Best Practices for Metal Shredding Facilities in Clean Air Act Permitting

August 2024

The U.S. Environmental Protection Agency is issuing this resource for developing effective and enforceable construction and operating air permits for metal shredding facilities located in EPA Region 5. This document provides recommended best practices for permit writers to help ensure shredding facilities comply with Clean Air Act requirements. Permit applicants may also refer to this document to help streamline their application process. Although the document highlights information relevant to air permitting, it is not a comprehensive resource for assuring compliance with CAA requirements. The document also describes additional practices for facilities to consider on a case-by-case basis for pollution prevention and to further reduce potential environmental impacts.

The EPA and state investigations have identified CAA violations at metal recycling facilities that operate auto and scrap metal shredders, causing excess emissions of air pollution. Readers are also encouraged to review the EPA's July 2021 Enforcement Alert: "Violations at Metal Recyling Facilities Cause Excess Emissions in Nearby Communities," which is intended to inform metal recycling facility owners and operators that operate auto and scrap metal shredders about CAA requirements that might apply at their facilities [1].

What are Metal Shredding Facilities?

This document pertains to facilities that shred scrap metal to facilitate the separation and sorting of ferrous metals, nonferrous metals, and other recyclable materials from non-recyclable materials. Facilities may receive scrap from industrial and commercial sources and/or from the public. Scrap may consist of discarded consumer materials that contain metals of interest such as end-of-life vehicles (ELV) and large household appliances (i.e., "white goods"), as well as metal-bearing byproducts or wastes generated by industrial or commercial operations.

Processes at metal shredding facilities may include some or all of the following: 1) receiving and inspection; 2) initial sorting and separation of prohibited materials including those that may pose a hazard to shredder operation; 3) preparation (e.g., torch cutting, shearing) and stockpiling of scrap for shredding; 4) operation of a hammermill shredder; 5) initial magnetic separation of shredded ferrous and non-ferrous materials; 6) additional separation processes for shredded ferrous and non-ferrous material streams to produce specification-grade ferrous and non-ferrous metal commodity products; 7) treatment and/or additional recovery of metal from the remaining shredded residue material; 8) baling, loading and shipping (e.g., truck, rail, vessel) of commodity products and shredded residue material; 9) material conveyance and storage associated with the above; and 10) ancillary activities such as equipment fueling, maintenance, and management of waste collected incidental to facility operations.

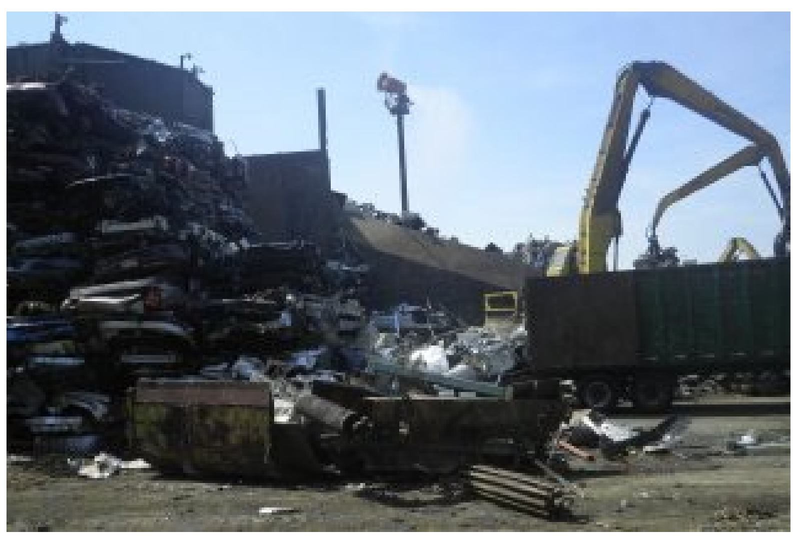

Figure 1: A metal shredding facility with crushed vehicles, cranes equipped with claws, a water mist cannon, and a truck unloading scrap.

Facilities utilize various processes to separate and recover ferrous and non-ferrous metal commodity products from the shredded material. Methods used to sort the shredded metal include magnetic removal, eddy current separators, screening, and pneumatic classification. Recovered scrap metals are sold to end users such as manufacturers, mills, foundries and secondary smelters, and to metal brokers.

Air Emission Sources and Current Air Pollution Control Techniques and Practices

This section describes common sources of air emissions and associated air pollution control techniques and practices at metal shredding facilities. Applicants and air permit writers should assess the presence of these and other air emission sources when preparing and reviewing air permit materials.

Techniques used to mitigate air pollution at metal shredding facilities (e.g., enclosures, air pollution control equipment, and work practices) vary based on factors such as the age and size of the facility, applicable federal, state and local air pollution requirements, and requirements resulting from the resolution of enforcement actions. Facilities may also employ additional measures on a voluntary basis to further manage environmental, health, and safety risks.

Source Control and Depollution of Incoming Scrap

Facilities establish acceptance policies to control the quality of scrap entering the processing facility, inspect incoming scrap for conformance with such policies, and reject certain materials accordingly. Facilities also “depollute” accepted scrap, separating prohibited gases, liquids, and solid materials from the shredder input feed stream, and facilitating proper recovery or disposal of the separated materials. Facilities implement such source control programs and depollution practices for various reasons, including those described below.

CAA regulations entitled Recycling and Emissions Reductions (40 C.F.R. Part 82, Subpart F) establish requirements for recyclers regarding the recovery of certain ozone-depleting refrigerants from appliances [2]. For example, Subpart F prohibits knowingly venting refrigerant from appliances, and requires that scrap recyclers must, before disposal of small appliances, motor vehicle air conditioners (MVAC) and MVAC-like appliances, either recover any remaining refrigerant from the appliance or verify using a signed statement or a contract that all refrigerant that had not leaked previously has been recovered.

Certain depollution-related work practices may be required by other regulations or conducted on a voluntary basis. Many air permitting authorities include depollution-related requirements in air permits to reduce volatile organic compound (VOC) emissions and assure compliance with applicable emission limits. Source control and depollution may also be conducted for hazard reduction to mitigate the risk of shredder unit fires, explosion and malfunctions. As noted above, recyclers are subject to requirements related to the recovery of ozone-depleting refrigerants. These refrigerants, as well as hydrofluorocarbon refrigerants developed as replacements that do not deplete the stratospheric ozone layer, are also powerful greenhouse gases.[1] Proper refrigerant management supports the mitigation of climate change impacts.

Shredder Unit

Significant amounts of non-metal materials are contained in unprocessed scrap, which can vaporize and become organic air emissions as a result of shredding. These materials include plastics, paints, caulks, sealants, rubber, switches, fluids (e.g., antifreeze, lubricants, aerosols), and fluid residues. The process of grinding and shredding scrap metal generates heat, resulting in residual fluids and fuels becoming gases. The violent nature of the process also creates the potential for particulate matter (PM) emissions of various sizes. Thus, the process generates emissions of VOC, PM, and hazardous air pollutants (HAP) including lead, zinc, cadmium, mercury, and organic pollutants [1]. Applicants and permit writers should evaluate VOC and other emissions from the source to the extent necessary to determine applicable requirements.

[1] Overview of Greenhouse Gases. https://www.epa.gov/ghgemissions/overview-greenhouse-gases

Many shredders utilize a water or foam injection system to dampen scrap material at the input chute prior to shredding to reduce dust generation and mitigate explosion and fire hazards. Shredders may incorporate systems that can automatically adjust the injection rate based on shredder operating parameters (e.g., shredder motor amperage).

Emissions from the shredder must be captured before they can be controlled. Metal shredders have several large openings to allow scrap metal to be fed into the conveyor and for shredded material to exit. The capture efficiency of an enclosure should be considered in quantifying total shredder emissions and evaluating shredder emissions measured during performance testing, as needed. The type of capture system can be specific to the type of emissions to be captured. Many facilities use capture systems on the outgoing conveyance systems downstream from the shredder to capture and control PM emissions. However, these systems are ineffective at capturing VOC emissions being released with the volumes of expanding air at the shredder. Capture systems consisting of enclosures that encompass the shredder itself, which can be more effective for VOC emissions, are somewhat rare among shredders in the United States. A small number of facilities have constructed enclosures around the shredder and use large fans to create a negative pressure environment. Pick-up fans and overhead hoods are often required to maintain negative pressure within the enclosure and to ensure that emissions do not escape from the openings.

Metal Shredder Enclosures

A small number of facilities across the country have constructed enclosures around their shredder units for the purpose of capturing and controlling emissions. These include but are not limited to:

- Sims Metal Midwest (Paulina) - *Chicago, IL* †
- RMG General Iron - *Chicago, IL* ††
- Northern Metals - *Becker, MN*
- Schnitzer Steel - *Everett, MA*
- Schnitzer Steel - *Oakland, CA*
- SA Recycling - *Anaheim, CA*
- SA Recycling - *Terminal Island, CA*
- Upstate Shredding – *Owego, NY* †††

† *Enclosure under construction as of June 2024*
†† *Facility not in operation as of June 2024*
††† *Expected startup of enclosure in Sep 2025*

Shredders utilize various techniques to control PM such as cyclones, wet scrubbers, and fabric filters. These control devices, when used for control of PM, are typically connected to capture hoods above the outfeed conveyance system. Cyclones provide a low-cost, low-maintenance method of removing relatively large sizes of PM from gas streams. Fabric filter systems are also used to remove PM from gas streams, including fine PM. Wet scrubbers, such as venturi scrubbers, are used to reduce filterable and condensible PM. A small number of shredder facilities utilize thermal incineration systems, such as regenerative thermal oxidizers (RTO), to reduce emissions of organic compounds. Where these are used, wet scrubbers designed to remove acid gases may be used to remove acid gases created from the heating of halogenated compounds in the RTO [3].

Figure 2: An enclosed metal shredding facility equipped with a thermal oxidizer and water cannon.

Material Conveyance, Sorting, Storage, and Loading

PM emissions are produced from conveyor transfer points, separation and storage of various materials (e.g., received scrap, recovered metal materials, and the shredded residue material remaining after the separation of metal scrap), and loading for transport off-site. The shredded residue material is also known as fluff, shredder flock, SR, or automotive shredder residue (“ASR”).[2]

[2] Shredder residue may be regulated as a hazardous waste or solid waste and should be managed in compliance with applicable federal, state, and local regulations.

Metal shredding facilities utilize various techniques to reduce PM emissions from material handling, sorting, and storage. These techniques include partially enclosing material storage piles, conveyors, and loading systems, or conducting such operations within enclosed buildings, where appropriate. Practices also include water or mist spraying to control fugitive dust from conveyors and storage piles, minimizing drop heights onto storage piles, and implementing policies to minimize the on-site accumulation of shredded residue in storage piles.

Figure 3: A metal shredding facility with partially enclosed storage bays and a water cannon.

Roadway Fugitive Dust

Fugitive dust emissions are produced from on-site vehicle traffic on paved and unpaved roads. Practices to mitigate fugitive dust from roads and other trafficked surfaces include paving, water truck sprays, vacuum sweeper trucks, calcium chloride dust suppressant on unpaved roads, posted facility speed limits, and vehicle wheel wash stations to reduce track out.

Other Miscellaneous Activities

Some metal shredding facilities may include scrap drying furnaces (e.g., for oily scrap) and may utilize controls such as fabric filters for PM emissions and thermal incineration systems for VOC emissions. Other miscellaneous activities may include other fuel combustion sources (e.g., stationary engines for emergency backup power, space heaters), torch cutting, welding, and equipment to support fueling and scrap depollution (e.g., storage tanks).

Air Permitting Best Practices

The following recommendations are for air permit writers for developing effective and enforceable construction and operating air permits for metal shredding facilities to help ensure compliance with CAA requirements. These recommendations may not be available, appropriate, or feasible for every permit action. More stringent requirements may apply based on specific Tribal, state, or local requirements. Permit applicants should contact their air permitting authority for additional information, as appropriate.

Emission Factors and Testing Procedures

Shredder operators should be aware of the amount of VOC and other emissions from their facilities. The EPA and state agencies have found violations related to excess VOC emissions at several facilities. Enforcement actions have resulted in the assessment of substantial penalties and the requirement to install emission control equipment [1].

Use of Representative Data to Sufficiently Quantify Emissions

Permitting authorities and applicants should obtain and use the most representative emissions data available when determining applicability, applying for a permit or demonstrating compliance with permit limits. In its November 2020 “EPA Reminder About Inappropriate Use of AP-42 Emission Factors,” the EPA highlighted the risks of using emission factors that are not adequately representative of a particular facility, including the limitations of using AP-42 emission factors [4]. *See also* [5], [6].

The methodology for quantifying air emissions from metal shredding facilities should be assessed on a site-specific basis. Air pollutant emissions rates (i.e., quantity of pollutant per ton of scrap processed) from metal shredders may differ significantly based on factors such as the use of source control and depollution practices to remove materials (e.g., oils, fuels) that may vaporize and become organic air emissions, the type(s) of scrap shredded (e.g., the proportion of scrap processed that is comprised of ELVs), and the presence of add-on control equipment and their associated capture efficiency.[3]

As noted in EPA's July 2021 Enforcement Alert, the quality of VOC emissions data from performance tests at scrap metal shredders varies [1]. Performance testing data from metal shredding facilities is very inconsistent. Capturing VOC emissions from a shredder remains the primary challenge in performance testing. Since most shredder test data suffers from a lack of capture efficiency testing and validation, there is significant variability in VOC emission rates in shredder test data. Where feed characteristics have been studied at the same shredders, an increase in ELV appears to correlate with increases in VOC emissions. The data also shows that VOC emission rates can vary substantially between facilities where an increase in the proportion of ELV scrap correlates with an increase in VOC emissions. However, as noted above, the testing is limited and suffers from inconsistent techniques and failure to properly address capture from the entire shredder. Therefore, only a small number of emission tests have demonstrated any type of VOC capture. When evaluating VOC emission factors for a particular facility, the EPA recommends permitting authorities carefully consider whether any performance test cited in the permit application adequately considered capture efficiency. Applicants are encouraged to consult with the EPA or the state environmental agency to assess the appropriateness of specific test data.

Validation Testing

When validation testing is appropriate (e.g., when the selected emission factor is lower than the worst-case emission factor demonstrated for a similar facility's operations), it is important that applicants and permitting authorities establish testing procedures that are representative of the permitted operating conditions. This includes consideration of the type(s) of feed material processed during testing, selection of appropriate test methods, depollution practices being used, and measures to adequately capture or otherwise adequately quantify shredder emissions that are not captured and vented through a stack, such as verifying whether a permanent or temporary enclosure during testing meets the criteria for a total enclosure (EPA Method 204). For example, enclosures that focus only on a portion of the shredder, such as the under-mill oscillator, do not enclose all shredder emission points (e.g., the top of the shredder mill) and fail to collect and quantify all emissions.

Monitoring and Validation Testing

Factors to consider in determining appropriate monitoring for compliance demonstration (including validation testing) include:

- The variability of emissions from the unit in question
- The likelihood of a violation of applicable requirements
- Whether capture systems and add-on controls are being used to meet the emission limit
- The type of monitoring, process, maintenance, or control equipment data already available for the emission unit
- The type and frequency of monitoring for similar emission units at other facilities.

Practical Enforceability of Permit Requirements

Metal shredding facilities are often subject to applicable requirements that limit emissions from the facility (e.g., opacity limits, fugitive dust restrictions, and short-term PM and VOC emission limits established by State Implementation Plans). Air permits for metal shredding facilities often also include emission limits and associated requirements to ensure that the potential to emit (PTE) regulated air pollutants does not exceed certain applicability thresholds, such as the thresholds for Prevention of Significant Deterioration (PSD) requirements and nonattainment New Source Review (NSR) preconstruction permits, Title V operating permits, and the major source HAP thresholds under section 112 of the CAA. Such emission limits can be relied upon to restrict a source's PTE only if the limit is *practicably enforceable*. In general, practicable enforceability in a permit means the permit's provisions must specify: 1) a technically accurate limitation and the portions of the source subject to the limitation; 2)

[3] Although it is reasonable to generally expect depollution practices to reduce some shredder VOC emissions, the EPA Region 5 Air Permits Section has not identified any studies that directly evaluated as part of a testing protocol the extent to which particular depollution practices affect VOC emissions.

the time period for the limitation; and 3) the method to determine compliance including appropriate monitoring, recordkeeping, and reporting [7].

Sufficient Monitoring, Recordkeeping, and Reporting

To help ensure PTE limits are clear to the permittee and able to be enforced as a practical matter, the permit must clearly specify how emissions will be measured or determined for purposes of demonstrating compliance with the PTE limit. Physical and operational limitations may include restrictions on hours of operation, amount of fuel combusted, amount of raw material processed, amount of production, and requiring the installation and maintenance of add-on air pollution controls. The time period for a PTE limitation should be as short term as possible and should not exceed an annual limit rolled on a monthly basis. The limitations must be supported by monitoring, recordkeeping and reporting requirements sufficient to enable regulators to determine whether the limit has been exceeded. In contrast, blanket restrictions on actual emissions alone (e.g., a ton per year limit without enforceable compliance demonstration procedures necessary to make the limit enforceable as a practical matter) are difficult to verify or enforce [8].

Ambiguous Permit Language and Enforceability

Permits should be written in a manner to avoid ambiguity. Permits should be designed to include clear and sufficient terms and conditions such that the facility cannot lawfully exceed its limits. Considerations may include:

- What specific depollution work practices are required to comply with VOC limits?
- How is the amount of various types of scrap measured for the purpose of demonstrating compliance with tonnage-based operational limits?
- How is re-run of shredded material considered for demonstrating compliance with certain emission limits?
- What work practices, monitoring and recordkeeping must the facility conduct to demonstrate compliance with fugitive dust-related requirements?

Practicably Enforceable Limits at Metal Shredding Facilities

For metal shredder units, examples of operational limits to restrict PTE may include monitoring, recordkeeping, and reporting of the tons of feed material shredded per rolling 12-month period, maximum hours of operation, operational parameters that ensure that control devices systems are operated properly to capture and control emissions, and work practice requirements and recordkeeping related to depollution (e.g., inspection records, reject material tracking, refrigerant recovery). Applicants should work with the permitting authority to establish PTE limits that are effective for the source's situation. For example, some permits are designed to require facilities to maintain records of the tons of ELV versus non-ELV scrap shredded and calculate VOC emissions using different emission factors for each scrap type accordingly. Permits should specify materials that are prohibited in the shredder, as necessary, to assure compliance with VOC PTE limits and other applicable requirements.

Additional Practices

Metal shredding facilities may also consider further reducing environmental impacts and managing health and safety risks by taking additional actions outside the scope of their air permit requirements. The EPA encourages metal shredders to adopt environmental best practices and offers the following practices described below. In addition to their potential to reduce environmental, health and safety risks, some of these practices may provide other benefits such as improved operational efficiency. Some of these practices may be required in certain contexts and should be evaluated on a case-by-case basis in consideration of facility operations and applicable federal, Tribal, state and local requirements.

Source Control / Depollution

To help minimize VOC and HAP emissions, the EPA recommends that owners and operators of scrap metal shredders follow best practices for pollution prevention by implementing effective source control and depollution. Below are practices for consideration. Some practices may be required to comply with applicable federal, state, or local requirements.

Training and Checklists

- Prepare and implement a site-specific scrap management plan that documents scrap inspection/acceptance and depollution practices to prevent introducing prohibited materials into the shredder. Provide classroom and on-the-job training in the identification and rejection of prohibited materials.
- Create and maintain a checklist(s) of materials for employees to inspect incoming loads and reject/separate prohibited materials from the metal shredder input stream. Consider organizing checklist(s) based on the type of accepted material, and the prohibited materials and hazards typically associated with them (e.g., vehicle tanks and batteries, refrigerant in appliances, asbestos in demolition scrap).
- Provide employee on-site trainings on fire prevention practices, the use of equipment and fire response, and create a map with locations of fire suppression systems (e.g., water cannons, extinguishers).

Scrap inspection/acceptance policies and practices

- Display prominent signage that lists prohibited materials and provide the information on the facility's website.
- Require scrap suppliers to sign a scrap acceptance agreement which includes the requirement to not include prohibited materials in inbound scrap loads, where loads or parts of loads are subject to rejection if they do not conform to the requirements.
- Utilize overhead inspection bay cameras and radiation detectors and have scrap inspectors and equipment operators visually inspect each load of scrap as it is unloaded and sorted.
- To disincentivize sellers from improperly disposing certain materials offsite (e.g., venting refrigerants), consider operating an on-site program that, as a free service for retail scrap sellers, accepts and properly manages certain scrap such as whole autos, machinery, and equipment containing batteries, accessible mercury switches, residual fluids, and A/C units; white goods; and appliances containing refrigerant. Provide sellers a notification that discourages tampering with, removing, cutting, or violating the integrity of a refrigerant system. Implement the program in tandem with other agreement structures with scrap sellers to support the proper recovery of refrigerant.
- Consider offering a small financial incentive for retail scrap sellers to declare certain prohibited materials (e.g., pressurized containers, batteries) that may pose environmental, fire, or explosion hazards if inadvertently introduced into the shredder.

Depollution of prohibited materials from accepted scrap material and scrap preparation

- Depollute ELVs and other scrap in designated paved areas with the storage of recovered fluids in labeled containers for proper recycling or disposal.

Source Control and Depollution

Prohibited materials may include some or all the following for the purposes of hazard reduction and compliance with various requirements. Permits should include enforceable depollution-related work practice requirements necessary to assure compliance with VOC PTE limits and other applicable requirements and may restrict some or all of the materials below.

- Refrigerants (e.g., chlorofluorocarbons (CFCs) and hydrofluorocarbons (HCFCs)
- Mercury (e.g., switches, thermostats)
- Sodium azide canisters (e.g., vehicle airbags)
- Polychlorinated biphenyl-containing materials
- Asbestos-containing materials
- Radioactive material
- Ignition sources, flammable, or combustible material; live munitions, bullets, military target range scrap or other explosive materials
- Lead tire weights
- Batteries (e.g., lead-acid, lithium)
- Compressed gas cylinders, propane tanks, or aerosol cans that have not been properly vented and depressurized
- Scrap metal with excessive residual cutting fluids
- Tanks, drums, or other containers that have not been vented or contain excessive residual fluids or solids
- Free liquids such as gasoline, diesel fuel, oil, radiator, wiper, brake and transmission fluids, antifreeze, coolant, other VOC or hazardous waste containing materials

- In addition to the purpose of minimizing VOC and HAP emissions, facilities should also consider source control and depollution practices for hazard reduction to mitigate the risk of fires, explosions, and projectiles from the shredder.
- Conduct scrap shearing in designated enclosed areas to reduce the risk of projectile hazards.

Shredder Unit and Post-Shred Material Handling

The EPA recommends that owners and operators of scrap metal shredders follow best practices for pollution prevention for metal shredding and subsequent material handling operations. Below are practices for consideration:

Equipment enclosures and emission controls

- For new facilities and renovations at existing facilities, consider shredder unit designs that incorporate a partial or total enclosure to capture and control shredder emissions.
- Utilize emission control systems to reduce PM, VOC and HAP air emissions from the shredder. Air pollution control techniques utilized by metal shredding facilities include water/foam injection, cyclones, baghouses, wet scrubbers, and RTOs.
- Install structures such as metal cages, bars, and/or rubber or plastic curtains to block hazardous projectiles ejected from the inlet and outlet of the shredder.
- Enclose or cover shredded materials conveyance systems, where appropriate, to reduce the potential for fugitive dust. Similarly, enclose (e.g., walled storage bays or fenceline barriers) or cover stockpiled materials, where appropriate.
- Use water, mist, and/or high-pressure fogging systems (e.g., water cannons) to control fugitive dust and reduce fire hazards from storage piles.
- Use thermal imaging (infrared) fire cameras (or other temperature gauging equipment) to proactively scan shred residue stockpiles to reduce fire hazards.
- Install facility cameras and other remote monitoring equipment (e.g., ambient PM monitors at the property boundary) to remotely monitor potential fugitive dust and fire hazards from the control room.
- Minimize the accumulation of stockpiled materials at the facility to manage fugitive dust emissions, fire hazards, and other safety hazards (e.g., reduced visibility around the work site). Some facilities recognize additional benefits from this practice, as process materials (including shred residue) represent unrealized income when accumulated onsite.
- Use proactive monitoring systems that may help automate and optimize operations (e.g., smart water application systems, bag leak detection systems, automated thermal camera monitoring and notification systems).

Figure 4: A control room monitor depicting video feeds from several remote thermal imaging (infrared) and regular cameras at the facility.

Miscellaneous Practices

Torch cutting

- Use reasonably available control practices, in compliance with federal, Tribal, state and local requirements, when using cutting torches to minimize resulting visible PM emissions. Such practices may include preparing the workpiece to remove extraneous combustible material, cutting metal that is clean of any oils or other combustible fluids, the minimization of flame impingement with the ground, use of water mist cannons, and using appropriately sized cutting torches. Some facilities utilize enclosures and control devices to capture and control PM emissions associated with torch cutting.

- Maintain fire extinguishers of the appropriate type located near any cutting station(s) and promptly extinguish any accidental fires caused by cutting operations.

Roads and other trafficked surfaces

- Implement practices to mitigate fugitive dust from trafficked surfaces. Techniques may include paving facility roads where appropriate, water truck sprays, vacuum sweeper trucks, calcium chloride dust suppressant on unpaved roads, posted speed limits (e.g., 5 mph), and vehicle wheel wash stations to reduce track out.
- Consider policies for minimizing on-site truck idling to reduce vehicle emissions and noise.

Environmental Justice Considerations

Many metal shredding facilities are in communities with significant industrial development, and the communities may have environmental justice concerns related to potential cumulative impacts of environmental pollution and health burdens. The EPA encourages stakeholders, including air permitting authorities and applicants, to use EJScreen or similar screening tools to help identify communities with potential environmental justice concerns.[4]

When a planned project may raise potential environmental justice concerns in a community, permit applicants are encouraged to engage early with the permitting authority and the community, preferably before the permit application is submitted. This may help promote fair treatment and meaningful engagement with the community to proactively discuss and consider potential approaches to addressing concerns before, during and after the air permitting process. More generally, facilities are encouraged to consider outreach activities to engage with their communities to help them better understand facility operations, discuss their questions and concerns, and consider opportunities to address those concerns.

> ***DISCLAIMER:*** *This document aims to explain the application of certain EPA regulatory provisions using plain language. Nothing in this document revises or replaces any regulatory provisions, any other part of the Code of Federal Regulations, the Federal Register, or the CAA. Following the practices contained herein does not equate to or guarantee compliance with the CAA, its implementing regulations, and associated state/local requirements. For more information, visit: https://www.epa.gov/caa-permitting.*

[4] EJScreen is a mapping and screening tool that provides the EPA with a nationally consistent dataset and approach for combining and comparing environmental and demographic indicators.

Whom do I contact for more information?

United States Environmental Protection Agency

Region 5
Air & Radiation Division (AR-18J)
77 West Jackson Blvd
Chicago, Illinois 60604-3590
(312) 353-2000
R5AirPermits@epa.gov
https://www.epa.gov/caa-permitting/caa-permitting-epas-great-lakes-region

State/Local Permitting Authorities

The EPA has approved or delegated authority for the Region 5 states to issue certain CAA permits:

- Illinois: https://epa.illinois.gov/topics/air-quality.html
- Indiana: https://www.in.gov/idem/airquality/
- Michigan: https://www.michigan.gov/egle/
- Minnesota: https://www.pca.state.mn.us/
- Ohio: https://epa.ohio.gov/
- Wisconsin: https://dnr.wisconsin.gov/topic/environment

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