

STATEMENT OF BASIS

Elk Corporation of Alabama
Tuscaloosa, Alabama
Tuscaloosa County
413-0018

Elk Corporation of Alabama (Elk) has applied for renewal of Major Source Operating Permit (MSOP) No. 413-0018. 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 Alabama Department of Environmental Management, in accordance with the terms and conditions of this permit.

The initial Title MSOP was issued on October 13, 2006. This is the second renewal. The current MSOP was issued on August 29, 2016, with an effective date of October 13, 2016, and with an expiration date of October 12, 2021. The renewal application was received on April 12, 2021.

The facility is located in Tuscaloosa County, which is currently listed as an attainment/unclassifiable with all National Ambient Air Quality Standards (NAAQS).

There are no current or ongoing enforcement actions against Elk 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 AL0000000112500018).

Facility Description

Elk Corporation is an asphalt roofing manufacturing plant located in Tuscaloosa, Tuscaloosa County, Alabama. The following processes, including emissions points (EP), are significant sources of air pollutants at this facility.

Filler Production

- Blue Roller Mill #1 w/Baghouse (**EP 6-1**)
- Green Roller Mill #2 w/Baghouse (**EP 6-2**)
- Three Limestone Storage Silos w/common baghouse (**EP 6-3**)
- Truck Unloading (**Fug-1**), Belt Conveyors 1 & 2 Transfer Points (**Fug-2 & Fug-3**), and Rock Storage (**Fug-4**)

600-ton Filler Handling Silo

- 600-ton Filler Silo (**EP 7-1**)

Line 1 Backsurfacing Silo

- Line 1 Backsurfacing Silo (**EP 8-5**)

Shingle Manufacturing Line 2 with Line 2 Asphalt Storage

- Fume Processing High Velocity Air Filter (HVAF) (**EP 2-1**)
 - 6,000 Gallon Coating Surge Tank
 - Coating Asphalt Mixer
 - Line 2 Coater
 - Sealant Use Tank
 - Adhesive (Laminate) Adhesive Use/Mix Tank
 - Sealant Applicators (four)
 - Adhesive (Laminate) Applicator Pans (four)
 - 100,000 Gallon Asphalt Storage Tank # 1
 - 100,000 Gallon Asphalt Storage Tank #2
 - 15,000 Gallon Sealant Tank
 - 15,000 Gallon Sealant Tank
- Materials Handling Baghouse (**EP 2-2**)
 - Granule Storage and Handling (Butt Granules, Headlap, and Backsurfacing Sections)
 - Granule Application (Slating Section)
 - Line 2 Filler Heater System

Line 2 Filler Handling System

- 1,440 Ton Filler Silo Bin Vent (**EP 3-1**)
- 30 Ton Receiving Bin Vent (**EP 3-2**)

Line 2 Granule Storage and Handling Process

- Granule Transfer Points & 24 Granule Silos w/Baghouse (**EP 4-1**)
- Butt Granule Transfer and Unloading w/Baghouse (**EP 4-2**)
- Headlap/Backsurfacing Transfer and Unloading w/Baghouse (**EP 4-3**)

Line 2 Heat Transfer Fluid (HTF) System

- 3-Fulton NG Fired Spiral Tube Heaters with a rated capacity of 6MMBtu/hr each (**HTF**)

Based on the Title V Permit application Elk Corporation of Alabama is a major source for Particulate Matter (PM₁₀/PM_{2.5}) and Volatile Organic Compounds (VOC). The following is a summary of facility-wide controlled emissions and the reported 2020 actual emissions:

Pollutant	Potential Emissions (TPY)	2020 Actual Emissions (TPY)
PM _{total}	111.21	2.82
PM ₁₀	111.21	2.82
PM _{2.5}	--	0.10
PM _{con}	--	0.30

SO ₂	0.05	0.03
NO _x	7.68	5.26
CO	6.45	4.42
VOC	108.49	61.80
Total HAP	6.63	4.64
Formaldehyde	3.95	2.58
GHG (CO ₂ e)	9,276	-

Renewal Notes

- There have not been any Air Permits issued to the facility since the last Title V Renewal issued on August 29, 2016.
- The facility removed Shingle Manufacturing Line 1 in March of 2022. A revised renewal application was received on May 10, 2022. The facility requested to remove Line 1 Roofing Manufacturing and associated tanks and silos from the MSOP. The following list of equipment has been deconstructed and removed from service:
 - Shingle Manufacturing Line 1
 - Coater (**EP 5-1**)
 - Horizontal Coating Mixer (**EP 5-2**)-fugitive
 - Sealant Applicator (**EP 5-3**)-fugitive
 - Laminator (**EP 5-4**)-fugitive
 - Line Filler Handling Handling System
 - 30 Ton Filler Day Bin (**EP 7-2**)
 - Rotary Kiln w/ Baghouse (**EP 7-3**)
 - Line 1 Granule Handling and Storage
 - Truck Unloading Station w/Baghouse (**EP 8-1**)
 - Truck Unloading Bucket Elevator/Transfer Conveyor w/Baghouse (**EP 8-2**)
 - Railcar Unloading Bucket Elevator/Transfer Conveyor w/Baghouse (**EP 8-3**)
 - Headlap Silo Bin Vent (**EP 8-4**)
 - Back Surfacing Receiving Bin Vent (**EP 8-6**)
 - 22,600 Gallon Coating Asphalt Still #4 (**Tank 4**)
 - 13,600 Gallon Sealant Still#6 (**Tank 6**)
 - 25,000 Asphalt Flux Tank Still #8 (**Tank 8**)
 - 1,200 Gallon Laminate Blend Tank (**EP 9-1**)
 - 1,200 Gallon Filled Asphalt Surge Tank (**EP 9-1**)
- The facility has requested to change the historically used emission factor of 0.243 lbs THC per ton of asphalt from the 2002 draft version of the “*Proposed Emission Factors for Criteria Pollutants and Hazardous Air Pollutants from Asphalt Roofing Manufacturing*”

to 0.40 lbs THC per ton of asphalt throughput from the final version of the same document dated May 12, 2003.

- Elk has added emissions of the cooling section of the No. 2 Shingle Manufacturing Line using the “Industry-Specific Emissions Factors for the Asphalt Roofing Manufacturing Industry” prepared by Trinity Consultants in January 2020. (see discussion of No. 2 Shingle Manufacturing in this document).
- A request for permit shield by the facility was received by the Department on July 25, 2022.

Filler Production

Finely ground limestone is added to the asphalt mix as filler, sometimes called a “stabilizer”. The filler can be used to keep shingles cooler, prevent cracking, and extend flexibility, durability and lifespan. The Filler Production System includes two roller mills (each with a baghouse) [EP 6-1 & EP 6-2] and three storage silos (with one common baghouse) [EP 6-3]. Washed limestone rock is unloaded from trucks into a hopper and transferred via two belt conveyors to a rock storage tank. From the rock storage tank, a sealed, vibratory-feed line transfers rock to two 10 TPH roller mills where it is ground to produce filler for roofing asphalt. Each mill has a heated air blower, a collection cyclone, and a baghouse. Filler is transferred pneumatically into three limestone storage silos, which are vented to a common baghouse. There is no truck loading from the storage silos. From the storage silos, filler is transferred pneumatically to the 600-ton Filler Silo (with baghouse (EP 7-1) in the Line 1 Filler Handling Process. The filler is then mixed with coating asphalt in the Line 2 Shingle Manufacturing process. The Line 1 Filler Handling and Line 2 Shingle Manufacturing processes are discussed later in this document.

To determine compliance with the requirements of 40 CFR Part 60, Subpart UU, initial performance testing of all emissions point baghouses was conducted. Roller Mill 1 was tested on February 7 and 8, 2002, and Roller Mill 2 and the Filler Silo baghouses were tested on October 29 and 30, 2002.

Applicability

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-16-.03, “*Major Source Operating Permits*”.

Rule 335-3-16-.03

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.01(1), “*Visible Emissions*”.

Rule 335-3-4-.01(1)

- The Truck Unloading (**Fug-1**), Belt Conveyor 1 & 2 Transfer Points (**Fug-1 & Fug-2**), and the Rock Storage Tank (**Fug-3**) are subject to the applicable requirements of ADEM Admin. Code r. 335-3-4.02, “*Fugitive Dust and Fugitive Emissions*”. This requirement is addressed in General Proviso No. 18 of the MSOP.

Rule 335-3-4.02

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.04(1), “*Control of Particulate Emissions for Process Industries – General*”.

Rule 335-3-4-.04(1)

- These sources have enforceable limits in place in order to prevent them from being subject to the provisions of ADEM Admin. Code r. 335-3-14-.04, “*Air Permits Authorizing Construction in Clean Air Areas [Prevention of Significant Deterioration Permitting (PSD)]*”. (The original Air Permit No. 413-0018-X007 was issued on June 4, 2002 for Roller Mill #1, Roller Mill #2, and the three(3) Filler (Limestone) Silos).

Rule 335-3-14-.04 [Anti-PSD]

- These sources are subject to the applicable requirements of 40 CFR Part 60, Subpart UU, “*Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture*”, for each mineral handling and storage facility (including unloading areas, conveyor transfer points and storage silos) at asphalt roofing plants that commenced construction or modification after November 18, 1980. The filler production units were constructed after November 18, 1980; therefore, the units are subject to Subpart UU.

40 CFR Part 60, Subpart UU, §60.470(a)

- 40 CFR Part 60, Subpart OOO, “*Standards of Performance of Nonmetallic Mineral Processing Plants*” applies to fixed sand and gravel plants and crushed stone plants with capacities of 23 megagrams per hour (25 ton per hour) or more. The roller mills have a maximum production rate of 20 tons per hour, collectively; therefore, Subpart OOO **does not** apply.

40 CFR Part 60, Subpart OOO, §60.6701(c)(1)

- 40 CFR Part 63, Subpart AAAAAAA, “*National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing*” applies to each blowstill or asphalt coating equipment located at an asphalt processing operation and/or asphalt roofing manufacturing operation that is an area source of hazardous air pollutant (HAP) emissions. The filler production units are not considered asphalt coating equipment; therefore, Subpart AAAAAAA **does not** apply to these units.

40 CFR 63, Subpart AAAAAAA, §63.11559

- 40 CFR Part 64, Compliance Assurance Monitoring (CAM) **does not** apply to the Filler Production System because the potential pre-controlled emissions are not greater than the major source thresholds for Polycyclic Aromatic Hydrocarbons (PAH) or Particulate Matter (PM) per §64.2(a)(3).

40 CFR 64, §64.2(a)

Emission Standards

Opacity:

- Roller Mill # 1(**EP 6-1**) and Roller Mill # 2 (**EP 6-2**) shall not discharge into the atmosphere more than one 6-minute average of particulate of an opacity greater than twenty percent (20%) in any 60-minute period as determined by EPA Reference Method 9 or 40 CFR 60, Appendix A-4. At no time shall these sources discharge a 6-minute average of particulate of an opacity greater than forty percent (40%).

Rule 335-3-4-.01(1)(a) and (b)

- The three (3) Filler Production Limestone Storage Silos with Baghouse (**EP 6-3**), and fugitive sources including Truck Unloading (**Fug-1**), Belt Conveyor 1 & 2 Transfer Points (**Fug-1 & Fug-2**), and the Rock Storage Tank (**Fug-3**) shall not discharge particulate emissions with opacity greater than 1%.

40 CFR Part 60, Subpart UU, §60.472(d)

Particulate Matter (PM):

- Particulate matter emissions from Roller Mill #1 with Baghouse (**EP 6-1**) shall not exceed the lesser of 0.44 lb/hr and the allowable set by Rule 335-3-4-.04. Air Permit No. 413-0018-X007 for Roller Mill #1 was issued on June 4, 2002.

Rule 335-3-4-.04(1), Rule 335-3-14-.04 (Anti-PSD)

- Particulate matter emissions from the Roller Mill # 2 with Baghouse (**EP 6-2**) shall not exceed the lesser of 0.44 lb/hr and the allowable set by Rule 335-3-4-.04. Air Permit No. 413-0018-X007 for Roller Mill # 2 was issued on June 4, 2002.

Rule 335-3-4-.04(1), Rule 335-3-14-.04 (Anti-PSD)

- Particulate matter emissions from the three (3) Filler (Limestone) Storage Silos with Baghouse (**EP 6-3**) shall not exceed the lesser of 0.22 lb/hr and the allowable set by Rule 335-3-4-.04. Air Permit No. 413-0018-X007 for the Filler (Limestone) Storage Silos was issued on June 4, 2002.

Rule 335-3-4-.04(1) & Rule 335-3-14-.04 (Anti-PSD)

- Particulate matter emissions from the fugitive emissions sources may vary depending on process conditions. The facility must follow the requirements listed in General Proviso 18 of the MSOP concerning the emissions of fugitive dust.

Rule 335-3-4-.02

Expected Emissions:

- The expected emissions for the Roller Mills and Storage Silos are based on actual emissions data from initial compliance tests conducted on February 7-8, 2002 and October 29-30, 2002 and 8760 hours of operation per year. The fugitive emissions are based on AP 42 Emissions factors for truck unloading of fragmented stone. The expected emissions are shown below:

Pollutant	Roller Mill 1 (EP 6-1)		Roller Mill 2 (EP 6-2)		Three (3) Storage Silos (EP 6-3)		Filler Production Fugitive Sources (Fug 1,2,3, & 4)	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
PM ₁₀ /PM _{2.5}	0.0073	0.032	0.19	0.83	0.019	0.08	0.0029	0.013

Compliance and Performance Test Methods and Procedures

- If testing is required, Method 5 of 40 CFR 60, Appendix A-3, shall be used in the determination of particulate matter emissions.

Rule 335-3-1-.05

- If testing is required, Method 9 of 40 CFR 60, Appendix A-4, shall be used in the determination of opacity.

Rule 335-3-1-.05

Compliance Assurance Monitoring (CAM)

- Roller Mill 1 with Baghouse (**EP 6-1**), Roller Mill 2 with Baghouse (**EP 6-2**), and Three (3) Filler (Limestone) Storage Silos with Baghouse (**EP 6-3**) - These units do not have pre-controlled potential emissions greater than any major source threshold; therefore, CAM **does not** apply.

40 CFR 64, §60.2(a)

- Truck Unloading, Belt Conveyor 1 & 2 Transfer Points, and Rock Storage Tank (**FUG**) - These sources are uncontrolled; therefore, CAM **does not** apply.

40 CFR 64, §60.2(a)

Periodic Monitoring

- Instantaneous visible emissions checks of the three (3) Filler Production Limestone Storage Silos with Baghouse (**EP 6-3**), and fugitive sources including Truck Unloading (**Fug-1**), Belt Conveyor 1 & 2 Transfer Points (**Fug-1 & Fug-2**), and the Rock Storage Tank (**Fug-3**) shall be conducted weekly while in operation:
 - If instantaneous visible emissions in excess of 1% are noted from these sources, a visible emissions observation shall be conducted by a person familiar with Method 9.
 - If the average opacity observed during the Method 9 observation exceeds 10%, corrective action shall be initiated within 2 hours to reduce the visible emissions.
 - After corrective action has been performed, another visual check shall be performed.

Rule 335-3-16-.05(c)(1); 40 CFR Part 60, Subpart UU, §60.472(d)

- Instantaneous visible emissions checks of the Roller Mill baghouse stacks (**EP 6-1** and **EP 6-2**) shall be conducted weekly while in operation:
 - If instantaneous visible emissions are greater than 10% at any time from any baghouse, a Method 9 visible emissions observation shall be conducted for a minimum of 12 minutes within 30 minutes of the initial observation.
 - If the average opacity observed during the Method 9 observation exceeds 1%, corrective action shall be initiated within 2 hours to reduce the visible emissions.
 - After corrective action has been performed, another visual check shall be performed.

Rule 335-3-16-.05(c)(1)

- A properly maintained and operated device shall be utilized to measure the pressure differential between the inlet and exhaust of each baghouse to determine if the pressure differential is within the manufacturer's recommended operating range. The pressure differential shall be checked on at least a weekly basis. Whenever the pressure differential is outside the manufacturer's recommended range, maintenance inspections and/or corrective action to bring the pressure differential within the manufacturer's recommended range are to be initiated within two hours.

Rule 335-3-16-.05(c)(1)

Recordkeeping and Reporting

- The Permittee shall maintain a record of all inspections, to include visible observations performed to satisfy the requirements of the Emission Monitoring section of this Permit. This shall include problems observed and corrective actions taken. The records shall be retained for at least five (5) years from the date of generation and shall be available upon request.

Rule 335-3-16-.05(c)(2)

- The Permittee shall maintain a record of all differential pressure readings performed. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

Rule 335-3-16-.05(c)(2)

- The Permittee shall submit a written report of exceedance of the stack opacity to the Department semi-annually.

Rule 335-3-16-.05(c)(3)

600-ton Filler Silo with Baghouse

Limestone filler is transferred pneumatically from the three storage silos of the Filler Production Process or from trucks to the 600-ton Filler Silo with Baghouse (**EP 7-1**). Filler from the silo is pneumatically conveyed as needed to the 1440-ton silo (EP-3-1) for use in shingle production. The filler Daybin with Baghouse (**EP 7-2**) and the Rotary Kiln with Baghouse (**EP 7-3**) were removed from service in March 2022. Therefore, the only source remaining in the former Line 1 Filler Handling System is the 600-ton Filler Silo.

Performance testing was conducted for the 600-ton Filler Silo on October 30, 2002.

Applicability

- This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-16-.03, “*Major Source Operating Permits*”.

Rule 335-3-16-.03

- This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.01(1), “*Control of Particulate Emissions – Visible Emissions*”.

Rule 335-3-4-.01(1)

- This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.04(1), “*Control of Particulate Emissions for Process Industries – General*”.

Rule 335-3-4-.04(1)

- This source has enforceable limits in place in order to prevent them from being subject to the provisions of ADEM Admin. Code r. 335-3-14-.04, “*Air Permits Authorizing Construction in Clean Air Areas [Prevention of Significant Deterioration Permitting (PSD)]*”. (The original Air Permit No. 413-0018-X002 including the 600-ton Filler Silo was issued on June 4, 2002).

Rule 335-3-14-.04 [Anti-PSD]

- This source **is not** subject to the applicable requirements of 40 CFR Part 60, Subpart UU, “*Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture*”, which applies to and each mineral handling and storage facility (including unloading areas, conveyor transfer points and storage silos) at asphalt roofing plants that commenced construction or modification after November 18, 1980. The filler handling system was constructed before November 18, 1980, in 1978; therefore, the Filler Silo (EP 7-1) is **not** subject to Subpart UU.

40 CFR Part 60, Subpart UU, §60.470(a)

- This unit is **not** subject to 40 CFR Part 60, Subpart OOO, “*Standards of Performance of Nonmetallic Mineral Processing Plants*”, which applies to fixed sand and gravel plants and crushed stone plants with capacities of 23 megagrams per hour (25 ton per hour) or more. The Filler Silo has a maximum production rate of 20 tons per hour; therefore, Subpart OOO **does not** apply.

40 CFR Part 60, Subpart OOO, §60.6701(c)(1)

- This unit is not subject to 40 CFR Part 63, Subpart AAAAAAA, “*National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing*”, which applies to each blowstill or asphalt coating equipment located at an asphalt processing operation and/or asphalt roofing manufacturing operation that is an area source of hazardous air pollutant (HAP) emissions. The Filler Silo is not considered asphalt coating equipment for roofing manufacturing; therefore, Subpart AAAAAAA **does not** apply to this unit.

40 CFR 63, Subpart AAAAAAA, §63.11559

Emission Standards:

Opacity:

- The 600-ton Filler Silo shall not discharge into the atmosphere more than one 6-minute average of particulate of an opacity greater than twenty percent (20%) in any 60-minute period as determined by EPA Reference Method 9 or 40 CFR 60, Appendix A. At no time shall this source discharge a 6-minute average of particulate of an opacity greater than forty percent (40%).

Rule 335-3-4-.01(1)(a) and (b)

Particulate Matter (PM):

- Particulate matter emissions from the 600-ton Filler Silo with Baghouse (**EP 7-1**) shall not exceed the lesser of 0.36 lbs/hr or the allowable set by Rule 335-3-4-.04.

Rule 335-3-4-.04, Rule 335-3-14-.04 (Anti-PSD)

Compliance and Performance Test Methods and Procedures

- Method 9 of 40 CFR 60, Appendix A-4, shall be used in the determination of opacity.

Rule 335-3-1-.05

- Method 5 of 40 CFR 60, Appendix A, shall be used in the determination of particulate emissions.

Rule 335-3-1-.05

Expected Emissions

- The expected emissions are based on AP-42 emission factors and 8,400 expected hours of operation. The expected emissions are shown below:

Pollutant	600-ton Filler Silo (EP 7-1)	
	lb/hr	TPY
PM ₁₀ /PM _{2.5}	0.25	1.05

Compliance Assurance Monitoring (CAM)

- **600-ton Filler Silo with Baghouse (EP 7-1)** - This unit does not have pre-controlled potential emissions greater than any major source threshold; therefore, CAM **does not** apply.

Periodic Monitoring

- The Permittee shall perform a visual check, at least once per week, of the Filler Silo stack. This check shall be performed by a person familiar with Method 9. If visible emissions in excess of 10% opacity are noted, maintenance inspections and/or corrective action to reduce the visible emission are to be initiated within two (2) hours. After the corrective action has been performed, the permittee shall conduct another visual check to ensure that the visible emissions have been reduced. Any repairs of observed problems shall be recorded.

Rule 335-3-16-.05(c)(1)

- A properly maintained and operated device shall be utilized to measure the pressure differential between the inlet and exhaust of the 600-ton Filler Silo with Baghouse to determine if the pressure differential is within the manufacturer's recommended operating range. The pressure differential across the 600-ton Filler Silo with Baghouse (EP 7-1) shall be checked on at least a weekly basis. Whenever the pressure differential is outside the manufacturer's recommended range, maintenance inspections and/or corrective action to

bring the pressure differential within the manufacturer's recommended range are to be initiated within two hours.

Rule 335-3-16-.05(c)(1)

Recordkeeping and Reporting

- The Permittee shall maintain a record of all inspections, to include visible observations performed to satisfy the requirements of the Emission Monitoring section of this Permit. This shall include problems observed and corrective actions taken. The records shall be retained for at least five (5) years from the date of generation and shall be available upon request.

Rule 335-3-16-.05(c)(2)

- The Permittee shall submit a written report of exceedance of the stack opacity to the Department semi-annually.

Rule 335-3-16-.05(c)(3)

- The Permittee shall maintain a record of all differential pressure readings performed. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

Rule 335-3-16-.05(c)(2)

Line 1 Backsurfacing Silo

The Back Surfacing Silo (**EP 8-5**) is the only unit remaining in the Line 1 Granule Handling and Storage process. All other Line 1 Granule Handling and Storage process equipment was removed in March of 2022. This unit is currently disconnected from the process lines and is not operational. However, the facility has chosen to keep this silo as a permitted unit for future expansion opportunities. To determine compliance with the requirements of 40 CFR Part 60, Subpart UU, initial testing was conducted on the Backsurfacing baghouse on September 14, 2004.

Applicability

- This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-16-.03, "*Major Source Operating Permits*".

Rule 335-3-16-.03

- This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.01(1), "*Control of Particulate Emissions – Visible Emissions*".

Rule 335-3-4-.01(1)

- This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.04(1), “*Control of Particulate Emissions for Process Industries – General*”.

Rule 335-3-4-.04(1)

- This source is subject to the applicable requirements of 40 CFR Part 60, Subpart UU, “*Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture*”, which applies to and each mineral handling and storage facility (including unloading areas, conveyor transfer points and storage silos) at asphalt roofing plants that commenced construction or modification after November 18, 1980. The Line 1 Granule Handling and Storage equipment was constructed after November 18, 1980; therefore, the Back Surfacing Silo is subject to Subpart UU.

40 CFR Part 60, Subpart UU, §60.470(a)

- This source is not subject to 40 CFR Part 60, Subpart OOO, “*Standards of Performance of Nonmetallic Mineral Processing Plants*”. This regulation applies to fixed sand and gravel plants and crushed stone plants with capacities of 23 megagrams per hour (25 ton per hour) or more. The Line 1 Granule Handling and Storage processes granular minerals; therefore, Subpart OOO **is not** applicable to this process.

40 CFR Part 60, Subpart OOO, §60.6701(c)(1)

- This unit is not subject to 40 CFR Part 63, Subpart AAAAAAA, “*National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing*”, which applies to each blowstill or asphalt coating equipment located at an asphalt processing operation and/or asphalt roofing manufacturing operation that is an area source of hazardous air pollutant (HAP) emissions. The Line 1 Back Surfacing Silo is not considered asphalt coating equipment for asphalt roofing manufacturing; therefore, Subpart AAAAAAA **does not** apply to these units.

40 CFR 63, Subpart AAAAAAA, §63.11559

- This source is subject to CAM for particulate matter (PM) because the unit has pre-controlled potential emissions greater than the major source threshold, are subject to an emission limit for PM, and use control devices to achieve compliance with the applicable emission limit.

40 CFR 64, §64.2(a)

Emission Standards

Opacity

- This source shall not discharge particulate emissions with opacity greater than 1%.

40 CFR Part 60, Subpart UU, §60.472(d)

Particulate Matter (PM)

- Particulate matter emissions from this unit shall not exceed the allowable set by Rule 335-3-4-.04.

$$E = 17.31P^{0.16} \left(P \geq 30 \frac{\text{tons}}{\text{hr}} \right)$$

Where:

E = Emissions in lb/hr

P = Process weight in tons/hour

Rule 335-3-4-.04(1)

Based on the maximum loading of the baghouse, the maximum allowable PM emissions for the EP 8-5 emission source of the granule handling and storage process are shown in the table below:

Emission Source	Process Weight (tons/hr)	Allowable PM Emissions (Process Weight Rule)	
		lb/hr	TPY
Line 1 Backsurfacing Silo (EP 8-5)	47	32.05	140.4

Compliance and Performance Test Methods and Procedures

- Should testing be required, Method 5 of 40 CFR 60, Appendix A-3, shall be used in the determination of particulate emissions.

Rule 335-3-1-.05

- Should testing be required, Method 9 of 40 CFR 60, Appendix A-4, shall be used in the determination of opacity.

Rule 335-3-1-.05

Expected Emissions

- The expected emissions are based on AP-42 emission factors, control device efficiency, and 8,400 expected hours of operation. The expected emissions are shown below:

Emission Source	PM ₁₀ /PM _{2.5}	
	lb/hr	TPY
Line 1 Backsurfacing Silo (EP 8-5)	0.0003	0.00105

Compliance Assurance Monitoring (CAM)

The Line 1 Backsurfacing Silo is subject to the Compliance Assurance Monitoring (CAM) for particulate matter (PM) because the unit has pre-controlled potential emissions greater than the major source threshold, is subject to an emission limit for PM, and uses a control device to achieve compliance with the applicable emission limit.

40 CFR Part 64, §60.2(a)

Compliance Plan for EP 8-5 (Line 1 Backsurfacing Silo Bin Vent)

	Indicator 1
I. Indicator	Pressure Differential
Measurement Approach	Pressure Gauge
II. Indicator Range	While the unit is operating, an excursion is defined as a pressure differential less than 0.15 inches of H ₂ O or greater than 8 inches of H ₂ O. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria	The pressure differential is being measured between the inlet and outlet of the baghouse.
A. Data Representativeness	
B. Verification of Operation Status	Not Applicable
C. QA/QC Practices and Criteria	The pressure gauge will be calibrated and maintained per the manufacturer's recommendation.
D. Monitoring Frequency	Once daily during operation
E. Data Collection Procedures	The pressure differential will be recorded with date and time.
F. Averaging Period	Instantaneous

Periodic Monitoring

- The Permittee shall perform a visual check, at least once per week, of the stack associated with this silo. This check shall be performed by a person familiar with Method 9. If any visible emissions are noted, maintenance inspections and/or corrective action to reduce the visible emission are to be initiated within two (2) hours. Any repairs of observed problems shall be recorded.

Rule 335-3-16-.05(c)(1)

- After the corrective action has been performed, the permittee shall conduct another visual check to ensure that the visible emissions have been reduced.

Rule 335-3-16-.05(c)(1)

- A properly maintained and operated device shall be utilized to measure the pressure differential between the inlet and exhaust of the Backsurfacing Silo baghouse to determine if the pressure differential is within the manufacturer's recommended operating range. The pressure differential shall be checked on at least a weekly basis. Whenever the pressure differential is outside the manufacturer's recommended range, maintenance inspections and/or corrective action to bring the pressure differential within the manufacturer's recommended range are to be initiated within two hours.

Rule 335-3-16-.05(c)(1)

Recordkeeping and Reporting

- The Permittee shall maintain a record of all inspections, to include visible observations performed to satisfy the requirements of the Emission Monitoring section of this Permit. This shall include problems observed and corrective actions taken. The records shall be retained for at least five (5) years from the date of generation and shall be available upon request.

Rule 335-3-16-.05(c)(2)

- The Permittee shall maintain a record of all differential pressure readings performed. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

Rule 335-3-16-.05(c)(2)

- The Permittee shall submit a written report of exceedance of the stack opacity to the Department semi-annually.

Rule 335-3-16-.05(c)(3)

Shingle Manufacturing Line 2 with Granule Application System and Asphalt Storage

Shingle Manufacturing Line 2 produces various weights of fiberglass asphalt shingles. This process includes an asphalt coater, a horizontal coating asphalt mixer, a 6,000 gallon filled coating surge tank, sealant applicators, a sealant use tank, adhesive applicators, adhesive (lamine) use/mix tank, and a granule application system with filler heater. Two (2) 100,000 gallon asphalt storage tanks, one (1) 15,000 gallon sealant storage tank, one (1) 15,000 gallon adhesive storage tank supply asphalt to this process.

The coater applies asphalt that has been mixed with filler to fiberglass mat. Granules are transferred from the granule storage area to the granule application section and are applied to the top and bottom of the fiberglass mat. Application of granules is followed by an uncontrolled cooling section, pattern-cutting of the shingles and the application of sealant and adhesive (lamine) to the shingles. The emissions from the coater, mixer, sealant and adhesive applicators, and the asphalt storage tanks are controlled by a single high velocity air filter (HVAF) (**EP 2-1**). The emissions from the granule application system are controlled by a baghouse (**EP 2-2**) common to the filler heater of the Filler Handling process. The cooling section is equipped with a series of fans that exhaust to multiple roof-mounted stacks. These emissions are considered fugitive.

Initial performance testing to determine compliance with requirements of 40 CFR Part 60, Subpart UU was conducted for the Shingle Manufacturing Line 2 coater HVAF on September 8, 2004, for the four (4) Asphalt Storage Tanks vented to the HVAF on September 9, 2004, and for the Granule Application System on October 1, 2004. Additional testing was conducted on the Shingle Manufacturing Line 2 coater on December 15, 2020 to determine initial compliance with the requirements of 40 CFR Part 63, Subpart AAAAAAA.

Applicability

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-16-.03, “*Major Source Operating Permits*”.

Rule 335-3-16-.03

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.01(1), “*Control of Particulate Emissions – Visible Emissions*”.

Rule 335-3-4-.01(1)

- The cooling section fugitive sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.02 as listed in General Proviso 18 of the MSOP.

Rule 335-3-4-.02

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.04(1), “*Control of Particulate Emissions for Process Industries – General*”.

Rule 335-3-4-.04(1)

- The Line 2 Asphalt Tanks **are not** subject to the applicable requirements of ADEM Admin. Code r. 335-3-6.03, “*Loading and Storage of VOC*”. These tanks store asphalt with a vapor pressure of 0.0685 psia, which is less than the applicable requirement of vapor pressure greater than or equal to 1.5 psia under storage conditions. Based on the vapor pressure of asphalt, these tanks **are not** subject to this rule.

Rule 335-3-6-.03(1)

- The granular application system (**EP-2**) has an enforceable limit in place in order to prevent it from being subject to the provisions of ADEM Admin. Code r. 335-3-14-.04, “*Air Permits Authorizing Construction in Clean Air Areas [Prevention of Significant Deterioration Permitting (PSD)]*”. (The original Air Permit No. 413-0018-X012 was issued on March 4, 2002 for this source).

Rule 335-3-14-.04 [Anti-PSD]

- The Line 2 Asphalt Tanks **are not** subject to the applicable requirements of 40 CFR 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*”. Tanks with a capacity greater than or equal to 151 m³ (39,889 gal) and storing a liquid with a maximum true vapor pressure less than 3.5 kPa (0.51 psia) are exempt from the provisions of this subpart. Based on the tank capacities and the vapor pressure of asphalt, these tanks **are not** subject to this subpart.

40 CFR Part 60, Subpart Kb, §60.110b(b)

- These sources are subject to the applicable requirements of 40 CFR Part 60, Subpart UU, “*Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture*”, which applies to and each saturator (including coater) and mineral handling and storage facility (including unloading areas, conveyor transfer points and storage silos) at asphalt roofing plants; and each asphalt storage tank at asphalt roofing plants, that commenced construction or modification after November 18, 1980. The Shingle Manufacturing Line 2 was constructed after November 18, 1980; therefore, the coater and asphalt storage tanks are subject to Subpart UU. However, the granule application system is not subject to this regulation.

40 CFR Part 60, Subpart UU, §60.470(a)

- These units are subject to 40 CFR Part 63, Subpart AAAAAAA, “*National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing*”, which applies to the collection of all asphalt coating equipment at an asphalt roofing manufacturing operation that is an area source of hazardous air pollutant (HAP) emissions. Since Elk is an area source of HAP emissions; the asphalt

coating equipment (coater and coating mixer) is subject to Subpart AAAAAAA. The asphalt storage tanks are not subject to this subpart.

40 CFR 63, Subpart AAAAAAA, §63.11559

- The Line 2 Manufacturing (**EP-1**) sources (coater, mixer, surge tank, sealant applicator, sealant use tank, adhesive applicator, adhesive mix tank, and asphalt storage tanks) **are not** subject to the applicable requirements of 40 CFR Part 64, “*Compliance Assurance Monitoring (CAM)*” because they do not have pre-controlled potential emissions greater than any major source threshold.

40 CFR 64, §64.2(a)

- The Line 2 Granule Handling System (**EP-2**) sources are subject to CAM for particulate matter (PM) because the units have pre-controlled potential emissions greater than the major source threshold, are subject to an emission limit for PM, and use control devices to achieve compliance with the applicable emission limit.

40 CFR 64, §64.2(a)

Emission Standards

Opacity:

- No equipment shall discharge into the atmosphere more than one 6-minute average of particulate of an opacity greater than twenty percent (20%) in any 60-minute period as determined by EPA Reference Method 9 or 40 CFR 60, Appendix A. At no time shall any source discharge a 6-minute average of particulate of an opacity greater than forty percent (40%).

Rule 335-3-4-.01(1)(a) and (b)

- No saturator (including saturator, wet looper and coater) shall discharge exhaust gases with opacity greater than 20% and any visible emissions from a capture system for more than 20 percent of any period of consecutive valid observations totaling 60 minutes. Since all sources of the Line 2 Shingle Manufacturing process are vented to a common control device, this limit is imposed on all sources collectively.

40 CFR 60, Subpart UU, §60.472(a)(2) and (a)(3)

- The asphalt storage tanks shall not discharge exhaust gases with opacity greater than 0%, except for one consecutive 15-minute period in any 24-hour period when the transfer lines are being blown for clearing. The control device shall not be bypassed during this 15-minute period. If the emissions from an asphalt storage tank are ducted to a control device for a saturator (including the coater), the combined emissions shall meet the 20% opacity

requirement for the saturator when the control device is operating. At any other time the asphalt storage tank must meet the 0% opacity requirement.

40 CFR 60, Subpart UU, §60.472(c)

Particulate Matter (PM):

- Particulate matter emissions from these units shall not exceed the allowable set by Rule 335-3-4-.04.

$$E = 3.59P^{0.62} \left(P < 30 \frac{\text{tons}}{\text{hr}} \right)$$

or

$$E = 17.31P^{0.16} \left(P \geq 30 \frac{\text{tons}}{\text{hr}} \right)$$

Where:

E = Emissions in lb/hr

P = Process weight in tons/hour

Based on the maximum coating asphalt throughput of 19.2 tons per hour, the maximum allowable PM emissions rate for the coater would be 22.43 pounds per hour. However, this source is subject to a more stringent PM limit per the requirements of 40 CFR 63, Subpart AAAAAAA. Therefore, compliance with that limit will demonstrate compliance with this rule.

Rule 335-3-4-.04(1)

- PM emissions from any saturator (including the saturator, wet looper, and coater) shall not exceed 0.08 lb per ton of asphalt shingles produced. However, the coater is subject to a more stringent PM limit per the requirements of 40 CFR 63, Subpart AAAAAAA. Therefore, compliance with that limit will demonstrate compliance with this rule.

40 CFR 60, Subpart UU, §60.472(a)(1)(i)

- The PM emissions from the Granule Application System and Filler Heater (**EP 2-2**) with common baghouse are limited to 9.24 lb/hr. (The original Air Permit No. 413-0018-X012 for this source was issued on March 4, 2002)

Rule 335-3-14-.04 (Anti-PSD)

- PM emissions from the Coater (**EP 2-1**) shall not exceed 0.0002 lb PAH/ton of asphalt roofing product manufactured or 0.06 lb PM/ton of asphalt roofing product manufactured for the coater-only production lines. The facility has chosen to comply with the emissions limit of 0.06 lb/ton of PM. Because all coating sources of the Line 2 Shingle Manufacturing process are vented to a common control device (HVAF), thi limit is imposed on the sources collectively.

40 CFR Part 63, Subpart AAAAAAA, §63.11561(b), Table 2

Expected Emissions

- The expected emissions are based on manufacturer’s information, Asphalt Roofing Manufacturers Association (ARMA) and EPA emission factors, and 8,400 expected hours of operation. The expected emissions are shown in the table below:

Pollutant	Line 2 Shingle Manufacturing HVAF (EP 2-1)		Granule Application System Baghouse (EP 2-2)		Line 2 Cooling Section – (Fugitive)	
	lb/ton	TPY	lb/hr	TPY	lb/hr	TPY
PM ₁₀ /PM _{2.5}	0.392	1.646	4.62*	19.4	2.32	9.75
VOC	25.2	106.0	---	---	0.004	2.07
Formaldehyde	0.93	3.94	---	---		
HAPs	1.54	6.48	---	---		

*Manufacturer’s guarantee (Techniflo, Inc.)

Compliance and Performance Test Methods and Procedures

- If testing is required to demonstrate compliance with emission standards for the asphalt coater (EP 2-1), Method 5A of 40 CFR 60, Appendix A-3, shall be used in the determination of particulate emissions.

Rule 335-3-1-.05; 40 CFR 63, Subpart AAAAAAA, Table 3

- Method 5 of 40 CFR 60, Appendix A-3, shall be used in the determination of particulate emissions.

Rule 335-3-1-.05

- If testing is required to demonstrate compliance with emission standards for the Granule Application System baghouse (EP 2-2) or the Asphalt Coater HVAF (EP 2-1), Method 9 of 40 CFR Part 60, Appendix A-4 shall be used in the determination of opacity.

Rule 335-3-1-.05; 40 CFR §60.474(c)(5)

- If testing is required to demonstrate compliance with emission standards for the Asphalt Coater HVAF, Method 22 of 40 CFR 60, Appendix A-7, shall be used in the presence of visible emissions. Readings must be recorded every 15 seconds for a period of consecutive observations during representative conditions totaling 60 minutes (40 CFR §60.8(c)). A performance test shall consist of one run.

Rule 335-3-1-.05; 40 CFR §60.474(d)

Compliance Assurance Monitoring (CAM)

- **Line 2 Shingle Manufacturing Line (EP 2-1)**

These units do not have pre-controlled potential emissions greater than any major source threshold; therefore, CAM **does not** apply.

40 CFR 64.2(a)

- **Granule Application System (EP 2-2)**

This unit is subject to CAM for particulate matter (PM) because the units have pre-controlled potential emissions greater than the major source threshold, are subject to an emission limit for PM, and use a control device to achieve compliance with the applicable emission limit.

40 CFR 64.2(a)

PM CAM Plan for EP 2-2 (Granule Application System and Filler Heater Baghouse)

	Indicator 1
I. Indicator	Pressure Differential
Measurement Approach	Pressure Gauge
II. Indicator Range	While the unit is operating, an excursion is defined as a pressure differential less than 0.15 inches of H ₂ O or greater than 8 inches of H ₂ O. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria	
A. Data Representativeness	The pressure differential is being measured between the inlet and outlet of the baghouse.
B. Verification of Operation Status	Not Applicable
C. QA/QC Practices and Criteria	The pressure gauge will be calibrated and maintained per the manufacturer's recommendation.
D. Monitoring Frequency	Once daily during operation
E. Data Collection Procedures	The pressure differential will be recorded with date and time.
F. Averaging Period	Instantaneous

Periodic Monitoring

- The Permittee shall perform a visual check, at least once per week, of the HVAF stack and baghouse associated with these sources. This check shall be performed by a person familiar with Method 9. If visible emissions in excess of 20%* opacity are noted, maintenance inspections and/or corrective action to reduce the visible emission are to be initiated within two (2) hours. After the corrective action has been performed, the permittee shall conduct another visual check to ensure that the visible emissions have been reduced. Any repairs of observed problems shall be recorded.

*Note: If at any time the control device is not operational, the asphalt storage tanks visible emissions shall not be greater than 0% opacity.

Rule 335-3-16-.05(c); 40 CFR 60, Subpart UU, §60.472(c)

- The inlet temperature of the HVAF (**EP 2-1**) shall be continuously monitored and recorded. The monitoring device shall have an accuracy of plus or minus +/- 25 °Fahrenheit over its range.

40 CFR Part 60, Subpart UU, §60.473(a)

- The facility was required to demonstrate initial compliance for existing affected sources within 180 days after December 2, 2010 (§63.11560). For roofing facilities using a control device, initial compliance is demonstrated by following the emission limits, test methods, and operating limits in §63.11562(b) and Tables 2, 3 and 4 to Subpart AAAAAAA. The initial compliance testing for the High Velocity Air Filter (EP 2-2) was conducted on December 15, 2010.
- The Permittee shall continuously (at least once every 15 minutes) monitor the HVAF inlet temperature and pressure differential. The HVAF inlet temperature and pressure differential shall be reduced to 3-hour averages. The temperature 3-hour averages shall be less than the manufacturer-specified operating temperature, and the pressure differential shall be less than the 3-hour average established in the most recent compliance test.

40 CFR Part 63, Subpart AAAAAAA, §63.11563(a), Table 4

- The facility must develop and make available for inspection, upon request, a site-specific monitoring plan for each monitoring system that addresses the requirements of §63.11563(a).

40 CFR Part 63, Subpart AAAAAAA, §63.11563(b)

- The Permittee must install, operate, and maintain a continuous parameter monitoring system (CPMS) to maintain emissions limits specified in Table 2 to Subpart AAAAAAA per the applicable requirements specified in §63.11563(c), §63.11563(d), and

§63.11563(e). The CPMS must be evaluated and continuously operated according to the site-specific monitoring plan.

40 CFR Part 63, Subpart AAAAAAA, §63.11563(c), §63.11563(d), §63.11563(e), & §63.11563(j), and §63.11563(k)

- If the facility proposes to use parameters or means other than those specified in Table 4 to demonstrate continuous compliance with emissions limits specified in Table 2, an alternative monitoring plan must be submitted for approval.

40 CFR Part 63, Subpart AAAAAAA, §63.11563(h)

- At all times the facility must operate and maintain air pollution control and monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions.

40 CFR Part 63, Subpart AAAAAAA, §63.11563(i)

- The facility must conduct a performance evaluation of each CPMS in accordance with the site-specific monitoring plan.

40 CFR Part 63, Subpart AAAAAAA, §63.11563(j)

- The facility must operate and maintain the CPMS in continuous operation according to the site-specific monitoring plan.

40 CFR Part 63, Subpart AAAAAAA, §63.11563(k)

Recordkeeping and Reporting

- All records shall be maintained in a form suitable for inspection for a period of at least five (5) years.

Rule 335-3-16-.05(c)(2)

- The Permittee shall maintain a record of all inspections, to include visible observations performed to satisfy the requirements of the Emission Monitoring section of this Permit. This shall include problems observed and corrective actions taken.

Rule 335-3-16-.05(c)(2)

- The Permittee shall maintain a record of all inlet temperature of the HVAF readings. This shall include all problems observed, excursions, and corrective actions taken.

Rule 335-3-16-.05(c)(2)

- The Permittee shall maintain a record of all differential pressure readings performed. This shall include all problems observed, excursions, and corrective actions taken.

Rule 335-3-16-.05(c)(2)

- The Permittee shall submit a written report of exceedance of the stack opacity to the Department semi-annually.

Rule 335-3-16-.05(c)(3)

- The Permittee must maintain records in accordance with 40 CFR 63, Subpart AAAAAAA as follows:
 - Copies of each notification and report for Initial Compliance or Notification of Compliance Status
 - Copies of all emission tests used to demonstrate compliance and performance evaluations
 - Documentation of previously-conducted emission test used to demonstrate initial compliance, if applicable.
 - Documentation of operating parameters specified in Table 4 to Subpart AAAAAAA.
 - Copies of written manufacturers performance specifications used to establish operating parameters
 - Documentation of process knowledge and engineering calculations used to establish operating parameters
 - A copy of the sit-specific monitoring plan
 - A copy of the approved alternative monitoring plan
 - Records of operating parameter values required in Table 4 to Subpart AAAAAAA to show continuous compliance with the operating limits.

40 CFR Part 63, Subpart AAAAAAA, §63.11564(c)(1-10)

- The facility must submit a semiannual compliance report in accordance with 40 CFR 63, Subpart AAAAAAA as follows:
 - January 1st – June 30th Reporting Period – report due on July 31st
 - July 1st – December 31st Reporting Period – report due on January 31st

40 CFR Part 63, Subpart AAAAAAA, §63.11564(b)

Line 2 Filler Handling System

Finely ground limestone filler is transferred pneumatically from the Filler Production operations discussed earlier in this document or from trucks into a 1440 ton filler silo with baghouse (**EP 3-1**). From the 1440 ton filler silo, filler is transferred pneumatically to a 30 ton filler receiving bin with baghouse (**EP 3-2**). Prior to being mixed with coating asphalt, the filler is heated, and the emissions are routed to the baghouse common to the Granule Application System (EP 2-2). The heating is supplied from the heat transfer fluid (HTF) system.

Initial performance testing to determine compliance with the PM and opacity requirements of 40 CFR 60, Subpart UU was performed for the 1400-ton filler silo on September 28, 2004 and for the 30-ton filler receiving bin on September 29, 2004.

Applicability

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-16-.03, “*Major Source Operating Permits*”.

Rule 335-3-16-.03

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.01(1), “*Control of Particulate Emissions – Visible Emissions*”.

Rule 335-3-4-.01(1)

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.04(1), “*Control of Particulate Emissions for Process Industries – General*”.

Rule 335-3-4-.04(1)

- These sources have enforceable limits in place in order to prevent them from being subject to the provisions of ADEM Admin. Code r. 335-3-14-.04, “*Air Permits Authorizing Construction in Clean Air Areas [Prevention of Significant Deterioration Permitting (PSD)]*”. The initial Air Permit No. 413-0018-X013 was issued on March 4, 2002 for the filler silo and receiving bin.

Rule 335-3-14-.04 [Anti-PSD]

- These sources are subject to the applicable requirements of 40 CFR Part 60, Subpart UU, “*Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture*”, which applies to each mineral handling and storage facility (including unloading areas, conveyor transfer points and storage silos) at asphalt roofing plants that commenced construction or modification after November 18, 1980. The Line 2 Filler Handling System was constructed after November 18, 1980; therefore, these sources are subject to Subpart UU.

40 CFR Part 60, Subpart UU, §60.470(a)

- These sources are not subject to 40 CFR Part 63 Subpart AAAAAAA, “National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing”. This regulation applies to each asphalt coating equipment located at an asphalt roofing manufacturing operation that is an area source of hazardous air pollutant (HAP) emissions. The line 2 granule storage and handling process sources are not considered asphalt coating equipment; therefore, Subpart AAAAAAA **does not** apply.

Emission Standards

Opacity

- These units shall not discharge particulate emissions with opacity greater than 1%.

40 CFR Part 60, Subpart UU, §60.472(d)

Particulate Matter

- Particulate matter emissions from these units shall not exceed the allowable set by Rule 335-3-4-.04.

$$E = 3.59P^{0.62} \left(P < 30 \frac{\text{tons}}{\text{hr}} \right)$$

or

$$E = 17.31P^{0.16} \left(P \geq 30 \frac{\text{tons}}{\text{hr}} \right)$$

Where:

E = Emissions in lb/hr

P = Process weight in tons/hour

- Particulate matter emissions from the 1440 ton Filler Silo (EP 3-1) shall not exceed 0.54 lb/hr. This limit was calculated using the controlled emission rate of the baghouse during testing and conservatively estimating twice the guaranteed rate by the manufacturer, which limits PM emissions to 2.37 TPY. Actual emissions during testing were approximately 1.5% of this calculated limit. The initial Air Permit No. 413-0018-X013 was issued on March 4, 2002 for this unit.

Rule 335-3-14-.04 (Anti-PSD)

- Particulate matter emissions from the 30 ton Filler Receiving Bin (EP 3-2) shall not exceed 0.37 lb/hr. This limit was calculated using the controlled emission rate of the baghouse and conservatively estimating twice the guaranteed rate by the manufacturer, which limits PM emissions to 0.80 TPY. Actual emissions during testing were approximately 1.2% of

this calculated limit. The initial Air Permit No. 413-0018-X013 was issued on March 4, 2002 for this unit.

Rule 335-3-14-.04 (Anti-PSD)

Expected Emissions

- The expected emissions are based on AP-42 emission factors and 8,400 expected hours of operation per year. The expected emissions are shown below:

Pollutant	1,440 ton Filler Silo (EP 3-1)		30 ton Filler Receiving Bin (EP 3-2)	
	lb/hr	TPY	lb/hr	TPY
PM ₁₀ /PM _{2.5}	0.267	1.12	0.183	0.77

Compliance and Performance Test Methods and Procedures

- If testing is required, Method 5 of 40 CFR 60, Appendix A-3, shall be used in the determination of particulate emissions.

Rule 335-3-1-.05

- If testing is required, Method 9 of 40 CFR 60, Appendix A-4, shall be used in the determination of opacity.

Rule 335-3-1-.05; 40 CFR Part 60, Subpart UU, §60.474(c)(5)

Compliance Assurance Monitoring (CAM)

- These units do not have pre-controlled potential emissions greater than any major source threshold; therefore, CAM **does not** apply.

40 CFR Part 64, §60.2(a)

Periodic Monitoring

- The Permittee shall perform a visual check, at least once per week, of the stacks associated with these units. This check shall be performed by a person familiar with Method 9. If any visible emissions are noted, maintenance inspections and/or corrective action to reduce the visible emission are to be initiated within two (2) hours. Any repairs of observed problems shall be recorded. After corrective action has been performed, the Permittee shall conduct another visual check to ensure that the visible emissions have been reduced.

Rule 335-3-16-.05(c)(1)

- A properly maintained and operated device shall be utilized to measure the pressure differential between the inlet and exhaust of each baghouse to determine if the pressure

differential is within the manufacturer's recommended operating range. The pressure differentials shall be checked on at least a weekly basis. Whenever the pressure differential is outside the manufacturer's recommended range, maintenance inspections and/or corrective action to bring the pressure differential within the manufacturer's recommended range are to be initiated within two hours.

Rule 335-3-16-.05(c)(1)

Recordkeeping and Reporting

- All records shall be maintained in a form suitable for inspection for a period of at least five (5) years from the date of generation.

Rule 335-3-16-.05(c)(2)

- The Permittee shall maintain a record of all inspections, to include visible observations performed to satisfy the requirements of the Emission Monitoring section of the Permit. This shall include problems observed and corrective actions taken.

Rule 335-3-16-.05(c)(2)

- The Permittee shall maintain a record of all differential pressure readings performed. This shall include all problems observed, excursions, and corrective actions taken.

Rule 335-3-16-.05(c)(2)

- The Permittee shall submit a written report of exceedance of the stack opacity to the Department semi-annually.

Rule 335-3-16-.05(c)(3)

Line 2 Granule Handling and Storage

The Line 2 Granule Handling and Storage system includes two (2) underground unloading pits, two (2) 150 tons per hour (tph) unloading conveyors, two (2) 150 tph unloading bucket elevators, two (2) 150 tph shuttle conveyors, two (2) 100 tph blending conveyors, two (2) 100 tph bucket elevators to line conveyors, two (2) 100 tph conveyors to roofing production line, five (5) headlap 330-ton storage silos, two (2) backsurfacing 330-ton storage silos, fifteen (15) butt granule 330-ton storage silos, and two (2) 285-ton headlap storage silos. There is a total of twenty four (24) storage silos for this process.

Granules are delivered to the site by truck and railcar. The truck or railcar empties granules into an underground hopper and onto a belt conveyor for two separate granule lines: the Headlap/Backsurfacing (HL/BS) line and the Butt granule line. The drop points from the hopper to the conveyor are hooded and vented to baghouses. The granules are then transferred into bucket elevators and lifted to shuttle conveyors located above the granule storage silos. The bucket elevators and the drop points onto the silo shuttle conveyors are all vented to a baghouse. The shuttle conveyor transports the granules to the correct storage silo. The granules are then dropped into enclosed chutes that travel along the shuttle conveyors and can align with the top of each storage silo. The drop point from the conveyors into the chutes is enclosed and vented to a baghouse. The granules are then dropped from the storage silos onto conveyors where they are then transferred to the shingle manufacturing line.

The emissions from line 2 granule storage transfer points and 24 silos are controlled by a single baghouse (**EP 4-1**). The line 2 butt granule unloading and transfer point emissions are controlled by a single baghouse (**EP 4-2**). The line 2 headlap/back surfacing unloading and transfer point emissions are controlled by a single baghouse (**EP 4-3**).

Applicability

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-16-.03, “*Major Source Operating Permits*”.

Rule 335-3-16-.03

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.01(1), “*Control of Particulate Emissions – Visible Emissions*”.

Rule 335-3-4-.01(1)

- These sources have enforceable limits in place in order to prevent them from being subject to the provisions of ADEM Admin. Code r. 335-3-14-.04, “*Air Permits Authorizing Construction in Clean Air Areas [Prevention of Significant Deterioration Permitting (PSD)]*”. The initial Air Permit No. 413-0018-X014 was issued on March 4, 2002 for the Granule Handling and Storage units.

Rule 335-3-14-.04 [Anti-PSD]

- These sources are subject to the applicable requirements of 40 CFR Part 60, Subpart UU, “*Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture*”, which applies to each mineral handling and storage facility (including unloading areas, conveyor transfer points and storage silos) at asphalt roofing plants that commenced construction or modification after November 18, 1980. The Line Granule Handling and Storage units were constructed after November 18, 1980; therefore, these sources are subject to Subpart UU.

40 CFR Part 60, Subpart UU, §60.470(a)

- These sources are not subject to 40 CFR Part 63 Subpart AAAAAAA, “National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing”. This regulation applies to each asphalt coating equipment located at an asphalt roofing manufacturing operation that is an area source of hazardous air pollutant (HAP) emissions. The Line 2 Granule Handling and Storage sources are not considered asphalt coating equipment; therefore, Subpart AAAAAAA **does not** apply.

40 CFR 63, Subpart AAAAAAA, §63.11559

- These sources are subject to CAM for particulate matter (PM) because the units have pre-controlled potential emissions greater than the major source threshold, are subject to an emission limit for PM, and use control devices to achieve compliance with the applicable emission limit.

40 CFR 64, §64.2(a)

Emission Standards

Opacity:

- These units shall not discharge into the atmosphere emissions with opacity greater than 1%.

40 CFR Part 60, Subpart UU, §60.472(d)

Particulate Matter (PM):

- Particulate Matter emissions from the Line 2 Granule Storage Transfer Points and 24 Storage Silos with Baghouse (**EP 4-1**) shall not exceed 1.30 lbs/hr. The initial Air Permit No. 413-0018-X014 was issued on March 4, 2002 for the Granule Transfer Points and 24 Storage Silos.

Rule 335-3-14-.04 (Anti-PSD)

- Particulate Matter emissions from the Line 2 Butt Granule Unloading and Transfer Points with Baghouse (**EP 4-2**) shall not exceed 0.82 lbs/hr. The initial Air Permit No. 413-0018-X014 was issued on March 4, 2002 for the Butt Granule Unloading and Transfer process.

Rule 335-3-14-.04 (Anti-PSD)

- Particulate Matter emissions from the Line 2 Headlap/Backsurfacing Unloading and Transfer Points with Baghouse (**EP 4-3**) shall not exceed 0.82 lbs/hr. The initial Air Permit No. 413-0018-X014 was issued on March 4, 2002 for the Headlap/Backsurfacing Unloading and Transfer process.

Rule 335-3-14-.04 (Anti-PSD)

Expected Emissions

The expected emissions are based on AP-42 emission factors and 8,400 expected hours of operation per year. The expected emissions are shown below:

Pollutant	Line 2 Granule Storage Transfer Points and 24 Storage Silos (EP 4-1)		Line 2 Butt Granule Unloading and Transfer Points (EP 4-2)		Line 2 Headlap/Backsurfacing Unloading and Transfer Points (EP 4-3)	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
PM ₁₀ /PM _{2.5}	0.65	2.73	0.41	1.72	0.41	1.72

Compliance and Performance Test Methods and Procedures

- Method 9 of 40 CFR 60, Appendix A-4, shall be used in the determination of opacity.

Rule 335-3-1-.05; 40 CFR Part 60, Subpart UU, §60.474(c)(5)

- Method 5 of 40 CFR 60, Appendix A-3, shall be used in the determination of particulate emissions.

Rule 335-3-1-.05

Compliance Assurance Monitoring (CAM)

These units are subject to the Compliance Assurance Monitoring (CAM) for particulate matter (PM) because the units have pre-controlled potential emissions greater than the major source threshold, are subject to an emission limit for PM, and use control devices to achieve compliance with the applicable emission limit.

40 CFR Part 64, §60.2(a)

Periodic Monitoring:

- The Permittee shall perform a visual check, at least once per week, of the stacks associated with these units. This check shall be performed by a person familiar with Method 9. If any visible emissions are noted, maintenance inspections and/or corrective action to reduce the visible emission are to be initiated within two (2) hours. Any repairs of observed problems shall be recorded. After corrective action has been performed, the Permittee shall conduct another visual check to ensure that the visible emissions have been reduced.

Rule 335-3-16-.05(c)(1)

- A properly maintained and operated device shall be utilized to measure the pressure differential between the inlet and exhaust of each baghouse to determine if the pressure differential is within the manufacturer's recommended operating range. The pressure differentials shall be checked on at least a weekly basis. Whenever the pressure differential is outside the manufacturer's recommended range, maintenance inspections and/or corrective action to bring the pressure differential within the manufacturer's recommended range are to be initiated within two hours.

Rule 335-3-16-.05(c)(1)

PM CAM for EP 4-1 (Line 2 Granule Storage Transfer Points and 24 Storage Silo Baghouse), EP 4-2 (Line 2 Butt Granule Unloading and Transfer Points Baghouse), and EP 4-3 (Line 2 Headlap/Backsurfacing Unloading and Transfer Points Baghouse)

	Indicator 1
I. Indicator	Pressure Differential
Measurement Approach	Pressure Gauge
II. Indicator Range	While the unit is operating, an excursion is defined as a pressure differential less than 0.15 inches of H ₂ O or greater than 8 inches of H ₂ O. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria	
A. Data Representativeness	The pressure differential is being measured between the inlet and outlet of the baghouse.
B. Verification of Operation Status	Not Applicable
C. QA/QC Practices and Criteria	The pressure gauge will be calibrated and maintained per the manufacturer's recommendation.
D. Monitoring Frequency	Once daily during operation
E. Data Collection Procedures	The pressure differential will be recorded with date and time.
F. Averaging Period	Instantaneous

Recordkeeping and Reporting

- The Permittee shall maintain a record of all inspections, to include visible observations performed to satisfy the requirements of the Emission Monitoring section of this Permit. This shall include problems observed and corrective actions taken. The records shall be retained for at least five (5) years from the date of generation and shall be available upon request.

Rule 335-3-16-.05(c)

- The Permittee shall submit a written report of exceedance of the stack opacity to the Department semi-annually.

Rule 335-3-16-.05(c)

- The Permittee shall maintain a record of all differential pressure readings performed. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

Rule 335-3-16-.05(c)

Heat Transfer Fluid (HTF) Heating System

The Heat Transfer Fluid (HTF) heating system is used to provide a heated jacket of fluid on the storage tanks and various process equipment and process piping. The HTF consists of three (3) Fulton natural gas fired spiral tube heaters with a rated input capacity of 6 MMBtu/hr each. The heaters burn natural gas only.

Applicability

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-16-.03, “*Major Source Operating Permits*”.

Rule 335-3-16-.03

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.01(1), “*Control of Particulate Emissions – Visible Emissions*”.

Rule 335-3-4-.01 (1)

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.01-.03, “*Control of Particulate Emissions – Fuel Burning Equipment*”. Tuscaloosa County is a Class I county.

Rule 335-3-4-.03(1)

- These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-5-.01(1)(b), “*Control of Sulfur Compound Emissions – Fuel Combustion*”.

Rule 335-3-5-.01(1)(b)

- These sources have an enforceable standard in place in order to prevent them from being subject to the provisions of ADEM Admin. Code r. 335-3-14-.04, “*Air Permits Authorizing Construction in Clean Air Areas [Prevention of Significant Deterioration Permitting (PSD)]*”. The initial Air Permit No. 413-0018-X020 was issued on June 22, 2009 for the heaters.

Rule 335-3-14-.04 [Anti-PSD]

- These sources are not subject to 40 CFR Part 60, Subpart Dc, “*Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*”. This subpart applies to units with a maximum heat capacity of 100 MMBtu/hr and a minimum heat capacity of 10 MMBtu/hr. The heaters each have a heat capacity of 6.0 MMBtu/hr; therefore, these units **are not** subject to these requirements.

40 CFR Part 60, Subpart Dc, §60.40c

- These sources are not subject to 40 CFR Part 63, Subpart DDDDD, “*National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters*”, which applies to process heaters at a major source of HAPs. Elk is considered an area source for HAPs; therefore, Subpart DDDDD **does not** apply to the burners/process heaters.

40 CFR Part 63, Subpart DDDDD, §63.7485

- These sources **are not** subject to 40 CFR Part 63, Subpart JJJJJ, “*National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*”, which applies to all industrial, commercial, or institutional boilers located at an area source of HAPs. Elk is considered an area source of HAPs; however, the HTF heaters do not meet the definition of industrial, commercial, or institutional boilers. Therefore, these process heaters **are not** subject to this subpart.

40 CFR Part 63, Subpart JJJJJ, §63.11193 and §63.11194(a)(1)

Emission Standards:

Opacity:

- This source shall not discharge into the atmosphere more than one 6-minute average of particulate of an opacity greater than twenty percent (20%) in any 60-minute period. At no time shall any source discharge a 6-minute average of particulate of an opacity of greater than forty percent (40%). Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

Rule 335-3-4-.01(1)

Particulate Matter (PM):

- Particulate matter emissions from each burner shall not exceed the allowable set by Rule 335-3-4-.03(1).

This section limits particulate matter emissions from fuel burning equipment. This is calculated using the fuel burning equipment equation:

$$E = 1.38H^{-0.44}$$

Where, E = Emissions in pounds per million BTU

H = Heat Input in millions of BTU/hr

Rule 335-3-4-.03(1)

Sulfur Dioxide (SO₂):

- Sulfur Dioxide emissions from each heater shall not exceed the allowable of 4.0 pounds of sulfur dioxide per million BTU heat input as set by Rule 335-3-5-.01, “*Fuel Burning Equipment*” for Category II counties.

Rule 335-3-5-.01(1)(b)

- These units shall combust natural gas only.

Rule 335-3-14-.04 (Anti-PSD)

Expected Emissions

The expected emissions for the HTF are based on AP-42 emission factors and 8,760 hours of operation per year. The expected emissions are shown below:

Pollutant	HTF Burners	
	lb/hr	TPY
PM ₁₀ / PM _{2.5}	0.133	0.580
SO ₂	0.011	0.05
NO _x	1.75	7.68
CO	1.47	6.45
VOC	0.097	0.42
HAP	0.033	0.15
CO _{2e}	2120	9276

Compliance Assurance Monitoring (CAM)

- These units do not have pre-controlled potential emissions greater than any major source threshold; therefore, CAM **does not** apply.

40 CFR Part 64, §60.2(a)

Periodic Monitoring

- This source is subject to no additional specific requirements other than those listed in the general Permit Provisos.

Recordkeeping and Reporting

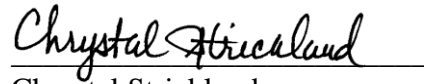
- This source is subject to no additional specific requirements other than those listed in the general Permit Provisos.

Environmental Justice

The Department utilized the EJSCREEN environmental justice (EJ) screening and mapping tool to perform an analysis of the area around the facility. Please refer to Appendix A.

Recommendation

Based on the above analysis and pending the resolution of any comments received during the 30-day public comment period and 45-day EPA review, I recommend issuing Elk Corporation of Alabama's Title V MSOP renewal.



Chrystal Strickland
Industrial Minerals Section
Energy Branch
Air Division

July 26, 2022

Date

Appendix A – EJSCREEN Documents

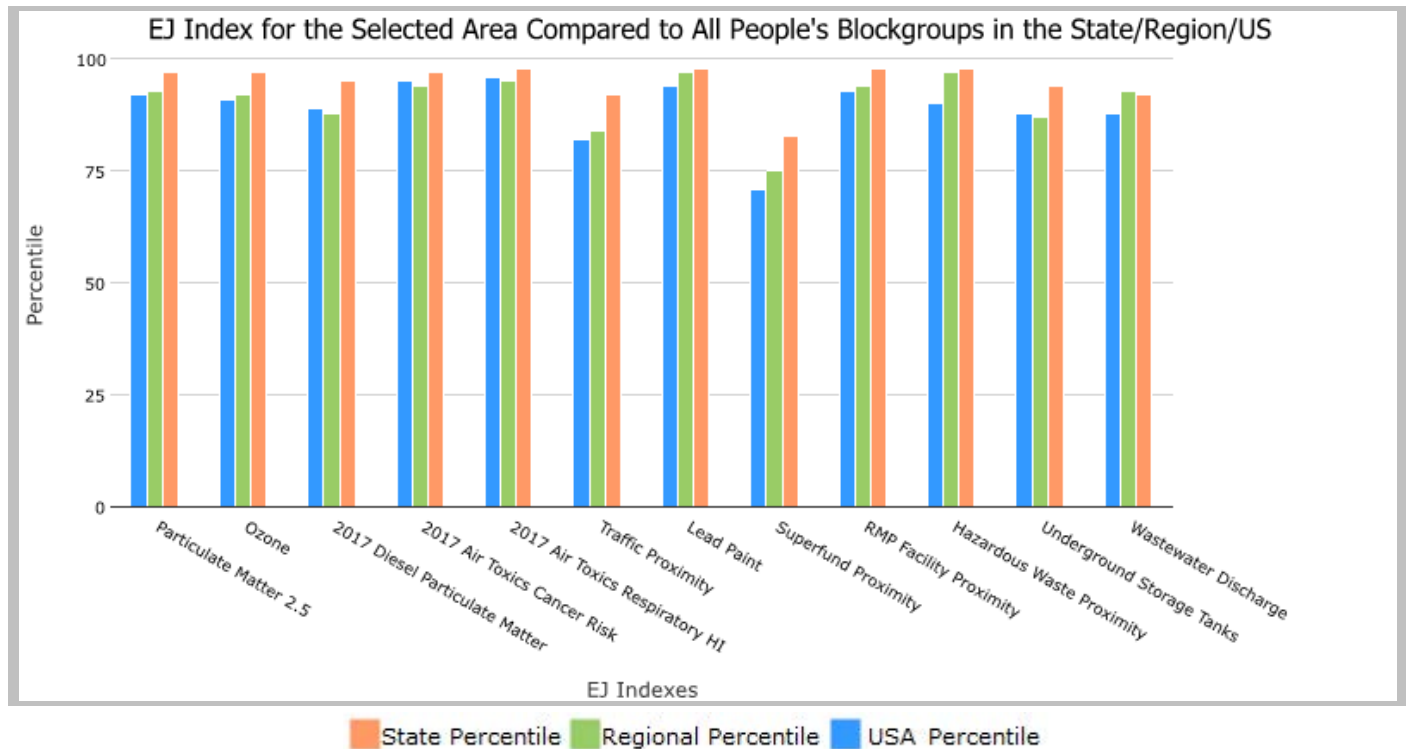
EJScreen Report (Version 2.0)

1 mile Ring around the Area, ALABAMA, EPA Region 4

Approximate Population: 4,603

Input Area (sq. miles): 3.76

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
Environmental Justice Indexes			
EJ Index for Particulate Matter 2.5	97	93	92
EJ Index for Ozone	97	92	91
EJ Index for 2017 Diesel Particulate Matter*	95	88	89
EJ Index for 2017 Air Toxics Cancer Risk*	97	94	95
EJ Index for 2017 Air Toxics Respiratory HI*	98	95	96
EJ Index for Traffic Proximity	92	84	82
EJ Index for Lead Paint	98	97	94
EJ Index for Superfund Proximity	83	75	71
EJ Index for RMP Facility Proximity	98	94	93
EJ Index for Hazardous Waste Proximity	98	97	90
EJ Index for Underground Storage Tanks	94	87	88
EJ Index for Wastewater Discharge	92	93	88



This report shows the values for environmental and demographic indicators and EJSREEN 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 EJSREEN documentation for discussion of these issues before using reports.

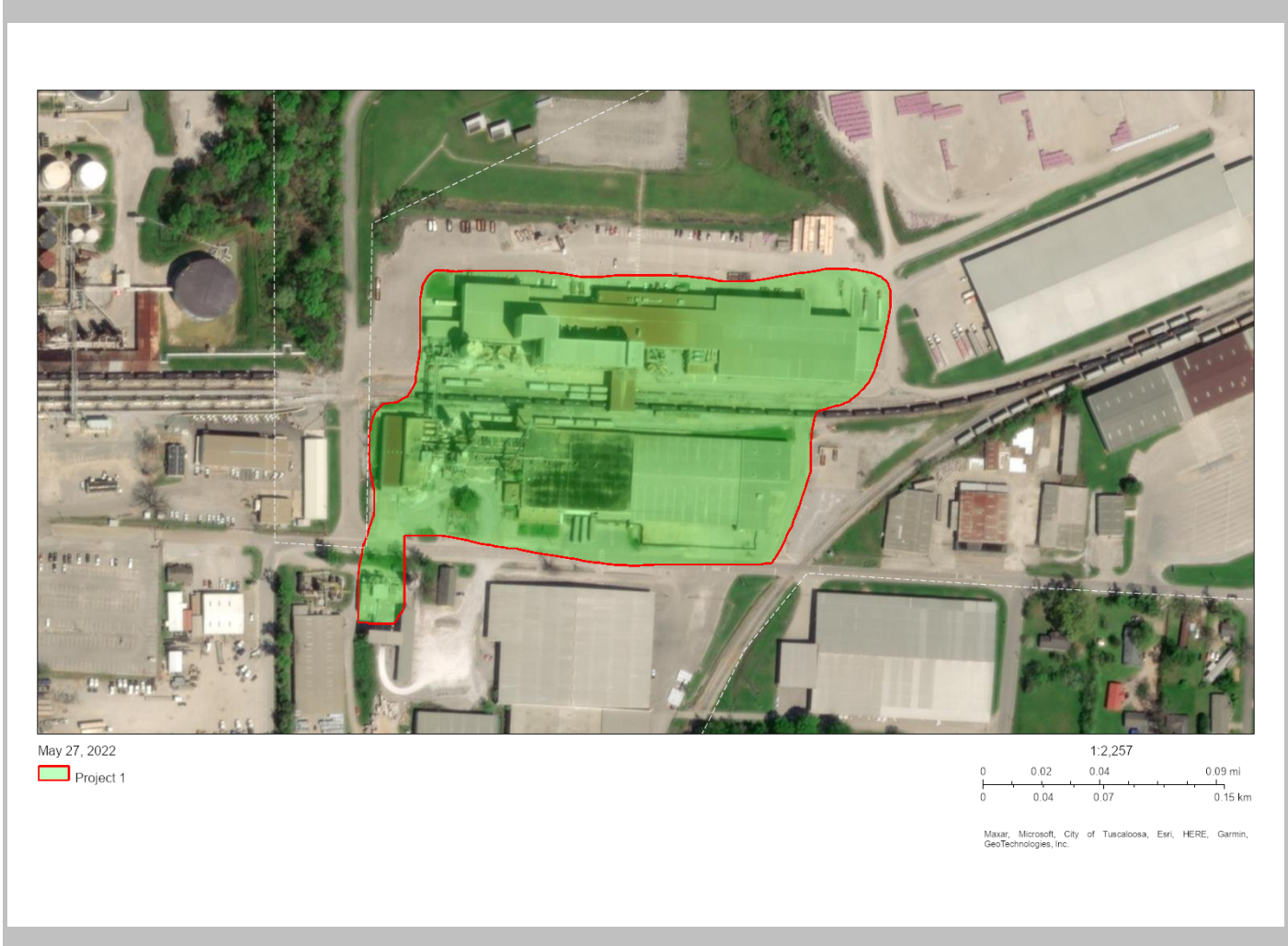
EJScreen Report (Version 2.0)



1 mile Ring around the Area, ALABAMA, EPA Region 4

Approximate Population: 4,603

Input Area (sq. miles): 3.76



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	1

EJScreen Report (Version 2.0)



1 mile Ring around the Area, ALABAMA, EPA Region 4

Approximate Population: 4,603

Input Area (sq. miles): 3.76

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Pollution and Sources							
Particulate Matter 2.5 ($\mu\text{g}/\text{m}^3$)	9.07	8.9	64	8.18	82	8.74	63
Ozone (ppb)	38	39.1	39	37.9	47	42.6	21
2017 Diesel Particulate Matter* ($\mu\text{g}/\text{m}^3$)	0.306	0.216	79	0.261	60-70th	0.295	60-70th
2017 Air Toxics Cancer Risk* (lifetime risk per million)	40	34	99	31	95-100th	29	95-100th
2017 Air Toxics Respiratory HI*	0.58	0.47	98	0.4	95-100th	0.36	95-100th
Traffic Proximity (daily traffic count/distance to road)	350	230	83	430	70	710	60
Lead Paint (% Pre-1960 Housing)	0.42	0.18	89	0.15	90	0.28	72
Superfund Proximity (site count/km distance)	0.012	0.054	7	0.083	13	0.13	7
RMP Facility Proximity (facility count/km distance)	1.4	0.41	92	0.6	87	0.75	83
Hazardous Waste Proximity (facility count/km distance)	2.7	0.83	93	0.62	95	2.2	77
Underground Storage Tanks (count/km ²)	3.8	1.7	86	3.5	75	3.9	72
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.015	0.42	79	0.45	83	12	72
Socioeconomic Indicators							
Demographic Index	74%	36%	93	37%	93	36%	92
People of Color	89%	34%	92	39%	90	40%	88
Low Income	61%	37%	88	35%	88	31%	89
Unemployment Rate	8%	6%	73	6%	76	5%	78
Linguistically Isolated	0%	1%	70	3%	51	5%	45
Less Than High School Education	18%	14%	69	13%	74	12%	76
Under Age 5	8%	6%	74	6%	76	6%	74
Over Age 64	16%	17%	50	17%	55	16%	58

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's 2017 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

EJScreen is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. 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. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJScreen outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

EJScreen Report (Version 2.0)

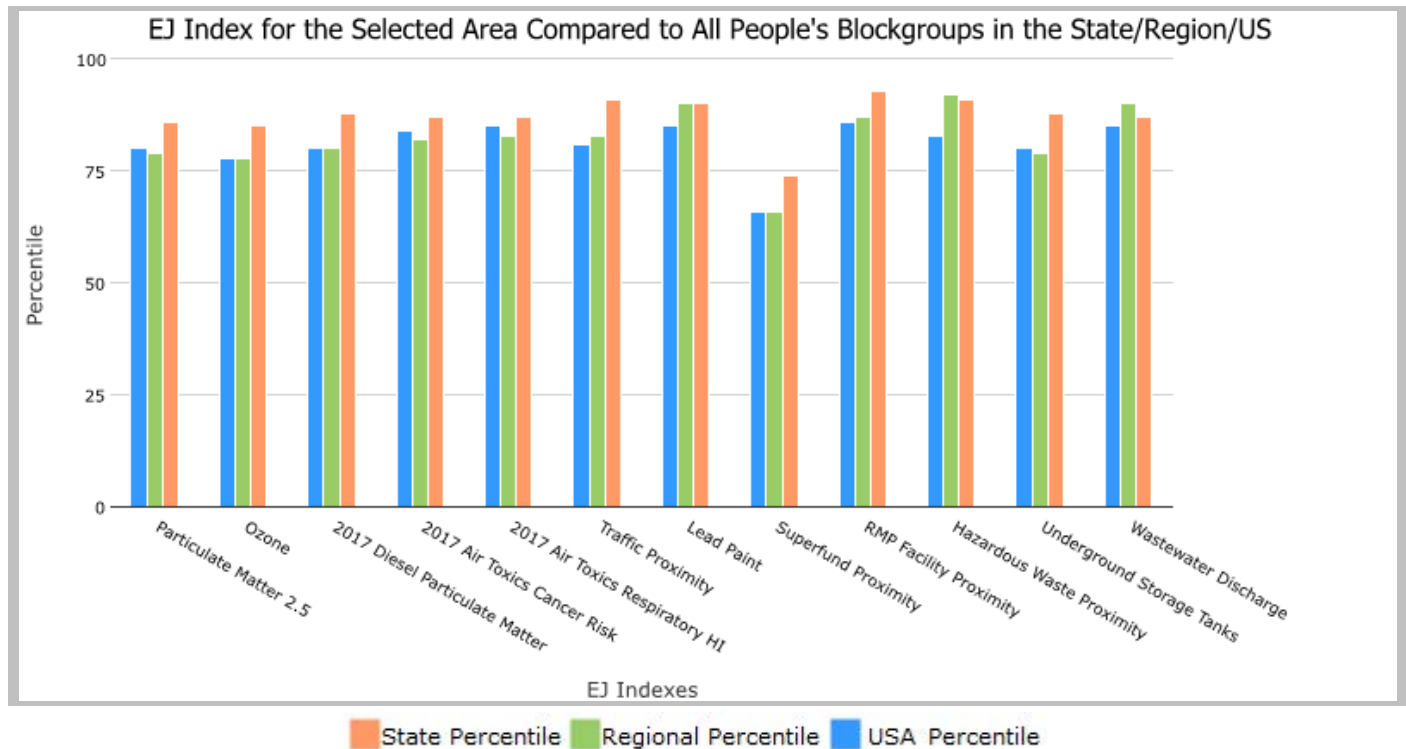
3 miles Ring around the Area, ALABAMA, EPA Region 4

Approximate Population: 37,432

Input Area (sq. miles): 30.08

Elk Corporation

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
Environmental Justice Indexes			
EJ Index for Particulate Matter 2.5	86	79	80
EJ Index for Ozone	85	78	78
EJ Index for 2017 Diesel Particulate Matter*	88	80	80
EJ Index for 2017 Air Toxics Cancer Risk*	87	82	84
EJ Index for 2017 Air Toxics Respiratory HI*	87	83	85
EJ Index for Traffic Proximity	91	83	81
EJ Index for Lead Paint	90	90	85
EJ Index for Superfund Proximity	74	66	66
EJ Index for RMP Facility Proximity	93	87	86
EJ Index for Hazardous Waste Proximity	91	92	83
EJ Index for Underground Storage Tanks	88	79	80
EJ Index for Wastewater Discharge	87	90	85



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 2.0)

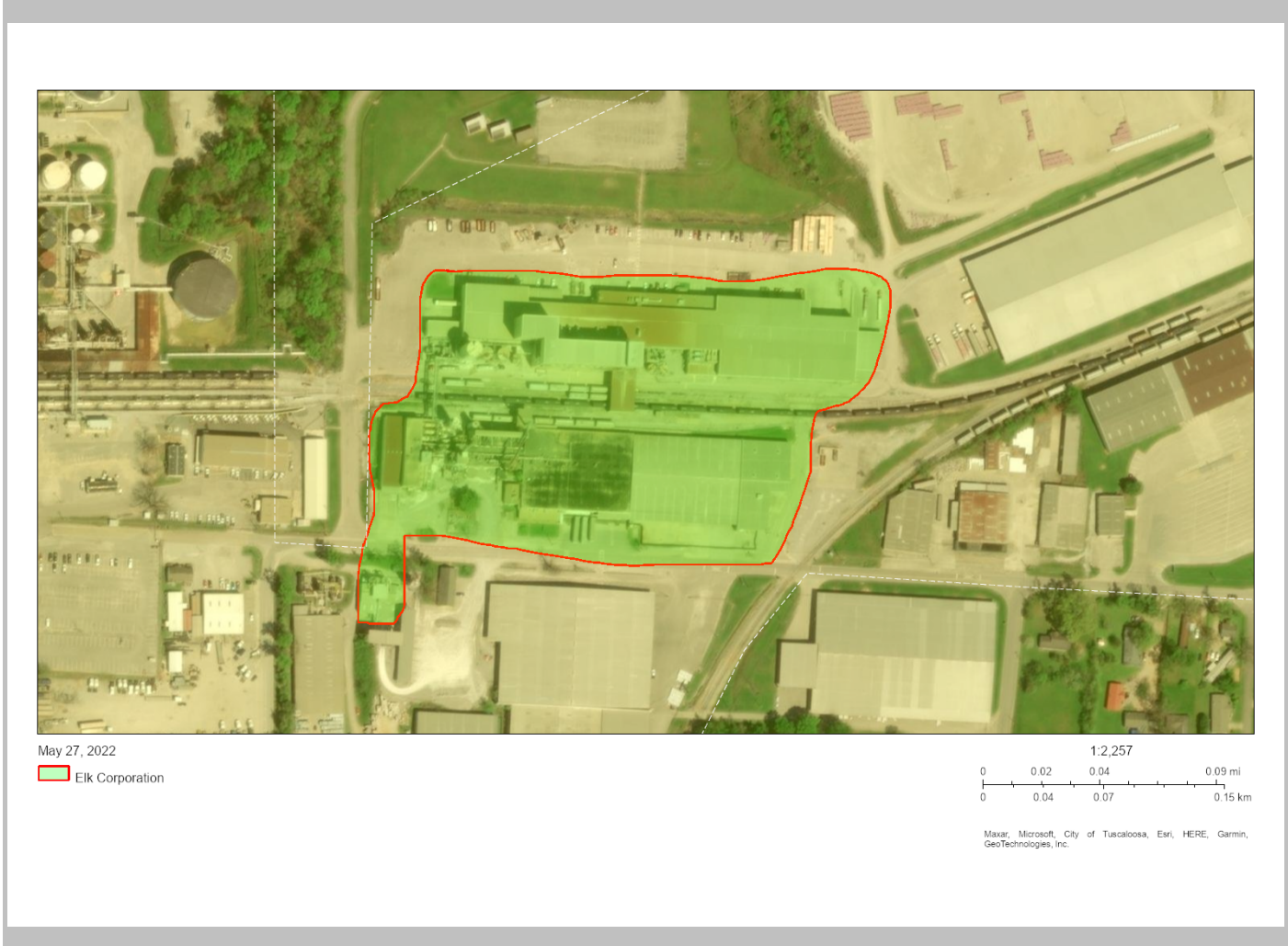


3 miles Ring around the Area, ALABAMA, EPA Region 4

Approximate Population: 37,432

Input Area (sq. miles): 30.08

Elk Corporation



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	6

EJScreen Report (Version 2.0)

3 miles Ring around the Area, ALABAMA, EPA Region 4

Approximate Population: 37,432

Input Area (sq. miles): 30.08

Elk Corporation

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Pollution and Sources							
Particulate Matter 2.5 ($\mu\text{g}/\text{m}^3$)	9.08	8.9	65	8.18	83	8.74	63
Ozone (ppb)	38.2	39.1	41	37.9	48	42.6	22
2017 Diesel Particulate Matter* ($\mu\text{g}/\text{m}^3$)	0.365	0.216	86	0.261	70-80th	0.295	70-80th
2017 Air Toxics Cancer Risk* (lifetime risk per million)	40	34	99	31	95-100th	29	95-100th
2017 Air Toxics Respiratory HI*	0.55	0.47	95	0.4	95-100th	0.36	95-100th
Traffic Proximity (daily traffic count/distance to road)	670	230	92	430	83	710	75
Lead Paint (% Pre-1960 Housing)	0.29	0.18	81	0.15	84	0.28	62
Superfund Proximity (site count/km distance)	0.012	0.054	8	0.083	14	0.13	7
RMP Facility Proximity (facility count/km distance)	1	0.41	88	0.6	81	0.75	76
Hazardous Waste Proximity (facility count/km distance)	3	0.83	95	0.62	96	2.2	79
Underground Storage Tanks (count/km ²)	3.7	1.7	86	3.5	74	3.9	72
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.015	0.42	79	0.45	83	12	72
Socioeconomic Indicators							
Demographic Index	58%	36%	82	37%	80	36%	80
People of Color	59%	34%	79	39%	74	40%	71
Low Income	57%	37%	83	35%	84	31%	86
Unemployment Rate	9%	6%	77	6%	80	5%	82
Linguistically Isolated	2%	1%	81	3%	63	5%	56
Less Than High School Education	17%	14%	67	13%	72	12%	74
Under Age 5	6%	6%	50	6%	50	6%	48
Over Age 64	13%	17%	31	17%	37	16%	41

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's 2017 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

EJScreen is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. 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. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJScreen outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

EJScreen Report (Version 2.0)

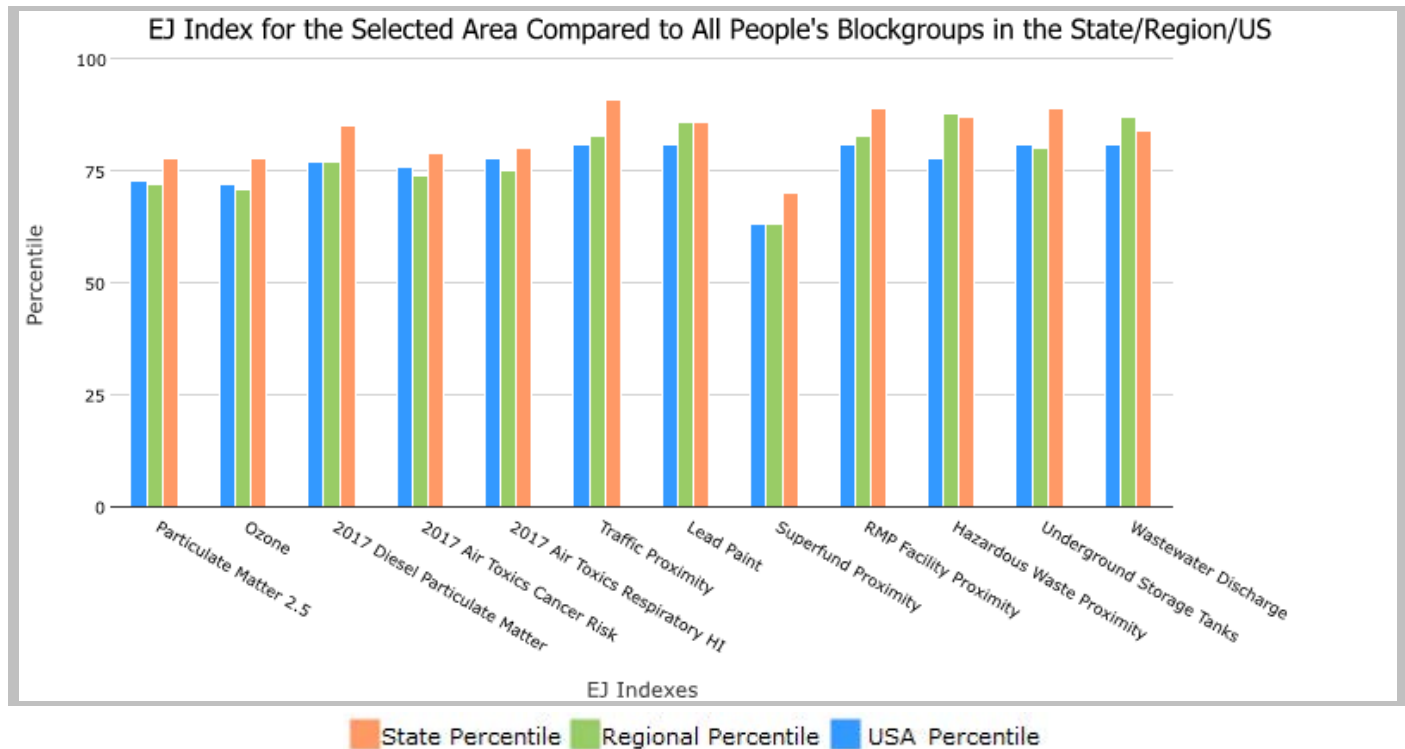
5 miles Ring around the Area, ALABAMA, EPA Region 4

Approximate Population: 82,664

Input Area (sq. miles): 81.57

EIk

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
Environmental Justice Indexes			
EJ Index for Particulate Matter 2.5	78	72	73
EJ Index for Ozone	78	71	72
EJ Index for 2017 Diesel Particulate Matter*	85	77	77
EJ Index for 2017 Air Toxics Cancer Risk*	79	74	76
EJ Index for 2017 Air Toxics Respiratory HI*	80	75	78
EJ Index for Traffic Proximity	91	83	81
EJ Index for Lead Paint	86	86	81
EJ Index for Superfund Proximity	70	63	63
EJ Index for RMP Facility Proximity	89	83	81
EJ Index for Hazardous Waste Proximity	87	88	78
EJ Index for Underground Storage Tanks	89	80	81
EJ Index for Wastewater Discharge	84	87	81



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.

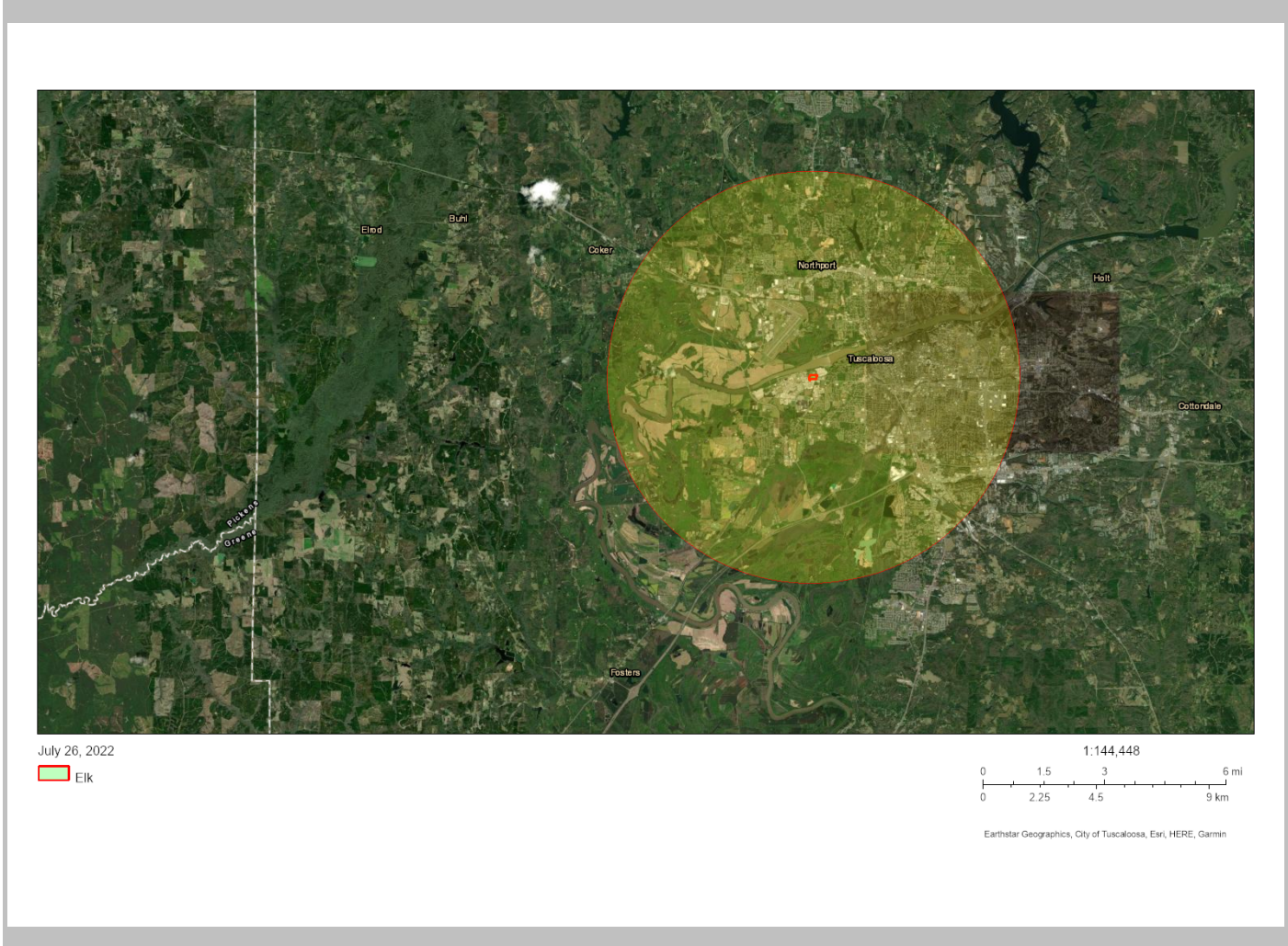
EJScreen Report (Version 2.0)

5 miles Ring around the Area, ALABAMA, EPA Region 4

Approximate Population: 82,664

Input Area (sq. miles): 81.57

EIk



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	10

EJScreen Report (Version 2.0)

5 miles Ring around the Area, ALABAMA, EPA Region 4

Approximate Population: 82,664

Input Area (sq. miles): 81.57

Elk

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Pollution and Sources							
Particulate Matter 2.5 ($\mu\text{g}/\text{m}^3$)	9.08	8.9	66	8.18	83	8.74	63
Ozone (ppb)	38.2	39.1	42	37.9	49	42.6	22
2017 Diesel Particulate Matter* ($\mu\text{g}/\text{m}^3$)	0.365	0.216	86	0.261	70-80th	0.295	70-80th
2017 Air Toxics Cancer Risk* (lifetime risk per million)	40	34	99	31	95-100th	29	95-100th
2017 Air Toxics Respiratory HI*	0.54	0.47	94	0.4	95-100th	0.36	95-100th
Traffic Proximity (daily traffic count/distance to road)	630	230	91	430	82	710	74
Lead Paint (% Pre-1960 Housing)	0.2	0.18	70	0.15	75	0.28	53
Superfund Proximity (site count/km distance)	0.012	0.054	9	0.083	14	0.13	7
RMP Facility Proximity (facility count/km distance)	0.76	0.41	83	0.6	75	0.75	69
Hazardous Waste Proximity (facility count/km distance)	2.4	0.83	91	0.62	94	2.2	74
Underground Storage Tanks (count/km ²)	4.2	1.7	87	3.5	77	3.9	74
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.011	0.42	77	0.45	81	12	70
Socioeconomic Indicators							
Demographic Index	49%	36%	75	37%	72	36%	72
People of Color	49%	34%	73	39%	66	40%	64
Low Income	48%	37%	71	35%	74	31%	78
Unemployment Rate	7%	6%	69	6%	71	5%	73
Linguistically Isolated	2%	1%	82	3%	64	5%	57
Less Than High School Education	12%	14%	50	13%	56	12%	62
Under Age 5	6%	6%	52	6%	53	6%	51
Over Age 64	13%	17%	33	17%	39	16%	43

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's 2017 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

EJScreen is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. 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. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJScreen outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.