# MAJOR SOURCE OPERATING PERMIT
# FIRST TITLE V RENEWAL
AUGUST 11, 2021

# AM/NS CALVERT LLC

MOBILE COUNTY, AL
Facility No.: 503-0095

# STATEMENT OF BASIS

The proposed first Title V Major Source Operating Permit (MSOP) Renewal is issued under 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 the conditions of this permit.

AM/NS Calvert LLC (AM/NS) was issued its existing MSOP on February 24, 2015 with an expiration date of February 23, 2020. Per ADEM Rule 335-3-16-.12(2), an application for permit renewal shall be submitted at least six (6) months, but not more that eighteen (18) months, before the date of expiration for the permit. The initial renewal application was submitted to the Department on August 16, 2019, which is considered timely.

## PROCESS DESCRIPTION

AM/NS Calvert LLC owns and operates a carbon steel mill in Calvert, AL. The mill produces steel strips in various grades and/or types of steel in various forms (coils, slits, sheets, etc.) for general industrial use. According to the application, much of their product would be consumed by the automotive industry, appliance industry, tube manufacturers, and steel fabricators, among others. AM/NS Calvert LLC receives carbon steel slabs primarily by barge. The carbon steel slabs are heated and rolled to form a long strip in the hot strip mill. After rolling, the coils are either prepared for sale or proceed to the pickling lines. After pickling, if needed, the strips are cold-rolled or further processed in the galvanizing lines, annealed in batch furnaces, or temper rolled.

The significant sources of air pollutants at this facility include three Walking Beam Furnaces, Roughing and Finishing mills, two Pickling Lines, a Tandem Mill, HCL Acid Regeneration Plant, a Skin Pass Mill, three Continuous Hot Dip Galvanizing Lines (CHDGL), a Roll Shop, and three 70 MMBtu/hr Natural Gas Boilers. The facility also operates twenty emergency generators and pumps. Based on the Title V permit application, this facility is a potential major source for PM (PM10 & PM2.5), NOX, CO, VOC, GHG (CO2e), and total HAPs.

## NOTABLE CHANGES

Air Permits 503-0095-X035 and -X037 for the Nickel Flash System (S62) and Batch Annealing Furnace (S63a & S63b) respectively have been integrated into the renewed Title V permit. The facility has not yet completed the construction of the sources affiliated with Air Permits Nos. 503-0095-X038 – X043.

CHDGL-4's annealing furnace (S22) description has been updated to reference its ultra-low-$NO_X$ burners and exhaust-gas recirculation system, and the emission monitoring proviso referencing selective catalytic reduction and urea injection was dropped to account for these changes. AM/NS showed compliance with their BACT limit using ultra-low-$NO_X$ burners and exhaust-gas recirculation on February 28, 2019.

CHDGL-2's post-dryer (S32) and CHDGL-4's cleaning & drying section (S18) have never been constructed and have been removed from the permit.

May 27, 2020 correspondence with AM/NS revealed that the batch chromium plating processes' mist eliminator (S14) is a *composite mesh-pad* type control device rather than a *fiber-bed mist eliminator*, as defined in NESHAP N. Applicable requirements within the *Provisos for Roll Shop Chrome Plating Operations* have been corrected to reflect this distinction.

Requirements to record engine operating hours have been added to both the "Provisos for NSPS IIII Emergency Generators (Appendix A)" and "Provisos for NSPS JJJJ Emergency Generators (Appendix B)".

CAM plans for several units have been integrated into the permit under Appendix C. Related provisions throughout the permit, specifically all provisions addressing Method 9 observations, have been updated to match the language in Appendix C.

Small editorial changes, including removing references to one-time assessments that have been completed, were also incorporated into the permit.

## ENVIRONMENTAL JUSTICE

ADEM utilized the EJSCREEN screening tool to perform an analysis of the area. Please refer to Attachment A.

# HOT STRIP MILL

| Emission Point # | Pollutant | Emission limit | Regulation |
|---|---|---|---|
| S1 | $NO_x$ | 0.085 lb/MMBtu<br>and<br>71.82 lbs/hr | Rule 335-3-14-.04 (PSD/BACT) |
| S1 | CO | 0.035 lb/MMBtu<br>and<br>29.58 lbs/hr | Rule 335-3-14-.04 (PSD/BACT) |
| S1 | VOC | 0.0055 lb/MMBtu<br>and<br>4.65 lbs/hr | Rule 335-3-14-.04 (PSD/BACT) |
| S1 | $PM/PM_{10}$ | 0.0076 lb/MMBtu<br>and<br>6.42 lbs/hr | Rule 335-3-14-.04 (PSD/BACT) |
| S1 | $SO_2$ | 0.0006 lb/MMBtu<br>and<br>0.507 lbs/hr | Rule 335-3-14-.04 (PSD/BACT) |
| S1 | Opacity | 10% Opacity | Rule 335-3-14-.04 (PSD/BACT) |
| S2 | $NO_x$ | 0.085 lb/MMBtu<br>and<br>71.82 lbs/hr | Rule 335-3-14-.04 (PSD/BACT) |
| S2 | CO | 0.035 lb/MMBtu<br>and<br>29.58 lbs/hr | Rule 335-3-14-.04 (PSD/BACT) |
| S2 | VOC | 0.0055 lb/MMBtu<br>and<br>4.65 lbs/hr | Rule 335-3-14-.04 (PSD/BACT) |
| S2 | $PM/PM_{10}$ | 0.0076 lb/MMBtu<br>and<br>6.42 lbs/hr | Rule 335-3-14-.04 (PSD/BACT) |
| S2 | $SO_2$ | 0.0006 lb/MMBtu<br>and<br>0.507 lbs/hr | Rule 335-3-14-.04 (PSD/BACT) |
| S2 | Opacity | 10% Opacity | Rule 335-3-14-.04 (PSD/BACT) |
| S3 | $NO_x$ | 0.085 lb/MMBtu<br>and<br>71.82 lbs/hr | Rule 335-3-14-.04 (PSD/BACT) |
| S3 | CO | 0.035 lb/MMBtu<br>and<br>29.58 lbs/hr | Rule 335-3-14-.04 (PSD/BACT) |
| S3 | VOC | 0.0055 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |

| | | | |
|---|---|---|---|
| | | and<br>4.65 lbs/hr | |
| S3 | $PM/PM_{10}$ | 0.0076 lb/MMBtu<br>and<br>6.42 lbs/hr | Rule 335-3-14-.04 (PSD/BACT) |
| S3 | $SO_2$ | 0.0006 lb/MMBtu<br>and<br>0.507 lbs/hr | Rule 335-3-14-.04 (PSD/BACT) |
| S3 | Opacity | 10% Opacity | Rule 335-3-14-.04 (PSD/BACT) |
| S5a | $PM/PM_{10}$ | 0.0044 gr/dscf<br>and<br>1.20 lbs/hr | Rule 335-3-14-.04 (PSD/BACT) |
| S5a | Opacity | 10% Opacity | Rule 335-3-14-.04 (PSD/BACT) |
| S5 | $PM/PM_{10}$ | 0.0044 gr/dscf<br>and<br>4.01 lbs/hr | Rule 335-3-14-.04 (PSD/BACT) |
| S5 | Opacity | 10% Opacity | Rule 335-3-14-.04 (PSD/BACT) |

The Hot Strip Mill includes three direct-fired Walking Beam Furnaces (WBFs). Each WBF is natural gas fired with a maximum heat input capacity of 845 MMBtu/hr. The WBFs are used to systematically heat steel slabs. Emissions from the WBFs are vented to separate stacks (S1-S3).

Additionally, the Hot Strip Mill includes the Finishing Mill and Roughing Mill where the steel slabs are rolled to the required specifications. Water is sprayed onto the hot rolled steel to dissipate some of the heat. Exhaust streams from these sources include water vapor with entrained particulate matter. The emissions from each are controlled by a separate Wet Electrostatic Precipitator (WESP) (S5 and S5a, respectively).

Refer to figure 1-2 of the application for a process flow diagram of the Hot Strip Mill. Within the permit, the Hot Strip Mill's sources are addressed in the "Provisos for Three 845 MMBtu/hr Natural Gas Fired Walking Beam Furnaces (S1-S3)" and the "Provisos for Roughing Mill with Wet ESP (S5a) and Finishing Mill with Wet ESP (S5)".

**STATE REGULATIONS**

**ADEM Admin. Code r. 335-3-4-.01(1)(a) and (b), "*Visible Emissions*" for Control of Particulate Emissions**

Each emission point is subject to the requirements of this regulation. However, because there is a more stringent opacity limit imposed by PSD on each stack**,** the 20%/40% state opacity standards specified in this regulation will not be included in the WBF section of the permit.

**ADEM Admin. Code r. 335-3-4-.03, "*Fuel Burning Equipment*" for Control of Particulate Emissions**

This regulation applies to fuel-burning equipment, which ADEM Admin. Code r. 335-3-1-.02(1)(ee) defines as indirect heating equipment. Because the WBFs are direct-heat furnaces, this regulation does not apply.

**ADEM Admin. Code r. 335-3-5-.01, "*Fuel Combustion*" for Control of Sulfur Compound Emissions**

This regulation applies to fuel-burning equipment, which ADEM Admin. Code r. 335-3-1-.02(1)(ee) defines as indirect heating equipment. Because the WBFs are direct-heat furnaces, this regulation does not apply.

**ADEM Admin. Code r. 335-3-14-.04, "*Prevention of Significant Deterioration (PSD) Permitting*"**

**Applicability:**

The Calvert Mill is a major source with respect to PSD.

**Emissions Standards:**

PSD emissions standards for the units in the Hot Strip Mill are listed at the beginning of this section of this analysis.

**Compliance and Performance Test Methods and Procedures:**

- $NO_X$ emissions must be determined using 40 CFR 60 Appendix A, Method 7E.
- PM emissions must be determined using 40 CFR 60 Appendix A, Method 5 (filterable).
- $SO_2$ emissions must be determined using 40 CFR 60 Appendix A, Method 6.
- Opacity of emissions must be determined using 40 CFR 60 Appendix A, Method 9.
- CO emissions must be determined using 40 CFR 60 Appendix A, Method 10.
- VOC emissions must be determined using 40 CFR 60 Appendix A, Method 18 or 25a.

**Emissions Monitoring:**

AM/NS must conduct CO and $NO_X$ testing on the WBFs (S1 – S3) every 2½ years.

AM/NS must perform a daily visual check of the stacks associated with the Hot Strip Mill by a person familiar with Method 9. If visible emissions are noted and not corrected within an hour, a Method 9 observation must be performed.

AM/NS must maintain voltage to each WESP at or below the average level recorded in the last performance test, as calculated by 3-hour block average. Voltage must be monitored every 15 minutes.

**Recordkeeping and Reporting Requirements:**

Records of all monitoring requirements, including every problem observed and corrective action taken, must kept for five years.

**ADEM Admin. Code r. 335-3-16-.05 "*Major Source Operating Permits (MSOP) – Permit Content*"**

Except as specified in the rules, the entirety of Chapter 16 of ADEM Air Division's regulations applies to MSOP 503-0095.

Rule 335-3-16-.05(c) states that where applicable requirements within an MSOP, such as BACT limits, do not themselves require periodic testing or monitoring, the Department may introduce such testing or monitoring provisos, as well as associated recordkeeping and reporting requirements, into the permit as needed to determine compliance. The emissions monitoring, recordkeeping, and reporting requirements related to the above PSD limits were required by the Department per this rule.

**FEDERAL REGULATIONS**

NEW SOURCE PERFORMANCE STANDARDS (NSPS)

**40 CFR Part 60 Subpart A, "*General Provisions*"**

**Applicability:**

Provided that the facility is subject to one of the applicable subparts found under this part, the facility shall comply with this regulation as specified in that subpart.

**40 CFR 60 Subparts Db and Dc, "*Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units" and "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units"***

**Applicability:**

These NSPSs are applicable to steam-generating boilers, depending on nameplate heat capacity, as defined in §60.41b and §60.41c. Process heaters are excluded in these definitions. The three WBFs are not boilers by design and are not subject to either of these subparts.

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP)

**40 CFR Part 63 Subpart A, "*General Provisions*"**

**Applicability:**

Provided that the facility is subject to one of the applicable subparts found under this part, the facility shall comply with this regulation as specified in that subpart.

**40 CFR 63 Subpart DDDDD, "*National Emission Standards for Industrial, Commercial, and Institutional Boilers and Process Heaters*" *[Boiler MACT]***

**Applicability:**

The Boiler MACT is applicable to boilers and process heaters as defined in §63.7575. The three WBFs are not boilers by design, and they are not process heaters by the rule's definition because they are not indirect heaters.

## 40 CFR 64, "COMPLIANCE ASSURANCE MONITORING (CAM)"

### Applicability:

Emission sources that have a control device, emission standards, and pre-control emissions greater than the major source threshold are subject to CAM. The WBFs don't have control devices or emissions greater than the major source threshold. However, the finishing mill (S5) and finishing mill (S5a) each have attached WESPs, BACT standards, and pre-control PM emissions greater than the major source threshold and are therefore subject to CAM for PM and $PM_{10}$ emissions.

### CAM Plan:

AM/NS selected three compliance assurance monitoring parameters for the WESPs S5 and S5a.

Because WESPs remove particulate matter from flue gas by negatively charging the particles of the flue gas via an electrical discharge, AM/NS chose secondary voltage to the electrodes in each WESP as the primary CAM indicator. They must maintain voltage, measured at least once every fifteen minutes, at or above the average level during the last performance test, as calculated by 3-hour block average. This indicator is similar to a monitoring proviso originally written into the initial Title V permit.

AM/NS chose preventative maintenance as the secondary CAM indicator. They must conduct semiannual inspections of the equipment and correct any issues found, as well as perform preventative maintenance.

AM/NS must perform a daily visual check of the stacks associated with the Hot Strip Mill by a person familiar with Method 9. If visible emissions are noted and not corrected within an hour, a Method 9 observation must be performed. This indicator is similar to a monitoring proviso originally written into the initial Title V permit.

# COLD ROLLING MILL

| Emission Point # | Pollutant | Emission limit | Regulation |
|---|---|---|---|
| S6 | $PM/PM_{10}$ | 0.005 gr/dscf and 2.185 lbs/hr | Rule 335-3-14-.04 (PSD/BACT) |
| S6 | Opacity | 10% Opacity | Rule 335-3-14-.04 (PSD/BACT) |
| S8 | HCl | 6 ppmv | 40 CFR 63.1158(a)(1) Rule 335-3-11-.06(54) (MACT) |
| S8 | $PM/PM_{10}$ | 0.005 gr/dscf and 0.453 lbs/hr | Rule 335-3-14-.04 (PSD/BACT) |
| S8 | Opacity | 10% Opacity | Rule 335-3-14-.04 (PSD/BACT) |
| S12 | $PM/PM_{10}$ | 0.0025 gr/dscf and 4.32 lbs/hr | Rule 335-3-14-.04 (PSD/BACT) |
| S12 | PM-con (Condensable) | 0.0058 gr/dscf and 10.03 lbs/hr | Rule 335-3-14-.04 |
| S12 | Opacity | 10% Opacity | Rule 335-3-14-.04 (PSD/BACT) |
| S7 | $PM/PM_{10}$ | 0.005 gr/dscf and 2.185 lbs/hr | Rule 335-3-14-.04 (PSD/BACT) |
| S7 | Opacity | 10% Opacity | Rule 335-3-14-.04 (PSD/BACT) |
| S9 | HCl | 6 ppmv | 40 CFR 63.1158(a)(1) Rule 335-3-11-.06(54) (MACT) |
| S9 | $PM/PM_{10}$ | 0.005 gr/dscf and 0.453 lbs/hr | Rule 335-3-14-.04 (PSD/BACT) |
| S9 | Opacity | 10% Opacity | Rule 335-3-14-.04 (PSD/BACT) |
| S10 | HCl | N/A | N/A |
| S10 | Opacity | 10% Opacity | Rule 335-3-14-.04 (PSD/BACT) |
| S63-A & S63-B | - | Natural Gas Usage <323 $Mft^3$/12-months | Rule 335-3-14-.04 (Anti-PSD) |
| S63-A & S63-B | PM | 0.21 lbs/MMBtu | Rule 335-3-4-.03 |
| S63-A & S63-B | $SO_2$ | 1.8 lbs/MMBtu | Rule 335-3-5-.01(1)(b) |

The Cold Rolling Mill is comprised of two continuous pickling lines (CPL), the tandem mill associated CPL 1, the CPL tank farm, and the 70.68 MMBtu/hr batch annealing furnace.

Emission points are the baghouses associated with each CPL's processor & stretcher/leveler (S6 & S7), the scrubbers associated with each CPL (S8 & S9), the mist eliminator associated with CPL 1's tandem mill (S12), the scrubber associated with the tank farm servicing both CPLs (S10), and the ridge vents for the building housing the batch annealing furnace (which exhausts inside the building) (S63-A & S63-B).

In the Cold Rolling Mill, coils of steel are conjoined into continuous strips at the stretcher/leveler, cleaned in the CPLs to remove any rust and other contaminates the steel may have collected during storage, and re-rolled into coil. The tandem mill associated with CPL 1 resizes coils to specified thickness. Coils may be further processed in the annealing furnace.

Refer to figure 1-3 of the application for a process flow diagram of CPL #1. Within the permit, the Cold Rolling Mill's sources are addressed in the "Provisos for Coupled Continuous Pickling Line 1 and Tandem Mill", the "Provisos for Coupled Continuous Pickling Line 2", and the "Provisos for Batch Annealing Furnace (S63-A & S63-B)".

**STATE REGULATIONS**

**ADEM Admin. Code r. 335-3-4-.01(1)(a) and (b), "*Visible Emissions*" for Control of Particulate Emissions**

Each emission point is subject to the requirements of this regulation. However, because there is a more stringent opacity limit imposed by PSD on each stack associated with the CPLs**,** the 20%/40% state opacity standards specified in this regulation will not be included in the CPL 1 and CPL 2 sections of the permit.

The batch annealing furnace does not have a more stringent limit imposed by PSD. It must not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period and must also not discharge a 6-minute average opacity of particulate emissions greater than 40%, as stated by General Permit Proviso 29.

**ADEM Admin. Code r. 335-3-4-.03, "*Fuel Burning Equipment*" for Control of Particulate Emissions**

This regulation applies to fuel-burning equipment, which ADEM Admin. Code r. 335-3-1-.02(1)(ee) defines as indirect heating equipment. This regulation applies to the batch annealing furnace, and Mobile County is considered a Class 1 County under this rule. The batch annealing furnace may not emit PM greater than 0.21 lb/MMBtu.

**ADEM Admin. Code r. 335-3-5-.01, "*Fuel Combustion*" for Control of Sulfur Compound Emissions**

This regulation applies to fuel-burning equipment, which ADEM Admin. Code r. 335-3-1-.02(1)(ee) defines as indirect heating equipment. This regulation applies to the batch annealing furnace, and Mobile County is considered a Class 1 County under this rule. The batch annealing furnace may not emit $SO_2$ greater than 1.8 lb/MMBtu.

**ADEM Admin. Code r. 335-3-14-.04, "*Prevention of Significant Deterioration (PSD) Permitting*"**

**Applicability:**

The Calvert Mill is a major source with respect to PSD. However, AM/NS applied for the batch annealing furnace after becoming a major source, and it was not a major modification.

**Emissions Standards:**

PSD emissions standards for the units in the Cold Rolling Mill are listed at the beginning of this section of this analysis. The batch annealing furnace is subject to an anti-PSD limit restricting gas usage to 323 million cubic feet per twelve months.

**Compliance and Performance Test Methods and Procedures:**

- PM and $PM_{10}$ (filterable) emissions must be determined using 40 CFR 60 Appendix A, Method 5.
- PM (condensable) emissions must be determined using 40 CFR 51 Appendix M, Method 202.
- Opacity of emissions must be determined using 40 CFR 60 Appendix A, Method 9.

**Emissions Monitoring:**

AM/NS must maintain the differential pressure of tandem mill mist eliminator S12 between 350 and 2,200 Pa. The differential pressure must be monitored at least once per day and corrected within two hours if it is out of range.

AM/NS must perform a daily visual check of the stacks associated with the Cold Rolling Mill by a person familiar with Method 9. If visible emissions are noted and not corrected within an hour, a Method 9 observation must be performed.

**Recordkeeping and Reporting Requirements:**

Records of all monitoring requirements, including every problem observed and corrective action taken, must kept for five years.

**ADEM Admin. Code r. 335-3-16-.05 "*Major Source Operating Permits (MSOP) – Permit Content*"**

Except as specified in the rules, the entirety of Chapter 16 of ADEM Air Division's regulations applies to MSOP 503-0095.

Rule 335-3-16-.05(c) states that where applicable requirements within an MSOP, such as BACT limits, do not themselves require periodic testing or monitoring, the Department may introduce such testing or monitoring provisos, as well as associated recordkeeping and reporting requirements, into the permit as needed to determine compliance. The emissions monitoring, recordkeeping, and reporting requirements related to the above PSD limits were required by the Department per this rule.

**FEDERAL REGULATIONS**

NEW SOURCE PERFORMANCE STANDARDS (NSPS)

**40 CFR Part 60 Subpart A, "*General Provisions*"**

**Applicability:**

Provided that the facility is subject to one of the applicable subparts found under this part, the facility shall comply with this regulation as specified in that subpart.

**40 CFR 60 Subparts Db and Dc, "*Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units" and "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units"***

**Applicability:**

These NSPSs are applicable to steam-generating boilers, depending on nameplate heat capacity, as defined in §60.41b and §60.41c. Process heaters are excluded in these definitions. The batch annealing furnace is a steam generating unit because it meets the definition of a *device that combusts any fuel and produces steam or heats water or heats any heat transfer medium*. It is not a process heater, or a *device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst*, according to this rule because annealing is not a chemical reaction.

Because its heat input rating is <100 MMBtu/hr, the annealing furnace is subject to NSPS Dc.

**Standards:**

Because the batch annealing furnace uses only natural gas as a fuel, the emission standards of §60.42c and §60.43c do not apply.

**Recordkeeping and Reporting:**

Per §60.48c(g), AM/NS must record natural gas usage within the batch annealing furnace.

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP)

**40 CFR Part 63 Subpart A, "*General Provisions*"**

**Applicability:**

Provided that the facility is subject to one of the applicable subparts found under this part, the facility shall comply with this regulation as specified in that subpart.

**40 CFR 63 Subpart CCC, "*National Emission Standards for Steel Pickling – HCl Process Facilities and Hydrochloric Acid Regeneration Plants"***

**Applicability:**

NESHAP CCC is applicable to HCl pickling lines, regeneration plants, and storage vessels as defined in §63.1156. CPL 1 (S8), CPL 2 (S9), and the tank farm (S10) are subject to this regulation.

**Standards:**

AM/NS shall not emit from CPL 1 and CPL 2 gases of concentration exceeding 6 ppmv HCl or gases of mass emission rate corresponding to less than 99% removal efficiency of HCl [§63.1158(a)(1)(i)&(ii)]. These limits are evaluated at the lines' wet scrubbers, S8 & S9.

AM/NS must control the emissions from their HCl tanks via a closed vent system and control device [§63.1159(b)]. The tank farm is controlled by a wet scrubber (S10), and emissions from the HCl supply tanks associated with each CPL are routed to S8 & S9.

AM/NS has a general duty to minimize emissions from all sources [§63.1159(c)].

**Monitoring & Maintenance:**

AM/NS must conduct performance tests on S8 & S9 every 2½ years to demonstrate compliance with either the HCl concentration limit or the HCl removal efficiency limit [§63.1161(a) & §63.1162(a)(1)]. HCl emissions must be determined using 40 CFR 60 Appendix A, Method 26a.

Additionally, after each successful performance test, AM/NS must establish operating parameters for recirculation rate through scrubbers S8 & S9 [§63.1161(b) & §63.1162(a)(2)]; scrubber water conductivity, in lieu of scrubber makeup water rate, is an alternative monitoring parameter per §63.1162(a)(6). The monitoring devices used to comply with this must be calibrated yearly [§63.1162(a)(5)]

Each HCl storage vessel must be inspected semiannually to ensure the closed-vent system is functioning properly.

AM/NS shall establish and operating & maintenance (O&M) plan for each scrubber controlling emissions from a pickling line (S8 & S9) according to the requirements of §63.1160(b).

**Recordkeeping and Reporting:**

Records of all monitoring and maintenance requirements [§63.1165(b)] and records of every problem observed and corrective action taken [§63.1165(a)] must kept for five years.

AM/NS must report the results of all performance tests within 60 days of completion. AM/NS shall submit a malfunction report to the Department semiannually [§63.1164 (b)].

**40 CFR 63 Subpart DDDDD, "*National Emission Standards for Industrial, Commercial, and Institutional Boilers and Process Heaters*" *[Boiler MACT]***

**Applicability:**

The Boiler MACT is applicable to boilers and process heaters as defined in §63.7575. The batch annealing furnace (S63-A & S63-B), which heats water to transmit radiant heat to the steel via a bank of hot water tubes, appears to meet both the definitions of boiler and process heater under this rule. *Boiler* means an enclosed device using controlled flame combustion and having the primary purpose of recovering thermal energy in the form of steam or hot water.

*Process heater* means an enclosed device using controlled flame, and the unit's primary purpose is to transfer heat indirectly to a process material (liquid, gas, or solid) or to a heat transfer material (e.g., glycol or a mixture of glycol and water) for use in a process unit, instead of generating steam. As a process heater, the batch annealing furnace would be considered a metal process furnace, *a subcategory of process heaters, as defined in this subpart, which include natural gas-fired annealing furnaces*, per §63.7575.

**Standards:**

Metal process furnaces have no emission standards in Table 1 of Boiler MACT. Additionally, natural gas-fired boilers neither have specific emission standards under nor are listed within Table 1 of the Boiler MACT. However, under both definitions, the batch annealing furnace is subject to work practice standards found in Table 3 of the subpart. Having a nameplate heat rating of greater than 10 MMBtu/hr, the batch annealing furnace must undergo annual tune-ups per §63.7540(a)(10).

**Recordkeeping and Reporting Requirements:**

AM/NS must meet the recordkeeping requirements of §63.7555 and the reporting requirements of §63.7545 and §63.7550.

**40 CFR 63 Subpart NNNNN, "*National Emission Standards for Hazardous Air Pollutants: Hydrochloric Acid Production*"**

**Applicability:**

Per §63.8985(b)(2), sources subject to NESHAP CCC are not subject to NESHAP NNNNN.

**40 CFR 64, "COMPLIANCE ASSURANCE MONITORING (CAM)"**

**Applicability:**

Emission sources that have a control device, emission standards, and pre-control emissions greater than the major source threshold are subject to CAM. The CPLs don't have emissions greater than the major source threshold.

However, the two stretcher/levelers are accompanied by baghouses (S6 & S7) and the tandem mill has an attached mist eliminator (S12). They also have BACT standards and pre-control PM emissions greater than the major source threshold and are each therefore subject to CAM for PM and $PM_{10}$ emissions.

**CAM Plan:**

AM/NS selected three compliance assurance monitoring parameters for the stretcher leveler baghouses S6 & S7 and tandem mill mist eliminator S12.

Optimal particulate removal efficiency for both baghouses and mist eliminators are related to differential pressure. For S6 & S7, AM/NS must maintain the differential pressure between 2.27 – 13.63 bar, checked once per shift. For S12, AM/NS must maintain the differential pressure between 350 – 2,200 Pa; this indicator is similar to a monitoring proviso originally written into the initial Title V permit for S12.

AM/NS chose preventative maintenance as the secondary CAM indicator for both baghouses S6 & S7 and mist eliminator S12. They must conduct quarterly inspections of the equipment and correct any issues found, as well as perform preventative maintenance.

AM/NS must perform a daily visual check of the stacks associated with the Cold Rolling Mill by a person familiar with Method 9. If visible emissions are noted and not corrected within an hour, a Method 9 observation must be performed. This indicator is similar to a monitoring proviso originally written into the initial Title V permit.

# HCL ACID REGENERATION PLANT

| Emission Point # | Pollutant | Emission limit | Regulation |
|---|---|---|---|
| S59 | PM/PM10 | 0.41 lb/hr | Rule 335-3-14-.04 (PSD/BACT) |
| S59 | Opacity | 10% Opacity | Rule 335-3-14-.04 (PSD/BACT) |
| S60 | PM/PM10 | 1.85 lb/hr | Rule 335-3-14-.04 (PSD/BACT) |
| S60 | Opacity | 10% Opacity | Rule 335-3-14-.04 (PSD/BACT) |
| S60 | HCl | 12 ppmv | 40 CFR §63.1158(b)(1) |
| S60 | $Cl_2$ | 6 ppmv | 40 CFR §63.1158(b)(2) |

The Acid Regeneration Plant (ARP) regenerates hydrochloric acid (HCl) from the ferrous chloride solution or spent pickle liquor that is a byproduct of the pickling lines. Emissions from the ARP exit through stack S60 after having passed through a mist eliminator, two packed column scrubbers, and a dust venture scrubber.

As shown in figure 1-4 of the application, in the venturi scrubber of the ARP, HCl in the spent pickle liquor is vaporized and separated via direct contact with hot off gases from the spray roaster. The concentrated pickle liquor is fed into the spray roaster, where it directly contacts the hot products of combustion from a 48.4 MMBtu/hr natural gas-fired burner; resulting solid ferric oxide is removed from the bottom of the scrubber to the iron oxide storage bin controlled by bag house S59, while the spray-roaster off gases (consisting of vaporized HCl and products of combustion) loop back to the venturi scrubber as originally described. HCl-laden off gases from the venture scrubber are fed to a packed column absorber where they contact rinse water; the resulting 18% HCl solution goes to the HCl tank farm for reuse. Gases from the absorber are treated by four control devices in series before emission from S60: packed column scrubber #1 (water rinse), the dust venture scrubber, packed column scrubber #2 (caustic solution rinse), and the mist eliminator.

Within the permit, the ARP's sources are addressed in the "Provisos for HCl Acid Regeneration Plant (S59 & S60)".

### STATE REGULATIONS

**ADEM Admin. Code r. 335-3-4-.01(1)(a) and (b), "*Visible Emissions*" for Control of Particulate Emissions**

Each emission point is subject to the requirements of this regulation. However, because there is a more stringent opacity limit imposed by PSD on each stack associated with the ARP**,** the 20%/40% state opacity standards specified in this regulation will not be included in the ARP section of the permit.

**ADEM Admin. Code r. 335-3-4-.03, "*Fuel Burning Equipment*" for Control of Particulate Emissions**

This regulation applies to fuel-burning equipment, which ADEM Admin. Code r. 335-3-1-.02(1)(ee) defines as indirect heating equipment. The spray roaster is a direct heater and is not subject to this regulation.

**ADEM Admin. Code r. 335-3-5-.01, "*Fuel Combustion*" for Control of Sulfur Compound Emissions**

This regulation applies to fuel-burning equipment, which ADEM Admin. Code r. 335-3-1-.02(1)(ee) defines as indirect heating equipment. The spray roaster is a direct heater and is not subject to this regulation.

**ADEM Admin. Code R. 335-3-14-.04, "*Prevention of Significant Deterioration (PSD) Permitting*"**

**Applicability:**

The Calvert Mill is a major source with respect to PSD.

**Emissions Standards:**

PSD emissions standards for the units in the ARP are listed at the beginning of this section of this analysis.

**Compliance and Performance Test Methods and Procedures:**

- PM and $PM_{10}$ (filterable) emissions must be determined using 40 CFR 60 Appendix A, Method 5.
- PM (condensable) emissions must be determined using 40 CFR 51 Appendix M, Method 202.
- Opacity of emissions must be determined using 40 CFR 60 Appendix A, Method 9.

**Emissions Monitoring:**

AM/NS must maintain the differential pressure across the ARP's scrubber train (S60) between 350 and 1,450 mm WC. The differential pressure must be monitored at least once per shift and corrected within two hours if it is out of range.

AM/NS must perform a daily visual check of the stacks associated with the ARP by a person familiar with Method 9. If visible emissions are noted and not corrected within an hour, a Method 9 observation must be performed.

**Recordkeeping and Reporting Requirements:**

Records of all monitoring requirements, including every problem observed and corrective action taken, must kept for five years.

**ADEM Admin. Code r. 335-3-16-.05 "*Major Source Operating Permits (MSOP) – Permit Content*"**

Except as specified in the rules, the entirety of Chapter 16 of ADEM Air Division's regulations applies to MSOP 503-0095.

Rule 335-3-16-.05(c) states that where applicable requirements within an MSOP, such as BACT limits, do not themselves require periodic testing or monitoring, the Department may introduce such testing or monitoring provisos, as well as associated recordkeeping and reporting requirements, into the permit as needed to determine compliance. The emissions monitoring, recordkeeping, and reporting requirements related to the above PSD limits were required by the Department per this rule.

**FEDERAL REGULATIONS**

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP)

**40 CFR Part 63 Subpart A, "*General Provisions*"**

**Applicability:**

Provided that the facility is subject to one of the applicable subparts found under this part, the facility shall comply with this regulation as specified in that subpart.

**40 CFR 63 Subpart CCC, "*National Emission Standards for Steel Pickling – HCl Process Facilities and Hydrochloric Acid Regeneration Plants*"**

**Applicability:**

NESHAP CCC is applicable to HCl pickling lines, regeneration plants, and storage vessels as defined in §63.1156. The ARP is subject to this regulation.

**Standards:**

AM/NS shall not emit from ARP gases of concentration exceeding 12 ppmv HCl or gases of concentration exceeding 6 ppmv $Cl_2$ [§63.1158(b)(1)&(2)]. These limits are evaluated at S60.

AM/NS has a general duty to minimize emissions from all sources [§63.1159(c)].

**Monitoring & Maintenance:**

AM/NS must conduct performance tests on S60 every year to demonstrate compliance with the HCl and $Cl_2$ concentration limits [§63.1161(b) & §63.1162(a)(1)]. HCl and $Cl_2$ emissions must be determined using 40 CFR 60 Appendix A, Method 26a.

Additionally, after each successful performance test, Subpart CCC requires AM/NS establish operating parameters for makeup water rate and/or recirculation rate through the scrubbers in the ARP's scrubber train [§63.1161(b) & §63.1162(a)(2)]; however, in lieu of recirculation or makeup water rate, AM/NS uses differential pressure as an alternative monitoring parameter per §63.1162(a)(6). Additionally, because AM/NS uses a mist eliminator and a venture scrubber in series with the two wet scrubbers, pressure drop is an appropriate monitoring parameter for non-wet scrubber control devices [§63.1162(a)(3)]. The monitoring devices used to comply with this must be calibrated yearly [§63.1162(a)(5)].

AM/NS shall establish and operating & maintenance (O&M) plan for the ARPs control devices according to the requirements of §63.1160(b).

**Recordkeeping and Reporting:**

Records of all monitoring and maintenance requirements [§63.1165(b)] and records of every problem observed and corrective action taken [§63.1165(a)] must kept for five years.

AM/NS must report the results of all performance tests within 60 days of completion. AM/NS shall submit a malfunction report to the Department semiannually [§63.1164 (b)].

## 40 CFR 63 Subpart NNNNN, "*National Emission Standards for Hazardous Air Pollutants: Hydrochloric Acid Production*"

**Applicability:**

Per §63.8985(b)(2), sources subject to NESHAP CCC are not subject to NESHAP NNNNN.

## 40 CFR 64, "COMPLIANCE ASSURANCE MONITORING (CAM)"

**Applicability:**

Emission sources that have a control device, emission standards, and pre-control emissions greater than the major source threshold are subject to CAM. The iron oxide bin and baghouse does not have emissions greater than the major source threshold. The ARP would meet the above criteria, but it is exempt from CAM by being subject to NESHAP CCC [§64.2(b)(1)].

## CONTINUOUS HOT DIP GALVANIZING LINES 1-4

| EMISSION POINTS | POLLUTANT | EMISSION LIMIT | REGULATIONS |
|---|---|---|---|
| S15, S16, S17 | $PM/PM_{10}$ | 0.32 lb/hr<br>0.005 gr/dscf | Rule 335-3-14-.04 (PSD/BACT) |
| S15, S16, S17 | Opacity | 10% Opacity | Rule 335-3-14-.04 (PSD/BACT) |
| S19, S21 | $PM/PM_{10}$ | 0.84 lb/hr<br>0.0076 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S19, S21 | $NO_x$ | 6.6 lb/hr<br>0.06 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S19, S21 | $SO_2$ | 0.066 lb/hr<br>0.0006 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S19, S21 | CO | 6.6 lb/hr<br>0.06 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S19, S21 | VOC | 0.605 lb/hr<br>0.0055 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S20 | $PM/PM_{10}$ | 0.94 lb/hr<br>0.0076 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S20 | $NO_x$ | 7.43 lb/hr<br>0.06 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S20 | $SO_2$ | 0.074 lb/hr<br>0.0006 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S20 | CO | 7.43 lb/hr<br>0.06 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S20 | VOC | 0.68 lb/hr<br>0.0055 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S22 | $PM/PM_{10}$ | 0.912 lb/hr<br>0.0076 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S22 | $NO_x$ | 7.2 lb/hr<br>0.06 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S22 | $SO_2$ | 0.072 lb/hr<br>0.0006 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S22 | CO | 7.2 lb/hr<br>0.06 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S22 | VOC | 0.66 lb/hr<br>0.0055 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S19, S20, S21, S22 | Opacity | 10% Opacity | Rule 335-3-14-.04 (PSD/BACT) |
| S27, S28, S29 | PM/PM10 | 0.34 lb/hr<br>0.0025 gr/dscf | Rule 335-3-14-.04 (PSD/BACT) |
| S30 | PM/PM10 | 0.36 lb/hr<br>0.0025 gr/dscf | Rule 335-3-14-.04 (PSD/BACT) |

| | | | |
|---|---|---|---|
| S27, S28, S29, S30 | Opacity | 10% Opacity | Rule 335-3-14-.04 (PSD/BACT) |
| S31, S33 | PM/PM10 | 0.058 lb/hr<br>0.0076 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S31, S33 | $NO_x$ | 0.46 lb/hr<br>0.06 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S31, S33 | $SO_2$ | 0.0046 lb/hr<br>0.0006 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S31, S33 | CO | 0.46 lb/hr<br>0.06 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S31, S33 | VOC | 0.04 lb/hr<br>0.0055 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S34 | PM/PM10 | 0.082 lb/hr<br>0.0076 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S34 | $NO_x$ | 0.65 lb/hr<br>0.06 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S34 | $SO_2$ | 0.0065 lb/hr<br>0.0006 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S34 | CO | 0.65 lb/hr<br>0.06 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S34 | VOC | 0.059 lb/hr<br>0.0055 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S31, S33, S34 | Opacity | 10% Opacity | Rule 335-3-14-.04 (PSD/BACT) |
| S62 | HCl | Operating Standards | 40 CFR §63.1159 |

AM/NS Calvert LLC operates four Continuous Hot Dip Galvanizing Lines (CHDGL). The steel strips are coated with zinc and/or aluminum as an anticorrosive coating in the CHDGLs, though the four lines differ in furnace size. Steel strips go through cleaning sections, annealing furnaces, zinc and/or aluminum pots, skin pass mill and dryers, and post dryers. CHDGL 2 is equipped with a zinc pot bypass which allows continuous annealing of the strip without undergoing the galvanizing step. The nickel flash system, consisting of nine storage tanks containing acid and nickel solution controlled by scrubber S62, is co-located with CHDGL 2.

CHDGL 1-3 include separate cleaning sections with 1.88 MMBtu/hr dryers vented to their respective stacks (S15 – S17) and mist eliminators. The cleaning section dryer (S18) for CHDGL 4 was never constructed and will be removed with this renewal.

Each line has an annealing furnace associated with it. The annealing furnaces (S19 – S21) for CHDGL 1 - 3 each are heated by ultra-low-$NO_X$ burners (UNLB) and exhaust gas recirculation. The burners for S19 & S21 are 110 MMBtu/hr, while S20 is 123.8 MMBtu/hr. CHDGL 4's annealing furnace (S22) is heated by 24 MMBtu/hr indirect-fired ULNB with exhaust gas recirculation as well as 101.68 MMBtu/hr direct-fired low-$NO_X$ burners. The previous iteration of the permit required that AM/NS control $NO_X$ emissions from S22 via urea injection, but given the 2018 project to install the UNLBs and the February 28, 2019

emission test indicating compliance with S22's $NO_X$ limit without the use of urea, the renewed Title V permit will only require that AM/NS only operate S22 using UNLB and exhaust gas recirculation.

For CHDGL 1 – 3, the emissions from the skin pass mills and their respective 1.88 MMBtu/hr dryers are vented to a mist eliminator (S27-S29). CHDGL 4's skin pass mill is vented to its own mist eliminator (S30), but its 1.88 MMBtu/hr dryer's emissions are vented to a stack (S34) shared with CHDGL 4's post-dryer.

CHDGL 1, 3, & 4 have 9.22 MMBtu/hr post-dryers vented to S31, S33, & S34 respectively. The post-dryer (S32) for CHDGL 2 was never constructed and will be removed with this renewal.

The tank farm, also called the nickel flash system, for the lines is located at CHDGL 2. HCl and particulate matter emissions from the tanks, including spent and makeup nickel solution tanks and HCl tanks, are controlled by scrubber S62. The wastewater treatment step for the spent nickel solution emits ammonia to the atmosphere, which is not regulated.

Refer to figure 1-7 of the application for a process flow diagram of CHDGL. Within the permit, the Continuous Hot Dip Galvanizing Lines' sources are addressed in the "Provisos for Continuous Hot Dip Galvanizing Line 1" through the "Provisos for Continuous Hot Dip Galvanizing Line 4" and "Provisos for the Nickel Flash System".

**STATE REGULATIONS**

**ADEM Admin. Code r. 335-3-4-.01(1)(a) and (b), "*Visible Emissions*" for Control of Particulate Emissions**

Each emission point is subject to the requirements of this regulation. However, because there is a more stringent opacity limit imposed by PSD on each stack except S62**,** the 20%/40% state opacity standards specified in this regulation will not be included in the CHDGL sections of the permit.

S62 is subject to the requirements of this regulation and does not have a more stringent limit imposed by PSD. It must not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period and must also not discharge a 6-minute average opacity of particulate emissions greater than 40%, as stated by General Permit Proviso 29.

**ADEM Admin. Code r. 335-3-4-.03, "*Fuel Burning Equipment*" for Control of Particulate Emissions**

This regulation applies to fuel-burning equipment, which ADEM Admin. Code r. 335-3-1-.02(1)(ee) defines as indirect heating equipment. This regulation applies to the annealing furnaces, and Mobile County is considered a Class 1 County under this rule. However, the four annealing furnaces have more stringent PM limits imposed by PSD.

**ADEM Admin. Code r. 335-3-5-.01, "*Fuel Combustion*" for Control of Sulfur Compound Emissions**

This regulation applies to fuel-burning equipment, which ADEM Admin. Code r. 335-3-1-.02(1)(ee) defines as indirect heating equipment. This regulation applies to the annealing furnaces, and Mobile County is considered a Class 1 County under this rule. However, the four annealing furnaces have more stringent $SO_2$ limits imposed by PSD.

**ADEM Admin. Code r. 335-3-14-.04, "*Prevention of Significant Deterioration (PSD) Permitting*"**

**Applicability:**

The Calvert Mill is a major source with respect to PSD.

**Emissions Standards:**

PSD emissions standards for the units on the four CHDGL are listed at the beginning of this section of this analysis.

**Compliance and Performance Test Methods and Procedures:**

- $NO_X$ emissions must be determined using 40 CFR 60 Appendix A, Method 7E.
- PM emissions must be determined using 40 CFR 60 Appendix A, Method 5 (filterable).
- $SO_2$ emissions must be determined using 40 CFR 60 Appendix A, Method 6.
- Opacity of emissions must be determined using 40 CFR 60 Appendix A, Method 9.
- CO emissions must be determined using 40 CFR 60 Appendix A, Method 10.
- VOC emissions must be determined using 40 CFR 60 Appendix A, Method 18 or 25a.

**Emissions Monitoring:**

AM/NS must maintain the differential pressure of mist eliminators S15 – S17 between 0.5 – 1.5 psi. The differential pressure must be monitored at least once per shift and corrected within two hours if it is out of range.

AM/NS must perform a daily visual check of the stacks associated with each CHDGL by a person familiar with Method 9. If visible emissions are noted and not corrected within an hour, a Method 9 observation must be performed.

$NO_X$ emissions from the annealing furnaces (S19 – S22) must be tested every 2½ years.

**Recordkeeping and Reporting Requirements:**

Records of all monitoring requirements, including every problem observed and corrective action taken, must kept for five years.

**ADEM Admin. Code r. 335-3-16-.05 "*Major Source Operating Permits (MSOP) – Permit Content*"**

Except as specified in the rules, the entirety of Chapter 16 of ADEM Air Division's regulations applies to MSOP 503-0095.

Rule 335-3-16-.05(c) states that where applicable requirements within an MSOP, such as BACT limits, do not themselves require periodic testing or monitoring, the Department may

introduce such testing or monitoring provisos, as well as associated recordkeeping and reporting requirements, into the permit as needed to determine compliance. The emissions monitoring, recordkeeping, and reporting requirements related to the above PSD limits were required by the Department per this rule.

**FEDERAL REGULATIONS**

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP)

**40 CFR Part 63 Subpart A, "*General Provisions*"**

**Applicability:**

Provided that the facility is subject to one of the applicable subparts found under this part, the facility shall comply with this regulation as specified in that subpart.

**40 CFR 63 Subpart CCC, "*National Emission Standards for Steel Pickling – HCl Process Facilities and Hydrochloric Acid Regeneration Plants"***

**Applicability:**

NESHAP CCC is applicable to HCl pickling lines, regeneration plants, and storage vessels as defined in §63.1156. The nickel flash system, which includes HCl tanks, and its scrubber S62 is subject to this regulation.

**Standards:**

AM/NS must control the emissions from their HCl tanks via a closed vent system and control device [§63.1159(b)]. The tank farm is controlled by a wet scrubber (S62).

AM/NS has a general duty to minimize emissions from all sources [§63.1159(c)].

**Monitoring:**

Each HCl storage vessel must be inspected semiannually to ensure the closed-vent system is functioning properly.

**Recordkeeping and Reporting:**

Records of all monitoring and maintenance requirements [§63.1165(b)] and records of every problem observed and corrective action taken [§63.1165(a)] must kept for five years.

**40 CFR 63 Subpart DDDDD, "*National Emission Standards for Industrial, Commercial, and Institutional Boilers and Process Heaters*" *[Boiler MACT]***

**Applicability:**

The Boiler MACT is applicable to boilers and process heaters as defined in §63.7575. The four annealing furnaces (S19 – S22) and the three cleaning section heaters (S15 – S17) qualify as process heaters because they use indirect burners; S22, which uses both indirect and direct burners, receives the majority of its heating value from the indirect ULNBs. The skin pass mill dryers (S27 – S29 & S34) and the post-dryers (S31, S33, & S34) heat using direct-fired means and are therefore not considered process heaters under this subpart.

The cleaning section heaters and the annealing furnaces are categorized as *metal process furnaces* by the definition in §63.7575.

**Standards:**

Metal process furnaces have no emission standards in Table 1 of Boiler MACT. However, they are subject to work practice standards found in Table 3 of the subpart. Each having a nameplate heat rating of greater than 10 MMBtu/hr, the annealing furnaces must undergo annual tune-ups per §63.7540(a)(10). Having less than 10 MMBtu/hr heating value, the cleaning section heaters must undergo biennial tune-ups per §63.7540(a)(11).

**Recordkeeping and Reporting Requirements:**

AM/NS must meet the recordkeeping requirements of §63.7555 and the reporting requirements of §63.7545 and §63.7550.

## 40 CFR 64, "COMPLIANCE ASSURANCE MONITORING (CAM)"

**Applicability:**

Emission sources that have a control device, emission standards, and pre-control emissions greater than the major source threshold are subject to CAM. For the purposes of CAM, ULNB and LNB are not considered control devices for process heaters and boilers. Given that, only the skin pass mills and associated dryers controlled by mist eliminators (S27 – S30) are subject to CAM for $PM_{10}$ emissions.

**CAM Plan:**

AM/NS selected two compliance assurance monitoring parameters for each CDHGL's skin pass mill & dryer (S27 – S30). Differential pressure was not selected as a performance indicator for these mist eliminators because of the nature of the emissions being removed.

AM/NS chose preventative maintenance as the primary CAM indicator. They must conduct semiannual inspections of the equipment and correct any issues found, as well as perform preventative maintenance.

AM/NS must perform a daily visual check of the stacks associated with the CHDGLs by a person familiar with Method 9. If visible emissions are noted and not corrected within an hour, a Method 9 observation must be performed. This indicator is similar to a monitoring proviso originally written into the initial Title V permit

# SKIN PASS MILL

| EMISSION POINTS | POLLUTANT | EMISSION LIMIT | REGULATIONS |
|---|---|---|---|
| S36 | $PM/PM_{10}$ | 0.68 lb/hr<br>0.0025 gr/dscf | Rule 335-3-14-.04 (PSD/BACT) |
| S36 | Opacity | 10% Opacity | Rule 335-3-14-.04 (PSD/BACT) |

The single-stand skin pass mill (SPM) and its mist eliminator (S36), which is separate from the skin pass mills associated with CHDGL, is used to polish rolls from either the Cold Rolling Mill or CHDGLs to customer specifications. Particulate matter emissions, controlled by mist eliminator S36, arise from spraying oil emulsion onto the coils to facilitate this process.

Within the permit, the SPM is addressed in the "Provisos for Skin Pass Mill with Mist Eliminator".

**STATE REGULATIONS**

**ADEM Admin. Code r. 335-3-4-.01(1)(a) and (b), "*Visible Emissions*" for Control of Particulate Emissions**

Each emission point is subject to the requirements of this regulation. However, because there is a more stringent opacity limit imposed by PSD on the stack**,** the 20%/40% state opacity standards specified in this regulation will not be included in the SPM section of the permit.

**ADEM Admin. Code r. 335-3-14-.04, "*Prevention of Significant Deterioration (PSD) Permitting*"**

**Applicability:**

The Calvert Mill is a major source with respect to PSD.

**Emissions Standards:**

PSD emissions standards for SPM are listed at the beginning of this section of this analysis.

**Compliance and Performance Test Methods and Procedures:**

- PM emissions must be determined using 40 CFR 60 Appendix A, Method 5 (filterable).
- Opacity of emissions must be determined using 40 CFR 60 Appendix A, Method 9.

**Emissions Monitoring:**

AM/NS must perform a daily visual check of the stacks associated with each CHDGL by a person familiar with Method 9. If visible emissions are noted and not corrected within an hour, a Method 9 observation must be performed.

**Recordkeeping and Reporting Requirements:**

Records of all monitoring requirements, including every problem observed and corrective action taken, must kept for five years.

**ADEM Admin. Code r. 335-3-16-.05 "*Major Source Operating Permits (MSOP) – Permit Content*"**

Except as specified in the rules, the entirety of Chapter 16 of ADEM Air Division's regulations applies to MSOP 503-0095.

Rule 335-3-16-.05(c) states that where applicable requirements within an MSOP, such as BACT limits, do not themselves require periodic testing or monitoring, the Department may introduce such testing or monitoring provisos, as well as associated recordkeeping and reporting requirements, into the permit as needed to determine compliance. The emissions monitoring, recordkeeping, and reporting requirements related to the above PSD limits were required by the Department per this rule.

**FEDERAL REGULATIONS**

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP)

**40 CFR 64, "COMPLIANCE ASSURANCE MONITORING (CAM)"**

**Applicability:**

Emission sources that have a control device, emission standards, and pre-control emissions greater than the major source threshold are subject to CAM. The SPM and mist eliminator S36 is subject to CAM for PM/$PM_{10}$ emissions.

**CAM Plan:**

AM/NS selected two compliance assurance monitoring parameters for the SPM mist eliminator (S36). Differential pressure was not selected as a performance indicator for the mist eliminator because of the nature of the emissions being removed.

AM/NS chose preventative maintenance as the primary CAM indicator. They must conduct semiannual inspections of the equipment and correct any issues found, as well as perform preventative maintenance.

AM/NS must perform a daily visual check of S36 by a person familiar with Method 9. If visible emissions are noted and not corrected within an hour, a Method 9 observation must be performed. This indicator is similar to a monitoring proviso originally written into the initial Title V permit

# ROLL SHOP

| Emission Point # | Pollutant | Emission limit | Regulation |
|---|---|---|---|
| S14 | Chromium | 0.015 mg /dscm | 40 CFR §63.342(c)(1) |
| S14 | Opacity | (See General Proviso 29) | Rule 335-3-4-.01(1) (SIP) |

At the Roll Shop, AM/NS refurbishes worn rollers from the Hot Strip Mill and Cold Rolling Mill back to operating specifications. Most operations within the Roll Shop, including wet grinding and electric discharge texturing, are insignificant sources of air emissions. The batch chromium plating process within the Roll Shop, however, is a source of chromium emissions which are controlled by mist eliminator S14.

Within the permit, the chromium plating operation is addressed in the "Provisos for Roll Shop Chrome Plating Operations".

## STATE REGULATIONS

**ADEM Admin. Code r. 335-3-4-.01(1)(a) and (b), "*Visible Emissions*" for Control of Particulate Emissions**

S14 is subject to the requirements of this regulation and does not have a more stringent limit imposed by PSD. It must not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period and must also not discharge a 6-minute average opacity of particulate emissions greater than 40%, as stated by General Permit Proviso 29.

**ADEM Admin. Code r. 335-3-14-.04, "*Prevention of Significant Deterioration (PSD) Permitting*"**

**Applicability:**

The Calvert Mill is a major source with respect to PSD. However, this unit is not subject to any BACT limits.

**ADEM Admin. Code r. 335-3-16-.05 "*Major Source Operating Permits (MSOP) – Permit Content*"**

Except as specified in the rules, the entirety of Chapter 16 of ADEM Air Division's regulations applies to MSOP 503-0095.

**FEDERAL REGULATIONS**

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP)

## 40 CFR Part 63 Subpart A, "*General Provisions*"

**Applicability:**

Provided that the facility is subject to one of the applicable subparts found under this part, the facility shall comply with this regulation as specified in that subpart.

## 40 CFR 63 Subpart N, "*NESHAP for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks*"

**Applicability:**

NESHAP N is applicable to *hard chromium electroplating* operations as defined in §63.341. The batch chromium plating process at the Roll Shop is subject to this regulation via this definition.

**Standards:**

AM/NS shall not emit from the tanks associated with the batch chromium plating process gases of concentration exceeding 0.015 mg/m3 (6.6E-6 gr/ft3), dry [§63.342(c)(1)(ii)]. This limit is evaluated at S14.

AM/NS has a general duty to minimize emissions from all sources [§63.342(a)(1)].

**Monitoring & Maintenance:**

AM/NS has conducted the initial performance test on S14 per §63.343(b). No periodic testing is required by this subpart.

AM/NS shall establish and operating & maintenance (O&M) plan for the batch chromium electroplating process according to the requirements of §63.342(f). Per Table 1 of §63.342, AM/NS must inspect the S14's fiber bed for buildup and the tanks' ductwork for leaks quarterly; additionally, they must washdown the fiber elements of S14 in a manner and at a frequency in accordance with the manufacturer's (SMS's) recommendations. AM/NS must maintain applicable housekeeping standards per Table 2 of §63.342.

**Recordkeeping and Reporting:**

Records of all monitoring and maintenance requirements [§63.346(b)(1)&(2)], records of every problem observed and corrective action taken [§63.346(b)(3)&(4)], and other records required by this subpart [§63.346(b)(5)-(16)] must kept for five years.

## 40 CFR 64, "COMPLIANCE ASSURANCE MONITORING (CAM)"

**Applicability:**

Emission sources that have a control device, emission standards, and pre-control emissions greater than the major source threshold are subject to CAM. The batch chromium plating operation does not meet this definition and is not subject to CAM.

# NATURAL GAS-FIRED BOILERS AND HEATERS

| Emission Point # | Pollutant | Emission limit | Regulation |
|---|---|---|---|
| S37<br>S38<br>S39 | $PM/PM_{10}$ | 0.53 lb/hr<br>and<br>0.0076 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S37<br>S38<br>S39 | $NO_x$ | 2.45 lb/hr<br>and<br>0.035 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S37<br>S38<br>S39 | $SO_2$ | 0.04 lb/hr<br>and<br>0.0006 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S37<br>S38<br>S39 | CO | 2.80 lb/hr<br>and<br>0.04 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S37<br>S38<br>S39 | VOC | 0.39 lb/hr<br>and<br>0.0055 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S37<br>S38<br>S39 | Opacity | (See General Proviso 29) | Rule 335-3-4-.01(1) |
| S20-A | PM/PM10 | 0.114 lb/hr<br>and<br>0.0076 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S20-A | $NO_x$ | 0.53 lb/hr<br>and<br>0.035 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S20-A | $SO_2$ | 0.009 lb/hr<br>and<br>0.0006 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S20-A | CO | 0.60 lb/hr<br>and<br>0.04 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S20-A | VOC | 0.083 lb/hr<br>and<br>0.0055 lb/MMBtu | Rule 335-3-14-.04 (PSD/BACT) |
| S20-A | Opacity | 10% Opacity | Rule 335-3-14-.04 (PSD/BACT) |

AM/NS operates several natural-gas fired boilers and heaters to supply steam and heat to the mill. The eight 4 MMBtu/hr warehouse space heaters, ST4-1 – ST4-8, are considered insignificant sources and are not included in the permit.

The three 70 MMBtu/hr boilers, exhausting to stacks S37 – S39, provide process steam to the pickling lines, the ARP, and other sources. AM/NS also operates a 22.5 MMBtu/hr water heater exhausting to stack S20-A.

Within the permit, these assorted boilers and heaters are addressed in the "Provisos for Three Natural Gas-Fired Boilers w/ LNB, 70 MMBtu/hr each, (S37-S39)" and the "Provisos for Natural Gas-Fired Water Heater w/ common Stack (S20-A)".

**STATE REGULATIONS**

**ADEM Admin. Code r. 335-3-4-.01(1)(a) and (b), "*Visible Emissions*" for Control of Particulate Emissions**

Each emission point is subject to the requirements of this regulation. However, because there is a more stringent opacity limit imposed by PSD on the water heater stack (S20-A), the 20%/40% state opacity standards specified in this regulation will not be included in the Water heater section of the permit.

S37 – S39 are subject to the requirements of this regulation and do not have a more stringent limit imposed by PSD. They must not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period and must also not discharge a 6-minute average opacity of particulate emissions greater than 40%, as stated by General Permit Proviso 29.

**ADEM Admin. Code r. 335-3-4-.03, "*Fuel Burning Equipment*" for Control of Particulate Emissions**

This regulation applies to fuel-burning equipment, which ADEM Admin. Code r. 335-3-1-.02(1)(ee) defines as indirect heating equipment. This regulation applies to the boilers and heaters at the mill, and Mobile County is considered a Class 1 County under this rule. However, the water heater and three boilers have more stringent PM limits imposed by PSD. PM emissions from the space heaters, which are insignificant sources not included in the permit, are limited to 0.5 lb/MMBtu.

**ADEM Admin. Code r. 335-3-5-.01, "*Fuel Combustion*" for Control of Sulfur Compound Emissions**

This regulation applies to fuel-burning equipment, which ADEM Admin. Code r. 335-3-1-.02(1)(ee) defines as indirect heating equipment. This regulation applies to the boilers and heaters at the mill, and Mobile County is considered a Class 1 County under this rule. However, the water heater and three boilers have more stringent $SO_2$ limits imposed by PSD. $SO_2$ emissions from the space heaters, which are insignificant sources not included in the permit, are limited to 1.8 lb/MMBtu.

**ADEM Admin. Code r. 335-3-14-.04, "*Prevention of Significant Deterioration (PSD) Permitting*"**

**Applicability:**

The Calvert Mill is a major source with respect to PSD.

**Emissions Standards:**

PSD emissions standards for the applicable boilers are listed at the beginning of this section of this analysis.

**Compliance and Performance Test Methods and Procedures:**

- $NO_X$ emissions must be determined using 40 CFR 60 Appendix A, Method 7E.
- PM emissions must be determined using 40 CFR 60 Appendix A, Method 5 (filterable).
- $SO_2$ emissions must be determined using 40 CFR 60 Appendix A, Method 6.
- Opacity of emissions must be determined using 40 CFR 60 Appendix A, Method 9.
- CO emissions must be determined using 40 CFR 60 Appendix A, Method 10.
- VOC emissions must be determined using 40 CFR 60 Appendix A, Method 18 or 25a.

**Emissions Monitoring:**

AM/NS must conduct CO and $NO_X$ testing on the boilers (S37 – S39) every 2½ years.

AM/NS may only use natural gas as fuel in the boilers.

**Recordkeeping and Reporting Requirements:**

Records of all monitoring requirements, including every problem observed and corrective action taken, must kept for five years.

**ADEM Admin. Code r. 335-3-16-.05 "*Major Source Operating Permits (MSOP) – Permit Content*"**

Except as specified in the rules, the entirety of Chapter 16 of ADEM Air Division's regulations applies to MSOP 503-0095.

Rule 335-3-16-.05(c) states that where applicable requirements within an MSOP, such as BACT limits, do not themselves require periodic testing or monitoring, the Department may introduce such testing or monitoring provisos, as well as associated recordkeeping and reporting requirements, into the permit as needed to determine compliance. The emissions monitoring, recordkeeping, and reporting requirements related to the above PSD limits were required by the Department per this rule.

**FEDERAL REGULATIONS**

NEW SOURCE PERFORMANCE STANDARDS (NSPS)

**40 CFR Part 60 Subpart A, "*General Provisions*"**

**Applicability:**

Provided that the facility is subject to one of the applicable subparts found under this part, the facility shall comply with this regulation as specified in that subpart.

**40 CFR 60 Subparts Db and Dc, "*Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units" and "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units"***

**Applicability:**

These NSPSs are applicable to steam-generating boilers, depending on nameplate heat capacity, as defined in §60.41b and §60.41c. Process heaters are excluded in these definitions. The boilers and the water heater are all considered steam generating units because they meet the definition of a *device that combusts any fuel and produces steam or heats water or heats any heat transfer medium*. Because their heat input ratings are >10 MMBtu/hr and <100 MMBtu/hr, they are subject to NSPS Dc rather than NSPS Db. The space heaters are too small to be subject to either rule; space heaters are also by definition exempt.

**Standards:**

Because the boilers and water heater use only natural gas as a fuel, the emission standards of §60.42c and §60.43c do not apply.

**Recordkeeping and Reporting:**

Per §60.48c(g), AM/NS must record natural gas usage within units.

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP)

**40 CFR Part 63 Subpart A, "*General Provisions*"**

**Applicability:**

Provided that the facility is subject to one of the applicable subparts found under this part, the facility shall comply with this regulation as specified in that subpart.

**40 CFR 63 Subpart DDDDD, "*National Emission Standards for Industrial, Commercial, and Institutional Boilers and Process Heaters*" *[Boiler MACT]***

**Applicability:**

The Boiler MACT is applicable to boilers and process heaters as defined in §63.7575. The three boilers (S37 – S39) and the water heater (S20-A) qualify as boilers under this subpart. *Boiler* means an enclosed device using controlled flame combustion and having the primary purpose of recovering thermal energy in the form of steam or hot water.

**Standards:**

Natural gas-fired boilers do not have specific emission standards under and are not listed within Table 1 of the Boiler MACT. However, they are subject to work practice standards found in Table 3 of the subpart. Each having a nameplate heat rating of greater than 10 MMBtu/hr, the boilers and water heater must undergo annual tune-ups per §63.7540(a)(10).

**Recordkeeping and Reporting Requirements:**

AM/NS must meet the recordkeeping requirements of §63.7555 and the reporting requirements of §63.7545 and §63.7550.

## 40 CFR 64, "COMPLIANCE ASSURANCE MONITORING (CAM)"

**Applicability:**

Emission sources that have a control device, emission standards, and pre-control emissions greater than the major source threshold are subject to CAM. Neither the boilers nor the water heater meet this definition and are not subject to CAM.

# EMERGENCY GENERATORS

## APPENDIX A – NSPS IIII EMERGENCY GENERATORS

| Emission Point | Location | Capacity (Horsepower) | Installed | Fuel |
|---|---|---|---|---|
| S42 | Building 901 | 398 | 2009 | Diesel |
| S43 | Electrical Room 2-1 | 1,502 | 2009 | Diesel |
| S44 | Electrical Room 2-2 | 1,502 | 2009 | Diesel |
| S45 | Electrical Room 2-3 | 1,502 | 2009 | Diesel |
| S46 | Electrical Room 4 | 1,502 | 2009 | Diesel |
| S47 | Primary Diesel Pump 1 | 717 | 2009 | Diesel |
| S48 | Primary Diesel Pump 2 | 717 | 2009 | Diesel |
| S49 | Primary Diesel Pump 3 | 717 | 2009 | Diesel |
| S50 | Secondary Diesel Pump 1 | 225 | 2009 | Diesel |
| S51 | Secondary Diesel Pump 2 | 225 | 2009 | Diesel |
| S52 | Secondary Diesel Pump 3 | 225 | 2009 | Diesel |
| S53 | Diesel Generator - Line 1 | 1,502 | 2009 | Diesel |
| S54 | Diesel Generator – Line 4 | 1,502 | 2009 | Diesel |
| S55 | Cooling Towers | 532 | 2009 | Diesel |
| S56 | Permanent Data Center | 1,073 | 2010 | Diesel |
| S57 | Administrative Building | 403 | 2008 | Diesel |
| S58 | Dispatch Center | 805 | 2010 | Diesel |
| SXX-1 | Fueling Station | 48 | 2012 | Diesel |
| SXX-4 | Pump House 1 | 542 | 2009 | Diesel |
| SXX-5 | Pump House 2 | 542 | 2010 | Diesel |
| SXX-8 | S4 Pump | 475 | 2009 | Diesel |

## APPENDIX B – NSPS JJJJ EMERGENCY GENERATORS

| Emission Point | Location | Capacity (Horsepower) | Installed | Fuel |
|---|---|---|---|---|
| SXX-2 | Cold Roll Mill | 27 | 2013 | Propane |
| SXX-3 | HSM Furnace | 202 | 2011 | Natural Gas |
| SXX-6 | Controls Firewater | 134 | 2010 | Natural Gas |
| SXX-7 | Electrical Substation | 94 | 2011 | Natural Gas |

| Emission Point # | Pollutant | Emission limit | Regulation |
|---|---|---|---|
| See Appendix A | Opacity | (See General Proviso 29) | Rule 335-3-4-.01(1) (SIP) |
| See Appendix B | Opacity | (See General Proviso 29) | Rule 335-3-4-.01(1) (SIP) |

AM/NS has installed multiple emergency generators driven by diesel and natural gas engines for use when power is disrupted to the facility.

The engines are detailed in Appendices A and B of the permit. Within the permit, these assorted boilers and heaters are addressed in the "Provisos for NSPS IIII Emergency Generators (Appendix A)" and the "Provisos for NSPS JJJJ Emergency Generators (Appendix B)".

### STATE REGULATIONS

**ADEM Admin. Code r. 335-3-4-.01(1)(a) and (b), "*Visible Emissions*" for Control of Particulate Emissions**

Each engine is subject to the requirements of this regulation. They must not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period and must also not discharge a 6-minute average opacity of particulate emissions greater than 40%, as stated by General Permit Proviso 29.

**ADEM Admin. Code r. 335-3-4-.03, "*Fuel Burning Equipment*" for Control of Particulate Emissions**

This regulation applies to fuel-burning equipment, which ADEM Admin. Code r. 335-3-1-.02(1)(ee) defines as indirect heating equipment. The engines are not indirect heating equipment and are not subject to this regulation.

**ADEM Admin. Code r. 335-3-5-.01, "*Fuel Combustion*" for Control of Sulfur Compound Emissions**

This regulation applies to fuel-burning equipment, which ADEM Admin. Code r. 335-3-1-.02(1)(ee) defines as indirect heating equipment. The engines are not indirect heating equipment and are not subject to this regulation.

**ADEM Admin. Code r. 335-3-14-.04, "*Prevention of Significant Deterioration (PSD) Permitting*"**

The Calvert Mill is a major source with respect to PSD. However, these units are not subject to any BACT limits.

**ADEM Admin. Code R. 335-3-16-.05 "*Major Source Operating Permits (MSOP) – Permit Content*"**

Except as specified in the rules, the entirety of Chapter 16 of ADEM Air Division's regulations applies to MSOP 503-0095.

Rule 335-3-16-.05(c) states that where applicable requirements within an MSOP, such as BACT limits, do not themselves require periodic testing or monitoring, the Department may introduce such testing or monitoring provisos, as well as associated recordkeeping and reporting requirements, into the permit as needed to determine compliance.

**40 CFR Part 60 Subpart A, "*General Provisions*"**

**Applicability:**

Provided that the facility is subject to one of the applicable subparts found under this part, the facility shall comply with this regulation as specified in that subpart.

**40 CFR 60 Subpart IIII, "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (NSPS IIII)"**

**Applicability:**

This NSPS is applicable to all stationary diesel-fueled engines manufactured after 2007. Of the diesel engines in Appendix A, the earliest model year is 2008. Therefore, Subpart IIII applies to all of AM/NS's diesel engines.

**Standards:**

Per §60.4202(a) via §60.4205(b), the diesel engines in Appendix A (except firewater pump engines SXX-4, SXX-5) must meet the NMHC+$NO_X$, CO, and PM standards specified in Table 1 of §89.112 for engines of the same size range and model year. Because Pump House 1 & 2 (SXX-4 & SXX-5) engines are considered fire pump engines, they must meet the NMHC+$NO_X$, CO, and PM standards specified in Table 4 of Subpart IIII.

Additionally, Subpart IIII imposes Part 89 and Part 1039's opacity standards to all the engines but the fire pump engines, per §60.4202(a) via §60.4205(b). §89.113 and §1039.105 both state that the engines' emissions may not exceed 20% opacity during acceleration mode, 15% during lugging mode, and 50% during peaks in either mode. These limits neither override nor replace ADEM Admin. Code r. 335-3-4-.01(1).

**Monitoring:**

All engines must be Tier 2 or 3 certified, depending on maximum engine power, to meet the applicable emission limits of §60.4202(a) via §60.4205(b) [§60.4211(c)]. The engines must be installed and configured according to the manufacturer's specifications [§60.4211(a)], and they must be operated and maintained according to the manufacturer's instructions [§60.4206]. The engines must be equipped with a non-resettable hour meter [§60.4209(a)]. The engines must use diesel fuel that meets the requirements of 40 CFR §80.510(b) [§60.4207(b)].

To qualify as and to show compliance as an emergency engine with respect to Subpart IIII, the following conditions under §60.4211(f) must be met: An emergency stationary engine must operate less than 100 hours per calendar year during recommended maintenance, during periods of Emergency Alert Level 2 declared by NERC, during periods where the utility company deviates greater than 5% from standard voltage or frequency, and during periods where the operator supplies power back to the grid (this being further limited to 50 hrs/yr). There is no time limit on the use of emergency stationary ICE in emergency situations.

**Recordkeeping:**

The recordkeeping requirements of §60.4214(a)-(e) do not apply to AM/NS's emergency diesel engines. By being certified and maintained according to manufacturer instructions, the emergency diesel engines meet the requirements of non-emergency engines, and §60.4214(b) does not require that each engine's operating hours and reason to operate be recorded if the engines meet the requirements of non-emergency engines. The model year 2009 engines are also exempted from this rule. However per ADEM Admin. Code r. 335-3-15-.05(c), the Department will include a requirement to record operating hours for each engine without that exemption, to ensure sufficient data to determine yearly air emissions from the facility.

**40 CFR 60 Subpart JJJJ, "Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (NSPS JJJJ)"**

**Applicability:**

This NSPS is applicable to all stationary spark-ignition engines manufactured after 2006. Of the gas and LPG engines in Appendix A, the earliest model year is 2010. Therefore, Subpart JJJJ applies to all of AM/NS's spark-ignition engines.

**Standards:**

Per §60.4233(c), SXX-2 must meet the NMHC+$NO_X$ and CO standards for phase 2 engines specified in Table 1 of §90.103. These standards are equivalent to those found in Table 1 of Subpart IIII, which SXX-7 must meet via §60.4233(d). SXX-3 and SXX-6 must meet the NMHC+$NO_X$, CO, and PM standards specified in Table 1 of Subpart IIII via §60.4233(e).

**Monitoring:**

All engines must be certified to meet the applicable emission limits specified above [§60.4243(a)&(b)]. The engines must be installed and configured according to the manufacturer's specifications, and they must be operated and maintained according to the manufacturer's instructions [§60.4243(a)&(b)]. The engines must be equipped with a non-resettable hour meter [§60.4237].

To qualify as and to show compliance as an emergency engine with respect to Subpart IIII, the following conditions under §60.4243(d) must be met: An emergency stationary engine must operate less than 100 hours per calendar year during recommended maintenance, during periods of Emergency Alert Level 2 declared by NERC, during periods where the utility company deviates greater than 5% from standard voltage or frequency, and during periods where the operator supplies power back to the grid (this being further limited to 50 hrs/yr). There is no time limit on the use of emergency stationary ICE in emergency situations.

**Recordkeeping:**

The recordkeeping requirements of §60.4245 apply to the engines. Records of maintenance on each engine and documentation from the manufacturer on engine certification shall be recorded. Each engine's operating hours and reason to operate shall be recorded.

## RECOMMENDATIONS

I recommend that AM/NS be issued a renewal for the Calvert Mill's MSOP No. 503-0095, considering that the facility should be able to comply with all federal and state requirements specified in its permit.

_____ DRAFT
Jackson Rogers Date
Air Division
Energy Branch
Industrial Minerals Section

**Attachment A**
*Environmental Justice Analysis*

# EJSCREEN Report (Version 2020)

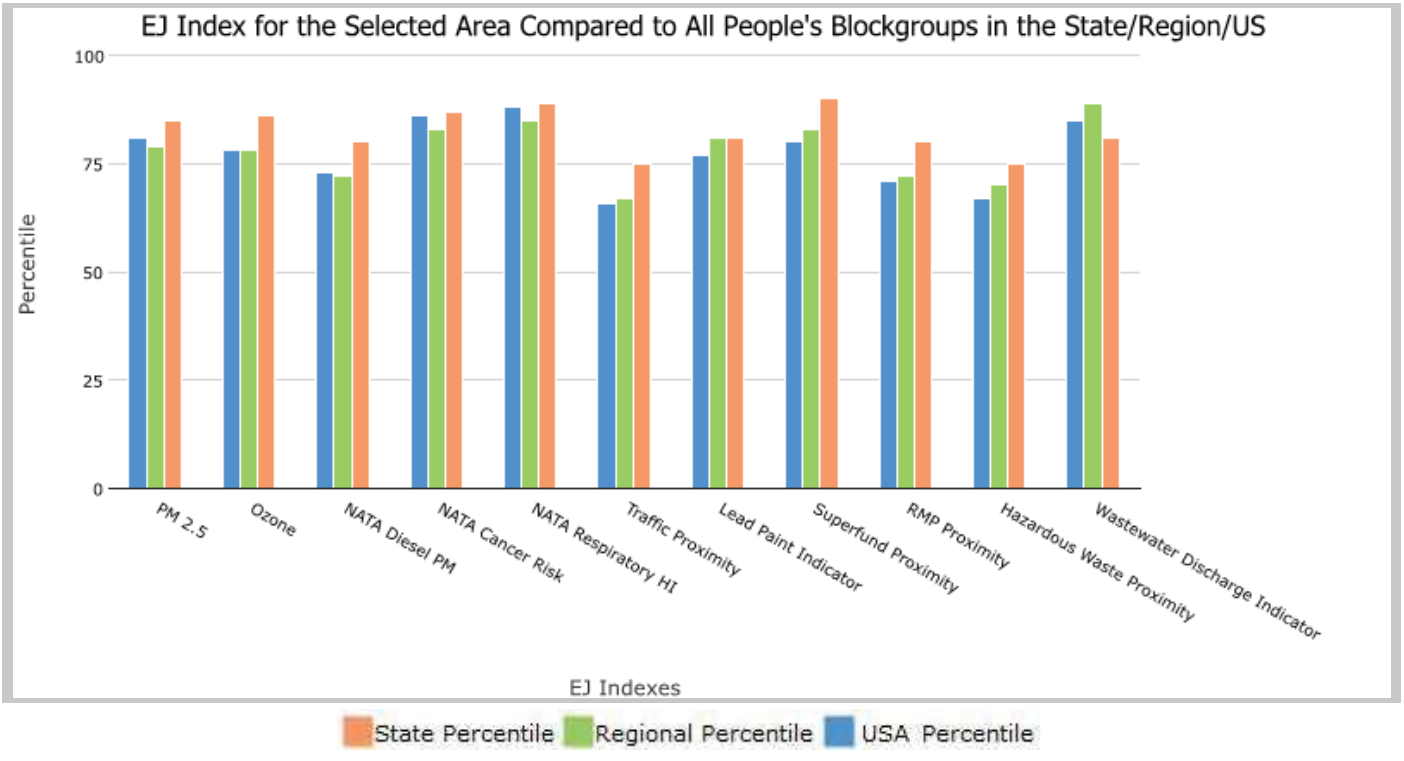
**1 mile Ring around the Corridor, ALABAMA, EPA Region 4**

**Approximate Population: 110**

**Input Area (sq. miles): 8.17**

**AMNS**

| Selected Variables | State Percentile | EPA Region Percentile | USA Percentile |
|---|---|---|---|
| **EJ Indexes** | | | |
| EJ Index for PM2.5 | 85 | 79 | 81 |
| EJ Index for Ozone | 86 | 78 | 78 |
| EJ Index for NATA* Diesel PM | 80 | 72 | 73 |
| EJ Index for NATA* Air Toxics Cancer Risk | 87 | 83 | 86 |
| EJ Index for NATA* Respiratory Hazard Index | 89 | 85 | 88 |
| EJ Index for Traffic Proximity and Volume | 75 | 67 | 66 |
| EJ Index for Lead Paint Indicator | 81 | 81 | 77 |
| EJ Index for Superfund Proximity | 90 | 83 | 80 |
| EJ Index for RMP Proximity | 80 | 72 | 71 |
| EJ Index for Hazardous Waste Proximity | 75 | 70 | 67 |
| EJ Index for Wastewater Discharge Indicator | 81 | 89 | 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.

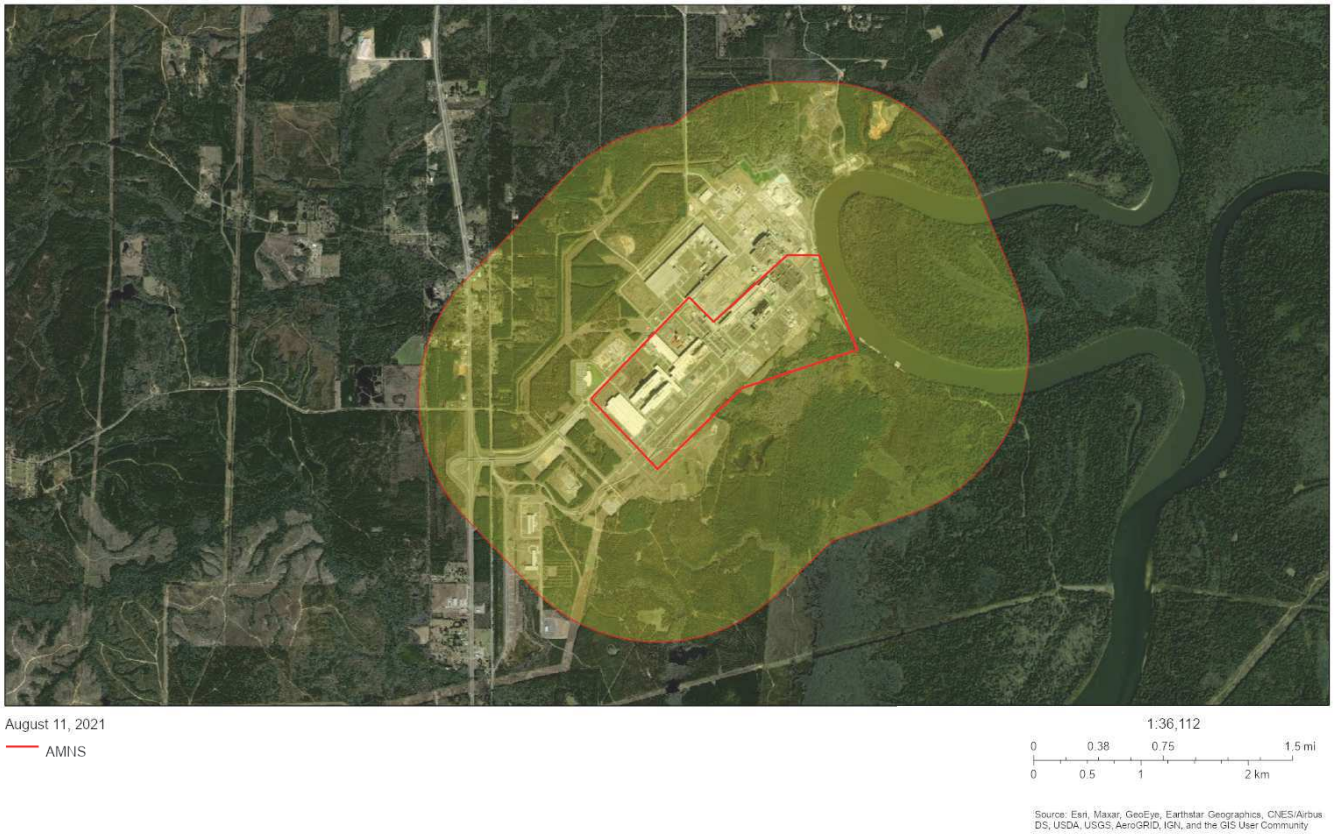
# EJSCREEN Report (Version 2020)

**1 mile Ring around the Corridor, ALABAMA, EPA Region 4**

**Approximate Population: 110**

**Input Area (sq. miles): 8.17**

**AMNS**




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

# EJSCREEN Report (Version 2020)

**1 mile Ring around the Corridor, ALABAMA, EPA Region 4**

**Approximate Population: 110**

**Input Area (sq. miles): 8.17**

**AMNS**

| Selected Variables | Value | State Avg. | %ile in State | EPA Region Avg. | %ile in EPA Region | USA Avg. | %ile in USA |
|---|---|---|---|---|---|---|---|
| **Environmental Indicators** | | | | | | | |
| Particulate Matter (PM 2.5 in µg/m$^3$) | 8.76 | 9.31 | 17 | 8.57 | 60 | 8.55 | 57 |
| Ozone (ppb) | 35.4 | 38 | 13 | 38 | 33 | 42.9 | 11 |
| NATA* Diesel PM (µg/m$^3$) | 0.237 | 0.346 | 37 | 0.417 | <50th | 0.478 | <50th |
| NATA* Cancer Risk (lifetime risk per million) | 47 | 43 | 70 | 36 | 90-95th | 32 | 95-100th |
| NATA* Respiratory Hazard Index | 0.78 | 0.65 | 87 | 0.52 | 95-100th | 0.44 | 95-100th |
| Traffic Proximity and Volume (daily traffic count/distance to road) | 41 | 220 | 39 | 350 | 31 | 750 | 22 |
| Lead Paint Indicator (% Pre-1960 Housing) | 0.12 | 0.18 | 52 | 0.15 | 62 | 0.28 | 42 |
| Superfund Proximity (site count/km distance) | 0.067 | 0.054 | 78 | 0.083 | 68 | 0.13 | 53 |
| RMP Proximity (facility count/km distance) | 0.19 | 0.41 | 53 | 0.6 | 42 | 0.74 | 35 |
| Hazardous Waste Proximity (facility count/km distance) | 0.23 | 0.82 | 40 | 0.91 | 40 | 5 | 27 |
| Wastewater Discharge Indicator (toxicity-weighted concentration/m distance) | 0.00079 | 1.2 | 58 | 0.65 | 74 | 9.4 | 64 |
| **Demographic Indicators** | | | | | | | |
| Demographic Index | 62% | 36% | 84 | 37% | 83 | 36% | 84 |
| People of Color Population | 74% | 34% | 86 | 39% | 83 | 39% | 81 |
| Low Income Population | 50% | 38% | 72 | 36% | 74 | 33% | 79 |
| Linguistically Isolated Population | 0% | 1% | 72 | 3% | 52 | 4% | 45 |
| Population With Less Than High School Education | 32% | 14% | 94 | 13% | 94 | 13% | 91 |
| Population Under 5 years of age | 3% | 6% | 20 | 6% | 20 | 6% | 18 |
| Population over 64 years of age | 16% | 16% | 49 | 17% | 54 | 15% | 58 |

* The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: https://www.epa.gov/national-air-toxics-assessment.

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

# EJSCREEN Report (Version 2020)

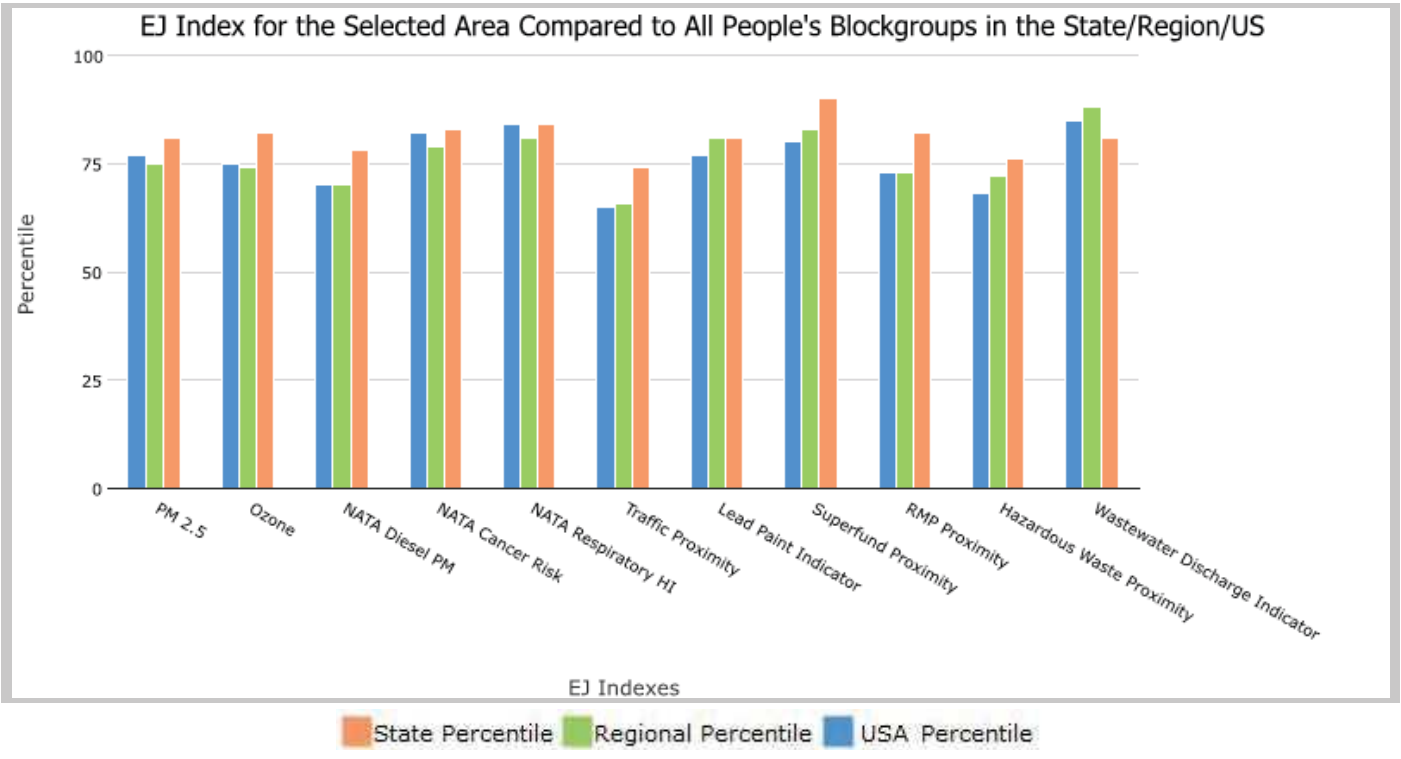
**3 miles Ring around the Corridor, ALABAMA, EPA Region 4**

**Approximate Population: 1,787**

**Input Area (sq. miles): 41.59**

**AMNS**

| Selected Variables | State Percentile | EPA Region Percentile | USA Percentile |
|---|---|---|---|
| **EJ Indexes** | | | |
| EJ Index for PM2.5 | 81 | 75 | 77 |
| EJ Index for Ozone | 82 | 74 | 75 |
| EJ Index for NATA* Diesel PM | 78 | 70 | 70 |
| EJ Index for NATA* Air Toxics Cancer Risk | 83 | 79 | 82 |
| EJ Index for NATA* Respiratory Hazard Index | 84 | 81 | 84 |
| EJ Index for Traffic Proximity and Volume | 74 | 66 | 65 |
| EJ Index for Lead Paint Indicator | 81 | 81 | 77 |
| EJ Index for Superfund Proximity | 90 | 83 | 80 |
| EJ Index for RMP Proximity | 82 | 73 | 73 |
| EJ Index for Hazardous Waste Proximity | 76 | 72 | 68 |
| EJ Index for Wastewater Discharge Indicator | 81 | 88 | 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 2020)

**3 miles Ring around the Corridor, ALABAMA, EPA Region 4**

**Approximate Population: 1,787**

**Input Area (sq. miles): 41.59**

**AMNS**


| Sites reporting to EPA | |
|---|---|
| Superfund NPL | 0 |
| Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF) | 2 |

# EJSCREEN Report (Version 2020)

**3 miles Ring around the Corridor, ALABAMA, EPA Region 4**

**Approximate Population: 1,787**

**Input Area (sq. miles): 41.59**

**AMNS**

| Selected Variables | Value | State Avg. | %ile in State | EPA Region Avg. | %ile in EPA Region | USA Avg. | %ile in USA |
|---|---|---|---|---|---|---|---|
| **Environmental Indicators** | | | | | | | |
| Particulate Matter (PM 2.5 in µg/m$^3$) | 8.73 | 9.31 | 15 | 8.57 | 59 | 8.55 | 56 |
| Ozone (ppb) | 34.9 | 38 | 11 | 38 | 29 | 42.9 | 10 |
| NATA* Diesel PM (µg/m$^3$) | 0.232 | 0.346 | 35 | 0.417 | <50th | 0.478 | <50th |
| NATA* Cancer Risk (lifetime risk per million) | 47 | 43 | 70 | 36 | 95-100th | 32 | 95-100th |
| NATA* Respiratory Hazard Index | 0.77 | 0.65 | 85 | 0.52 | 95-100th | 0.44 | 95-100th |
| Traffic Proximity and Volume (daily traffic count/distance to road) | 35 | 220 | 37 | 350 | 29 | 750 | 20 |
| Lead Paint Indicator (% Pre-1960 Housing) | 0.13 | 0.18 | 55 | 0.15 | 64 | 0.28 | 44 |
| Superfund Proximity (site count/km distance) | 0.087 | 0.054 | 84 | 0.083 | 75 | 0.13 | 61 |
| RMP Proximity (facility count/km distance) | 0.29 | 0.41 | 66 | 0.6 | 54 | 0.74 | 48 |
| Hazardous Waste Proximity (facility count/km distance) | 0.33 | 0.82 | 47 | 0.91 | 48 | 5 | 32 |
| Wastewater Discharge Indicator (toxicity-weighted concentration/m distance) | 0.00067 | 1.2 | 57 | 0.65 | 73 | 9.4 | 63 |
| **Demographic Indicators** | | | | | | | |
| Demographic Index | 54% | 36% | 79 | 37% | 76 | 36% | 77 |
| People of Color Population | 55% | 34% | 77 | 39% | 71 | 39% | 69 |
| Low Income Population | 53% | 38% | 77 | 36% | 79 | 33% | 83 |
| Linguistically Isolated Population | 0% | 1% | 71 | 3% | 51 | 4% | 45 |
| Population With Less Than High School Education | 32% | 14% | 94 | 13% | 94 | 13% | 92 |
| Population Under 5 years of age | 6% | 6% | 51 | 6% | 52 | 6% | 50 |
| Population over 64 years of age | 14% | 16% | 42 | 17% | 47 | 15% | 51 |

* The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: https://www.epa.gov/national-air-toxics-assessment.

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

# EJSCREEN Report (Version 2020)

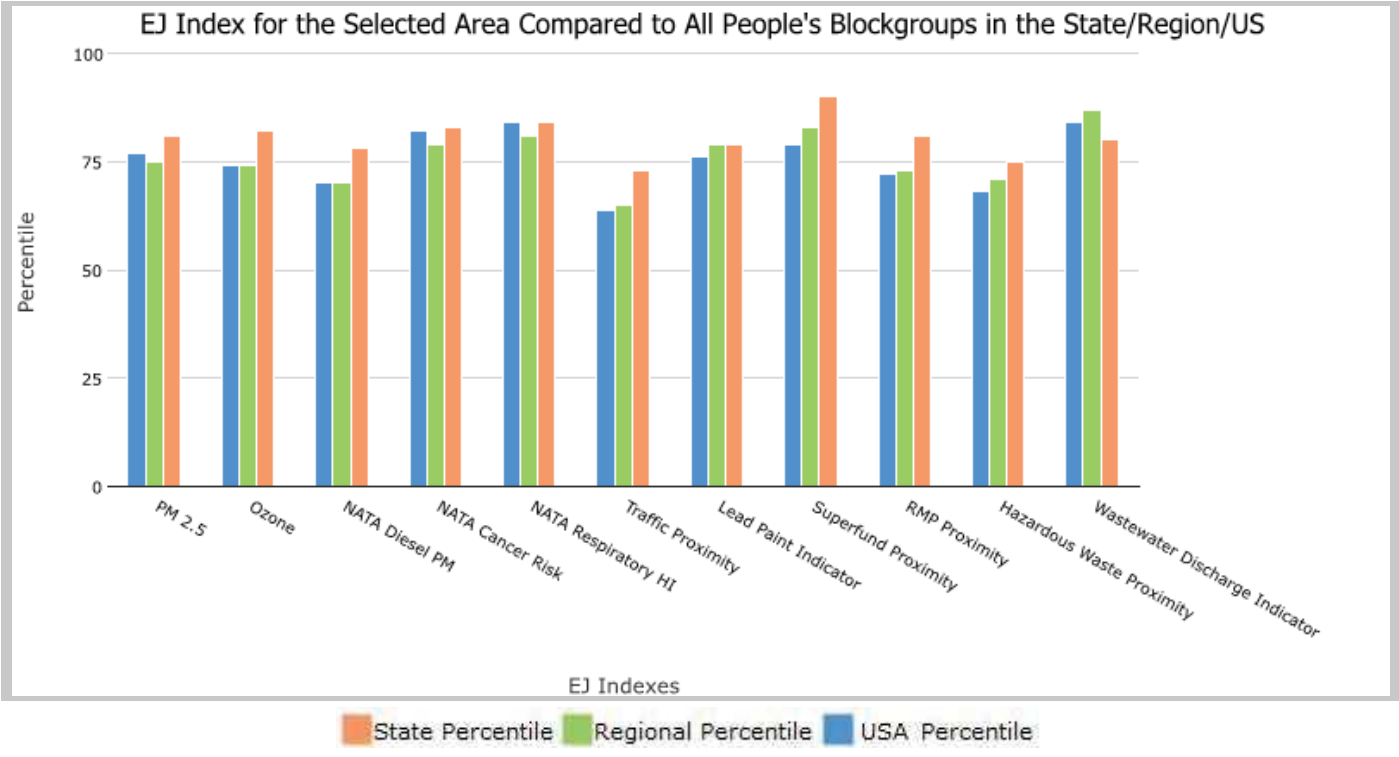
**5 miles Ring around the Corridor, ALABAMA, EPA Region 4**

**Approximate Population: 3,852**

**Input Area (sq. miles): 100.10**

**AMNS**

| Selected Variables | State Percentile | EPA Region Percentile | USA Percentile |
|---|---|---|---|
| **EJ Indexes** | | | |
| EJ Index for PM2.5 | 81 | 75 | 77 |
| EJ Index for Ozone | 82 | 74 | 74 |
| EJ Index for NATA* Diesel PM | 78 | 70 | 70 |
| EJ Index for NATA* Air Toxics Cancer Risk | 83 | 79 | 82 |
| EJ Index for NATA* Respiratory Hazard Index | 84 | 81 | 84 |
| EJ Index for Traffic Proximity and Volume | 73 | 65 | 64 |
| EJ Index for Lead Paint Indicator | 79 | 79 | 76 |
| EJ Index for Superfund Proximity | 90 | 83 | 79 |
| EJ Index for RMP Proximity | 81 | 73 | 72 |
| EJ Index for Hazardous Waste Proximity | 75 | 71 | 68 |
| EJ Index for Wastewater Discharge Indicator | 80 | 87 | 84 |




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.

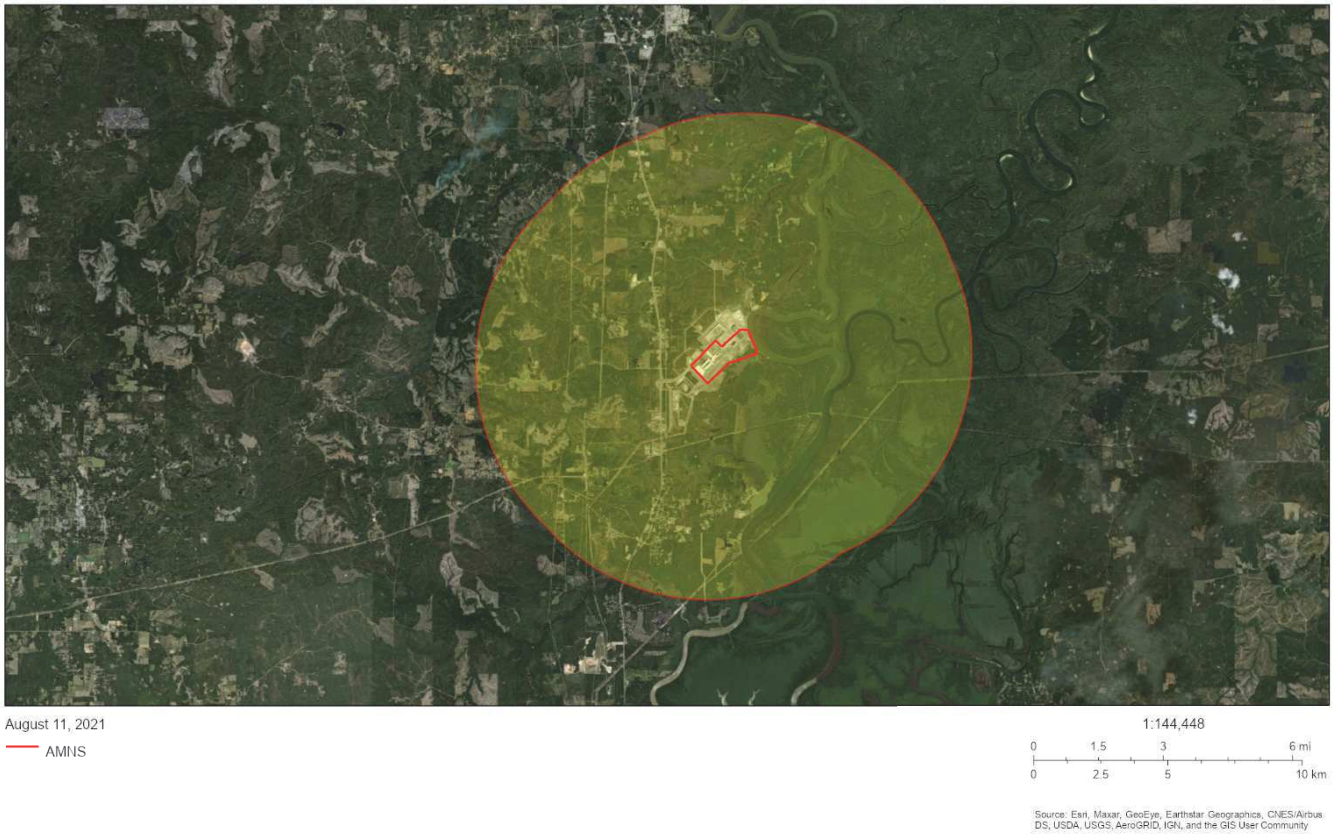
# EJSCREEN Report (Version 2020)

**5 miles Ring around the Corridor, ALABAMA, EPA Region 4**

**Approximate Population: 3,852**

**Input Area (sq. miles): 100.10**

**AMNS**




| Sites reporting to EPA | |
|---|---|
| Superfund NPL | 0 |
| Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF) | 2 |

# EJSCREEN Report (Version 2020)

**5 miles Ring around the Corridor, ALABAMA, EPA Region 4**

**Approximate Population: 3,852**

**Input Area (sq. miles): 100.10**

**AMNS**

| Selected Variables | Value | State Avg. | %ile in State | EPA Region Avg. | %ile in EPA Region | USA Avg. | %ile in USA |
|---|---|---|---|---|---|---|---|
| **Environmental Indicators** | | | | | | | |
| Particulate Matter (PM 2.5 in µg/m$^3$) | 8.73 | 9.31 | 15 | 8.57 | 59 | 8.55 | 56 |
| Ozone (ppb) | 35 | 38 | 11 | 38 | 30 | 42.9 | 10 |
| NATA* Diesel PM (µg/m$^3$) | 0.233 | 0.346 | 35 | 0.417 | <50th | 0.478 | <50th |
| NATA* Cancer Risk (lifetime risk per million) | 47 | 43 | 70 | 36 | 90-95th | 32 | 95-100th |
| NATA* Respiratory Hazard Index | 0.77 | 0.65 | 85 | 0.52 | 95-100th | 0.44 | 95-100th |
| Traffic Proximity and Volume (daily traffic count/distance to road) | 35 | 220 | 37 | 350 | 29 | 750 | 20 |
| Lead Paint Indicator (% Pre-1960 Housing) | 0.12 | 0.18 | 52 | 0.15 | 61 | 0.28 | 42 |
| Superfund Proximity (site count/km distance) | 0.086 | 0.054 | 84 | 0.083 | 75 | 0.13 | 61 |
| RMP Proximity (facility count/km distance) | 0.27 | 0.41 | 65 | 0.6 | 53 | 0.74 | 46 |
| Hazardous Waste Proximity (facility count/km distance) | 0.3 | 0.82 | 45 | 0.91 | 46 | 5 | 31 |
| Wastewater Discharge Indicator (toxicity-weighted concentration/m distance) | 0.00052 | 1.2 | 55 | 0.65 | 72 | 9.4 | 62 |
| **Demographic Indicators** | | | | | | | |
| Demographic Index | 53% | 36% | 78 | 37% | 75 | 36% | 76 |
| People of Color Population | 54% | 34% | 77 | 39% | 70 | 39% | 69 |
| Low Income Population | 51% | 38% | 74 | 36% | 76 | 33% | 81 |
| Linguistically Isolated Population | 0% | 1% | 71 | 3% | 51 | 4% | 45 |
| Population With Less Than High School Education | 33% | 14% | 95 | 13% | 95 | 13% | 92 |
| Population Under 5 years of age | 5% | 6% | 46 | 6% | 47 | 6% | 44 |
| Population over 64 years of age | 16% | 16% | 50 | 17% | 55 | 15% | 59 |

* The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: https://www.epa.gov/national-air-toxics-assessment.

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