

Statement of Basis

Arkema, Inc.
Axis, Alabama
Mobile County
503-5017

Arkema, Inc. (Arkema) has applied for renewal of Major Source Operating Permit (MSOP) No. 503-5017. This proposed Title V MSOP renewal has been developed in accordance with the provisions of ADEM Admin. Code r. 335-3-16. The above-named applicant has requested authorization to perform the work or operate the facility shown on the application and drawings, plans, and other documents attached hereto or on file with the Air Division of the Alabama Department of Environmental Management, in accordance with the terms and conditions of this permit.

The initial air permit for construction was issued July 11, 1980. The initial Title V MSOP was issued on December 31, 2003. This is the second renewal. The current MSOP was issued on March 5, 2015 and expired on March 4, 2020. The renewal application was received on September 3, 2019, and the final update was received on May 16, 2022. ADEM Admin. Code r. 335-3-16-12(c) states, "If a timely and complete application for a permit renewal is submitted, but the Department fails to take final action to issue or deny the renewal permit before the end of the term of the previous permit, then the permit shall not expire until the renewal permit has been issued or denied and any permit shield granted for the permit shall continue in effect during that time;" therefore, the current MSOP was administratively continued.

The facility is located in Mobile County, which is currently in compliance with the National Ambient Air Quality Standards (NAAQS) for all pollutants.

There are no current or ongoing enforcement actions against Arkema necessitating additional requirements to achieve compliance with the proposed permit conditions. The enforcement and compliance history for the facility can be found at <https://echo.epa.gov/> (search using Facility ID AL0000000109705017).

Background

This facility is a chemical production plant that produces polyetherketoneketone (PEKK), latex, and impact modifiers. The facility is allowed to operate 8,760 hours per year unless otherwise specified. Based on the Title V permit application, this facility is a major source for volatile organic compounds (VOCs), hazardous air pollutants (HAPs), and particulate matter (PM).

Changes from the existing permit:

1. Removed sulfur dioxide (SO₂) and PM requirements when burning fuel oil for Emission Units 001 (20.9 MMBTU/hr Boiler), 007 (20.9 MMBTU/hr Boiler), and 024 (33.48 MMBTU/hr Boiler). These units are classified as gas 1 boilers under 40 CFR Part 63, Subpart DDDDD and cannot burn fuel oil unless curtailed from using natural gas.

2. Removed former Emission Unit 004 (End Products Unit) as the unit and storage tanks have either been dismantled or reassigned.
3. Removed former Emission Units 009, 038, 040, and 041 (TGA Unit and TGA Unit Storage Tanks) as the unit and storage tanks have either been dismantled or reassigned.
4. Added Emission Unit 043 (Latex Production Unit) that was previously issued an air permit upon construction.
5. Added Emission Units 044 (PEKK Production Unit) and 045 (PEKK Production Unit Storage Tanks) that were previously issued air permits upon construction.
6. Added requirements for a 150-kW emergency spark engine to Emission Unit X099 (Generators and Firewater Pumps).
7. Added an additional solvent recovery tank (T-422-03B) that was previously issued a non-applicability letter to the existing storage tank list.
8. Administratively updated the Table of Contents to account for shutdown units.
9. Incorporated requirements associated with 40 CFR Part 63, Subpart FFFF (MON), which was modified on May 29, 2020.
10. Modified the *Compliance and Performance Test Methods and Procedures* section for all permit units by removing the statement concerning alternative testing methods.
11. Reduced action level for particulate matter (PM) from Dryer A (IM-1) and Dryer B (IM-2) from 10% to 2.5% based on Consent Order No. 23-007-CAP executed on November 7, 2022.

Operating Permit Summary No. 1 - 20.9 MMBTU/hr Boiler (Emission Unit 001)

Overview

Boiler B501 was installed in 1981 and given restrictions for PM and SO₂ in order to be considered a synthetic minor source with respect to prevention of significant deterioration (PSD). The boiler was previously permitted to fire natural gas and fuel oil. In March 2011, 40 CFR Part 63, Subpart DDDDD was finalized, and Boiler B501 was classified as a unit designed to burn gas 1 fuels (natural gas and refinery gas). Since the boiler is only allowed to burn gas 1 fuels, except during periods of gas curtailment, the PM and SO₂ synthetic minor PSD emission limitations associated with the combustion of fuel oil would be obsolete and have been removed from the Title V MSOP.

Emission Standards

Opacity

The state opacity requirement would be applicable to this boiler.

Particulate Matter

The state particulate emission limit for fuel burning equipment would be applicable to this boiler. The boiler would be allowed to emit 7.57 lb/hr of particulate based on the requirements listed in 335-3-4-.03. However, in order to remain below the PSD significance threshold, the facility had previously committed to a more stringent PM limit for Boiler B501. The 0.16 lb/hr PM limit associated with the combustion of natural gas for Boiler B501 was established in Air Permit No. 503-5017-X001, which was issued November 27, 2000, and subsequently incorporated into the Title V MSOP that was issued on December 31, 2003.

Sulfur Dioxide

The state SO₂ emission limit for fuel burning equipment would be applicable to this boiler. The boiler would be allowed to emit 37.62 lb/hr of SO₂ based on the requirements listed in 335-3-5-.01. However, in order to remain below the PSD significance threshold, the facility had previously committed to a more stringent SO₂ limit for Boiler B501. The 0.10 lb/hr SO₂ limit associated with the combustion of natural gas for Boiler B501 was established in the Title V MSOP that was issued on December 31, 2003.

40 CFR Part 63, Subpart DDDDD

Boiler B501 is subject to the requirements of 40 CFR Part 63, Subpart DDDDD – Emission Standards for Hazardous Air Pollutants for Major Sources: Commercial, Industrial, and Institutional Boilers and Process Heaters. The boiler is classified as a unit designed to burn gas 1 fuels and restricted to firing gas 1 fuels (natural gas and refinery gas), except during periods of gas curtailment.

Periodic Monitoring

Opacity / Particulate Matter

Boiler B501 is permitted to only burn gas 1 fuels, except during periods of gas curtailment. The AP-42 PM emission factor for natural gas combustion is 7.6 lb/10⁶ scf, which converts to 0.00745 lb/MMBTU. This emission rate is well below the allowable emission rate calculated using the state allowable particulate limit equation for fuel burning equipment in Class I Counties. Therefore, based on the low PM emissions associated with the combustion of natural gas, no additional monitoring is required for the boiler when firing gas 1 fuels. If excess opacity were to become an issue, the Department retains the authority to require the facility to test at any time and could modify the permit to require more stringent monitoring.

During periods of gas curtailment, daily visual observations are required to comply with the state opacity standard. If visible emissions are noted, the facility will be required to investigate and take appropriate corrective action within 24 hours, and an additional observation must be conducted to ensure that no visible emissions are observed.

Sulfur Dioxide

Boiler B501 is permitted to only burn gas 1 fuels, except during periods of gas curtailment. The AP-42 SO₂ emission factor for natural gas combustion is 0.6 lb/10⁶ scf, which converts to 0.000588 lb/MMBTU. This emission rate is well below the state allowable emission rate of 1.8 lb/MMBTU for Category I Counties. Therefore, based on the low SO₂ emissions associated with the combustion of natural gas, no additional monitoring is required for the boiler.

40 CFR Part 63, Subpart DDDDD

The facility would be required to conduct an annual tune-up of the boiler as specified in Table 3 of Subpart DDDDD.

The facility would be required to have a one-time energy assessment performed by a qualified energy assessor as required in Table 3 of Subpart DDDDD.

All reports must be submitted to EPA utilizing EPA's Electronic Reporting Tool the Compliance and Emissions Data Reporting Interface (CEDRI) as required in 63.7550(h)(3).

Operating Permit Summary No. 2 – 20.9 MMBTU/hr Boiler (Emission Unit 007)

Overview

Boiler B501-01 was installed in 1984 and given restrictions for PM and SO₂ in order to be considered a synthetic minor source with respect to PSD. In March 2011, 40 CFR Part 63, Subpart DDDDD was finalized, and Boiler B501-01 was classified as a unit designed to burn gas 1 fuels (natural gas and refinery gas). Since the boiler is only allowed to burn gas 1 fuels, except during periods of gas curtailment, the PM and SO₂ synthetic minor PSD emission limitations associated with the combustion of fuel oil would be obsolete and have been removed from the Title V MSOP.

Emission Standards

Opacity

The state opacity requirement would be applicable to this boiler.

Particulate Matter

The state particulate emission limit for fuel burning equipment would be applicable to this boiler. The boiler would be allowed to emit 7.57 lb/hr of particulate based on the state regulations. However, in order to remain below the PSD significance threshold, the facility had previously committed to a more stringent PM limit for Boiler B501-01. The 0.16 lb/hr PM limit associated with the combustion of natural gas for Boiler B501-01 was established in Air Permit No. 503-5017-X007, which was issued November 27, 2000, and subsequently incorporated into the Title V MSOP that was issued on December 31, 2003.

Sulfur Dioxide

The state SO₂ emission limit for fuel burning equipment would be applicable to this boiler. The boiler would be allowed to emit 37.62 lb/hr of SO₂ based on the requirements listed in 335-3-5-.01. However, in order to remain below the PSD significance threshold, the facility had previously committed to a more stringent SO₂ limit for Boiler B501-01. The 0.10 lb/hr SO₂ limit associated with the combustion of natural gas for Boiler B501-01 was established in the Title V MSOP that was issued on December 31, 2003.

40 CFR Part 63, Subpart DDDDD

Boiler B501-01 is subject to the requirements of 40 CFR Part 63, Subpart DDDDD – Emission Standards for Hazardous Air Pollutants for Major Sources: Commercial, Industrial, and Institutional Boilers and Process Heaters. The boiler is classified as a unit designed to burn gas 1 fuels and restricted to firing gas 1 fuels (natural gas and refinery gas), except during periods of gas curtailment.

Periodic Monitoring

Opacity / Particulate Matter

Boiler B501-01 is permitted to only burn gas 1 fuels, except during periods of gas curtailment. The AP-42 PM emission factor for natural gas combustion is 7.6 lb/10⁶ scf, which converts to 0.00745 lb/MMBTU. This emission rate is well below the allowable emission rate calculated using the state allowable particulate limit equation for fuel burning equipment in Class I Counties. Therefore, based on the low PM emissions associated with the combustion of natural gas, no additional monitoring is required for the boiler when firing gas 1 fuels. If excess opacity were to become an issue, the Department retains the authority to require the facility to test at any time and could modify the permit to require more stringent monitoring.

During periods of gas curtailment, daily visual observations are required to comply with the state opacity standard. If visible emissions are noted, the facility will be required to investigate and take appropriate corrective action within 24 hours, and an additional observation must be conducted to ensure that no visible emissions are observed.

Sulfur Dioxide

Boiler B501-01 is permitted to only burn gas 1 fuels, except during periods of gas curtailment. The AP-42 SO₂ emission factor for natural gas combustion is 0.6 lb/10⁶ scf, which converts to 0.000588 lb/MMBTU. This emission rate is well below the state allowable emission rate of 1.8 lb/MMBTU for Category I Counties. Therefore, based on the low SO₂ emissions associated with the combustion of natural gas, no additional monitoring is required for the boiler.

40 CFR Part 63, Subpart DDDDD

The facility would be required to conduct an annual tune-up of the boiler as specified in Table 3 of Subpart DDDDD.

The facility would be required to have a one-time energy assessment performed by a qualified energy assessor as required in Table 3 of Subpart DDDDD.

All reports must be submitted to EPA utilizing EPA's Electronic Reporting Tool the Compliance and Emissions Data Reporting Interface (CEDRI) as required in 63.7550(h)(3).

Operating Permit Summary No. 3 – 33.48 MMBTU/hr Boiler (Emission Unit 024)

Overview

Boiler M920-B was installed in 1989 and given restrictions for PM and SO₂ in order to be considered a synthetic minor source with respect to PSD. In March 2011, 40 CFR Part 63, Subpart DDDDD was finalized, and Boiler M920-B was classified as a unit designed to burn gas 1 fuels (natural gas and refinery gas). Since the boiler is only allowed to burn gas 1 fuels, except during periods of gas curtailment, the PM and SO₂ synthetic minor PSD emission limitations associated with the combustion of fuel oil would be obsolete and have been removed from the Title V MSOP.

Emission Standards

Opacity

The state opacity requirement would be applicable to this boiler.

Particulate Matter

The state particulate emission limit for fuel burning equipment would be applicable to this boiler. The boiler would be allowed to emit 9.74 lb/hr of particulate based on the state regulations. However, in order to remain below the PSD significance threshold, the facility had previously committed to a more stringent PM limit for Boiler M920-B. The 0.25 lb/hr PM limit associated with the combustion of natural gas for Boiler M920-B was established in Air Permit No. 503-5017-X024, which was issued November 27, 2000, and subsequently incorporated into the Title V MSOP that was issued on December 31, 2003.

Sulfur Dioxide

The state SO₂ emission limit for fuel burning equipment would be applicable to this boiler. The boiler would be allowed to emit 60.3 lb/hr of SO₂ based on the requirements listed in 335-3-5-.01. However, in order to remain below the PSD significance threshold, the facility had previously committed to a more stringent SO₂ limit for Boiler M920-B. The 0.10 lb/hr SO₂ limit associated

with the combustion of natural gas for Boiler M920-B was established in the Title V MSOP that was issued on December 31, 2003.

40 CFR Part 63, Subpart DDDDD

Boiler M920-B is subject to the requirements of 40 CFR Part 63, Subpart DDDDD – Emission Standards for Hazardous Air Pollutants for Major Sources: Commercial, Industrial, and Institutional Boilers and Process Heaters. The boiler is classified as a unit designed to burn gas 1 fuels and restricted to firing gas 1 fuels (natural gas and refinery gas), except during periods of gas curtailment.

Periodic Monitoring

Opacity / Particulate Matter

Boiler M920-B is permitted to only burn gas 1 fuels, except during periods of gas curtailment. The AP-42 PM emission factor for natural gas combustion is 7.6 lb/10⁶ scf, which converts to 0.00745 lb/MMBTU. This emission rate is well below the allowable emission rate calculated using the state allowable particulate limit equation for fuel burning equipment in Class I Counties. Therefore, based on the low PM emissions associated with the combustion of natural gas, no additional monitoring is required for the boiler when firing gas 1 fuels. If excess opacity were to become an issue, the Department retains the authority to require the facility to test at any time and could modify the permit to require more stringent monitoring.

During periods of gas curtailment, when the facility is burning any other fuel, daily visual observations are required to comply with the state opacity standard. If visible emissions are noted, the facility will be required to investigate and take appropriate corrective action within 24 hours, and an additional observation must be conducted to ensure that no visible emissions are observed.

Sulfur Dioxide

Boiler M920-B is permitted to only burn gas 1 fuels, except during periods of gas curtailment. The AP-42 SO₂ emission factor for natural gas combustion is 0.6 lb/10⁶ scf, which converts to 0.000588 lb/MMBTU. This emission rate is well below the state allowable emission rate of 1.8 lb/MMBTU for Category I Counties. Therefore, based on the low SO₂ emissions associated with the combustion of natural gas, no additional monitoring is required for the boiler.

40 CFR Part 63, Subpart DDDDD

The facility would be required to conduct an annual tune-up of the boiler as specified in Table 3 of Subpart DDDDD.

The facility would be required to have a one-time energy assessment performed by a qualified energy assessor as required in Table 3 of Subpart DDDDD.

All reports must be submitted to EPA utilizing EPA's Electronic Reporting Tool the Compliance and Emissions Data Reporting Interface (CEDRI) as required in 63.7550(h)(3).

Operating Permit Summary No. 4 – Impact Modifiers Phase II Unit (Emission Unit 023)

Overview

Impact Modifier Phase II Unit was constructed in 1985 and, originally, considered a synthetic minor source with respect to PSD for PM and VOCs. It was later determined that emissions from the process were greater than expected, and the unit was required to undergo a PSD review for PM and VOCs. The unit is subject to 40 CFR Part 63, Subpart JJJ – National Emission Standards for Hazardous Air Pollutant Emissions: Group IV Polymers and Resins, which was finalized in September 1996.

The unit has not operated since June 2008. The facility has stated that the unit may, at some time, become operational again. Therefore, the unit will remain in the Title V MSOP. In the future, should Arkema determine that the unit would be restarted, the facility would have the burden of proof to validate that the unit has been maintained in a condition that would ensure the portion of the Title V MSOP regarding Metablens II Unit remained valid.

This unit currently has no *dedicated* reactors. Reactors M-221-R, M-321-R, and M-345-V were formerly dedicated to this unit, but these reactors are now dedicated to Durastrength Dryer A and B Units (D-200A and D-200B, respectively). The preparation tanks for M-221-R vent to Dryer B Area Fume Exhaust (IM-7, formerly named Phase II Area Fume Exhaust). Conditions for the operation of IM-7 would likely revert back to the control of this unit should it become operational again.

Emission Standards

Opacity

This unit has three emission sources that are subject to the state opacity standards, Phase II Dryer (IM-3), Product Dust Collector (IM-9), and the flare (IM-5). IM-5 is also subject to the requirements of §63.11(b), which require the flare to be smokeless. An initial visible emissions test, Method 22, was required for IM-5.

Particulate Matter

The state process weight curve is applicable to this unit. This unit installed best available control technology (BACT) for particulates. The permitted emission rate is 3.55 lb/hr or 0.015 gr/dscf for IM-3. This limit was established in Air Permit 503-5017-X023, which was issued November 27, 2000, and subsequently incorporated into the Title V MSOP that was issued on December 31, 2003. The permitted emission rate is 0.19 lb/hr for IM-9. This limit was established in Air Permit 503-5017-X023, which was issued August 18, 1994, and subsequently incorporated into the Title V MSOP that was issued on December 31, 2003.

Volatile Organic Compounds

This unit has two emission sources that have VOC BACT limits, Phase II Dryer (IM-3) and Dryer B Area Fume Exhaust (IM-7). IM-3 is required to maintain an emission limit for VOCs of 19.9 lb/hr and 7.9 lbs VOC / ton of product produced. IM-7 is required to maintain an emission limit for VOCs of 19.2 lb/hr and 7.6 lbs VOC / ton of product produced. These limits were established in Air Permit 503-5017-X023, which was issued November 27, 2000, and subsequently incorporated into the Title V MSOP that was issued on December 31, 2003.

This unit produces a variety of products, some of which are not capable of meeting the limits for lbs VOC / ton of product produced. When producing one of these products, the facility is required to lower production levels to ensure that the lb/hr limits are not exceeded. For IM-3, the facility is not allowed to produce a product that exceeds 15.1 lbs VOC / ton of product produced. For IM-7, the facility is not allowed to produce a product that exceeds 14.6 lbs VOC / ton of product produced. These limits were established in Air Permit 503-5017-X023, which was issued June 22, 1998, and subsequently incorporated into the Title V MSOP that was issued on December 31, 2003.

IM-5 is the only control device for VOCs. IM-5 must maintain a minimum BTU value, and a thermocouple must be utilized to detect the presence of a flame. Under these conditions, IM-5 is considered to be at least 98% efficient for the control of VOCs.

The fugitive emissions from this unit are minimized by the use of a leak detection and repair (LDAR) program equivalent to 40 CFR Part 63, Subpart H - National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks (HON). This is considered BACT for fugitive emissions. In addition, the facility is required to ensure that all pumps in light liquid service be equipped with a dual mechanical seal or equivalent control. All components that are still operational and were previously assigned to this unit should continue to be monitored under the Impact Modifiers Phase II Unit LDAR program.

40 CFR Part 63, Subpart JJJ

- Continuous Process Vents

The facility has identified nine Group 2 continuous process vents, which are required to meet the applicable requirements of §63.113, with the exceptions listed in §63.1315(a)(1) through (a)(18). These process vents are also subject to the reporting and recordkeeping requirements of §63.117 and §63.118, as referenced in §63.1315. With the temporary shutdown of Impact Modifier Phase II Unit, in-service emission points have been transferred to either Phase 0 (D-200A Unit) or Phase 3 (D-200-B Unit) and are regulated accordingly.

- Batch Process Vents

The facility has identified six Group 1 batch process vents, which are required to route emissions to IM-5. IM-5 is required to meet the control requirements of §63.11(b), as

referenced in §63.1322(a)(1). With the temporary shutdown of this unit, in-service emission points have been transferred to either Phase 0 (D-200A Unit) or Phase 3 (D-200B Unit) and are regulated accordingly.

The requirements of §63.11(b) are listed below:

- The flare is required to meet 300 BTU/scf of combustion gas.
- The flare is required to maintain a continuous flame.
- The flare is required to maintain a velocity of less than 60 ft/sec.
- The flare is required to be smokeless.

The facility has also identified seven Group 2 batch process vents. These vents are subject to requirements referenced in §63.1322(g)(4) and §63.1322(h), which concern process changes that would affect the maximum potential emissions from these sources. The reporting and recordkeeping requirements of §63.1326 and §63.1327 also apply to these sources. With the temporary shutdown of this unit, in-service emission points have been transferred to either Phase 0 (D-200A Unit) or Phase 3 (D-200B Unit) and are regulated accordingly.

- Wastewater

The facility currently has eleven Group 2 wastewater streams. These streams are subject to the reporting and recordkeeping requirements of §63.146 and §63.147 of the HON, as referenced in §63.1330(a), with the exceptions listed in §63.1330(b). With the temporary shutdown of this unit, in-service emission points have been transferred to either Phase 0 (D-200A Unit) or Phase 3 (D-200-B Unit) and are regulated accordingly.

- Heat Exchange Systems

This unit has heat exchange systems that are subject to the requirements specified in §63.104, as referenced in §63.1328(c). With the temporary shutdown of this unit, in-service emission points have been transferred to either Phase 0 (D-200A Unit) or Phase 3 (D-200-B Unit) and are regulated accordingly.

- LDAR

Regarding LDAR requirements, Subpart JJJ references 40 CFR Part 63, Subpart H. This unit is required to implement a Subpart H LDAR program for all equipment in VOC service as part of BACT. This requirement is more stringent than Subpart JJJ, which only applies to organic hazardous air pollutants (OHAPs). All components that are still operational and were previously assigned to this unit should continue to be monitored under the Impact Modifiers Phase II Unit LDAR program.

Periodic Monitoring

Opacity / Particulate Matter

This unit currently utilizes an opacity monitor for Phase II Dryer (IM-3). The opacity monitor is used as a compliance indicator for both opacity and particulate emissions. Should opacity greater than 10% based on a rolling six-minute average be recorded from the monitor, the facility must take appropriate corrective action within four hours. The facility is also required to perform annual stack testing of IM-3 to ensure emissions are less than permitted levels should the unit resume operation.

In order to ensure that Product Dust Collector (IM-9) is in compliance with its particulate and opacity limits, a person familiar with Method 9 will observe the emission point, at least once per week, while material is being packaged. If visible emissions are observed, the unit must cease operations until appropriate corrective action is taken. An additional observation must be conducted to ensure that no visible emissions are observed. Records will be maintained of any incidents of excess emissions and the corrective action taken.

This unit has not operated since June 2008. The above monitoring requirements would only apply should the unit resume operation.

Because the flare (IM-5) is designed to be smokeless and only burns process and natural gas, no periodic monitoring will be required for IM-5.

Volatile Organic Compounds

IM-5 is the control device for VOCs. In order to meet the requirements of §63.11(b), the facility must maintain a BTU monitor and utilize a thermocouple to detect the presence of a flame. If the BTU value is less than 300 BTU/hr for a period of greater than 5 minutes, the facility must take appropriate corrective action or cease venting to IM-5. If the thermocouple indicates that no flame is present, the facility shall verify that the thermocouple is operating correctly and relight the flare. If the flare is not relit, the facility must cease venting to IM-5.

Any components in VOC service would be monitored under the Impact Modifiers Phase II Unit LDAR program, which is subject to 40 CFR Part 63, Subpart H. The referenced MACT was promulgated after November 15, 1990.

Because this unit has temporarily ceased operations, the facility will be required to perform stack testing of Dryer B Area Fume Exhaust (IM-7) once every five years to ensure emissions are less than permitted levels. Should this unit resume operations, the facility will be required to perform annual stack testing of IM-3 to ensure emissions are less than permitted levels.

No periodic monitoring would be required for the emission limits of Subpart JJJ since the monitoring under the subpart would be acceptable. The referenced MACT was promulgated after November 15, 1990.

The facility shall submit all reports required under 40 CFR Part 63, Subpart JJJ and Subpart H.

Operating Permit Summary No. 5 – Durastrength Dryer A Unit (Emission Unit 011)

Overview

Durastrength Dryer A Unit (D-200A) was constructed in 1985 and, originally, considered a synthetic minor source with respect to PSD for PM and VOCs. It was later determined that emissions from the process were greater than expected, and the unit was required to undergo a PSD review for PM and VOCs. The unit is subject to 40 CFR Part 63, Subpart FFFF – National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing (MON).

This unit has two *dedicated* reactors (R-201-01 and V-201-22) whose preparation tanks are routed to Dryer A Area Fume Exhaust (IM-6). The unit has three *associated* reactors (M221R, M321R and M-345-V) whose vents are routed to the flare (IM-5). Vacuum Pump IM-15 from Reactor M-345-V is routed to the thermal oxidizer (V-204).

Emission Standards

Opacity

This unit has three emission sources that are subject to the state opacity standards, Dryer A (IM-1), IM-5, and V-204. IM-5 is also subject to the requirements of §63.11(b), which require the flare to be smokeless. An initial visible emissions test, Method 22, was required for IM-5.

Particulate Matter

The state process weight curve is applicable to this unit. This unit has installed BACT for particulates. The permitted emission rate is 10.8 lb/hr or 0.028 gr/dscf for IM-1. This limit was established in Air Permit 503-5017-Z011, which was issued June 22, 1998, and subsequently incorporated into the Title V MSOP that was issued on December 31, 2003.

Volatile Organic Compounds

This unit has two emission sources that have VOC BACT limits, IM-1 and IM-6. IM-1 is required to maintain an emission limit for VOCs of 52.3 lb/hr and 18.6 lbs VOC / ton of product produced. These limits were established in Air Permit 503-5017-Z011, issued August 18, 1994, and subsequently incorporated into the Title V MSOP that was issued on December 31, 2003. IM-6 is required to maintain an emission limit for VOCs of 20.0 lb/hr and 12.1 lbs VOC / ton of product produced. These limits were established in Air Permit 503-5017-X010, which was issued November 27, 2000, and Air Permit 503-5017-Z010, which was issued June 22, 1998, respectively. These permits were subsequently incorporated into the Title V MSOP that was issued on December 31, 2003.

This unit produces a variety of products, some of which are not capable of meeting the limits for lbs VOC / ton of product produced. When producing one of these products, the facility is required to lower production levels to ensure that the lb/hr limits are not exceeded. For IM-6, the facility is not allowed to produce a product that exceeds 16.2 lbs VOC / ton of product produced. This limit was established in Air Permit 503-5017-Z010, which was issued June 22, 1998, and subsequently incorporated into the Title V MSOP that was issued on December 31, 2003.

IM-5 is used to control VOC emissions from the unit's reactors. IM-5 must maintain a minimum BTU value, and a thermocouple must be utilized to detect the presence of a flame. Under these conditions, IM-5 is considered to be at least 98% efficient for the control of VOCs.

V-204 is utilized to fulfill the requirements of the MON for Vacuum Pump IM-15 associated with Reactor M-345-V. V-204 must maintain a minimum operating temperature of 1400 °F based on a 3-hour rolling average, as established by testing. This limit was established in Air Permits 503-5017-X003, X004, X008, and X009, all of which were issued September 2, 1997, and subsequently incorporated into the Title V MSOP that was issued on December 31, 2003. V-204 is required to maintain an emission limit for VOCs of 2.22 lb/hr. This limit was established in Air Permits 503-5017-X003, X004, and X009, all of which were issued September 13, 2022, and subsequently incorporated into the Title V MSOP that was issued on December 31, 2003. The emissions from V-204 associated with PEKK Production Unit are limited by requiring a destruction efficiency of 99.58% for all HAP and non-HAP VOCs. The MON requires an efficiency of 98%. However, in order to remain below the PSD significance threshold, a limit of 99.58% was taken. This limit was established in Air Permits 503-5017-X044 and X045, both of which were issued November 30, 2017.

The fugitive emissions from this unit are minimized by the use of a leak detection and repair (LDAR) program equivalent to 40 CFR Part 63, Subpart H. This is considered BACT for fugitive emissions. In addition, the facility is required to ensure that all pumps in light liquid service be equipped with a dual mechanical seal or equivalent control. All components that are still operational and were previously assigned to Metablens Phase I Unit should continue to be monitored under the Metablens Phase I Unit LDAR program.

40 CFR Part 63, Subpart H

All components in VOC service associated with this unit are required to comply with a leak detection and repair (LDAR) program equivalent to 40 CFR Part 63, Subpart H. This unit is not subject to this regulation but committed to the program to address BACT for VOCs.

40 CFR Part 63, Subpart FFFF

- LDAR

This unit is subject to the requirements of 40 CFR Part 63, Subpart FFFF (MON). Subpart FFFF requires the implementation of a Subpart H LDAR program for all components in OHAP service.

- Process Vents

This unit has five Group 1 batch process vents (352-V, R-201-01, R-201-22, V-201-28, and V-201-29) that route emissions to IM-5. IM-5 is required to meet the control requirements of §63.11(b), as referenced in §63.987(a).

The requirements of §63.11(b) are listed below:

- The flare is required to meet 300 BTU/scf of combustion gas.
- The flare is required to maintain a continuous flame.
- The flare is required to maintain a velocity of less than 60 ft/sec.
- The flare is required to be smokeless.

This unit has one Group 1 batch process vent (Vacuum Pump IM-15) that routes emissions to V-204. Subpart FFFF requires the unit to minimize OHAP emissions routed to V-204 by 98% or 20 ppmv. This removal efficiency and concentration limit has been applied to all non-HAP VOC emissions routed to V-204 to ensure the unit is a synthetic minor source for VOCs.

This unit has four Group 2 batch process vents (251-VB, F-201-17, V-201-11A, and V-201-11B) and three Group 2 continuous process vents (K-201-03X, K-201-04X, and K-201-06X) that have no control standards, unless process changes are made that cause the streams to be categorized as Group 1.

Periodic Monitoring

Opacity / Particulate Matter

This unit currently utilizes an opacity monitor for Dryer A (IM-1). The opacity monitor is used as a compliance indicator for both opacity and particulate emissions. Should opacity greater than 2.5% based on a rolling six-minute average be recorded from the monitor, the facility must take appropriate corrective action within four hours. The facility is also required to perform annual stack testing of IM-1 to ensure emissions are less than permitted levels.

Because the flare (IM-5) is designed to be smokeless and only burns process and natural gas, no periodic monitoring will be required for IM-5.

While the thermal oxidizer (V-204) is burning natural gas or process gas, no periodic monitoring will be required for V-204 due to the inherent clean-burning nature of these fuels.

Volatile Organic Compounds

IM-5 must meet the requirements of §63.11(b). In order to meet the requirements of §63.11(b), the facility must maintain a BTU monitor and utilize a thermocouple to detect the presence of a flame. If the BTU value is less than 300 BTU/hr for a period of greater than 5 minutes, the facility must take appropriate corrective action or cease venting to IM-5. If the thermocouple indicates that no

flame is present, the facility shall verify that the thermocouple is operating correctly and relight the flare. If the flare is not relit, the facility must cease venting to IM-5.

V-204 is utilized to comply with the MON and restrict non-HAP VOC emissions below levels significant for PSD. V-204 is required to maintain a minimum temperature of 1400 °F based on a 3-hour rolling period. The basis of the 3-hour rolling period is the initial compliance test that was performed using three 1-hour runs. A continuous monitor must be maintained and take a reading once every 15 minutes to ensure the temperature stays above 1400 °F. Annual testing for VOCs is required for V-204 to ensure the emission rate does not exceed 2.22 lb/hr as compound. The operating temperature is required to be monitored continuously, and records of the temperature must be maintained for a minimum of five years.

No periodic monitoring would be required for components in non-HAP VOC or OHAP service other than the Subpart H LDAR program. The referenced MACT was promulgated after November 15, 1990.

The facility is required to perform annual stack testing of IM-1 and V-204 to ensure emissions are less than permitted levels. Stack testing of Dryer A Area Fume Exhaust (IM-6) must be performed once every five years.

The facility shall submit all reports required under 40 CFR Part 63, Subpart FFFF and Subpart H.

Operating Permit Summary No. 6 – Durastrength Dryer B Unit (Emission Unit 027)

Overview

Durastrength Dryer B Unit (D-200B) was constructed in 1995 and required to undergo a PSD review for PM and VOCs. The unit is subject to 40 CFR Part 63, Subpart FFFF (MON).

This unit has three *associated* reactors (M-221-R, M-321-R and M-345-V) whose preparation tanks are routed to Dryer B Area Fume Exhaust (IM-7) and vents are routed to the flare (IM-5). Vacuum Pump IM-15 from Reactor M-345-V is routed to the thermal oxidizer (V-204).

Emission Standards

Opacity

This unit has three sources that are subject to the state opacity standards, Dryer B (IM-2), IM-5, and V-204. IM-5 is also subject to the requirements of §63.11(b), which require the flare to be smokeless. An initial visible emissions test, Method 22, was required for IM-5.

Particulate Matter

The state process weight curve is applicable to this unit. This unit has installed BACT for particulates. The permitted emission rate is 10.4 lb/hr or 0.022 gr/dscf for IM-2. This limit was

established in Air Permit 503-5017-X027, which was issued June 22, 1998, and subsequently incorporated into the Title V MSOP that was issued on December 31, 2003.

Volatile Organic Compounds

IM-2 is required to maintain an emission limit for VOCs of 61.6 lb/hr and 17.1 lbs VOC / ton of product produced. These limits were established in Air Permit 503-5017-X027, which was issued June 22, 1998, and subsequently incorporated into the Title V MSOP that was issued on December 31, 2003. IM-7 is required to maintain an emission limit for VOCs of 19.2 lb/hr and 7.6 lbs VOC / ton of product produced. This limit was established in Air Permit 503-5017-X023, which was issued November 27, 2000, and subsequently incorporated into the Title V MSOP that was issued on December 31, 2003.

This unit produces a variety of products, some of which are not capable of meeting the limits for lbs VOC / ton of product produced. When producing one of these products, the facility is required to lower production levels to ensure that the lb/hr limits are not exceeded. For IM-2, the facility is not allowed to produce a product that exceeds 37.0 lbs VOC / ton of product produced. This limit was established in Air Permit 503-5017-X027, which was issued June 22, 1998, and subsequently incorporated into the Title V MSOP that was issued on December 31, 2003. For IM-7, the facility is not allowed to produce a product that exceeds 14.6 lbs VOC / ton of product produced. This limit was established in Air Permit 503-5017-X023, which was issued June 22, 1998, and subsequently incorporated into the Title V MSOP that was issued on December 31, 2003.

IM-5 is used to control VOC emissions from the unit's reactors. IM-5 must maintain a minimum BTU value, and a thermocouple must be utilized to detect the presence of a flame. Under these conditions, IM-5 is considered to be at least 98% efficient for the control of VOCs.

V-204 is utilized to fulfill the requirements of the MON for Vacuum Pump IM-15 associated with Reactor M-345-V. V-204 must maintain a minimum operating temperature of 1400 °F based on a 3-hour rolling average, as established by testing. This limit was established in Air Permits 503-5017-X003, X004, X008, and X009, all of which were issued September 2, 1997, and subsequently incorporated into the Title V MSOP that was issued on December 31, 2003. V-204 is required to maintain an emission limit for VOCs of 2.22 lb/hr. This limit was established in Air Permits 503-5017-X003, X004, and X009, all of which were issued September 13, 2022, and subsequently incorporated into the Title V MSOP that was issued on December 31, 2003. The emissions from V-204 associated with PEKK Production Unit are limited by requiring a destruction efficiency of 99.58% for all HAP and non-HAP VOCs. The MON requires an efficiency of 98%. However, in order to remain below the PSD significance threshold, a limit of 99.58% was taken. This limit was established in Air Permit 503-5017-X044 and X045, both of which were issued November 30, 2017.

The fugitive emissions from this unit are minimized by the use of a leak detection and repair (LDAR) program equivalent to 40 CFR Part 63, Subpart H. This is considered BACT for fugitive emissions. In addition, the facility is required to ensure that all pumps in light liquid service be equipped with a dual mechanical seal or equivalent control. All components that are still

operational and were previously assigned to Impact Modifiers Phase II Unit should continue to be monitored under the Impact Modifiers Phase II Unit LDAR program.

40 CFR Part 63, Subpart H

All components in VOC service associated with this unit are required to comply with a leak detection and repair (LDAR) program equivalent to 40 CFR Part 63, Subpart H. This unit is not subject to this regulation, but Arkema is committed to the program to address BACT for VOCs.

40 CFR Part 63, Subpart FFFF

- LDAR

This unit is subject to the requirements of 40 CFR Part 63, Subpart FFFF (MON). Subpart FFFF requires the implementation of a Subpart H LDAR program for all components in OHAP service.

- Process Vents

This unit has five Group 1 batch process vents (M-345-V, M-321-R, MV-338, MV-339, and MV-340) that route emissions to IM-5. IM-5 is required to meet the control requirements of §63.11(b), as referenced in §63.987(a).

The requirements of 63.11(b) are listed below:

- The flare is required to meet 300 BTU/scf of combustion gas.
- The flare is required to maintain a continuous flame.
- The flare is required to maintain a velocity of less than 60 ft/sec.
- The flare is required to be smokeless.

This unit has one Group 1 batch process vent (Vacuum Pump IM-15) that routes emissions to V-204. Subpart FFFF requires the unit to minimize OHAP emissions routed to V-204 by 98% or 20 ppmv. This removal efficiency and concentration limit has been applied to all non-HAP VOC emissions routed to V-204 to ensure the unit is a synthetic minor source for VOCs.

This unit has ten Group 2 batch process vents (M-341-F, M-348-F, M251V, M346V, M952V, V-202-11A, V-202-11B, V-202-11C, V-202-11D, and V-202-11E) and five Group 2 continuous process vents (F-202-06X A, F-202-06X B, F-202-10X A, F-202-10X B, and F-202-11) that have no control standards, unless process changes are made that cause the streams to be categorized as Group 1.

Periodic Monitoring

Opacity / Particulate Matter

This unit currently utilizes an opacity monitor for Dryer B (IM-2). The opacity monitor is used as a compliance indicator for both opacity and particulate emissions. Should opacity greater than 2.5% based on a rolling six-minute average be recorded from the monitor, the facility must take appropriate corrective action within four hours. The facility is also required to perform annual stack testing of IM-2 to ensure emissions are less than permitted levels.

Because the flare (IM-5) is designed to be smokeless and only burns process and natural gas, no periodic monitoring will be required for IM-5.

While the thermal oxidizer (V-204) is burning natural gas or process gas, no periodic monitoring will be required for V-204 due to the inherent clean-burning nature of these fuels.

Volatile Organic Compounds

IM-5 must meet the requirements of §63.11(b). In order to meet the requirements of §63.11(b), the facility must maintain a BTU monitor and utilize a thermocouple to detect the presence of a flame. If the BTU value is less than 300 BTU/hr for a period of greater than 5 minutes, the facility must take appropriate corrective action or cease venting to IM-5. If the thermocouple indicates that no flame is present, the facility shall verify that the thermocouple is operating correctly and relight the flare. If the flare is not relit, the facility must cease venting to IM-5.

V-204 is utilized to comply with the MON and restrict non-HAP VOC emissions below levels significant for PSD. V-204 is required to maintain a minimum temperature of 1400 °F based on a 3-hour rolling period. The basis of the 3-hour rolling period is the initial compliance test that was performed using three 1-hour runs. A continuous monitor must be maintained and take a reading once every 15 minutes to ensure the temperature stays above 1400 °F. Annual testing for VOCs is required for V-204 to ensure the emission rate does not exceed 2.22 lb/hr as compound. The operating temperature is required to be monitored continuously, and records of the temperature must be maintained for a minimum of five years.

No periodic monitoring would be required for components in non-HAP VOC or OHAP service other than the Subpart H LDAR program. The referenced MACT was promulgated after November 15, 1990.

The facility is required to perform annual stack testing of IM-2 and V-204 to ensure emissions are less than permitted levels. Stack testing of Dryer B Area Fume Exhaust (IM-7) must be performed once every five years.

The facility shall submit all reports required under 40 CFR Part 63, Subpart FFFF and Subpart H.

Operating Permit Summary No. 7 – Latex Production Unit (Emission Unit 043)

Overview

The Latex Production Unit was initially permitted on September 7, 2016 (Air Permit 503-5017-X043). This unit is dedicated to the production of latex. The product is not dried but sold offsite as latex. Upon construction, the unit became subject to 40 CFR Part 63, Subpart FFFF (MON) as an existing source since the potential OHAP emissions did not exceed 10 TPY. This unit has two dedicated reactors (321-R and 371-R (Aquatec)) whose vents are routed to the flare (IM-5). The clean-out emissions of 321-R and 371-R are routed to Dryer A Area Fume Exhaust (IM-6).

Emission Standards

Opacity

IM-5 is subject to the state opacity standards and the requirements of §63.11(b), which require the flare to be smokeless. An initial visible emissions test, Method 22, was required for IM-5.

Volatile Organic Compounds

IM-6 underwent a PSD review in association with Phase 0, I, and II Production Units and has VOC BACT limits. IM-6 is required to maintain an emission limit for VOCs of 20.0 lb/hr and 12.1 lbs VOC / ton of product produced. These limits were established in Air Permit 503-5017-X010, which was issued November 27, 2000, and Air Permit 503-5017-Z010, which was issued June 22, 1998, respectively. These permits were subsequently incorporated into the Title V MSOP that was issued on December 31, 2003.

IM-5 is used to control VOC emissions from the unit's reactors. IM-5 must maintain a minimum BTU value, and a thermocouple must be utilized to detect the presence of a flame. Under these conditions, IM-5 is considered to be at least 98% efficient for the control of VOCs.

The fugitive emissions from this unit are minimized by the use of a leak detection and repair (LDAR) program equivalent to 40 CFR Part 63, Subpart H. In addition, the facility is required to ensure that all pumps in light liquid service be equipped with a dual mechanical seal or equivalent control. All components associated with this unit are covered under the Metablens Phase I LDAR program.

40 CFR Part 63, Subpart H

All components in VOC service associated with this unit are required to comply with a leak detection and repair (LDAR) program equivalent to 40 CFR Part 63, Subpart H. This unit is not subject to this regulation, but Arkema is committed to the program to address BACT for VOCs under Durastrength Dryer A and Durastrength Dryer B Units.

40 CFR Part 63, Subpart FFFF

- LDAR

This unit is subject to the requirements of 40 CFR Part 63, Subpart FFFF (MON). Subpart FFFF requires the implementation of a Subpart H LDAR program for all components in OHAP service.

- Batch Process Vents

This unit has seven Group 1 batch process vents (321-R, 371-R, 222-V, 223-E, 301-V, 302-V, and 301-V) that route emissions to IM-5. IM-5 is required to meet the control requirements of §63.11(b), as referenced in §63.987(a).

The requirements of §63.11(b) are listed below:

- The flare is required to meet 300 BTU/scf of combustion gas.
- The flare is required to maintain a continuous flame.
- The flare is required to maintain a velocity of less than 60 ft/sec.
- The flare is required to be smokeless.

This unit has four Group 2 batch process vents (221-R, 241-F, 251-V, and 346-V) that have no control standards, unless process changes are made that cause the streams to be categorized as Group 1.

Periodic Monitoring

Opacity / Particulate Matter

Because the flare (IM-5) is designed to be smokeless and only burns process and natural gas, no periodic monitoring will be required for IM-5.

Volatile Organic Compounds

IM-5 must meet the requirements of §63.11(b). In order to meet the requirements of §63.11(b), the facility must maintain a BTU monitor and utilize a thermocouple to detect the presence of a flame. If the BTU value is less than 300 BTU/hr for a period of greater than 5 minutes, the facility must take appropriate corrective action or cease venting to IM-5. If the thermocouple indicates that no flame is present, the facility shall verify that the thermocouple is operating correctly and relight the flare. If the flare is not relit, the facility must cease venting to IM-5.

No periodic monitoring would be required for components in non-HAP VOC or OHAP service other than the Subpart H LDAR program. The referenced MACT was promulgated after November 15, 1990.

Stack testing of Dryer A Area fume Exhaust (IM-6) must be performed once every five years.

The facility shall submit all reports required under 40 CFR Part 63, Subpart FFFF and Subpart H.

Operating Permit Summary No. 8 – IM / Durastrength Storage Tanks (Emission Unit Nos. 013 – 018 and 030)

Overview

The regulated storage tanks associated with the IM/Durastrength Units are 101, 111, 121-A, 121-B, 131-A, 131-B, 141, and M135-V. These tanks were constructed with Phase 0, I, and II Production Units in 1985. The unit was required to undergo PSD review for VOCs. There are additional storage tanks associated with the IM/Durastrength Units, but these tanks are considered either trivial or insignificant based on size and vapor pressure.

Emission Standards

Volatile Organic Compounds

Tanks 131-A, 131-B, and 141 are subject to 40 CFR Part 63, Subpart FFFF (MON). Since the vapor pressure of the material stored in these tanks is less than 6.9 kPa (1.0 psia), these tanks are considered Group 2 storage vessels, with respect to Subpart FFFF. Tanks 131-A, 131-B, and 141 underwent PSD review for VOCs. It was determined that BACT for these tanks is carbon canisters. This requirement was established in Air Permits 503-5017-X016, X017, and X018, all of which were issued on November 14, 1985, and subsequently incorporated into the Title V MSOP that was issued on December 31, 2003.

Tank 111 is subject to 40 CFR Part 63, Subpart FFFF and considered a Group 2 storage vessel. Tanks 111, 121-A, 121-B, and M135-V underwent PSD review for VOCs. It was determined that BACT for these tanks is carbon canisters. This requirement was established in Air Permits 503-5017-X013, X014, X015, and X030, all of which were issued on November 14, 1985, and subsequently incorporated into the Title V MSOP that was issued on December 31, 2003. Tanks 121-A, 121-B, and M135-V are only subject to synthetic minor PSD limitations for VOCs, as referenced in ADEM Administrative Code 335-3-14-.04.

Tank 101 is exempt from all standards as it is a pressure vessel and closed loop.

All material loaded into these tanks by railcar or truck shall be unloaded by a closed loop system. This requirement was established in Air Permits 503-5017-X013, X014, X015, X016, X017, X018, and X030, all of which were issued on June 22, 1998, and subsequently incorporated into the Title V MSOP that was issued on December 31, 2003.

Periodic Monitoring

Volatile Organic Compounds

The carbon canisters associated with these tanks shall be monitored monthly to detect breakthrough. Should breakthrough be detected, the carbon canister shall be replaced within 24 hours. Records of monitoring and canister replacements shall be maintained for a minimum of five years.

Operating Permit Summary No. 9 – Generators and Firewater Pumps (Emission Unit X099)

Prior to 2018, the facility operated an emergency diesel generator (1400 HP) and four firewater pumps (340 HP, 300 HP, 300 HP, and 300 HP). These engines were installed between 1980 and 1984. On January 18, 2008, EPA finalized 40 CFR Part 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. These engines became subject to the NESHAP and were incorporated into the Title V MSOP.

In 2018, the facility installed a spark ignition generator (150 kW) in the newly constructed Polyetherketoneketone (PEKK) Production Unit. This engine is subject to 40 CFR Part 63, Subpart ZZZZ and 40 CFR Part 60, Subpart JJJJ. As referenced in §63.6590(c), by complying with Subpart JJJJ, the facility would comply with Subpart ZZZZ.

Emission Standards

40 CFR Part 63, Subpart ZZZZ

The Subpart ZZZZ requirements for Firewater Pumps P-802A (340 HP), 50109-P (300 HP), 50110-P (300 HP), and P802B (300 HP) are listed below.

- 1) Change the oil and filter every 500 hours of operation or annually, whichever comes first.
- 2) Inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.
- 3) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary
- 4) Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
- 5) Install a non-resettable hour meter.
- 6) Limit testing times to 100 hr/yr of which 50 hr/yr can be for non-emergency purposes.

There are no specific emission standards for Generator Y-501-04 (1400 HP), which was existing.

40 CFR Part 60, Subpart JJJJ

The JJJJ requirements for Generator PEKK (150 kW) are listed below.

- 1) Install a non-resettable hour meter.
- 2) Limit testing times to 100 hr/yr of which 50 hr/yr can be for non-emergency purposes.
- 3) Comply with the emission limits listed in Table 1 of 40 CFR Part 60, Subpart JJJJ.

Periodic Monitoring

40 CFR Part 63, Subpart ZZZZ

The facility is required to keep records of hours of operation and maintenance performed on the firewater pumps, as required in the applicable emission standards.

40 CFR Part 60, Subpart JJJJ

The facility is required to keep records of hours of operation and a certificate of conformity stating that the generator can comply with the emission limits in Table 1 of 40 CFR Part 60, Subpart JJJJ.

Operating Permit Summary No. 10 – PEKK Unit (Emission Unit 044)

Overview

PEKK Production Unit (PEKK) and an associated material recovery system were initially permitted November 30, 2017 (Air Permit 503-5017-X044). Upon construction, the unit became subject to 40 CFR Part 63, Subpart FFFF (MON) as a new source. The unit was constructed in the former End Product Unit (300 Area) and TGA Units.

The unit has two *dedicated* reactors (R-341 and R-351) and several associated solvent recovery columns. The reactors are utilized to produce an intermediate and final product. The reactors are routed to the thermal oxidizer (V-204) or the scrubber system (S-379 and C-310) for control, depending which portion of the process is occurring. The recovery columns are routed to V-204, and other vents associated with the recovery system are routed to the ventilation scrubber (S-152-01) for hygiene purposes.

This unit utilizes a dryer system, which is routed to S-379 and C-310 for the control of OHAPs and VOCs. The dried product utilizes a drying baghouse (F-301-02) and HEPA filter (F-301-02B) in series for material transfer into a loading hopper. A loading baghouse (F360) is utilized for bagging of the final product.

In April 2020, a bagging system was installed for bagging of the intermediate product, which resulted from a business opportunity to send the intermediate product overseas. The intermediate packaging system utilizes two control systems. The first system is an in-line particulate and HEPA filter, which are routed to V-204. The second system is an in-line particulate filter, which is routed to C-310.

S-152-01 is strictly for hygiene purposes and provides no control of VOCs.

Emission Standards

Opacity

The unit has four sources that are subject to the state opacity requirement, V-204, the scrubber system (S-379 and C-310), F-301-02 (EP 300-1), and F-360 (EP 300-4).

It is noted that the intermediate packaging system has two sources of particulate emissions. The transfer system utilizes an in-line particulate and HEPA filter, which are routed to V-204. The intermediate packaging system is required to utilize these filters while operating. The drumhead vent utilizes an in-line particulate filter, which is routed to C-310. The intermediate packaging system is required to utilize this filter while operating. These requirements were established in Air Permit 503-5017-X044, which was issued April 21, 2020. The limits and requirements associated with this air permit will be incorporated into this Title V permit upon issuance.

Particulate Matter

The permitted emission rate is 0.23 lb/hr for F-301-02. The permitted emission rate is 1.0 lb/hr for F360. These limits were established in Air Permit 503-5017-X004, which was issued November 27, 2000, and subsequently incorporated into the Title V MSOP that was issued on December 31, 2003.

Volatile Organic Compounds

The MON requires components in OHAP service to comply with the leak detection and repair (LDAR) program found in 40 CFR Part 63, Subpart UU. By complying with 40 CFR Part 63, Subpart H, the facility would comply with Subpart UU. In order to remain below the PSD significance threshold, the facility has committed to complying with Subpart H for all VOC components in HAP and non-HAP service.

V-204 is utilized by PEKK to fulfill the requirements of the MON. V-204 must maintain a minimum operating temperature established through performance testing. The emissions from V-204 associated with PEKK are limited by requiring a destruction efficiency of 99.58% for all HAP and non-HAP VOCs. The MON requires an efficiency of 98%; however, in order to remain below the PSD significance threshold, a limit of 99.58% was taken. This limit was established in Air Permit 503-5017-X044 and X045, both of which were issued November 30, 2017. The limits and requirements associated with these air permits will be incorporated into this Title V permit upon issuance.

The scrubber system (S-379 and C-310) is also utilized by PEKK to fulfill the requirements of the MON. S-379 is required to maintain a daily caustic concentration of 2.5%, a flowrate of 9.3 gpm to the venturi scrubber, and a flowrate of 10.4 gpm to the packed column, as established through testing. C-310 is required to maintain a daily flowrate of 59 gpm, as established through testing. The scrubber system is utilized to control hydrogen halide emissions from the process. The

emissions from the scrubber system are limited by requiring a destruction efficiency of 99.9% for HCl.

40 CFR Part 63, Subpart FFFF

- LDAR

40 CFR Part 63, Subpart FFFF (MON) requires the implementation of a Subpart UU LDAR program for all components in OHAP service for new sources. The Department has determined that implementation of a Subpart H LDAR program would meet the requirements of Subpart UU.

- Batch Process Vents

This unit has five Group 1 batch process vents (K-341, K-353, V-318, E-142-01, and K-152-01) that route to emissions to V-204. The unit has one Group 1 batch process vent (KE-302) that routes emissions to the scrubber system (S-379 and C-310). The unit has two Group 2 batch process vents (K-301-01 and V-328) that have no control standards, unless process changes are made that cause the streams to be categorized as Group 1. However, the facility has elected to route K-301-01 directly to C-310 and V-328 directly to V-204.

Hazardous Air Pollutants

The MON requires PEKK to minimize OHAP emissions routed to V-204 by 98% or 20 ppmv. This removal efficiency and concentration limit have been applied to all non-HAP VOC emissions routed to V-204 to ensure the unit is a synthetic minor source for VOCs.

This unit utilizes S-379 and C-310 to minimize hydrogen halide and halogen HAP emissions from the process. The MON requires PEKK to minimize HCl emissions by 99.0%, 20 ppmv, or 0.45 kg/hr. A minimum destruction efficiency of 99.9% has been included in the Title V MSOP to meet these limitations.

Periodic Monitoring

Opacity / Particulate Matter

In order to ensure that the drying baghouse (F-301-02) and loading baghouse (F360) are in compliance with their particulate and opacity limits, a person familiar with Method 9 will observe the emission points, at least once per week, while material is being conveyed and packaged. If visible emissions are observed, the system must cease operations until appropriate corrective action is taken. An additional observation must be conducted to ensure that no visible emissions are observed. Records will be maintained of any incidents of excess emissions and the corrective action taken.

Since the scrubber system (S-379 and C-310) uses caustic/water as the scrubbing media, no visual inspections would be required for this source.

While the thermal oxidizer (V-204) is burning natural gas or process gas, no periodic monitoring will be required for V-204 due to the inherent clean-burning nature of these fuels.

Volatile Organic Compounds / Organic Hazardous Air Pollutants

V-204 is utilized to comply with the MON and restrict non-HAP VOC emissions below levels significant for PSD. V-204 is required to maintain a minimum daily average operating temperature established through performance testing. A continuous monitor must be maintained and take a reading once every 15 minutes as calculated on a 3-hour rolling average. The operating temperature is required to be monitored continuously, and records of the temperature must be maintained for a minimum of five years.

Scrubber S-152-01 must be operated at all times the material recovery unit is in operation; however due to its extremely low emission rate, there are no specific monitoring requirements.

No periodic monitoring would be required for components in non-HAP VOC or OHAP service other than the Subpart H LDAR program.

Hazardous Air Pollutants

In order to comply with the MON, S-379 is required to maintain a minimum caustic concentration of 2.5%. This concentration must be verified daily. S-379 is also required to maintain a recirculation flowrate of 9.3 gpm to the venturi scrubber and 10.4 gpm to the packed column. The flowrates are based on a daily average, and readings must be taken every 15 minutes. Records must be maintained for a minimum of five years.

In order to comply with the MON, C-310 is required to maintain a recirculation flowrate of 59.0 gpm. The flowrate is based on a daily average, and a reading must be taken every 15 minutes. Records must be maintained for a minimum of five years.

The facility shall submit all reports required under 40 CFR Part 63, Subpart FFFF and Subpart H.

Operating Permit Summary No. 11 – PEKK Storage Tanks (Emission Unit 045)

Overview

PEKK Production Unit (PEKK) and an associated material recovery system were initially permitted November 30, 2017 (Air Permit 503-5017-X044). PEKK has twelve permitted storage tanks that provide raw materials, store recovered materials, and store final products. These tanks include V-331, T-404, T-412-01A, T-422-03A, T-422-03B, T-152-03A, T-152-03B, T-152-03C, T-481, T-405, T-132, V-328. Several of these tanks were utilized by the former TGA Unit. On March 9, 2020, T-152-03A, T-152-03B, and T-152-03C were replaced, utilizing a more corrosion

resistant material, and routed to carbon drums for control. On April 1, 2022, Arkema was approved to return T-422-03B to service.

The twelve tanks associated with PEKK store a number of different materials, some of which are HAPs and some of which are VOCs; therefore, their control requirements vary. T-405 stores HCl and is routed to Scrubber S-403 for control. T-412-01A, T-404, and V-328 are routed to the thermal oxidizer (V-204) for control. T-152-03A, T-152-03B, and T-152-03C are routed to carbon drums for control. V-331 and T-312 are routed to Scrubber C-310 for control. T-422-03A, T-422-03B, and T-481 are uncontrolled.

Emission Standards

Opacity

The state opacity requirement would be applicable to V-204 and Scrubbers C-310 and S-403.

Volatile Organic Compounds

PEKK is subject to 40 CFR Part 63, Subpart FFFF (MON). The MON requires components in OHAP service to comply with the leak detection and repair (LDAR) program found in 40 CFR Part 63, Subpart UU. By complying with 40 CFR Part 63, Subpart H, the facility would comply with Subpart UU. In order to remain below the PSD significance threshold, the facility has committed to complying with Subpart H for all VOC components in HAP and non-HAP service.

V-204 is utilized by T-412-01A to fulfill the requirements of the MON. V-204 must maintain a minimum operating temperature established through performance testing. The emissions from V-204 associated with PEKK Storage Tanks are limited by requiring a destruction efficiency of 99.58% for all HAP and non-HAP VOCs. The MON requires an efficiency of 98%; however, in order to remain below the PSD significance threshold, a limit of 99.58% was taken. This limit was established in Air Permit 503-5017-X044 and X045, both of which were issued November 30, 2017. The limits and requirements associated with these air permits will be incorporated into this Title V permit upon issuance.

T-405 stores HCl and is subject to the MON. T-405 is a Group 1 storage tank and controlled by S-403. Emissions from S-403 are limited by the requirements listed below.

- The caustic concentration of S-403 shall be at least 10% prior to loading T-405.
- The minimum caustic concentration in S-403 shall not fall below a daily concentration of 4%.
- The facility shall maintain a scrubber recirculation rate of 10 gpm.
- The facility shall not exceed a fill rate for T-405 of 200 gpm.
- Only one HCl truck shall be unloaded at a time.

In order to remain below the PSD significance threshold for VOCs, T-152-03A, T-152-03B, T-152-03C are routed to carbon canisters.

In order to remain below the PSD significance threshold for VOCs, V-331 and T-312 are routed to C-310.

40 CFR Part 63, Subpart H

In order to remain below the PSD significance threshold for VOCs, all components in non-HAP VOC service associated with PEKK Storage Tanks are required to comply with a leak detection and repair (LDAR) program equivalent to 40 CFR Part 63, Subpart H.

40 CFR Part 63, Subpart FFFF

- LDAR

40 CFR Part 63, Subpart FFFF (MON) requires the implementation of a Subpart UU LDAR program for all components in OHAP service for new sources. The Department has determined that implementation of a Subpart H LDAR program would meet the requirements of Subpart UU.

- Storage Tanks

T-412-01A and T-405 are considered Group 1 storage tanks under the requirements of 40 CFR Part 63, Subpart FFFF.

Subpart FFFF requires Group 1 storage tanks to minimize OHAP emissions routed to V-204 by 95% or 20 ppmv. A removal efficiency of 99.58% has been applied to all OHAP and non-HAP VOC emissions routed to V-204 to ensure the unit is a synthetic minor source for VOCs.

T-405 utilizes S-403 to minimize hydrogen halide and halogen HAP emissions. The MON requires T-405 to minimize HCl emissions by 99.0%, 20 ppmv, or 0.45 kg/hr. A minimum destruction efficiency of 99.9% has been included in the Title V MSOP to meet these limitations.

V-328 and T-404 store materials that contain minor amounts of an OHAP. V-328 and T-404 are considered Group 2 storage tanks and have no specific control requirements.

Periodic Monitoring

Opacity / Particulate Matter

While the thermal oxidizer (V-204) is burning natural gas or process gas, no periodic monitoring will be required for V-204 due to the inherent clean-burning nature of these fuels.

Since C-310 and S-403 use caustic/water as scrubbing media, no visual inspections would be required for these sources.

Volatile Organic Compounds

V-204 is utilized to comply with the MON and restrict non-HAP VOC emissions below levels significant for PSD. V-204 is required to maintain a minimum daily average operating temperature established through performance testing. A continuous monitor must be maintained and take a reading once every 15 minutes as calculated on a 3-hour rolling average. The operating temperature is required to be monitored continuously, and records of the temperature must be maintained for a minimum of five years.

No periodic monitoring would be required for components in non-HAP VOC or OHAP service other than the Subpart H LDAR program.

The carbon canisters associated with T-152-03A, T-152-03B, T-152-03C shall be monitored monthly to detect breakthrough. Should breakthrough be detected, the carbon canister shall be replaced within 24 hours. Records of monitoring and canister replacements shall be maintained for a minimum of five years.

Hazardous Air Pollutants

The facility shall monitor the fill rate of T-405 and take a reading at least once every 5 minutes. The facility shall monitor the caustic concentration and recirculation rate of S-403 and record a measurement at least once every 15 minutes. The facility shall monitor the recirculation rate of C-310 and record a measurement at least once every 15 minutes. The facility shall maintain records of fill rates for T-405, hourly and daily caustic concentrations for S-403, and recirculation rates for S-403 and C-310 for at least five years.

The facility shall also submit all reports required under 40 CFR Part 63, Subpart FFFF and Subpart H.

Compliance Assurance Monitoring (CAM)

Compliance Assurance Monitoring (CAM) applies to pollutant-specific emission units that are subject to an emission limitation or standard where a control device is used to achieve compliance with an applicable emission limitation. The CAM rule requires facilities to monitor compliance indicators for emission units to provide reasonable assurance for compliance with regulatory emission limitations. The thermal oxidizer (V-204) and flare (IM-5) are subject to the CAM rule for VOCs. Dryer A (IM-1), Dryer B (IM-2), and Phase II Dryer (IM-3) are subject to the CAM rule for PM.

V-204 is subject to the CAM rule for VOCs since it has VOC limits and uncontrolled emissions greater than 100 TPY. This control device meets the monitoring requirements of 40 CFR Part 63, Subpart FFFF, which was promulgated after November 15, 1990, by monitoring the temperature

on a continuous basis. V-204 was tested and showed compliance with the VOC limits and DRE listed in the permits. Therefore, the monitoring required by 40 CFR Part 63, Subpart FFFF would be acceptable to comply with CAM.

IM-5 is subject to the CAM rule for VOCs since it is subject to §63.11(b) and has uncontrolled emissions of greater than 100 TPY. This control device meets the monitoring requirements of 40 CFR Part 63, Subpart FFFF by maintaining a maximum tip velocity and minimum BTU value of the process gas. IM-5 has a BTU monitor to ensure compliance with the BTU value; therefore, the monitoring required by 40 CFR Part 63, Subpart FFFF would be acceptable to comply with CAM.

IM-1, IM-2, and IM-3 are subject to the CAM rule since they have BACT limits for PM and uncontrolled emissions greater than 100 TPY. These emission points would comply with CAM by operating opacity monitors as compliance indicators for PM, as well as being tested annually to prove compliance with the emission limits.

The potential post-control emissions from V-204, IM-5, IM-1, IM-2, and IM-3 are less than the major source thresholds for VOC (100 TPY) and PM (100 TPY) and, therefore, classified as “other pollutant-specific emission units” per §64.5(b). The following are the CAM requirements for the facility.

Emission Point #	Emission Unit(s)	Applicable Pollutant	Potential Pre-Control Emissions (TPY)	Potential Post-Control Emissions (TPY)
V-204	011, 027, 044, 045	VOC	650.56	2.73
IM-1	011	PM	4730.4	47.3
IM-2	027	PM	4555.2	45.6
IM-3	023	PM	7100.0	15.55
IM-5	023, 011, 027, 043	VOC	333.0	14.2

Environmental Justice

ADEM utilized the EJSCREEN screening tool to perform an analysis of the area (see Appendix A).

Recommendation

The proposed monitoring above would be sufficient to demonstrate compliance with all state and federal requirements. Therefore, I recommend that the second renewal of the Title V Major Source

Operating Permit (503-5017) be issued as proposed, pending resolution of any comments received during a 30-day public comment period and a 45-day EPA review.

Will Bacon

Will Bacon
Chemical Branch
Air Division

January 13, 2023
Date

APPENDIX A

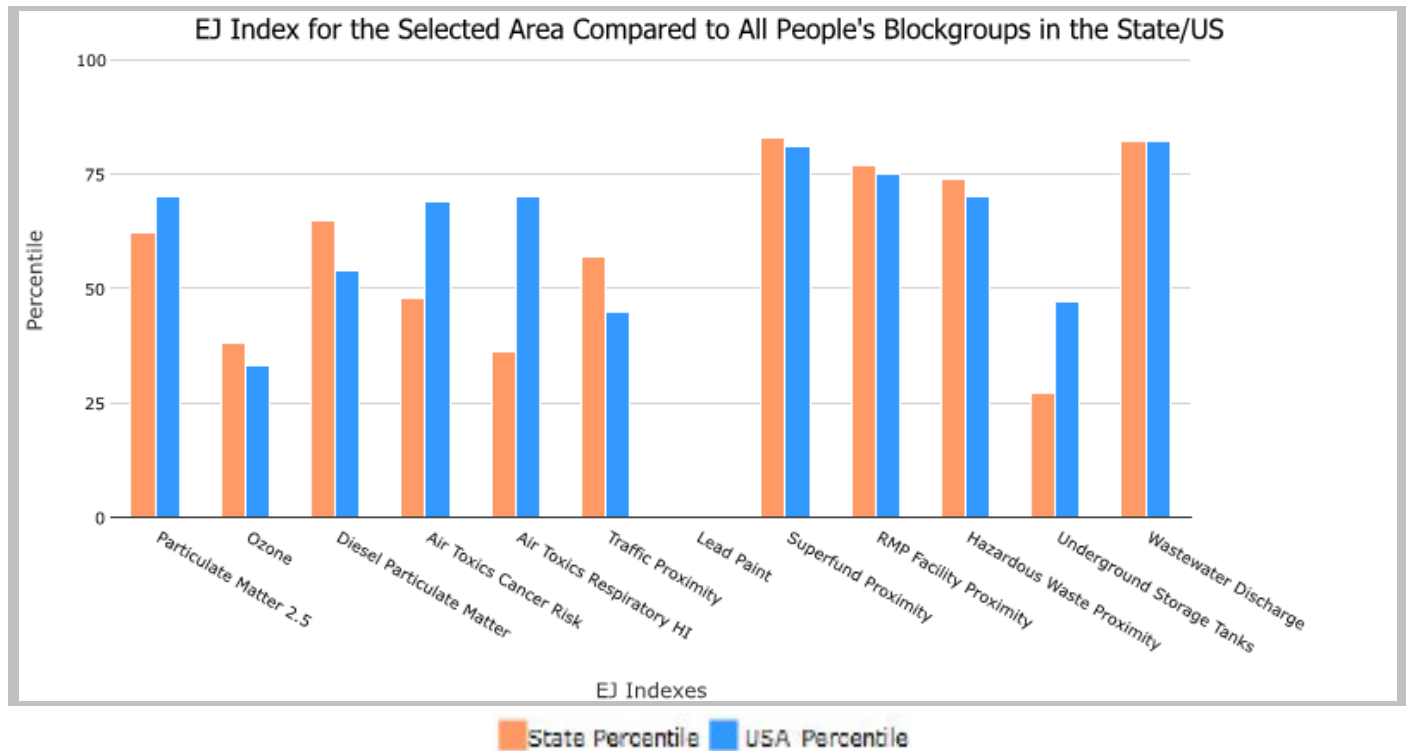
1 mile Ring Centered at 30.977678,-88.027970, ALABAMA, EPA Region 4

Approximate Population: 7

Input Area (sq. miles): 3.14

1-Mile

Selected Variables	State Percentile	USA Percentile
Environmental Justice Indexes		
EJ Index for Particulate Matter 2.5	62	70
EJ Index for Ozone	38	33
EJ Index for Diesel Particulate Matter*	65	54
EJ Index for Air Toxics Cancer Risk*	48	69
EJ Index for Air Toxics Respiratory HI*	36	70
EJ Index for Traffic Proximity	57	45
EJ Index for Lead Paint	0	0
EJ Index for Superfund Proximity	83	81
EJ Index for RMP Facility Proximity	77	75
EJ Index for Hazardous Waste Proximity	74	70
EJ Index for Underground Storage Tanks	27	47
EJ Index for Wastewater Discharge	82	82



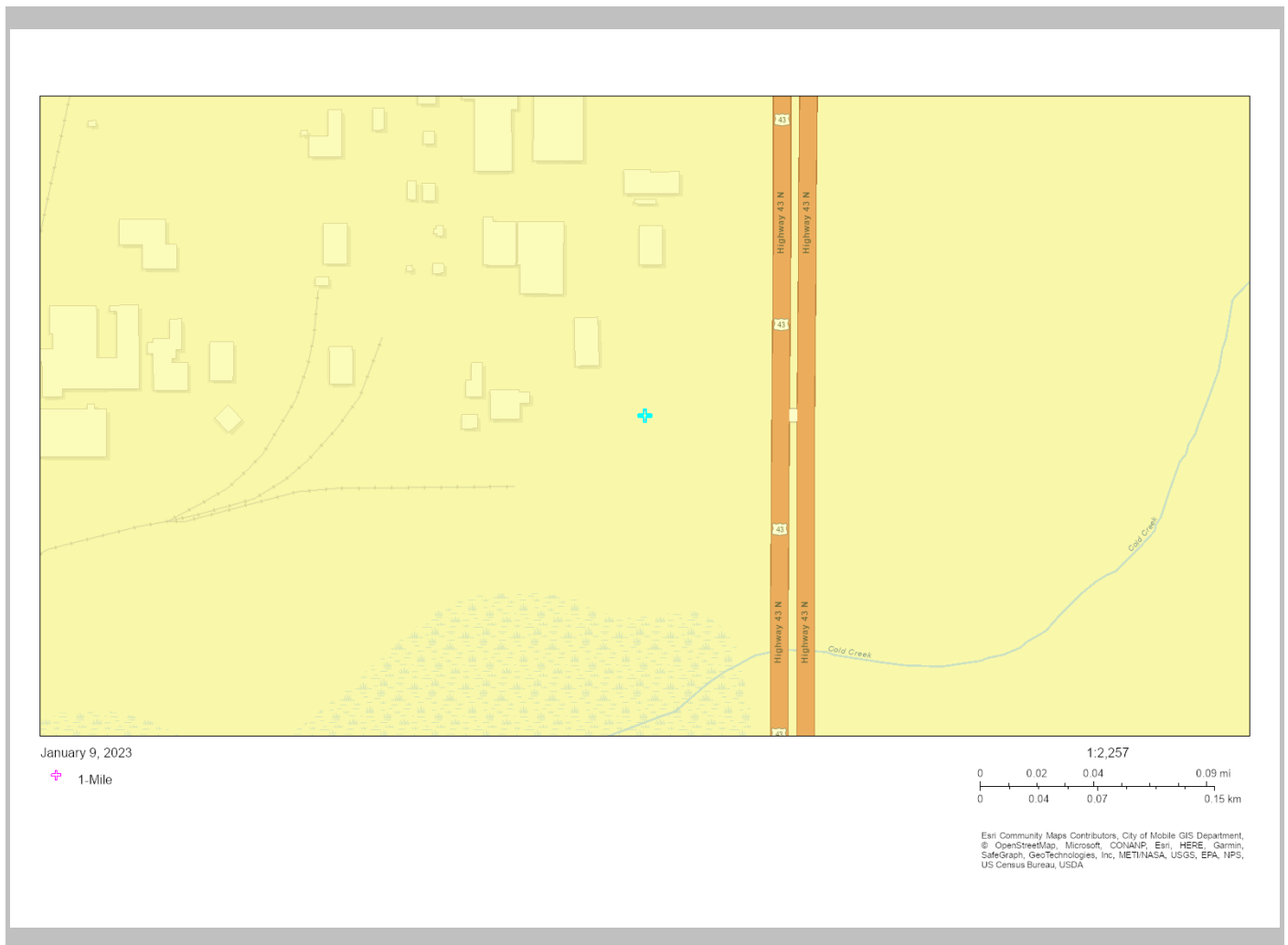
This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

1 mile Ring Centered at 30.977678,-88.027970, ALABAMA, EPA Region 4

Approximate Population: 7

Input Area (sq. miles): 3.14

1-Mile



Sites reporting to EPA	
Superfund NPL	2
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	3

EJScreen Report (Version 2.1)



1 mile Ring Centered at 30.977678,-88.027970, ALABAMA, EPA Region 4

Approximate Population: 7

Input Area (sq. miles): 3.14

1-Mile

Selected Variables	Value	State Avg.	%ile in State	USA Avg.	%ile in USA
Pollution and Sources					
Particulate Matter 2.5 ($\mu\text{g}/\text{m}^3$)	8.93	8.92	50	8.67	60
Ozone (ppb)	37	39	25	42.5	17
Diesel Particulate Matter* ($\mu\text{g}/\text{m}^3$)	0.182	0.223	52	0.294	<50th
Air Toxics Cancer Risk* (lifetime risk per million)	30	35	53	28	80-90th
Air Toxics Respiratory HI*	0.4	0.47	35	0.36	80-90th
Traffic Proximity (daily traffic count/distance to road)	72	290	46	760	29
Lead Paint (% Pre-1960 Housing)	0	0.17	0	0.27	0
Superfund Proximity (site count/km distance)	0.25	0.051	98	0.13	89
RMP Facility Proximity (facility count/km distance)	0.99	0.46	85	0.77	75
Hazardous Waste Proximity (facility count/km distance)	1.5	0.9	79	2.2	64
Underground Storage Tanks (count/km ²)	0.059	1.9	15	3.9	26
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.14	0.36	92	12	86
Socioeconomic Indicators					
Demographic Index	38%	38%	59	35%	62
People of Color	36%	35%	59	40%	56
Low Income	40%	36%	55	30%	69
Unemployment Rate	8%	6%	70	5%	75
Limited English Speaking Households	0%	1%	0	5%	0
Less Than High School Education	32%	13%	93	12%	92
Under Age 5	6%	6%	56	6%	56
Over Age 64	14%	17%	38	16%	45

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

For additional information, see: www.epa.gov/environmentaljustice

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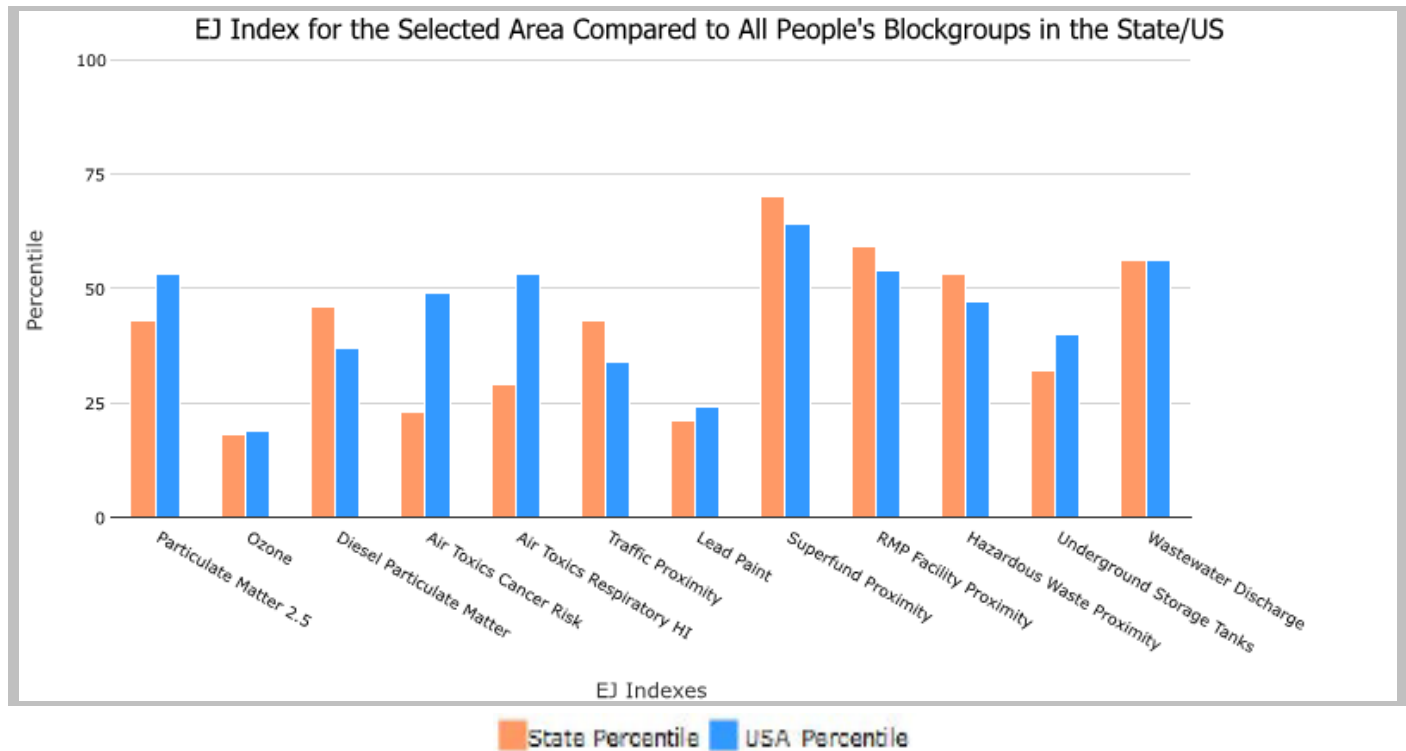
3 miles Ring Centered at 30.977678,-88.027970, ALABAMA, EPA Region 4

Approximate Population: 876

Input Area (sq. miles): 28.27

3-Mile

Selected Variables	State Percentile	USA Percentile
Environmental Justice Indexes		
EJ Index for Particulate Matter 2.5	43	53
EJ Index for Ozone	18	19
EJ Index for Diesel Particulate Matter*	46	37
EJ Index for Air Toxics Cancer Risk*	23	49
EJ Index for Air Toxics Respiratory HI*	29	53
EJ Index for Traffic Proximity	43	34
EJ Index for Lead Paint	21	24
EJ Index for Superfund Proximity	70	64
EJ Index for RMP Facility Proximity	59	54
EJ Index for Hazardous Waste Proximity	53	47
EJ Index for Underground Storage Tanks	32	40
EJ Index for Wastewater Discharge	56	56



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

EJScreen Report (Version 2.1)

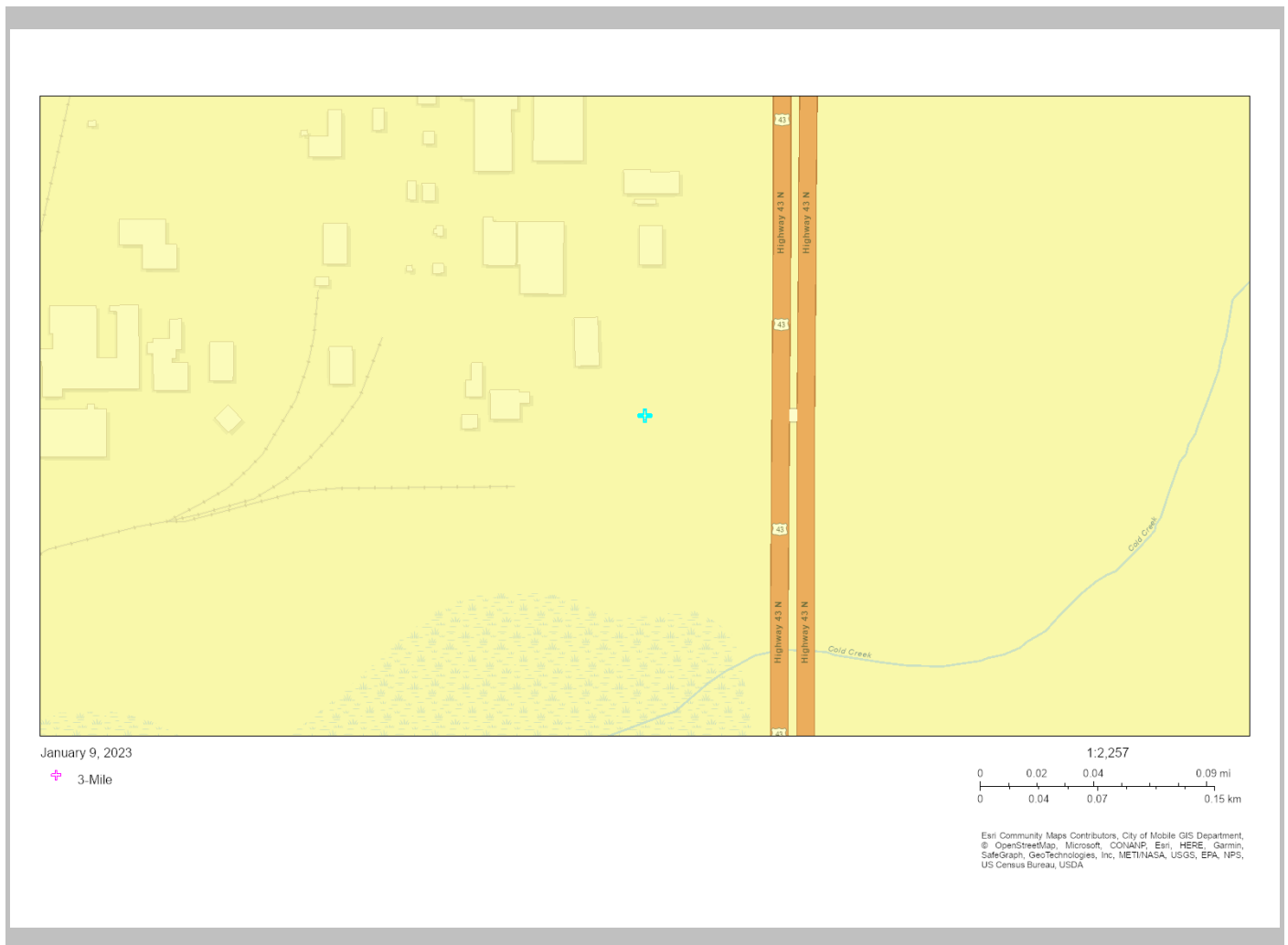


3 miles Ring Centered at 30.977678,-88.027970, ALABAMA, EPA Region 4

Approximate Population: 876

Input Area (sq. miles): 28.27

3-Mile



Sites reporting to EPA	
Superfund NPL	2
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	6

EJScreen Report (Version 2.1)

3 miles Ring Centered at 30.977678,-88.027970, ALABAMA, EPA Region 4

Approximate Population: 876

Input Area (sq. miles): 28.27

3-Mile

Selected Variables	Value	State Avg.	%ile in State	USA Avg.	%ile in USA
Pollution and Sources					
Particulate Matter 2.5 ($\mu\text{g}/\text{m}^3$)	8.92	8.92	50	8.67	60
Ozone (ppb)	36.9	39	22	42.5	16
Diesel Particulate Matter* ($\mu\text{g}/\text{m}^3$)	0.172	0.223	49	0.294	<50th
Air Toxics Cancer Risk* (lifetime risk per million)	30	35	53	28	80-90th
Air Toxics Respiratory HI*	0.42	0.47	45	0.36	80-90th
Traffic Proximity (daily traffic count/distance to road)	86	290	50	760	31
Lead Paint (% Pre-1960 Housing)	0.04	0.17	24	0.27	24
Superfund Proximity (site count/km distance)	0.19	0.051	97	0.13	84
RMP Facility Proximity (facility count/km distance)	0.68	0.46	79	0.77	66
Hazardous Waste Proximity (facility count/km distance)	0.71	0.9	61	2.2	50
Underground Storage Tanks (count/km ²)	0.25	1.9	34	3.9	33
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.033	0.36	84	12	78
Socioeconomic Indicators					
Demographic Index	22%	38%	30	35%	37
People of Color	18%	35%	36	40%	36
Low Income	27%	36%	32	30%	48
Unemployment Rate	6%	6%	64	5%	68
Limited English Speaking Households	0%	1%	0	5%	0
Less Than High School Education	15%	13%	61	12%	72
Under Age 5	5%	6%	54	6%	54
Over Age 64	14%	17%	38	16%	45

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

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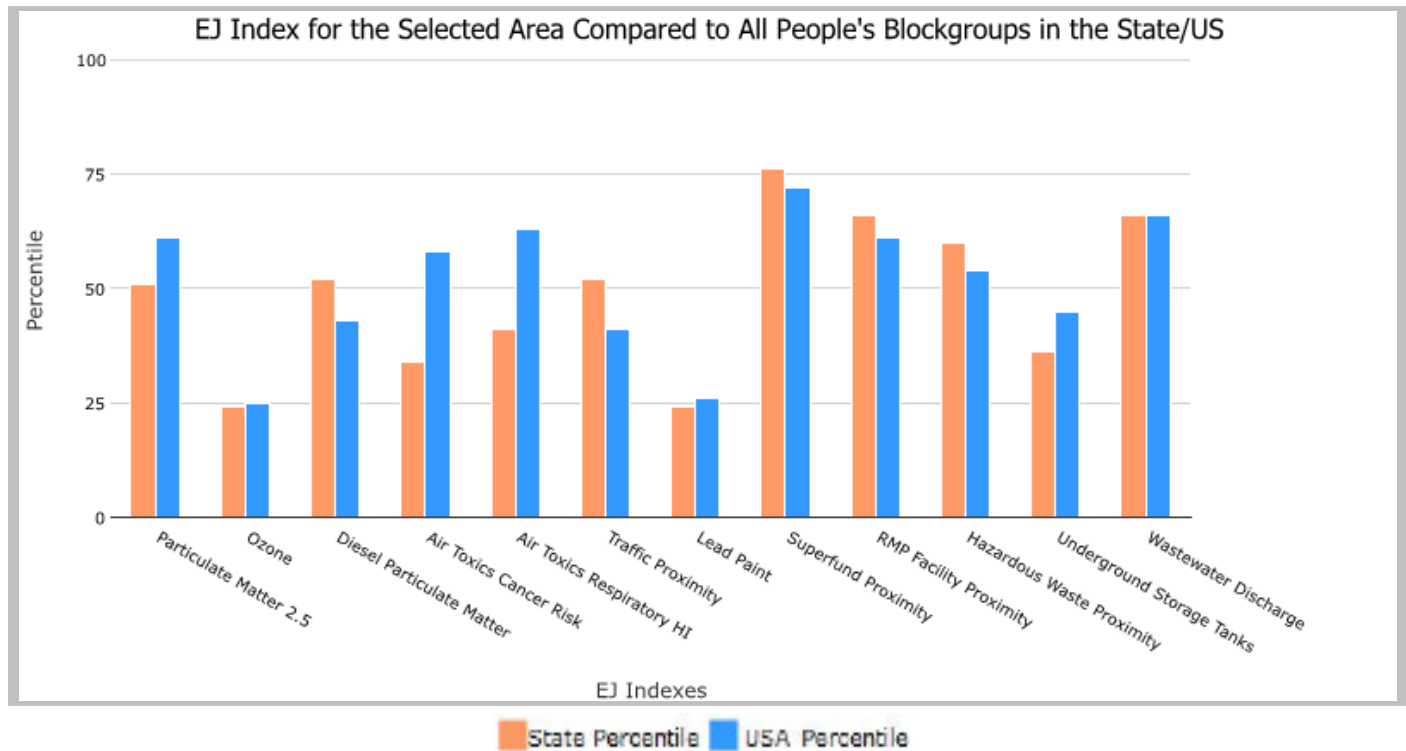
5 miles Ring Centered at 30.977678,-88.027970, ALABAMA, EPA Region 4

Approximate Population: 2,403

Input Area (sq. miles): 78.53

5-Mile

Selected Variables	State Percentile	USA Percentile
Environmental Justice Indexes		
EJ Index for Particulate Matter 2.5	51	61
EJ Index for Ozone	24	25
EJ Index for Diesel Particulate Matter*	52	43
EJ Index for Air Toxics Cancer Risk*	34	58
EJ Index for Air Toxics Respiratory HI*	41	63
EJ Index for Traffic Proximity	52	41
EJ Index for Lead Paint	24	26
EJ Index for Superfund Proximity	76	72
EJ Index for RMP Facility Proximity	66	61
EJ Index for Hazardous Waste Proximity	60	54
EJ Index for Underground Storage Tanks	36	45
EJ Index for Wastewater Discharge	66	66



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

EJScreen Report (Version 2.1)

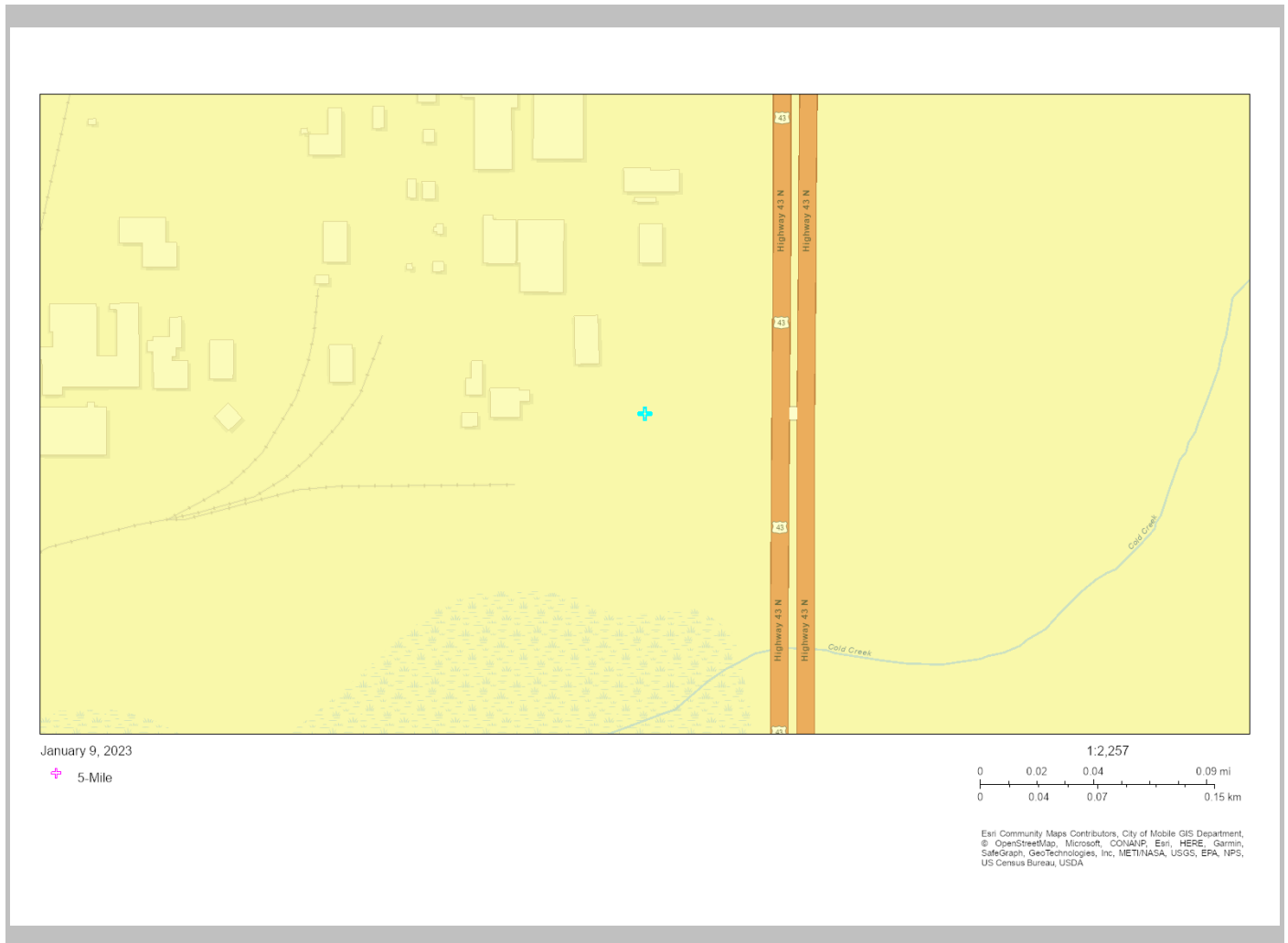


5 miles Ring Centered at 30.977678,-88.027970, ALABAMA, EPA Region 4

Approximate Population: 2,403

Input Area (sq. miles): 78.53

5-Mile



Sites reporting to EPA	
Superfund NPL	2
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	7

EJScreen Report (Version 2.1)



5 miles Ring Centered at 30.977678,-88.027970, ALABAMA, EPA Region 4

Approximate Population: 2,403

Input Area (sq. miles): 78.53

5-Mile

Selected Variables	Value	State Avg.	%ile in State	USA Avg.	%ile in USA
Pollution and Sources					
Particulate Matter 2.5 ($\mu\text{g}/\text{m}^3$)	8.91	8.92	49	8.67	59
Ozone (ppb)	36.8	39	21	42.5	16
Diesel Particulate Matter* ($\mu\text{g}/\text{m}^3$)	0.163	0.223	46	0.294	<50th
Air Toxics Cancer Risk* (lifetime risk per million)	30	35	53	28	80-90th
Air Toxics Respiratory HI*	0.43	0.47	53	0.36	80-90th
Traffic Proximity (daily traffic count/distance to road)	100	290	54	760	34
Lead Paint (% Pre-1960 Housing)	0.033	0.17	22	0.27	22
Superfund Proximity (site count/km distance)	0.19	0.051	97	0.13	85
RMP Facility Proximity (facility count/km distance)	0.68	0.46	79	0.77	66
Hazardous Waste Proximity (facility count/km distance)	0.82	0.9	64	2.2	52
Underground Storage Tanks (count/km ²)	0.24	1.9	34	3.9	33
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.049	0.36	87	12	80
Socioeconomic Indicators					
Demographic Index	29%	38%	44	35%	50
People of Color	28%	35%	50	40%	48
Low Income	30%	36%	39	30%	54
Unemployment Rate	6%	6%	64	5%	67
Limited English Speaking Households	0%	1%	0	5%	0
Less Than High School Education	17%	13%	67	12%	76
Under Age 5	5%	6%	50	6%	50
Over Age 64	16%	17%	48	16%	54

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

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