100	0.0066
2019 PM Emissions (Tons):	0.0083	0.0076	0.0072	0.0072	0.0068	0.0050
Estimated PM Emissions Increase (Tons):	0.0033	0.0012	0.0028	0.0030	0.0032	0.0016
Total Estimated PM Increase (Tons):	0.02					
End Month Year	DAP1 Hot Oil Furnace (F0951)	DAP2 Hot Oil Furnace (F0952)	DAP3 Hot Oil Furnace (F0953)	DAP4 Hot Oil Furnace (F0954)	DAP5 Hot Oil Furnace (F0955)	DAP6 Hot Oil Furnace (F0956)
	(tons)	(tons)	(tons)	(tons)	(tons)	(tons)
Estimated Total HAP Emissions Post-Project (Tons):	0.0420	0.0319	0.0362	0.0369	0.0363	0.0240
2019 Total HAP Emissions (Tons):	0.0300	0.0274	0.0263	0.0263	0.0248	0.0181
Estimated Total HAP Emissions Increase (Tons):	0.01	0.00	0.01	0.01	0.01	0.01
Total Estimated HAP Increase (Tons):	0.05					

Table A-5: Continued

End Month Year	DAP1 Hot Oil Furnace (F0951)	DAP2 Hot Oil Furnace (F0952)	DAP3 Hot Oil Furnace (F0953)	DAP4 Hot Oil Furnace (F0954)	DAP5 Hot Oil Furnace (F0955)	DAP6 Hot Oil Furnace (F0956)	Total
	(Cubic feet)	(Cubic feet)	(Cubic feet)	(Cubic feet)	(Cubic feet)	(Cubic feet)	(cubic feet)
Baseline Natural Gas Usage:	3.556E+07	2.703E+07	3.067E+07	2.799E+07	2.750E+07	1.903E+07	
Estimated Increase in Natural Gas Usage PDY:	39%	39%	39%	58%	58%	46%	
Estimated Increase in Natural Gas Usage FDY:	11%	11%	11%	21%	21%	21%	
Estimated Total Gas Usage Increase (scf):	4.445E+07	3.379E+07	3.833E+07	3.904E+07	3.837E+07	2.541E+07	2.194E+08
End Month Year	DAP1 Hot Oil Furnace (F0951)	DAP2 Hot Oil Furnace (F0952)	DAP3 Hot Oil Furnace (F0953)	DAP4 Hot Oil Furnace (F0954)	DAP5 Hot Oil Furnace (F0955)	DAP6 Hot Oil Furnace (F0956)	Total
	(tons)	(tons)	(tons)	(tons)	(tons)	(tons)	(tons)
Estimated Formaldehyde Emissions Post-Project (Tons):	0.0017	0.0013	0.0014	0.0015	0.0014	0.0010	0.01
2019 Formaldehyde Emissions (Tons):	0.0012	0.0011	0.0010	0.0010	0.0010	0.0007	0.01
Estimated Formaldehyde Emissions Increase (Tons):	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Total Estimated Formaldehyde Increase (Tons):	0.00						
End Month Year	DAP1 Hot Oil Furnace (F0951)	DAP2 Hot Oil Furnace (F0952)	DAP3 Hot Oil Furnace (F0953)	DAP4 Hot Oil Furnace (F0954)	DAP5 Hot Oil Furnace (F0955)	DAP6 Hot Oil Furnace (F0956)	Total
	(tons)	(tons)	(tons)	(tons)	(tons)	(tons)	(tons)
Estimated Toluene Emissions Post-Project (Tons):	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.00
2019 Toluene Emissions (Tons):	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.00
Estimated Toluene Emissions Increase (Tons):	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Total Estimated Toluene Increase (Tons):	0.00						

Table A-6: Continued

End Month Year	DAP1 Hot Oil Furnace (F0951)	DAP2 Hot Oil Furnace (F0952)	DAP3 Hot Oil Furnace (F0953)	DAP4 Hot Oil Furnace (F0954)	DAP5 Hot Oil Furnace (F0955)	DAP6 Hot Oil Furnace (F0956)	Total
	(Cubic feet)	(Cubic feet)	(Cubic feet)	(Cubic feet)	(Cubic feet)	(Cubic feet)	(cubic feet)
Baseline Natural Gas Usage:	2.042E+06	1.268E+06	1.329E+06	1.505E+06	3.953E+05	7.101E+05	
Estimated Increase in Natural Gas Usage PDY:	0%	0%	0%	0%	0%	0%	
Estimated Increase in Natural Gas Usage FDY:	0%	0%	0%	0%	0%	0%	
Estimated Total Gas Usage Increase (scf):	2.042E+06	1.268E+06	1.329E+06	1.505E+06	3.953E+05	7.101E+05	7.249E+06
End Month Year	DAP1 Hot Oil Furnace (F0951)	DAP2 Hot Oil Furnace (F0952)	DAP3 Hot Oil Furnace (F0953)	DAP4 Hot Oil Furnace (F0954)	DAP5 Hot Oil Furnace (F0955)	DAP6 Hot Oil Furnace (F0956)	Total
	(tons)	(tons)	(tons)	(tons)	(tons)	(tons)	(tons)
Estimated VOC Emissions Post-Project (Tons):	0.0056	0.0035	0.0037	0.0041	0.0011	0.0020	0.02
2019 VOC Emissions (Tons):	0.0039	0.0032	0.0042	0.0043	0.0013	0.0006	0.02
Estimated VOC Emissions Increase (Tons):	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Estimated VOC Increase (Tons):	0.00						
End Month Year	DAP1 Hot Oil Furnace (F0951)	DAP2 Hot Oil Furnace (F0952)	DAP3 Hot Oil Furnace (F0953)	DAP4 Hot Oil Furnace (F0954)	DAP5 Hot Oil Furnace (F0955)	DAP6 Hot Oil Furnace (F0956)	Total
	(tons)	(tons)	(tons)	(tons)	(tons)	(tons)	(tons)
Estimated PM Emissions Post-Project (Tons):	0.0005	0.0003	0.0003	0.0004	0.0001	0.0002	0.00
2019 PM Emissions (Tons):	0.0004	0.0003	0.0004	0.0004	0.0001	0.0001	0.00
Estimated PM Emissions Increase (Tons):	0.0001	0.0000	-0.0001	0.0000	0.0000	0.0001	0.00
Total Estimated PM Increase (Tons):	0.00						
End Month Year	DAP1 Hot Oil Furnace (F0951)	DAP2 Hot Oil Furnace (F0952)	DAP3 Hot Oil Furnace (F0953)	DAP4 Hot Oil Furnace (F0954)	DAP5 Hot Oil Furnace (F0955)	DAP6 Hot Oil Furnace (F0956)	Total
	(tons)	(tons)	(tons)	(tons)	(tons)	(tons)	(tons)
Estimated Total HAP Emissions Post-Project (Tons):	0.0019	0.0012	0.0013	0.0014	0.0004	0.0007	0.01
2019 Total HAP Emissions (Tons):	0.0014	0.0011	0.0015	0.0015	0.0005	0.0002	0.01
Estimated Total HAP Emissions Increase (Tons):	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Estimated HAP Increase (Tons):	0.00						

Table A-6: Continued

End Month Year	DAP1 Hot Oil Furnace (F0951)	DAP2 Hot Oil Furnace (F0952)	DAP3 Hot Oil Furnace (F0953)	DAP4 Hot Oil Furnace (F0954)	DAP5 Hot Oil Furnace (F0955)	DAP6 Hot Oil Furnace (F0956)	Total
	(Cubic feet)	(Cubic feet)	(Cubic feet)	(Cubic feet)	(Cubic feet)	(Cubic feet)	(cubic feet)
Baseline Natural Gas Usage:	2.042E+06	1.268E+06	1.329E+06	1.505E+06	3.953E+05	7.101E+05	
Estimated Increase in Natural Gas Usage PDY:	0%	0%	0%	0%	0%	0%	
Estimated Increase in Natural Gas Usage FDY:	0%	0%	0%	0%	0%	0%	
Estimated Total Gas Usage Increase (scf):	2.042E+06	1.268E+06	1.329E+06	1.505E+06	3.953E+05	7.101E+05	7.249E+06
End Month Year	DAP1 Hot Oil Furnace (F0951)	DAP2 Hot Oil Furnace (F0952)	DAP3 Hot Oil Furnace (F0953)	DAP4 Hot Oil Furnace (F0954)	DAP5 Hot Oil Furnace (F0955)	DAP6 Hot Oil Furnace (F0956)	Total
	(tons)	(tons)	(tons)	(tons)	(tons)	(tons)	(tons)
Estimated Formaldehyde Emissions Post-Project (Tons):	0.0001	0.0000	0.0000	0.0001	0.0000	0.0000	0.00
2019 Formaldehyde Emissions (Tons):	0.0001	0.0000	0.0001	0.0001	0.0000	0.0000	0.00
Estimated Formaldehyde Emissions Increase (Tons):	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Total Estimated Formaldehyde Increase (Tons):	0.00						
End Month Year	DAP1 Hot Oil Furnace (F0951)	DAP2 Hot Oil Furnace (F0952)	DAP3 Hot Oil Furnace (F0953)	DAP4 Hot Oil Furnace (F0954)	DAP5 Hot Oil Furnace (F0955)	DAP6 Hot Oil Furnace (F0956)	Total
	(tons)	(tons)	(tons)	(tons)	(tons)	(tons)	(tons)
Estimated Toluene Emissions Post-Project (Tons):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00
2019 Toluene Emissions (Tons):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00
Estimated Toluene Emissions Increase (Tons):	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Total Estimated Toluene Increase (Tons):	0.00						