**Engineering Analysis**
Scottsboro Aluminum Industries, LLC – Scottsboro Facility
Scottsboro, Jackson County, Alabama
Facility No. 705-0030

## DESCRIPTION

The Department received an air permit application dated January 16, 2026, from Scottsboro Aluminum Industries, LLC (SAI), for the addition of six electric parallel screw extruders and associated plastic presses at their Scottsboro Facility located at 123 Harbour Drive, Scottsboro, Alabama, to produce plastic shipping pallets and mats. A revised application was submitted on February 13, 2026.

SAI currently operates the Scottsboro Facility as a secondary aluminum processing plant. As such the facility is listed under North American Industry Classification System (NAICS) code 331314 for Secondary Melting and Alloying of Aluminum and Standard Industrial Classification (SIC) code 3341 for Secondary Smelting and Refining of Nonferrous Metals.

SAI currently holds Synthetic Minor Operating Permit (SMOP) Nos. 705-0030-X004, X006, and X007. The following is a list of the equipment onsite with the associated SMOP under which the equipment is permitted:

- SMOP No. 705-0030-X004 – 24 MMBtu/hr Reverberatory Aluminum Scrap Melting Furnace No. 1 controlled by Lime-Injection Baghouse 3
- SMOP No. 705-0030-X006 – 2.3 MMBtu/hr Aluminum Scrap Dryer controlled by Baghouse 1
- SMOP No. 705-0030-X007 – 10 MMBtu/hr Reverberatory Aluminum Scrap Melting Furnace No. 2 and 10 MMBtu/hr Rotary Aluminum Scrap Melting Furnace No. 1 controlled by Lime Injection Baghouse 2

According to the application all of the equipment onsite is currently indefinitely idled, though the facility has not requested to remove or void the current permits at this time.

## PROJECT DESCRIPTION

SAI is proposing the addition of six new extrusion lines consisting of six electric parallel screw extruders each with a plastic press. According to the application the facility will receive super sacks full of recycled polyethylene and polypropylene chips which will be stored in the super sacks until they are added directly to the extruders. The facility will then heat the recycled chips to between 380 ºF and 420 ºF and extrude the plastic into the press to produce shipping pallets and mats. According to the application, each extruder will be capable of processing a maximum of 6,000 pounds of plastic per hour and the facility will process 157,680 tons of plastic per year.

Once the facility installs the six extruding lines the facility will be included under NAICS code 326121 for Unlaminated Plastics Profile Shape Manufacturing and SIC code 3089 for Plastic Products, Not Elsewhere Classified.

Notably, while extrusion often is associated with coating, according to the application no coating operations will take place at the Scottsboro Facility. The application states that the facility plans to extrude recycled plastic chips into the plastic presses to press form the shipping pallets and mats.

## EMISSIONS

The potential to emit (PTE) of the Scottsboro Facility with the inclusion of the six electric parallel screw extruders and the associated plastic presses is provided in the following table. The PTE for SAI was determined using the PTE of the currently permitted sources located at the Scottsboro Facility, including all limits implemented on the sources, and then adding the emissions from the six electric parallel screw extruders and associated plastic presses.

The emission estimates for the extrusion lines and plastic presses were determined using engineering estimates, stack testing data from similar sources, the maximum design throughput capacity, and worst-case assumptions in regard to VOC emissions. The facility plans to process recycled polyethylene and polypropylene chips which, according to the information provided in the application, do not contain any known HAPs.

Fugitive particulate matter emissions from this process were assumed to be negligible. The facility stated in the application that the plastic chips would be stored in the super sacks they were shipped in and fed directly to the screw extruders. It was assumed that the facility would be drop feeding the extruders and emissions were estimated using AP-42 factors with worst case assumptions being used.

The following table contains the current facility-wide potential emissions, the potential emissions from the combined six electric parallel screw extruders and associated plastic presses.

**Facility-Wide Criteria Pollutant, Total HAP, and Hydrogen Chloride Potential Emissions (TPY)**

| Source | $NO_X$ | CO | $SO_2$ | PM Filt | $PM_{10}$ | $PM_{2.5}$ | VOC | Total HAP | HCl |
|---|---|---|---|---|---|---|---|---|---|
| **Current Facility-Wide Emissions** | 23.37 | 31.18 | 0.13 | 54.34 | 33.03 | 27.70 | 5.36 | 12.37 | 9.86 |
| **Parallel Screw Extruders** | - | - | - | 3.19 | 3.19 | 3.19 | 7.84 | - | - |
| **Plastic Presses** | - | - | - | 2.60 | 2.60 | 2.60 | 7.84 | - | - |
| **Facility-Wide Emissions** | 23.37 | 31.18 | 0.13 | 60.14 | 38.83 | 33.50 | 21.05 | 12.37 | 9.86 |

*Note $PM_{10}$ and $PM_{2.5}$ are filterable

## REGULATIONS

### State Implementation Plan

#### *ADEM Admin. Code r. 335-3-4-.01, "Visible Emissions"*

According to ADEM Admin. Code r. 335-3-4-.01(1)(a), unless otherwise specified, no affected source shall discharge to the atmosphere particulate of an opacity greater than that designated as twenty percent (20%) opacity as determined by a six (6) minute average.

Per ADEM Admin. Code r. 335-3-4-.01(1)(b), in one six (6) minute period during any sixty (60) minute period, a person may discharge into the atmosphere an opacity no greater than forty percent (40%) opacity.

Each source located at the Scottsboro Facility, including the new extrusion lines, which is not a fugitive source and is not already subject to a more stringent opacity requirement, is subject to the requirements of this section. If visible emissions are observed, Method 9 of 40 CFR Part 60, Appendix A-4, shall be used in the determination of opacity.

#### *ADEM Admin. Code r. 335-3-4-.02, "Fugitive Emissions"*

Per ADEM Admin Code r. 335-3-4-.02, no person shall cause, suffer, allow, or permit any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne.

Reasonable precautions shall include, but not be limited to, the installation of hoods, fans, and fabric filters, or other suitable control devices, to enclose and vent the handling of dusty materials.

Per ADEM Admin. Code r. 335-3-1-.02(1)(ff), fugitive dust means solid air-borne particulate matter emitted from any source other than a flue or stack.

The Scottsboro Facility is already subject to this regulation for several different parts of their aluminum production process. The facility has stated that the recycled plastic chips will be stored in the super sacks and fed directly into the screw extruders. As such minimum fugitive emissions are expected from the addition of the six new extrusion lines. SAI shall continue to take reasonable precautions to limit fugitive emissions from all sources at the facility.

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

Per ADEM Admin. Code r. 335-3-4-.03(1), no person shall cause or permit the emission of particulate matter from fuel-burning equipment in excess of the amount shown in Table 4-1 of this Rule. Interpolation of this data can be performed using the equation below:

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

Where E is emissions in pounds per MMBtu and H is heat input in MMBtu per hour.

However, ADEM Admin. Code r. 335-3-1-.02 defines fuel burning equipment as any equipment, device, or contrivance and all appurtenances thereto, including ducts, breechings, fuel-feeding equipment, ash removal equipment, combustion controls, stacks, and chimney, used primarily, but

not exclusively, to burn any fuel for the purpose of indirect heating in which the material being heated is not contracted by and adds no substance to the products of combustion.

The six electric parallel screw extruders and plastic presses are, as stated previously, electric and do not burn any type of fuel. As such the extrusion lines are not subject to the requirements of this regulation.

***ADEM Admin. Code r. 335-3-4-.04, "Control of Particulate Emissions – Process Industries – General"***

According to ADEM Admin. Code r. 335-3-4-.04(1), no process shall emit particulate matter in any one hour in excess of the amount shown in Table 4-2 of this Rule for a Class 1 County. The allowable rate can also be found using the equation below for processes with a throughput of less than 30 tons per hour:

$$E = 3.59P^{0.62}$$

Where P is process weight per hour in tons per hour and E is emissions in pounds per hour.

Each source at the Scottsboro Facility, which is not considered a fugitive source, is subject to the PM emission limits in this regulation. Using the above equation and the maximum throughput for one extrusion line, the PM emission limits for each individual extrusion line were determined to be 7.09 lbs/hr.

As seen in the previous calculations, the six new extrusion lines are not expected to exceed the Class 1 County emission standards. However, if testing is required, Method 5 of 40 CFR Part 60, Appendix A-3 shall be used to determine PM emissions.

***ADEM Admin. Code r. 335-3-6-.11, "Control of Volatile Organic Compound Emissions"***

Per ADEM Admin. Code r. 335-3-6-.01(1)(b), the provisions of this section apply to all sources of VOC emissions in accordance with the schedules contained in Rule 335-3-6-.15 except for sources with a potential VOC emission rate of less than 100 tons per year.

The Scottsboro Facility does not have the potential to emit more than 100 tons of VOC emissions in a consecutive twelve month period. As such, the facility does not have any requirements under this section.

***ADEM Admin. Code r. 335-3-14-.04, "Air Permits Authorizing Construction in Clean Air Areas [Prevention of Significant Deterioration Permitting (PSD)]"***

As SAI has chosen to retain their permits for the secondary aluminum production process, this facility is a secondary metal production plant. As such per ADEM Admin. Code r. 335-3-14-.04(2)(a)(xxv), the Scottsboro Facility is subject to a 100 ton per year threshold for the purposes of PSD on any regulated New Source Review (NSR) pollutant.

SAI has previously taken limits in order to avoid becoming major for the purposes of PSD or Title V. The Scottsboro facility will continue to be considered a minor source with respect to this rule as long as the facility continues to demonstrate compliance with the SMOP limits.

The change in emissions due to the addition of the six new extrusion lines would not cause the facility to exceed the significance threshold of 100 TPY of any NSR pollutant. As such, no PSD review would be required at this time.

***ADEM Admin. Code r. 335-3-14-.06, "Requirements for Control Technology [Determinations for Major Sources in Accordance with Clean Air Act Section 112 (g)]"***

This section is applicable provided that the facility in question exceeds the significance threshold of 25 TPY for any combination of HAPs or the 10 TPY significance threshold for any individual HAP.

The Scottsboro Facility has the potential for HAP emissions greater than 10 tons per year (TPY) of a single HAP, hydrogen chloride (HCl), and greater than 25 TPY of any combination of HAPs. However, the facility has already taken limits in order to avoid exceeding either of these thresholds.

According to the application the extrusion lines will not use HAP containing plastic chips and thus emissions from the extrusion lines are not expected to increase HAP emissions above the 10 TPY individual HAP or 25 TPY combined HAP threshold. The new permit will contain a limit of 24.5 tons per twelve months rolling HAP emissions. As such, as long as the facility remains in compliance with the SMOP limits, a 112(g) case by case MACT review is not necessary at this time.

It should be noted that parts of the aluminum production process are still subject to the applicable MACT requirements.

***ADEM Admin. Code r. 335-3-15, "Synthetic Minor Operating Permits"***

*Applicability*

The Scottsboro Facility is already considered a synthetic minor source for the purposes of PSD and Title V. SAI has not requested that the facility be re-evaluated at this time so as long as the Scottsboro Facility continues to demonstrate compliance with their SMOP limits the facility will remain a synthetic minor source for the purposes of PSD and Title V.

*Emission Standards*

SAI shall retain all of the current emission limits in place in order to avoid exceeding the Title V and PSD major source thresholds.

According to the application, SAI will not use recycled plastic chips with the potential to contain HAPs in their extrusion process. SAI has provided the material safety data sheet (SDS) for the recycled plastic chips of polypropylene resin and polyethylene resin which the facility will be using in their extrusion process to demonstrate that the recycled plastic chips do not contain any HAPs.

If at any time the facility begins using a new or different type of plastic the facility must notify the Department and provide the associated SDS sheet for the material.

The facility will receive a 24.5 ton per consecutive twelve months limit on combined HAP emissions. The facility currently maintains a limit on the amount of HCl emitted to avoid becoming major for HAPs due to this individual HAP. The 24.5 TPY limit on combined HAP emissions is intended to ensure that the facility does not become major for HAP emissions should multiple

different types of HAPs be emitted by the facility due in part to this process. These emission limits ensure that the facility will remain below the Title V major thresholds of 25 TPY for combined HAP emissions, and 100 TPY for NSR regulated pollutant emissions.

*Compliance and Performance Testing*

If testing is required, the following test methods and procedures will be used:

- Volatile organic compound (VOC) emissions shall be determined by Method 18 of Appendix A-6 to 40 CFR Part 60 or Method 25, 25A, or 25B to Appendix A-7 to 40 CFR Part 60, or other equivalent methods.
- HAP emissions shall be determined by Method 18 of Appendix A-6 to 40 CFR Part 60, or Method 320 of Appendix A to 40 CFR Part 63, or other equivalent methods.

*Recordkeeping and Reporting Requirements*

Records shall be maintained for a period of at least five (5) years following the generation of said record. These records shall be maintained in a form readily available for inspection and made available upon request.

The facility will maintain records of the throughput of each type of plastic for the six new extrusion lines.

Should SAI decide to use different extrusion material than what is included in the application, the facility will submit a notification to the Department containing the SDS for the new material prior to beginning to use the new material in their process.

Each report submitted shall be certified by a responsible official that the information is true, accurate, and complete.

***ADEM Admin. Code r. 335-3-16, "Major Source Operating Permits"***

SAI has taken a variety of limits in order to remain synthetic minor for the purposes of Title V and PSD. As long as the facility complies with the limits in the current SMOPs and does not exceed any of the major source thresholds, 100 TPY for NSR regulated pollutants, 10 TPY for individual HAP emissions, and 25 TPY for any combined HAP emissions, the Scottsboro Facility will not be a major source with respect to Title V.

***Class I Areas***

The nearest Class I Area, Sipsey Wilderness, is located more than 100 km from the facility. As such, emissions from this facility would not be expected to have a significant impact on this or any Class I Area.

**Federal Regulations**

**New Source Performance Standards (NSPS)**

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

This subpart is applicable provided one of the NSPS subparts is applicable to this facility.

**40 CFR Part 60, Subpart DDD*, "Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry"***

Per §60.560(a), this subpart applies to affected facilities involved in the manufacture of polypropylene, polyethylene, polystyrene, or polyethylene terephthalate. The affected facilities designated for polypropylene and polyethylene are inclusive of all equipment used in the manufacture of these polymers, beginning with raw materials preparation and ending with product storage, and covers all emissions emanating from such equipment.

According to the application the polyethylene and polypropylene used in this process comes from recycled plastic chips. As SAI does not produce the polyethylene and polypropylene used in the extrusion lines from raw materials, the Scottsboro Facility is not subject to the requirements of this subpart.

**National Emission Standards for Hazardous Air Pollutants (NESHAP)**

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

This subpart is applicable provided one of the NESHAP subparts is applicable to this facility.

**40 CFR 63 Subpart U, "*National Emission Standards for Hazardous Air Pollutant Emissions: Group I Polymers and Resins*"**

An affected source according to this subpart can be either an existing source or a new affected source [§63.480(a)(1]. Per §63.480(a)(2), existing affected sources refers to each group of one or more elastomer product processing unit (EPPU) and associated equipment, which is manufacturing the same primary product and that is located at a plant site that is a major source. While a new affected source refers to each group of one or more EPPUs and associated equipment that is manufacturing the same primary product located at a site without HAP emission points prior to June 12, 1995, and a reconstructed affected source refers to one or more EPPUs and associated equipment that is manufacturing the same primary product, which is reconstructed at any point [§63.480(a)(3)].

Associated units when referring to EPPUs includes but is not limited to each waste management system, maintenance wastewater system, each heat exchanger system, and equipment which is required by or utilized as a method of compliance with this subpart, which may include control devices and recovery devices [§63.480(a)(4)].

Elastomer product processing unit (EPPU), as defined by this subpart means a collection of equipment assembled and connected by hard-piping or duct work, used to process raw materials and to manufacture an elastomer product as its primary product. This collection of equipment includes unit operations; recovery operations equipment; process vents; storage vessels, equipment that is subject to the applicable equipment leak provisions, and other equipment described in this subpart. Note that utilities, lines and equipment not containing process fluids, and other non-process lines, such as heating and cooling systems which do not combine their materials with those in the processes they serve, are not part of an elastomer product process unit [§63.482]. An elastomer product process unit consists of more than one unit operation.

As defined in §63.482, elastomer product refers to butyl rubber, epichlorohydrin elastomer, ethylene propylene rubber, Hypalon, neoprene, nitrile butadiene rubber, nitrile butadiene latex, polybutadiene rubber or styrene butadiene rubber by solution, polysulfide rubber, styrene butadiene rubber by emulsion, and styrene butadiene latex. Elastomer type refers to one of the elastomers described under "elastomer products" for this subpart.

However, per §63.480(a)(5), EPPUs and associated equipment, which are located at a plant site that is not a major source of HAP emission are neither affected sources nor part of an affected source.

According to the application the extrusion lines located at the Scottsboro Facility will process recycled polyethylene and polypropylene chips to produce plastic shipping pallets and mats. The extrusion lines will not process raw materials and will not be located at a major source of HAP emissions. As such the six new extrusion lines will not be subject to the requirements of this subpart.

**40 CFR 63 Subpart XX, "*National Emission Standards for Hazardous Air Pollutants for Ethylene Manufacturing Process Units: Heat Exchangers and Waste Operations*"**

Per §63.1080, this subpart applies to heat exchange systems and waste streams at new and existing ethylene production units. The Scottsboro Facility only processes recycled polyethylene chips and does not produce ethylene, as such, this subpart is not applicable.

**40 CFR 63 Subpart JJJ, "*National Emission Standards for Hazardous Air Pollutant Emissions: Group IV Polymers and Resins*"**

Per §63.1312, thermoplastic product refers to acrylonitrile butadiene styrene resin (ABS) latex, ABS using a batch emulsion process, ABS using a batch suspension process, ABS using a continuous emulsion process, ABS using a continuous mass process, ASA and/or AMSAN, EPS, methyl methacrylate acrylonitrile butadiene styrene resin (MABS), methyl methacrylate butadiene styrene resin (MBS), nitrile resin, poly(ethylene terephthalate) resin (PET) using a batch dimethyl terephthalate process, PET using a batch terephthalic acid process, PET using a continuous dimethyl terephthalate process, PET using a continuous terephthalic acid process, PET using a continuous terephthalic acid high viscosity multiple end finisher process, polystyrene resin using a batch process, polystyrene resin using a continuous process, styrene acrylonitrile resin (SAN) using a batch process, or SAN using a continuous process, as defined by this subpart.

This subpart also defines thermoplastic product process unit (TPPU) as a collection of equipment assembled and connected by hard-piping or ductwork, used to process raw materials and to manufacture a thermoplastic product as its primary product. This collection of equipment includes unit operations; recovery operations equipment, process vents; storage vessels; and other equipment described in this subpart. Note that utilities, lines and equipment not containing process fluids, and other non-process lines, such as heating and cooling systems which do not combine their materials with those in the processes they serve, are not part of the thermoplastic product process unit. A thermoplastic product process unit consists of more than one unit operation.

Per §63.1310(a), an affected source refers to either an existing or new source, where existing affected source refers to each group of one or more thermoplastic product process units (TPPU) and associated equipment that is manufacturing the same primary product, and that is located at a plant site that is a major source of HAP emissions, and a new source refers to each group of one

or more thermoplastic product process units (TPPU) and associated equipment that is manufacturing the same primary product which is located at a site without HAP emissions prior to March 29,1995, or a reconstructed affected source, which is a major source of HAP emissions.

It should also be noted that per §63.1310(d)(4), finishing processes including equipment such as compounding units, spinning units, drawing units, extruding units, and other finishing steps are not subject to the requirements of this subpart.

According to the application, the six new extrusion lines will not be used to manufacture any thermoplastic product, and the Scottsboro Facility is not a major source of HAP emissions. As such the facility will not be subject to the requirements of this subpart.

**RECOMMENDATION**

Based on the analysis, I recommend issuing SAI Synthetic Minor Operating Permit Nos. 705-0030-X008 for the following emission sources located at the Scottsboro Facility.

| Permit No. | Description |
|---|---|
| 705-0030-X008 | Extrusion Lines – |
| | Extruders – Six (6) 6,000 lb/hr Electric Parallel Screw Extruders |
| | Plastic Presses – Six (6) 6,000 lb/hr Polyethylene and Polypropylene Presses |

If the Scottsboro Aluminum Industries adheres to the permit conditions, this equipment should be in compliance with all State and Federal regulations.

April X, 2026
Date

Brett Buchheit
Industrial Minerals Section
Energy Branch
Air Division