

Fact Sheet



For Final Renewal Permitting Action Under 45CSR30 and Title V of the Clean Air Act

Permit Number: **R30-05300054-2016**
Application Received: **October 26, 2015**
Plant Identification Number: **03-054-05300054**
Permittee: **M & G Polymers USA, LLC**
Facility Name: **Apple Grove**
Mailing Address: **State Route 2, Apple Grove, WV 25502**

Revised: *N/A*

Physical Location: Apple Grove, Mason County, West Virginia
UTM Coordinates: 397.86 km Easting • 4,279.97 km Northing • Zone 17
Directions: WV Route 2, approximately thirteen miles south of Point Pleasant and thirty miles north of Huntington, WV.

Facility Description

M & G Polymers manufactures polyester resin and handles the final product in bagging/packaging, storage, and loading facilities. Infrastructure and support facilities are also located at the site and include boilers, wastewater treatment, warehouses, maintenance shops, and laboratories.

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions	2014 Actual Emissions ¹
Carbon Monoxide (CO)	37.1	22
Nitrogen Oxides (NO _x)	58.6	36.7
Particulate Matter (PM _{2.5})	1.9	Not available
Particulate Matter (PM ₁₀)	7.3	Not available

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions	2014 Actual Emissions¹
Total Particulate Matter (TSP)	7.3	5.2
Sulfur Dioxide (SO ₂)	10.09 ²	0.6
Volatile Organic Compounds (VOC)	53.04	41.3

PM₁₀ is a component of TSP.

Hazardous Air Pollutants	Potential Emissions	2014 Actual Emissions¹
Ethylene Glycol	21.8	15.9
Acetaldehyde	7.2	3.8
1,4-Dioxane	1.37 ²	0.7
HCl	2.72	0
Arsenic Compounds	0.00017	0.00008
Beryllium Compounds	0.00001	0.000005
Cadmium Compounds	0.0009	0.0005
Chromium Compounds	0.0012	0.0006
Cobalt Compounds	0.00007	0.00003
Lead Compounds	0.0004 ³	0.0002
Manganese Compounds	0.0003	0.0002
Mercury Compounds	0.0002	0.0001
Nickel Compounds	0.0018	0.0009
Selenium Compounds	0.00002	0.00001
Aggregate HAPs	32.42	20.4

¹ Actual emissions data for all pollutants except HCl are from the 2015 Certified Emissions Statement Invoice and represent emissions from January 1, 2014, through December 31, 2014. The value for HCl emissions is from the State and Local Emissions Inventory System (SLEIS).

² Potential emissions of SO₂ are based upon information provided in an e-mail dated June 28, 2016, from the permittee's consultant, Joyce Gentry of S&J Environmental Services, LLC. Specifically, the Excel® spreadsheet attachment indicated that the CP-4 Extruder MCU (Em. Unit ID: C4Q-A-1296) accounts for 9.34 tpy, but since it does not operate continuously the actual SO₂ emissions are substantially less than potential emissions. Potential emissions of 1,4-Dioxane are based upon a comment submitted by Steptoe & Johnson PLLC addressed in the Statement of Basis at the end of this Fact Sheet.

³ Potential emissions of lead are from the facility's 2011 Title V Renewal Fact Sheet.

Title V Program Applicability Basis

This facility has the potential to emit 21.8 tpy of Ethylene Glycol and 32.42 tpy of aggregate HAPs. Due to this facility's potential to emit over 10 tons per year of a single HAP, and over 25 tons per year of aggregate HAPs, M & G Polymers USA, LLC's Apple Grove facility is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

This facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR2	Particulate matter and opacity limits for indirect heat exchangers.
	45CSR6	Open burning prohibited.
	45CSR7	Particulate matter and opacity limits for manufacturing sources.
	45CSR10	Sulfur dioxide limits.
	45CSR11	Standby plans for emergency episodes.
	45CSR13	Preconstruction permits for minor sources.
	WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.
	45CSR16	Standards of Performance for New Stationary Sources pursuant to 40 C.F.R. Part 60.
	45CSR30	Operating permit requirement.
	45CSR34	Emission Standards for Hazardous Air Pollutants.
	40 C.F.R. 60, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
	40 C.F.R. 63, Subpart JJJ	Polymers and Resins IV MACT.
	40 C.F.R. Part 61	Asbestos inspection and removal
	40 C.F.R. Part 82, Subpart F	Ozone depleting substances
	40 C.F.R. 63, Subpart FFFF	Miscellaneous Organic Chemical Manufacturing (MON) MACT.
	40 C.F.R. 63, Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
	40 C.F.R. 63, Subpart DDDDD	Boilers and Process Heaters MACT
State Only:	45CSR4	No objectionable odors.

Each State and Federally-enforceable condition of the Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (if any)
R13-1650R	December 10, 2013	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table," which may be downloaded from DAQ's website.

Determinations and Justifications

1. **45CSR42 - Greenhouse Gas Emissions Inventory Program.** This rule was repealed by S.B. 253, effective June 1, 2012; therefore, this requirement has been deleted from permit condition 3.5.10.
2. **40 C.F.R. 63 Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters.** The facility is a major source of HAP because it has potential emissions in excess of 25 tpy for total HAP and 10 tpy of a single HAP. Therefore, 40 C.F.R. Part 63, Subpart DDDDD potentially applies to natural gas-fired process heaters located at the facility. A determination regarding applicability for the heaters is given below:
 - UGS-B-2010 is a temporary boiler used to heat waste water treatment plant effluent between the months of November and April (usually), and since it is a leased unit that leaves the plant site the rest of the year it is a *Temporary boiler* (as defined in §63.7575). Based upon these facts, UGS-B-2010 qualifies for the exemption in §63.7491(j) and is therefore **not subject to requirements in 40 C.F.R. 63 Subpart DDDDD**.
 - Emission units UGS-B-3010, UGS-B-3011, UGS-B-4010, UGS-B-4011, UGS-B-1050, UGS-B-1060, UGS-B-1004, UGS-B-1005, UGS-B-1006, UGS-B-1007, UGS-B-4001, UGS-B-4002, UGS-B-4003, and UGS-B-4004 (listed in Table 4.1.11.j. of the operating permit) are all comfort heaters according to technical correspondence received from the permittee on March 4, 2016. The definition of *Process heater* in §63.7575 states that “Process heaters do not include units used for comfort heat...” Further, these units do not meet the definition of a boiler. Since the units do not meet the definitions of the units affected by this subpart, these emission units are **not subject to requirements in 40 C.F.R. 63 Subpart DDDDD**.
 - C2T-B-9001 (Em. Pt. ID: 2P-9001). This emission unit controls HAP emissions from sources that are part of processes CSS-7 and CSS-8, which are solid state polymerization processes that are subject to 40 C.F.R. 63 Subpart FFFF (MON)¹. As such, this emission unit is used as a control device that is part of an affected source subject to another NESHAPs-MACT. C2T-B-9001 qualifies for the exemption in §63.7491(h) and is therefore **not subject to requirements in 40 C.F.R. 63 Subpart DDDDD**.

¹ Refer to the Fact Sheet (p. 7 of 11, third paragraph) for permit R30-05300054-2005, issued September 27, 2005.

- C3T-B-1600 (Em. Pt. ID: 3P-1600). This emission unit is used as a control device that is part of an affected source subject to another NESHAPs-MACT. In particular, C3T-B-1600 is used as a control device for emission units C34-F-3280, C33-F-2260, and C34-F-2290 which are affected sources under 40 C.F.R. 63 Subpart JJJ. Permit condition 4.1.19.b. specifies that Subpart JJJ applies to these emission units, and the requirements in Table 4.1.11.a. specify that the emission units are controlled by C3T-B-1600. Based upon these facts, C3T-B-1600 qualifies for the exemption in §63.7491(h) and is therefore **not subject to requirements in 40 C.F.R. 63 Subpart DDDDD**.
- C4T-B-1600 (Em. Pt. ID: 4P-1600). This emission unit is used as a control device that is part of an affected source subject to another NESHAPs-MACT. In particular, C4T-B-1600 is used as a control device for emission units C4L-F-3160, C4L-F-2120, C4L-F-3170, C41-E-3020, C42-E-2050, and C41-F-3220 which are affected sources under 40 C.F.R. 63 Subpart JJJ. Permit condition 4.1.19.a. specifies that Subpart JJJ applies to these emission units, and the requirements in Table 4.1.11.b. specify that the emission units are controlled by C4T-B-1600. Based upon these facts, C4T-B-1600 qualifies for the exemption in §63.7491(h) and is therefore **not subject to requirements in 40 C.F.R. 63 Subpart DDDDD**.
- **C3T-F-1700** is hot oil heater rated at 23 MMBtu/hr and was constructed in 2007, which is before the new construction date in §63.7490(b). It is therefore an existing process heater (§63.7490(d)). It does not meet any of the exemption criteria in §63.7491. This unit is categorized in the “Units designed to burn gas 1 fuels” sub-category since it burns only natural gas (§63.7499(l) and §63.7575). C3T-F-1700 must be in compliance with Subpart DDDDD as of January 31, 2016 (§63.7495(b)). According to technical correspondence received from the permittee on March 4, 2016, C3T-F-1700 is equipped with a continuous oxygen trim system that maintains an optimum air to fuel ratio. C3T-F-1700 is subject to the requirement in §63.7500(a)(1) to meet each applicable standard in Tables 1 through 3, and 11 through 13, of Subpart DDDDD. Within these tables, the requirement that applies to C3T-F-1700 is Item 1 in Table 3. Further, because the facility operates an existing affected source located at a major source of HAPs, the permittee is also subject to Item 4 in Table 3. To summarize, the substantive requirements for C3T-F-1700 are:
 - The permittee must conduct a **tune-up every five (5) years** per Item 1 in Table 3 to Subpart DDDDD. Specifically, §63.7540(a)(12) is applicable and requires the tune-up, and refers to the requirements in §63.7540(a)(10) to demonstrate continuous compliance. The permittee’s initial notification (dated January 16, 2016) states that the initial tune-up has been completed according to the procedures in §§63.7540(a)(10)(i) through (vi).
 - The permittee must have a **one-time energy assessment** as required by Item 4 in Table 3. The permittee’s initial notification (dated January 16, 2016) states that an energy assessment was performed according to §63.7530(e) and was an accurate depiction of the facility at the time of the assessment.

Subpart DDDDD Section	Title V	Discussion
§63.7500(b)	None	The application does not mention any request (or intent to request) alternative work practice standards; therefore, this requirement is not applicable.
§63.7500(c)	None	This requirement is not applicable to the unit since it is not limited use.
§63.7500(d)	None	This requirement is not applicable to the unit since it has a design heat input (DHI) greater than 5 MMBtu/hr and also is not in either the Gas 2 or light liquid fuel subcategories.
§63.7500(e)	None	The unit does not qualify for the ranges of design heat input (DHI) in this requirement. However, this requirement does provide that while burning gas 1, the unit is not subject to the emission limits in Tables 1 and 2 or 11 through 13, or the operating limits in Table 4, which has already been considered in the discussion of §63.7500(a).
§63.7500(f)	None	This section requires compliance with the standards at all times the affected unit is operating, except during periods of startup and shutdown during which time the permittee must comply only with Table 3 to Subpart DDDDD. However, the startup and shutdown requirements of Table 3 (items #5 and #6) are not applicable since they pertain to standards in Tables 1 or 2 or 11 through 13 of Subpart DDDDD. Moreover, the requirement to conduct a tune-up and energy assessment is not affected whether the unit is normally operating, or are in startup or shutdown. Thus, this section of the regulation does not apply.
§63.7505(a)	5.1.1.	This section requires compliance with the emission limits, work practice standards, and operating limits in Subpart DDDDD. The section is cited with the condition for the tune-up work practice standard.
Initial Compliance Requirements		
§63.7510(e)	None	This section states that the initial tune-up and one-time energy assessment must be complete before the compliance date. The permittee has completed both of these requirements before the compliance date; therefore, including this requirement in the permit is not necessary.
§63.7515(d)	5.1.1.	This section requires the tune-ups to be no more than 61 months after the previous tune-up. Therefore, this applicable requirement has been included in the permit condition as the first bullet statement.
§63.7515(g)	5.1.1.	The last statement in this requirement reads, “You must complete a subsequent tune-up by following the procedures described in §63.7540(a)(10)(i) through (vi) and the schedule described in §63.7540(a)(13) for units that are not operating at the time of their scheduled tune-up.” The sections referred to within this requirement have been included in the permit condition; therefore, §63.7515(g) has been added to the citation of authority for the permit condition.
§63.7530(a)	None	This section regarding initial performance tests and fuel analyses is not applicable since the boilers are not subject to emission limits.
§63.7530(b)	None	This section regarding performance testing and fuel analyses is not applicable since the boilers are not subject to emission limits, and thereby are not subject to Subpart DDDDD testing and fuel analyses.
§63.7530(c)	None	This section regarding fuel analyses is not applicable since the boilers are not subject to emission limits.

Subpart DDDDD Section	Title V	Discussion
§63.7530(e)	None	The initial notification dated January 16, 2016, is the same as the NOCS, and states that the facility had an energy assessment performed according to this section and was an accurate depiction of the facility at the time of the assessment. Since the NOCS has been submitted and there are no ongoing requirements in this section, no permit condition is warranted.
§63.7530(f)	None	This requirement states the NOCS must contain the results of the initial compliance demonstration according to §63.7545(e). Since the NOCS has been submitted and there are no ongoing requirements in this section, no permit condition is warranted.
§63.7533	None	The unit is not complying using the alternative equivalent output-based emission limits; therefore, no permit condition is warranted.
Continuous Compliance Requirements		
§63.7535	None	The unit is not subject to a Subpart DDDDD requirement to monitor and collect data pursuant to this section.
§63.7540(a)(10)	5.1.1.	The introductory paragraph of this section does not apply to the unit because it is equipped with a continuous oxygen trim system that maintains an optimum air to fuel ratio. However, the specific requirements for tune-ups within §§63.7540(a)(10)(i) through (vi) are applicable since they are referenced in applicable requirement in §63.7540(a)(12). §63.7540(a)(10)(vi)(C) has been excluded since the unit is only capable of burning natural gas.
§63.7540(a)(11)	None	This section does not apply since the unit is greater than 10 MMBtu/hr heat input.
§63.7540(a)(12)	5.1.1.	This section is applicable since the unit is equipped with a continuous oxygen trim system that maintains an optimum air to fuel ratio.
§63.7540(a)(13)	5.1.1.	This requirement allows a 30-day delay for the tune-up if the unit is not operating the day the tune-up is scheduled. Since this pertains to the tune-up it has been written as the second bullet statement in the permit condition.
§63.7540(b)	5.5.1.	The purpose of this requirement is to report deviations to applicable requirements. While the requirement reads that it pertains to emission limits and operating limits (to which the unit is not subject), it also pertains to those requirements in Tables 1 through 4 or 11 through 13. The unit is subject to a work practice standard in Table 3 (conditions 5.1.1.). Therefore, the condition has been written to refer to work practice standards in Table 3.
§63.7540(c)	None	This section is not applicable since the unit is not subject to Subpart DDDDD mercury limitations or standards.
§63.7540(d)	None	This section is not applicable since items #5 and #6 in Table 3 apply to units subject to emission limits in Table 1 or 2 or 11 through 13 to Subpart DDDDD, to which the unit is not subject.
Notification, Reports, and Records		
§63.7545(a)	None	<p>§§63.7(b) and (c) are not applicable since the boilers are not subject to Subpart DDDDD performance testing.</p> <p>§63.8(e) is not applicable since no CMS is utilized.</p> <p>§§63.8(f)(4) and (6) are not applicable since neither an alternative monitoring method, nor an alternative to the relative accuracy test is utilized.</p> <p>Among §§63.9(b) through (h), only the NOCS requirement of §63.9(h) is applicable. However, the NOCS has been submitted and there are no ongoing requirements in this section; therefore, no permit condition is warranted.</p>

Subpart DDDDD Section	Title V	Discussion
§63.7545(b)	None	This operating permit renewal is past the 120-day period after January 31, 2013; therefore, no permit condition is required.
§63.7545(c)	None	This section is not applicable since the unit was constructed prior to January 31, 2013.
§63.7545(d)	None	This section is not applicable since the unit is not subject to a Subpart DDDDD performance testing requirement.
§63.7545(e)	None	The NOCS has been submitted and there are no ongoing requirements in this section; therefore, no permit condition is warranted.
§63.7545(f)	None	This requirement is not applicable since the permittee does not intend to use a fuel other than natural gas.
§63.7545(g)	None	This section is not applicable since the boilers will not combust solid waste.
§63.7545(h)	None	This requirement is not applicable since the permittee does not combust any fuel other than natural gas in the unit.
§63.7550(a)	5.5.2.	This section points to Table 9 of Subpart DDDDD, which requires a compliance report. The requirements in Table 9 are based on items that can vary as to applicability. Therefore, the condition is written based on applicable requirements in Table 9. Non-applicable language (e.g., emission limits, operating limits, startups/shutdowns, and CMS-related) is excluded from the condition. Furthermore, since the unit is subject to the 5-year frequency for tune-ups, the compliance report frequency will be submitted at the same frequency.
§63.7550(b)	5.5.2.	The requirements of this section are referenced by §63.7550(a), Table 9. Since the unit is on a 5-year tune-up frequency, the applicable language of §63.7550(b)(1) through (5) are included in condition 5.5.2.
§63.7550(c)	5.5.2.a.	The requirements of this section are referenced by §63.7550(a), Table 9. Only certain sections of the requirements in §63.7550(c)(1) through (5) are applicable. Requirement §63.7550(c)(2) is not applicable since fuel analyses is not utilized. Requirement §63.7550(c)(3) is not applicable since there are no applicable emission limits and performance testing is not utilized. Requirement §63.7550(c)(4) is not applicable since there are no applicable emission limits and a CMS is not utilized. Only §63.7550(c)(1) is applicable, which references §63.7550(c)(5). §63.7550(c)(1) specifies that paragraphs §63.7550(c)(5)(i) through (iii), (xiv), and (xvii) apply. Since the unit is not limited use, §63.7550(c)(5)(iv) is not applicable per §63.7550(c)(1).
§63.7550(d)	None	This section is not applicable since the unit is not subject to Subpart DDDDD emission limits.
§63.7550(e)	None	This section is not applicable since the unit is not subject to a Subpart DDDDD emission limit, operating limit, or CMS requirement.
§63.7550(f)	None	This section is reserved.
§63.7550(g)	None	This section is reserved.
§63.7550(h)(1)	None	This requirement is not applicable since no Subpart DDDDD performance test is required.
§63.7550(h)(2)	None	This requirement is not applicable since no CEMS is utilized or required by Subpart DDDDD.
§63.7550(h)(3)	5.5.2.	Since this requirement pertains to the report required by Table 9 of Subpart DDDDD, then it is also written with the compliance report condition.

Subpart DDDDD Section	Title V	Discussion
§63.7555(a)	5.4.1.	This applicable recordkeeping requirement is set forth as a permit condition. The language in this paragraph refers to semiannual compliance reports. The permittee is required to submit a compliance report every 5 years based upon the applicable tune-up frequency. To clarify that the permittee is not subject to a semiannual compliance report under Subpart DDDDD, an italicized note has been added to refer to the 5-year frequency specified in condition 5.5.2.
§63.7555(b)	None	This section is not applicable since CEMS, COMS, and CMS are not utilized.
§63.7555(c)	None	None of the requirements in this section, or Table 8 that it references, are applicable since the unit is not subject to emission limitations and is not equipped with air pollution control devices.
§63.7555(d)	None	This section is not applicable since the unit is not subject to emission limitations and operating limitations in Tables 1, 2, or 11 through 13 of Subpart DDDDD.
§63.7555(e)	None	This section is not applicable since the unit is not subject to emission limitations, and thus emissions averaging is not applicable.
§63.7555(f)	None	This section is not applicable since efficiency credits are not being utilized.
§63.7555(g)	None	This section is not applicable since the unit is not required to meet the specification for mercury.
§63.7555(h)	None	This section is not applicable since the units will not use an alternative fuel other than natural gas.
§63.7560	5.4.2.	These applicable recordkeeping requirements are set forth as a permit condition.

Other requirements in Subpart DDDDD not addressed in the table above are not applicable to C3T-F-1700 for one or more of the following reasons:

- The unit is not new or reconstructed, as these terms are specified in §§63.7490(b) and (c).
- The unit is not an EGU.
- The unit is not subject to pollutant emission limits pursuant to 40 C.F.R. 63 Subpart DDDDD.
- The unit is not equipped with an add-on air pollution control device.
- The fuel subcategory for the requirement does not apply to the unit.
- The heat input range for the requirement does not apply to the unit.
- The unit is not a *limited-use boiler or process heater*, as this term is defined in §63.7575.
- The unit does not combust another gas 1 fuel.
- The unit does not utilize a CMS, CEMS, COMS, or CPMS to comply with any Subpart DDDDD requirement.

Since the compliance date for Subpart DDDDD is past, initial notifications have been submitted, and a compliance extension was neither requested nor granted, current permit condition 3.1.10.a. has been deleted.

The NOCS has been submitted and all applicable Subpart DDDDD requirements have been incorporated into this renewed operating permit. Therefore, current permit condition 3.1.10.b. has been deleted.

As mentioned above, as a temporary heater UGS-B-2010 qualifies for the exemption in §63.7491(j) and is therefore not subject to requirements in 40 C.F.R. 63 Subpart DDDDD. Therefore, current permit condition 3.1.10.c. has been deleted.

3. **40 C.F.R. 63 Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.** The applicable requirements of this subpart were incorporated into the permit during the current term as part of minor modification MM03. The following changes have been made in the permit with respect to Subpart ZZZZ:

- a. Language in 4.1.24.(a) and (b) has been updated.
- b. The word “business” has been added twice in permit condition 4.1.24.(g).
- c. In the renewal application Attachment D the permittee noted that the engines UTF-G-1020A and U3F-G-1710 are fire pumps instead of electric generators. However, this does not alter the Subpart ZZZZ requirements applicable to UTF-G-1020A and U3F-G-1710 since a fire pump engine meets the definition of *Emergency stationary RICE* in 40 C.F.R. §63.6675.
- d. Current permit condition 4.4.17. for Emergency Electric Generator DGM-U-1010 is directly from the underlying NSR permit, but the requirements are the same as those specified in permit condition 4.4.16. Therefore, current condition 4.4.17. has been combined with 4.4.16. The emergency generator has been added to the introductory text, and the NSR permit citation limited in applicability to DGM-U-1010 has been added following the current citation.
- e. The reporting requirement in current condition 4.5.6. is directly from the underlying NSR permit, but the requirements are also applicable to the Fire Pumps UTF-G-1020A and U3F-G-1710. Since the requirements are not currently specified in the permit for the fire pumps, they have been added to the language of this permit condition. The NSR permit citation limited in applicability to DGM-U-1010 has been added following the current MACT citation.

4. **Other Changes**

- a. **Permit Shield.** The permit shield for 40 C.F.R. 60 Subpart IIII and 40 C.F.R. Part 64 have been added as permit sections 3.7.2.p. and q., respectively.
- b. **R13-1650S and Title V Permit Minor Modification.** The purpose of the underlying permit Class II Administrative Update is to remove CSS-7 from the permit, increase the rates on CSS-12 and CSS-13 as a result of market requirements, and include various other minor changes and corrections identified in the preparation of the Title V permit renewal application. The underlying permit revision has been associated with the permit action designated as MM04 of R30-05300054-2011. However, due to the logistics of the underlying permit revision being finalized and the requirement to issue a renewed operating permit no later than October 26, 2016, this minor modification has not been included in the renewed operating permit. Rather, after the renewal permit R30-05300054-2016 is finalized, DAQ will modify it to include the revisions that are to be permitted in R13-1650S.
- c. The 40 C.F.R. 60 Subpart Kb recordkeeping requirements in §§60.116b(a) and (b) which are in current permit condition 4.4.14. have been removed from the permit because the CP4 EG Storage Tank (C4L-F-1800) is exempt from the requirements of Subpart Kb as provided in §60.110b(b) and this applicability section makes no other Subpart Kb requirements applicable. Refer to permit section 3.7.2.f.

Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

- a. 40 C.F.R. 60, Subpart D – “Standards of Performance for Fossil-Fuel Fired Steam Generators for Which Construction is Commenced After August 17, 1971.” This subpart applies to each steam generating unit that commences construction or modification after August 17, 1971 and has a heat input capacity of more than 250 MMBtu/hr. M & G Polymers does not have any steam generating units with a heat input capacity of more than 250 MMBtu/hr.
- b. 40 C.F.R. 60, Subpart Db – “Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units.” This subpart applies to each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984 and has a heat input capacity of greater than 100 MMBtu/hr. M & G Polymers does not have any steam generating units with a heat input capacity of more than 100 MMBtu/hr.
- c. 40 C.F.R. 60, Subpart E – “Standards of Performance for Incinerators.” This subpart applies to each incinerator of more than 50 tons per day charging rate. An incinerator is defined by 40 C.F.R. §60.51 as any furnace used in the process of burning solid waste for the purpose of reducing the volume of the waste by removing combustible matter. The Apple Grove Plant does not operate a solid waste incinerator as defined by this rule.
- d. 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 petroleum liquid storage tanks at the Apple Grove Plant with a storage capacity greater than 151,412 liters (40,000 gallons), constructed, reconstructed, or modified after June 11, 1973 and prior to May 19, 1978.
- e. 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 petroleum liquid storage tanks at the Apple Grove Plant with a storage capacity greater than 151,416 liters (40,000 gallons) for which construction, reconstruction, or modification commenced after May 18, 1978 and prior to July 23, 1984.
- f. 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.” 40 C.F.R. 60, Subpart Kb applies to each storage vessel with a capacity greater than or equal to 75 cubic meters (19,813 gallons) that is used to store volatile organic liquids (VOC) for which construction, reconstruction, or modification is commenced after July 23, 1984. Based on the applicability criteria of 40 C.F.R. §60.110b(a), only the CP4 EG Storage Tank (C4L-F-1800) is subject to the requirements of this subpart. In accordance with 40 C.F.R. §60.110b(b), the subpart does not apply to storage vessels with a capacity greater than or equal to 151 cubic meters (39,890 gallons) storing a liquid with a maximum true vapor pressure less than 3.5 kPa. Since the CP4 EG Storage Tank (C4L-F-1800) has a capacity of 675,000 gallons and a maximum true vapor pressure of less than 1 kPa, it is exempt from the requirements of 40 C.F.R. 60, Subpart Kb.
- g. 40 C.F.R. 60, Subpart O – “Standards of Performance for Sewage Treatment Plants.” The Apple Grove Plant does not operate an incineration unit or boiler to burn sludge from a municipal sewage treatment plant.

- h. 40 C.F.R. 60 Subpart VV - “Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006.” The Apple Grove Plant does not produce as intermediates or final products any of the materials listed in 40 C.F.R. §60.489.
- i. 40 C.F.R. 60 Subpart DDD - “Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry.” Since M & G Polymers is subject to the requirements of 40 C.F.R. 63, Subpart JJJ, they are no longer subject to the requirements of 40 C.F.R. 60, Subpart DDD as specified in 40 C.F.R. §§63.1311(i)(1) and 63.1316(b).
- j. 40 C.F.R. 60, Subpart III – “Standards of Performance for Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes. The Apple Grove Plant does not produce any of the chemicals listed in 40 C.F.R. §60.617 as a product, co-product, by-product, or intermediate.
- k. 40 C.F.R. 60 Subpart NNN - “Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations.” The Apple Grove Plant does not have a process unit that produces any of the chemicals listed in §60.667 as a product, co-product, by-product, or intermediate.
- l. 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.” The Apple Grove Plant does not have a process unit that produces any of the chemicals listed in 40 C.F.R. §60.707 as a product, co-product, by-product, or intermediate.
- m. 40 C.F.R. 63, Subpart G – “National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater. 40 C.F.R. 63, Subparts F, G, and H do not apply to manufacturing process units that do not meet the criteria in 40 C.F.R. §§ 63.100 (b) (1), (b) (2), and (b) (3). The Apple Grove Plant does not meet the applicability criteria and is only subject to the requirements of 40 C.F.R. 63, Subpart G as they apply under 40 C.F.R. 63, Subpart JJJ.
- n. 40 C.F.R. 63, Subpart I – National Emission Standards for Organic Hazardous Air Pollutants for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks. The Apple Grove Plant is subject to the requirements of 40 C.F.R. 63, Subpart JJJ. 40 C.F.R. §63.1311(g)(1) states that after the compliance dates specified in 40 C.F.R. 63, Subpart JJJ, an affected source also subject to 40 C.F.R. 63, Subpart I is required to comply only with the provisions of Subpart JJJ and is no longer subject to Subpart I.
- o. 40 C.F.R. 63, Subpart EEEE – “National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline). Table 1 constituents present are acetaldehyde, 1,4-dioxane, and ethylene glycol. Acetaldehyde and 1,4-dioxane are present only in impurity quantities in recupic. Those vessels containing recupic are already subject to 40 C.F.R. 63, Subpart JJJ, and according to 40 C.F.R. §63.2338(c)(1) are not subject to 40 C.F.R. 63, Subpart EEEE. Those sources containing ethylene glycol are not subject to 40 C.F.R. 63, Subpart EEEE because ethylene glycol has an annual average true vapor of less than 0.7 kilopascals (0.1 psia) and is therefore not defined as an organic liquid under 40 C.F.R. §63.2406.
- p. 40 C.F.R. 60 Subpart IIII – “Standards of Performance for Stationary Compression Ignition Internal Combustion Engines”. M & G Polymers’ emergency generator engine DGM-U-1010 is not subject to this subpart because it was constructed/installed in 2004/2005, which is prior to the applicability date in 40 C.F.R §60.4200(a)(2). The #1 and #2 Diesel Fire Pump engines UTF-G-1020A and U3F-G-1710 were constructed/installed prior to the applicability date in 40 C.F.R §60.4200(a)(2) and have not been modified or reconstructed after the date in 40 C.F.R §60.4200(a)(3); therefore, this subpart is not applicable.

- q. 40 C.F.R. Part 64 – Compliance Assurance Monitoring. While the permittee utilizes control devices to meet emission limitations, no emission unit has pre-control device potential emissions greater than the major source threshold for the respective pollutants. Since none of the emission units meet the applicability criterion at 40 C.F.R. §64.2(a)(3), CAM is not applicable.

Request for Variances or Alternatives

None.

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Beginning Date: September 6, 2016
Ending Date: October 6, 2016

Point of Contact

All written comments should be addressed to the following individual and office:

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Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Response to Comments (Statement of Basis)

U.S. EPA Comments

Mr. Paul Wentworth with U.S. EPA Region III submitted the following comments via e-mail on September 28, 2016:

1. With regard to 4.1.12. No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than ten (10) percent opacity based on a six minute block average. Compliance with the opacity limits specified in 4.1.12 shall demonstrate compliance with similar opacity limits specified in Conditions 4.1.2.d, 4.1.3.d, 4.1.4.d, 4.1.5.c, and 4.1.9.c. (3P-1600, 4P-1600, 2P-9001, 3P-1700, and U-B-2010)

EPA Comment: This applicable requirement is not practically enforceable because it does not specify monitoring frequency. Language specifying the monitoring frequency must be added to the permit.

DAQ Response: All of the affected sources listed in parenthesis in condition 4.1.12. combust natural gas and each source has a design heat input that falls in the range of 14.2 mmBtu/hr to 53.1 mmBtu/hr.

45CSR§2-8.4.b. states that “The owner or operator of a fuel burning unit(s) which combusts only natural gas shall be exempt from the requirements of subdivision 8.1.a and subsection 8.2.” The exempted requirements in subdivision 8.1.a. are testing requirements:

The owner or operator of a fuel burning unit(s) shall demonstrate compliance with section 3 by periodic testing in accordance with 40 CFR Part 60, Appendix A, Method 9, or a certified continuous opacity monitoring system, as approved by the Director, and section 4 by periodic particulate matter stack testing, conducted in accordance with the appropriate test method set forth in the Appendix to this rule or other equivalent EPA approved method approved by the Director. The owner or operator shall conduct such testing at a frequency to be established by the Director.

The requirements in subsection 8.2. are monitoring requirements, from which the source is exempt. In particular, exempted subdivision 8.2.a. is a requirement to monitor compliance with section 3, which contains the opacity standard. Therefore, the facility is not required by the rule to periodically monitor the opacity. It should be noted, however, that the method of compliance is specified in 45CSR§2-3.2., which is in proposed permit condition 4.1.13.

In addition, 45CSR§2-8.4.c. states that “The owner or operator of a fuel burning unit(s) with a Design Heat Input of less than 100 mmBtu/hr shall be exempt from the periodic testing requirements of subdivision 8.1.a and the monitoring requirements of subsection 8.2. The Director reserves the right to require testing pursuant to subdivisions 8.1.b and 8.1.c.” All of the units affected in permit condition 4.1.12. are less than 100 mmBtu/hr; therefore, the units meet this exemption, which also exempts the sources from 45CSR§§2-8.1.a. and 8.2. However, this exemption provides for the Director to require testing pursuant to 45CSR§§2-8.1.b. and 8.1.c. In the case of the opacity standard, 45CSR§2-8.1.b. does not apply as it pertains to PM mass rate limitations. But 45CSR§2-8.1.c. provides for the Director to require “such other tests as he may deem necessary to evaluate air pollution emissions other than those noted in subsection 4.1.” This provides for the Director to require testing to determine compliance with the opacity standard and is embodied in proposed permit condition 4.3.6.

Finally, interpretive rule 45CSR2A provides guidance and clarification for complying with testing, monitoring, recordkeeping, and reporting requirements of 45CSR2. 45CSR§2A-3.1. states that this rule applies to any fuel burning unit with a design heat input over 10 mmBtu/hr, except as provided in 45CSR§§2A-3.1.a. and b. 45CSR§2A-3.1.a. exempts fuel burning units that combust only natural gas from the visible emissions testing and visible emissions monitoring plan requirements in 45CSR§§2A-5 and 6. 45CSR§2A-3.1.b. exempts fuel burning units that are rated less than 100 mmBtu/hr from the requirements in 45CSR§§2A-5 and 6. Based upon these 45CSR2A exemptions, the visible emissions monitoring is not required.

In summary, the sources listed in condition 4.1.12. fire natural gas at rates less than 100 mmBtu/hr; therefore, they meet the criteria for the exemptions from periodic testing and monitoring in 45CSR§§2-8.4.b. and 8.4.c. The interpretive rule 45CSR2A also grants this exemption. These exemptions are granted in the rules because it is not anticipated that natural gas combustion will produce visible emissions. Based upon the facts that the applicable requirements for these small sources have been incorporated into the operating permit, and the exempt testing and monitoring requirements have been excluded from the permit based upon the rule, a monitoring frequency has not been included in the proposed operating permit.

2. With regard to 4.2.3. For the purpose of determining compliance with the particulate emission limits set forth in sections 4.1.10 and 4.1.11 of this permit and the emission limits set forth in 4.1.23 for emission point WF-6010, the permitted facility shall monitor the pressure differential across each of the dust collectors identified in Section 1.0 of this permit during periods of routine operation.

EPA Comment: There must be language in the permit which addresses the fact that the particulate emission limits set forth in sections 4.1.10 and 4.1.11 of this permit and the emission limits set forth in 4.1.23 for emission point WF-6010 are not practically enforceable, because at present, there is no differential pressure range specified that can be monitored to assure that the limits are being met. Also there is no monitoring frequency specific so assure continuous compliance, Finally there is no performance test or calculations required to assure the limits are being met (or assuring removal efficiency of dust collectors identified in Section 1.0 of this permit) within the specified pressure differential range.

DAQ Response:

There are many dust collectors each with its own range that is local to the specific application. The proposed condition 4.2.3. effectively encompasses all of these control devices that emit in comparatively small amounts. To ensure that all control devices are operating to meet the limits, proposed permit condition 4.4.1. requires the permittee to keep records of all inspections and maintenance performed on all of the control devices at the facility. Also, proposed permit condition 4.4.2. requires records of malfunction or shutdown of a control device during which excess emissions occur. And in such cases, excess emissions from any individual control device are small in comparison to the entire facility. The highest PM limit in any of the Tables in condition 4.1.11. is less than 1 lb/hr and 1 ton/yr, which are comparatively small amounts. Finally, proposed condition 4.4.5. requires records of the pressure differential readings across the dust collection systems in order to comply with the monitoring in proposed condition 4.2.3. The recordkeeping of differential pressures, maintenance performed, and any malfunctions of control equipment is sufficient to demonstrate compliance with the opacity standard in 4.1.10. and the comparatively small PM limits in proposed permit condition 4.1.11.

Proposed permit condition 4.1.23. sets forth the 45CSR7 allowable limit from emission point ID WF-6010, which is associated only with one emission unit (Warehouse West Silo, emission unit ID L26-F-6010) and is controlled only by control device ID L26-M-6010. The emission unit form in the application for EU# L26-F-6010 indicates that it has potential controlled PM emissions of less than 0.001 lb/hr and 0.004 ton/yr. Therefore, the recordkeeping in permit conditions 4.4.1., 4.4.2., and 4.4.5. is sufficient to demonstrate that WF-6010 is meeting the 28 pph allowable limit from 45CSR7.

3. With regard to 4.4.16. The permittee shall comply with the following recordkeeping requirements of 40 C.F.R. 63, Subpart ZZZZ – “National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines”a) You must keep the records required in Table 6 of 40 C.F.R. 63, Subpart ZZZZ to show continuous compliance with each operating limitation that applies to you.

EPA Comment: The records requirements of Table 6 should be included in the permit.

DAQ Response: 40 C.F.R. §63.6655(d) specifies the requirement to keep records in Table 6 to Subpart ZZZZ. Based upon the characteristics and function of the affected engines, only item #9 in Table 6 is applicable. Item #9 requires compliance with work or management practices by “Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.” This being all of the applicable content in Table 6, there are no applicable records from Table 6. It appears that 40 C.F.R. §63.6655(d) has been written as a general reference to Table 6 in order to encompass all of the various engines types and functions

and the records associated with each case (e.g., collecting catalyst temperatures and pressure drops, data reduction to 4-hour averages, etc.). In this case, the general reference to records in Table 6 is not applicable. However, proposed permit condition 4.4.16.b. requires records of the operation and maintenance requirements that are mentioned in Table 6, Item #9. Finally, all of the applicable requirements in Table 6 (which is Item #9 in the table) are already included in the proposed permit as condition 4.1.24.(h). Based upon these facts no change is necessary for proposed operating permit condition 4.4.16.a.

4. With regard to Table 4.11.

EPA Comment: It appears that the VOC and HAP emissions limits have no continuous monitoring requirement.

DAQ Response:

To demonstrate compliance with the hourly and annual VOC, total HAPs, ethylene glycol, acetaldehyde, 1,4-dioxane emission limits for emission units listed in permit condition 4.1.11., the permittee is required to monitor the production rates of each process unit and maintain monthly records of the production rates as specified in 4.2.1 and 4.4.3. Since each of these emission points has such low hourly and annual emissions (maximum VOC and total HAPs for any individual point are less than 2 lb/hr and 5 tpy) no additional monitoring, testing, or recordkeeping was required. This has historically been the means of demonstrating compliance with permit condition 4.1.11. as documented in the 2005 Title V Fact Sheet.

As an additional means of demonstrating compliance with the hourly and annual emission limits of 4.1.11., the permittee is also required to operate and maintain all pollution control equipment listed in Section 1.0 and to maintain records of monitoring, maintenance, and malfunctions in accordance with 3.4.1., 4.4.1., and 4.4.2.

Finally, many of the sources in the tables in proposed condition 4.1.11. that emit HAP are subject to the 40 C.F.R. 63 Subpart JJJ requirements in the proposed permit. The sources covered in proposed condition 4.1.19.a. are C3L-F-3190, C3L-F-3140, C3L-F-3150, C3L-F-6010, C3L-F-7010, C3L-F-2570, C3L-F-2580, C31-E-1020, C32-E-1050, C31-F-1220, C4L-F-3190, C4L-F-3140, C4L-F-3160, C4L-F-2120, C4L-F-3170, C41-E-3020, C42-E-2050, and C41-F-3220. The sources covered in proposed condition 4.1.19.b. are C3L-F-1070, C3L-F-1071, C3L-F-1072, C3L-F-3180, C34-F-3280, C33-F-2260, C34-F-2290, C4L-A-1070, C4L-A-1071, C4L-A-1072, C4L-F-3180, C43-E-3250, C44-E-3280, C43-F-2260, and C44-F-2290. These sources are covered by the continuous process vents monitoring in proposed permit condition 4.2.4. The remaining sources in the tables in proposed condition 4.1.11. that emit HAP and/or VOC are various tanks, dryers, and other process equipment, and except for the hot oil heaters which are control devices for certain process equipment under Subpart JJJ, the emissions from these are directly related to the production rates of each process unit. Therefore, monitoring of the production rates of each process unit and maintaining monthly records of the production rates as specified in 4.2.1 and 4.4.3. are sufficient to demonstrate compliance with the comparatively small VOC and HAP limits in the tables of proposed permit condition 4.1.11.

Mr. Paul Wentworth replied to the DAQ responses via e-mail on October 20, 2016, noting that the responses adequately address all of the comments and therefore he finds no reason for EPA to object to the issuance of this permit.

Public Comments

The following comments were received from Mr. Richard Lewis with Steptoe & Johnson PLLC on October 6, 2016. A letter responding to the comments was mailed to Mr. Lewis on October 11, 2016.

1. Significant corrections to the Section 1.1 Emission Units were provided in the application. These changes were also requested in an administrative update of the R13-1650R. These corrections are provided in Attachment A. We understand that DEP decided to wait to incorporate these corrections until the R13-1650R update issues, but did want to be on record noting that corrections are pending.

DAQ Response:

The corrections will be made as part of a Title V minor modification after both this Title V renewal and the update of R13-1650R are finalized.

2. The 1,4 dioxane emissions for CP-3 Hot Oil Heater should be 0.001 lb/hr and 0.001 TPY. This was a typographical error in the 2011 Title V permit that was not corrected. The correct values were in the application and noted in the R13-1650R administrative update application.

DAQ Response:

The correction will be made in Table 4.1.11.a. as part of a Title V minor modification after both this Title V renewal and the update of R13-1650R are finalized.

3. The following emission units should be removed from the permit: U-B-3010, U-B-3011, U-B-4010, U-B-4011, U-B-1050, U-B-1060, U-B-1004, U-B-1005, U-B-1006, U-B-1007, U-B-4001, U-B-4002, U-B-4003, and U-B-4004. These units are considered insignificant by 45CSR30 § 3.2.d.3 and 3.2.d.5.

DAQ Response:

45CSR§30-3.2.d. reads that such units *may* be deemed to be insignificant. At the time of writing this Title V permit renewal the underlying permit R13-1650R places hourly and annual limits on five pollutants emitted from all of the emission units listed in the comment. Since the Title V permit must include all applicable requirements that apply to the source (cf. 45CSR§§30-5.1. and 5.1.a.), the listed emission units have not been deemed as insignificant and will remain in the Title V permit renewal.

4. 1,4 dioxane PTE was incorrect in the application. The majority of 1,4 dioxane emissions come from secondary emissions from the WWTP operation. The PTE emissions should be 1.37 TPY. The 2014 actual value was reported in the application due to an error in the calculation spreadsheet.

DAQ Response:

The 1,4-dioxane PTE has been changed to 1.37 TPY in the Emissions Summary of this final Fact Sheet and the table footnote 2 has been modified to refer to this comment and response.

No other comments were received from the public.