



**Lane Regional Air Protection Agency
Simple Air Contaminant Discharge Permit**

Review Report

Pacific Recycling, Inc

3300 Cross Street
Eugene, Oregon 97402
<https://pacificrecyclinginc.net/>

Permit No. 206460

Source Information:

SIC	5093 – Scrap and Waste Materials
NAICS	423930 - Recyclable Material Merchant Wholesalers
Public Notice Category	Category III

Source Categories (LRAPA Title 37, Table 1)	B.75 - All other sources not listed herein which would have actual emissions, if the source were to operate uncontrolled, of 10 or more tons per year of any single criteria pollutant if located in any part of Lane County
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Compliance and Emissions Monitoring Requirements:

Unassigned emissions	N
Emission credits	N
Special Conditions	N
Compliance schedule	N

Source test [date(s)]	N
COMS	N
CEMS	N
Ambient monitoring	N

Reporting Requirements:

Annual report (due date)	Feb 15
Semi-Annual Report (due date)	N
GHG Report (due date)	N
Monthly Report (due date)	N

Quarterly Report (due date)	N
Excess Emissions Report	Y
Other Reports (due date)	N

Air Programs:

NSPS (list subparts)	N
NESHAP (list subparts)	N
Compliance Assurance Monitoring (CAM)	N
Regional Haze (RH)	N
TACT	N
40 CFR part 68 Risk Management	N
Synthetic Minor (SM)	Y
SM-80	N

Title V	N
Major FHAP Source	N
Federal Major Source	N
Type A State New Source Review	N
Type B State New Source Review	N
Prevention of Significant Deterioration (PSD)	N
Nonattainment New Source Review (NNSR)	N

Permittee Identification

1. Pacific Recycling, Inc. ("Pacific Recycling" and/or "the facility") operates a metal shredding and recycling facility at 3300 Cross Street in Eugene, Oregon.

General Background Information

2. Pacific Recycling began operation as an automobile dismantler in 1994. In 2012 Pacific Recycling received a Basic ACDP from LRAPA which allowed the facility to begin automobile shredding. Vehicle shredding began in 2014.

Pacific Recycling receives End of Life Vehicles (ELVs) and scrap metal for shredding and recycling. All fluids (including fuel, oil, coolant, and refrigerant), batteries, mercury switches, and lead components are removed from ELVs before shredding. The fluids are drained and sent to offsite recycling facilities.

The facility uses cutting torches to cut larger pieces of material and heavy equipment into smaller pieces that are more manageable. These larger pieces would damage the shredder, so the facility uses cutting torches to process the material. Once processed the material is shipped offsite to another facility for smelting.

The shredder, material conveying, drop points, storage piles, and fluid draining are all done on a large concrete pad. Vehicle traffic throughout the facility is primarily done on unpaved roads. During the summer, and when it is particularly dry, the facility wets the roads down with water to minimize the fugitive dust being blown offsite. The torch cutting is also performed in a section that is bare earth, which can cause issues with fugitive dust if the torch operator is not careful.

The metal shredder is manufactured by US Shredder, model 80108, and was manufactured in 2012. The shredder has an estimated throughput capacity of 160 tons per hour, and the facility usually runs the shredder at around 130 tons per hour. The shredder has two (2) electric motors rated at 4,000 horsepower (hp) each and has two (2) water injection pumps. The pumps have adjustable flow rates, and each can operate at 12 to 24 gallons per minute. The water is primarily used to cool the shredder and shredded material, but it also helps reduce particulate matter emissions at the shredder. The moistened material coming from the shredder is also less likely to become airborne while conveyed and dropped into the storage piles. The shredding of automobiles produces a mixture of ferrous metal, non-ferrous metal (e.g. aluminum and copper), and waste called Automotive Shredder Residue (ASR), also known as "fluff".

After shredding, the components are separated by weight and material type as they are conveyed and dropped at various locations. The drop points use three-sided enclosures to help control wind borne emissions. The ASR waste is stored in piles that are sampled quarterly and the ASR is disposed of in a landfill.

Average Vehicle Weight

3. The 2022 EPA Automotive Trends Report shows that the average vehicle weight for all vehicles from 1975 to 2021 is just under two (2) tons, with the lowest vehicle weights being in the 1980's. The average vehicle weight in 2021 was 4,289 pounds (or 2.14 tons). Prior to shredding, a vehicle usually has various parts removed and the fluids drained. Pacific Recycling has measured the average weight of vehicles being shredded to be around 1.6 tons each. Based on this information, LRAPA will use 1.6 ton per vehicle for emissions calculations.

Reasons for Permit Action and Fee Basis

4. This permit action is a renewal, and change in permit type, for an existing Air Contaminant Discharge Permit (ACDP) which was issued on December 17, 2012 and was originally scheduled to expire on December 17, 2022. The existing permit remains valid until the proposed permit is issued because the facility submitted a timely and complete application for renewal.

On October 21, 2022, LRAPA informed Pacific Recycling that the facility could no longer be permitted under a "Basic" ACDP and they were required to obtain a "Simple" ACDP since estimated actual emissions were determined to be greater than levels allowed under a Basic ACDP. Specifically, LRAPA determined that Pacific Recycling's operations are more appropriately classified under Title 37, Table 1, Category B.75 since actual emissions of VOCs are estimated to be greater than ten (10) tons/year.

Based on newly available source test information from similar metal/automobile shredding facilities, Pacific Recycling has the ability to exceed the major source thresholds for VOCs and HAPs if the shredder were operated at its maximum capacity. Pacific Recycling has requested to set PSELs at levels below the major source thresholds in order to obtain a Simple ACDP.

Attainment Status

5. The facility is located in an area that has been designated as attainment or unclassified for all criteria pollutants. The facility is inside the Eugene-Springfield UGB as defined in LRAPA 29-0010 which designates the Eugene-Springfield CO and PM₁₀ maintenance areas. The facility is also located inside the Eugene-Springfield UGB as described in the current Eugene-Springfield Metropolitan Area General Plan, as amended.

Permitting History

6. LRAPA has reviewed and issued the following permitting actions to this facility:

Date(s) Approved/Valid	Permit Action Type	Description
12/17/2012 – 12/17/2022	Basic ACDP	Initial permit
Upon Issuance	Simple ACDP	Renewal and change permit type

Emission Unit Description

7. The emission units (EUs) regulated by this permit are the following:

EU ID	Emission Unit (EU)	Control Device
EU1	Metal Shredder	NA
EU2	Material Conveying & Dropping	3-sided enclosures
EU3	Storage Piles	3-sided enclosures

EU ID	Emission Unit (EU)	Control Device
EU4	Automobile Fluid Draining	NA
EU5	Torch Cutting	NA
EU6	Unpaved Road Emissions	Work Practices

Significant Emission Units

8. Emission Unit EU1 – Metal Shredder
 The metal shredder is powered by two (2) electric motors and has two (2) water injectors used to cool the shredder head and the material being shredded. Emission factors (EFs) for the shredder were developed by looking at source tests from other similar metal/automobile shredding facilities. The other shredder facilities had similarly sized shredders and also used water injection for cooling. The VOC emission factors specifically came from a linear equation provided by EPA based on shredder source tests. Rather than use a formula based on the ratio of automobiles shredded to non-automobile metal shredded, LRAPA has asked Pacific Recycling to track and report the weight of automobiles shredded and non-automobile metal shredded, and to calculate the VOC emissions based on EFs for 100% automobile and 0% automobile shredding. The highest emission factor across all applicable source tests was chosen for each pollutant.

9. Emission Unit EU2 – Conveying and Dropping
 Pacific Recycling has a large bulk handling system that takes the shredded materials and sorts them into their various components. There are multiple conveyor-to-conveyor drops, as well as final drop points. Some of the drop points are into 3-sided enclosures, which help reduce air entrainment emissions as the materials drop, and also help reduce airborne emissions from the resulting storage piles. The emissions from all the conveying drops are calculated based on samples of ASR storage pile composition, the percent of ASR at each drop point, the moisture content of the material, local wind averages, and if the final drop was into a 3-sided enclosure.

10. Emission Unit EU3 – Storage Piles
 The storage pile emissions are based on samples taken from ASR to determine the composition. Then the composition is ratioed to the percent of ASR expected for each pile, the maximum exposed surface area (based on footprint and height), local wind and moisture averages, and if it is within a 3-sided enclosure.

11. Emission Unit EU4 – Fluid Draining
 Pacific Recycling removes the automotive fluids prior to shredding. The draining emissions are based on the average amount of gasoline contained in a vehicle, the volatile components of gasoline, and the volatility of gasoline in air at standard temperature and pressure.

12. Emission Unit EU5 – Cutting Torches
 The torch cutting particulate emission factors are from a report prepared by Pacific Environmental Services in May 2000 for the South Coast Air Quality Management District (AQMD) and the California Air Resources Board (CARB).

13. Emission Unit EU6 – Unpaved Roads
 The road dust calculations are based on EPA AP-42 Chapter 13.2.2 Unpaved Roads. This takes into account the road composition, size and weight of the average vehicle traveling the roads, local average moisture, average miles traveled, and if the road is treated with water to reduce airborne particles.

Nuisance, Deposition and Other Emission Limitations

14. Under LRAPA 49-010(1), the permittee must not cause or allow air contaminants from any source subject to regulation by LRAPA to cause a nuisance. A plant representative must immediately investigate the condition following the receipt of a nuisance complaint and provide a response to the complainant within 24 hours, if possible, Nuisance conditions will be verified by LRAPA personnel. Compliance is demonstrated through documentation of all complaints received by the facility from the general public and following procedures to notify LRAPA of receipt of these complaints.
15. Under LRAPA 32-055, the permittee must not cause or allow the emission of particulate matter which is larger than 250 microns in size at sufficient duration or quantity as to create an observable deposition upon the real property of another person. Compliance is demonstrated through documentation of all complaints received by the facility from the general public and following procedures to notify LRAPA of receipt of these complaints.
16. Under LRAPA 32-090(1), the permittee must not discharge from any source whatsoever such quantities of air contaminants which cause injury or damage to any persons, the public, business or property; such determination is to be made by LRAPA. Compliance is demonstrated through documentation of all complaints received by the facility from the general public and following procedures to notify LRAPA of receipt of these complaints.

Emission Limitations

17. The facility is subject to the general requirements for fugitive emissions under LRAPA 48-015. The facility must not have visible emissions that leave the plant site boundary for a period or periods totaling more than 18 seconds in a six (6) minute period. The facility must follow, but is not limited to, the list of reasonable precautions under LRAPA 48-015(1)(a)-(g). Compliance will be demonstrated through a survey of facility fugitive emissions using EPA Method 22 to be completed at least once a week. The permittee is required to take corrective action if any visible emissions are identified. If requested by LRAPA, the facility must develop a fugitive emission control plan.
18. The control equipment at the facility must be operated and maintained at the highest and best practicable treatment and control of air contaminant emissions so as to maintain overall air quality at the highest possible levels, and to maintain contaminant concentrations, visibility reduction, odors, soiling, and other deleterious factors at the lowest possible levels under LRAPA 32-005(1). Compliance for the control equipment at the facility will be demonstrated through implementation of an Operation & Maintenance (O&M) Plan.

Asbestos

19. The asbestos requirements in LRAPA title 43 require that all asbestos records be retained for at least two (2) years. This requirement is superseded by the ACDP record retention requirements under LRAPA 34-016(6). Therefore, the facility is required to retain all asbestos documentation onsite for at least five (5) years.

Typically Achievable Control Technology (TACT)

20. LRAPA 32-008(2) requires new units installed or existing emission units modified on or after January 1, 1994, meet TACT if the emission unit meets the following criteria: The emission unit is not subject to Major NSR in title 38, Type A State NSR in LRAPA title 38, an applicable Standard of Performance for New Stationary Sources in title 46, or any other standard applicable only to new or

modified sources in title 32, title 33, or title 39 for the regulated pollutant emitted; the source is required to have a permit; if new, the emission unit has emissions of any criteria pollutant equal to or greater than one (1) ton per year of any criteria pollutant; if modified, the emission unit would have an increase in emissions of any criteria pollutant equal to or greater than one (1) ton per year of any criteria pollutant; and LRAPA determines that the proposed air pollution control devices and emission reduction processes do not represent TACT.

While a formal TACT analysis has not been conducted, LRAPA believes that the metal shredder is likely meeting TACT as long as the facility:

- a. Uses the water injection system on the shredder at all times the shredder is operating, in accordance with the manufacturing specifications;
- b. Drains all fluids from automobiles prior to shredding; and
- c. Removes all batteries, mercury switches, and lead from automobiles prior to shredding.

New Source Performance Standards (NSPSs)

- 21. There are no emissions units at this facility for which NSPS have been promulgated or are applicable.

National Emission Standards for Hazardous Air Pollutants (NESHAPs)

- 22. There are no emissions units at this facility for which NESHAPs have been promulgated.

Plant Site Emission Limits (PSELs) Information

- 23. Below is a summary of the baseline emissions rate, netting basis, and PSELs for this facility:

Pollutant	Baseline Emission Rate (TPY)	Netting Basis: Proposed (TYP)	Plant Site Emission Limit (PSEL): Proposed (TPY)	PSEL Increase Over Netting Basis (TPY)	Significant Emission Rate (TPY)
PM	NA	0	11	11	25
PM ₁₀	NA	0	4.6	4.6	15
PM _{2.5}	NA	0	1.9	1.9	10
CO	NA	0	de minimis	NA	100
NO _x	NA	0	de minimis	NA	40
SO ₂	NA	0	de minimis	NA	40
VOC	NA	0	39	39	40
GHG	NA	0	de minimis	NA	75,000

- a. Previously, Pacific Recycling was on a Basic ACDP, and Basic ACDPs do not have a Baseline Emission Rate, Netting Basis or PSEL.

- b. With the exception of GHG and PM_{2.5}, the facility does not have a baseline emission rate (BER) for criteria pollutants because the facility was not in operation during either the 1977 or 1978 baseline year. The GHG BER is based on any consecutive 12 calendar month period during calendar years 2000 through 2010 in accordance with LRAPA 42-0048(a)(b), but the facility did not request a GHG BER to be set. A BER was not established for PM_{2.5} in accordance with LRAPA 42-0048(3).
- c. Based on newly available source test information from similar metal/automobile shredding facilities, the facility has the ability to exceed the major source thresholds for VOCs and HAPs if the shredder were operated at its capacity. Pacific Recycling has elected to set PSELs at levels below the major source and SER thresholds, which allows them to qualify for a Simple ACDP. The proposed PSELs for all pollutants are equal to the facility's potential to emit or capacity in accordance with LRAPA 42-0041(2). The netting basis is zero in accordance with 42-0046(4).
- d. PSELs for CO, NO_x, SO₂, and GHGs are not included in this permit since emissions of these pollutants are less than the respective de minimis emission thresholds under title 12.
- e. There are no assigned HAP PSELs because the HAP emissions are tied to the VOC emissions. At their chosen VOC PSEL, Pacific Recycling's potential to emit is below the nine (9) and 24 ton limits for HAPs, individual and aggregate respectively, to obtain HAP PSELs. See the Federal Hazardous Air Pollutants (HAP) and Toxic Air Contaminants (TACs) section of this review report for more information related to HAPs.
- f. The PSEL is a federally enforceable limit on the potential to emit.

Unassigned Emissions and Emission Reduction Credits

- 24. The facility has zero (0) unassigned emissions. Unassigned emissions are equal to the netting basis minus the source's current PTE, minus any banked emission reduction credits. The facility has zero (0) tons of emission reduction credits.

Type A and Type B State NSR

- 25. The proposed permit type change from Basic to Simple ACDP did not increase the PSEL over the netting basis of any pollutant above the SER and therefore, the facility is not subject to Type A or Type B State NSR for either a nonattainment or designated area under LRAPA 38-0010(2)(d).

New Source Review (NSR) and Prevention of Significant Deterioration (PSD)

- 26. This facility is located in an area that is designated attainment or unclassified for all regulated pollutants other than CO and PM₁₀. For pollutants other than CO and PM₁₀, the proposed PSELs are less than the federal major source threshold for non-listed sources of 250 TPY per regulated pollutant and are not subject to Major NSR. For CO and PM₁₀, the source is located in a maintenance area. The proposed PSELs for CO and PM₁₀ are less than the 100 TPY threshold that determines the applicability of Major NSR in a maintenance area.

Federal Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants (TACs)

- 27. Potential annual federal hazardous air pollutant emissions (HAP) are based on the potential to emit of the facility operating under permit limitations. The potential emissions of federal HAPs are below the major source thresholds of 10 TPY of any single federal HAP and 25 TPY for the aggregate of federal HAPs.

Pacific Recycling has chosen to limit their PTE to levels below the major source threshold for HAPs in order to obtain a Simple ACDP. At their chosen PTE, the maximum potential emission of a single federal HAP is 4.25 tons per year (xylenes), and the potential aggregate of federal HAP emissions are 12.54 tons per year. The facility is considered a synthetic minor source of federal HAPs.

28. Under the Cleaner Air Oregon program, only existing sources that have been notified by LRAPA and new sources are required to perform risk assessments. This source has not been notified by LRAPA and is therefore not yet required to perform a risk assessment or report annual emissions of toxic air contaminants (TACs). In 2016 and again in 2020, LRAPA required the reporting of approximately 600 toxic air contaminants. LRAPA regulates approximately 260 toxic air contaminants that have Risk Based Concentrations established in rule. All 187 Federally listed hazardous air pollutants (HAPs) are on the list of approximately 600 toxic air contaminants. Pacific Recycling was on a Basic ACDP during the previous air toxic reporting periods and was not subject to the same air toxic reporting requirements. When the source is notified by LRAPA, they must update their inventory and perform a risk assessment to see if they must reduce their risk from their toxic air contaminant emissions. Until then, sources will be required to report toxic air contaminant emissions triennially on the ATEI.
29. The hazardous air pollutants and toxic air contaminants listed below are the projected maximum potential HAP/TAC emissions from the facility at the chosen PTE, based on emission factors derived from source testing of similar facilities.

CAS/DEQ ID	Pollutant	PTE (ton/yr)	Federal HAP	CAO TAC
1330-20-7	Xylenes (mixed)	4.25	Y	Y
108-88-3	Toluene	3.39	Y	Y
540-84-1	2,2,4-Trimethylpentane	1.86	Y	Y
110-54-3	Hexane	1.37	Y	Y
100-41-4	Ethyl benzene	0.84	Y	Y
71-43-2	Benzene	0.47	Y	Y
67-56-1	Methanol	0.12	Y	Y
7440-66-6	Zinc	0.077	N	Y
88-06-2	2,4,6-Trichlorophenol	0.040	Y	Y
100-42-5	Styrene	0.031	Y	Y
7439-97-6	Mercury	0.022	Y	Y
75-09-2	Methylene chloride	0.021	Y	Y
98-82-8	Cumene	0.020	Y	Y
71-55-6	Methyl chloroform	0.017	Y	Y
78-93-3	2-Butanone	0.014	N	Y
127-18-4	Perchloroethylene	0.014	Y	Y
1336-36-3	Polychlorinated biphenyls (PCBs)	0.013	Y	Y
7439-92-1	Lead and compounds	0.013	Y	Y
365	Nickel compounds, insoluble	0.013	Y	Y
108-10-1	Methyl isobutyl ketone	8.37E-03	Y	Y
7440-50-8	Copper and compounds	8.22E-03	N	Y
79-01-6	Trichloroethylene	5.81E-03	Y	Y

CAS/DEQ ID	Pollutant	PTE (ton/yr)	Federal HAP	CAO TAC
106-99-0	1,3-Butadiene	5.68E-03	Y	Y
91-20-3	Naphthalene	3.00E-03	Y	Y
75-35-4	Vinylidene chloride	2.32E-03	Y	Y
7439-96-5	Manganese	2.25E-03	Y	Y
18540-29-9	Chromium VI	2.15E-03	Y	Y
7429-90-5	Aluminum	1.68E-03	N	Y
7440-43-9	Cadmium	1.44E-03	Y	Y
75-34-3	1,1-Dichloroethane	1.16E-03	Y	Y
504	Phosphorus	7.85E-04	Y	Y
7440-39-3	Barium	6.88E-04	N	Y
75-01-4	Vinyl chloride	3.00E-04	Y	Y
7782-49-2	Selenium	1.31E-04	Y	Y
74-83-9	Bromomethane	1.13E-04	Y	Y
7440-22-4	Silver	1.10E-04	N	Y
7440-36-0	Antimony	7.63E-05	Y	Y
447	Polybrominated diphenyl ethers (PBDEs)	3.73E-05	N	Y
7440-38-2	Arsenic	3.39E-05	Y	Y
7440-48-4	Cobalt	3.25E-05	Y	Y
7440-28-0	Thallium	2.54E-05	N	Y
401	Polycyclic aromatic hydrocarbons (PAHs)	6.39E-06	Y	Y
7440-41-7	Beryllium	6.38E-06	Y	Y
117-81-7	Bis(2-ethylhexyl) phthalate (DEHP)	1.77E-06	Y	Y
118-74-1	Hexachlorobenzene	2.35E-07	Y	Y
645	Polychlorinated biphenyls (PCBs) TEQ	2.28E-08	Y	Y
646	PCDDs & PCDFs TEQ	1.56E-09	Y	Y
		Total (ton/yr)	12.54	12.64

Toxics Release Inventory

30. The Toxics Release Inventory (TRI) is a federal program that tracks the management of certain toxic chemicals that may pose a threat to human health and the environment, over which LRAPA has no regulatory authority. It is a resource for learning about toxic chemical releases and pollution prevention activities reported by certain industrial facilities. Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) created the TRI program. In general, chemicals covered by the TRI program are those that cause:

- Cancer or other chronic human health effects;
- Significant adverse acute human health effects; or
- Significant adverse environmental effects.

There are currently over 650 chemicals covered by the TRI program. Facilities that manufacture, process, or otherwise use these chemicals in amounts above established levels must submit annual TRI reports on each chemical. NOTE: The TRI program is a federal program over which LRAPA has no regulatory authority. LRAPA does not guarantee the accuracy of any information copied from EPA's TRI website.

In order to report emissions to the TRI program, a facility must operate under a reportable NAICS code, meet a minimum employee threshold, and manufacture, process, or otherwise use chemicals in excess of the applicable reporting threshold for the chemical. For calendar year 2022, this facility did not report to the TRI program.

Compliance History

31. The facility inspection and compliance history is listed in the table below:

Type of Inspection	Date	Results
Informational Inspection – Follow up to NCP 15-3587	07/27/2016	Not In compliance: Fugitive Emissions - Crusher
Informational Inspection	08/17/2016	On Schedule: Fugitive Emissions
Informational Inspection	11/08/2016	On Schedule: Other
Informational Inspection	01/05/2018	Not In compliance: Fugitive Emissions - Trackout
Informational Inspection	08/30/2018	In compliance: Other
Informational Inspection	09/13/2018	In compliance: Other
Maintenance of Compliance	01/11/2019	On Schedule: Fugitive Emissions
Maintenance of Compliance	03/25/2022	Not In compliance: Outdoor Burning Limits
Informational Inspection	06/10/2022	On Schedule: Fugitive Emissions

32. On September 5, 2007, Pacific Recycling was issued a Notice of Non-Compliance (NON 2809) for open burning of prohibited materials (plastics, rubber, grease, hydraulic fluid); open burning when prohibited; open burning where prohibited; and commercial open burning where prohibited.

On October 24, 2007, LRAPA issued a Notice of Civil Penalty (NCP 07-2809) in the amount of \$700.

On December 14, 2007 LRAPA issued a Default Order Judgement (DOJ 07-2809) with a lien filed with Lane County in the amount of \$700. The full amount was paid on December 28, 2007 and the lien was removed.

33. On February 22, 2011, Pacific Recycling was issued a Notice of Non-Compliance (NON 3278) for open burning of prohibited materials; open burning within the Eugene city limits; failure to take reasonable precautions to prevent particulate matter from becoming airborne from unpaved roads and other surfaces which can create airborne dusts; and failure to promptly remove from paved streets earth or other material which does or may become airborne.

On March 01, 2011, LRAPA issued a Notice of Civil Penalty (NCP 11-3278) in the amount of \$625. The facility requested a reduction and the fee was reduced to \$375.

On April 11, 2011 LRAPA issued a Stipulated Final Order (SFO 11-3278) in the amount of \$375. The full amount was paid on April 18, 2011, and the action was closed.

34. On June 27, 2011, Pacific Recycling was issued a Notice of Non-Compliance (NON 3305) for open burning of prohibited materials (rubber hosing).

On July 19, 2011, LRAPA issued a Notice of Civil Penalty (NCP 11-3305) in the amount of \$1,000. The full amount was paid on August 26, 2011, and the action was closed.

35. On July 08, 2011, Pacific Recycling was issued a Notice of Non-Compliance (NON 3309) for open burning of prohibited materials (rubber hosing).

On August 24, 2011, LRAPA issued a Notice of Civil Penalty (NCP 11-3309) in the amount of \$1,188. The full amount was paid on September 20, 2011, and the action was closed.

36. On July 27, 2011, Pacific Recycling was issued a Notice of Non-Compliance (NON 3317) for causing, allowing, initiating or maintaining the open burning of prohibited materials.

On December 01, 2011, LRAPA issued a Notice of Civil Penalty (NCP 11-3317) in the amount of \$1,250. The full amount was paid on December 09, 2011, and the action was closed.

37. On November 07, 2012, Pacific Recycling was issued a Notice of Non-Compliance (NON 3405) for failure to take reasonable precautions to prevent particulate matter from becoming airborne; and failure to promptly remove trackout from Pacific Recycling activities on Meadow Lane, Davis Street and Cross Street in Eugene.

On November 29, 2012, LRAPA issued a Notice of Civil Penalty (NCP 12-3405) in the amount of \$938. The full amount was paid on December 12, 2012, and the action was closed.

38. On March 07, 2013, Pacific Recycling was issued a Notice of Non-Compliance (NON 3417) for failure to take reasonable precautions to prevent particulate matter from becoming airborne; and failure to promptly remove trackout from Pacific Recycling activities on Meadow Lane, Davis Street and Cross Street in Eugene.

On March 27, 2013, LRAPA issued a Notice of Civil Penalty (NCP 13-3417) in the amount of \$938. The full amount was paid on April 16, 2013, and the action was closed.

39. On March 22, 2013, Pacific Recycling was issued a Notice of Non-Compliance (NON 3426) for failure to take reasonable precautions to prevent particulate matter from becoming airborne; and failure to promptly remove trackout from Pacific Recycling activities on Meadow Lane, Davis Street and Cross Street in Eugene.

40. On April 24, 2013, Pacific Recycling was issued a Notice of Non-Compliance (NON 3443) for unapproved open burning; open burning of prohibited materials; and open burning where prohibited.

On May 10, 2013, LRAPA issued a Notice of Civil Penalty (NCP 13-3443) in the amount of \$1,438. The full amount was paid on May 16, 2013, and the action was closed.

41. On January 03, 2014, Pacific Recycling was issued a Notice of Non-Compliance (NON 3494) for failure to take reasonable precautions to prevent particulate matter from becoming airborne; and failure to promptly remove trackout from Pacific Recycling activities on Meadow Lane, Davis Street and Cross Street in Eugene.

On January 16, 2014, LRAPA issued a Notice of Civil Penalty (NCP 13-3494) in the amount of \$1,563. The facility requested a reduction and the fee was reduced to \$938.

On February 25, 2014 LRAPA issued a Stipulated Final Order (SFO 13-3494) in the amount of \$938. The full amount was paid on April 18, 2011, and the action was closed

42. On July 09, 2015, Pacific Recycling was issued a Notice of Non-Compliance (NON 3587) for failure to take reasonable precautions to prevent particulate matter from becoming airborne from metal shredder materials handling operations and shredder infeed.
43. On September 29, 2015, LRAPA issued a Notice of Civil Penalty (NCP 15-3587) in the amount of \$1,500. The facility filed Chapter 11 bankruptcy and the action was closed.

Source Testing History

44. The facility is not required to conduct source testing at this time. LRAPA is not aware of any historical source testing conducted at this facility.

Recordkeeping Requirements

45. The facility is required to keep and maintain a record of the following information for a period of at least five (5) years:

Facility-Wide Activity	Parameter	Units	Minimum Recording Frequency
Automobiles Shredded	Material Processed	Tons of Autos	Monthly
Non-Automobile Metal Shredded	Material Processed	Tons of Non-Auto Metal	Monthly
Total Shredder Throughput	Material Processed	Tons	Monthly
Unpaved Roads	Number of Vehicles	Number	Monthly
Torch Cutting	Hours of Cutting	Hours	Monthly
Asbestos Records (Surveys, Abatement Notifications, Abatement Certifications, and Asbestos Waste Shipments) in accordance with Condition 13	NA	NA	Documentation
Certification for the removal of conditioning coolant in accordance with Condition 14	NA	NA	Documentation

Facility-Wide Activity	Parameter	Units	Minimum Recording Frequency
Recovery and recycling equipment operation in accordance with Condition 15	NA	NA	Certification
General Recordkeeping			
Log of nuisance complaints	NA	NA	Upon receipt of complaint
Visible Emission Survey	Opacity	Percent	Monthly
Operation and Maintenance Plan	NA	NA	Maintain current version on-site
Standard Operating Procedure	NA	NA	Maintain current version on-site
Upset Log of all planned and unplanned excess emissions, as required by Condition G15	NA	NA	Per occurrence

Reporting Requirements

46. The facility must submit to LRAPA the following reports by no later than the dates indicated in the table below.

Report	Reporting Period	Due Date
PSEL pollutant emissions as calculated according to Conditions 5 and 6, including supporting calculations.	Annual	February 15
Shredder throughput (Automobiles, Non-Automobile Metal, Total Shredder Throughput) according to Condition 6.	Annual	February 15
Number of vehicles for unpaved road emissions according to Condition 6.	Annual	February 15
Hours of torch cutting according to Condition 6.	Annual	February 15
A summary of maintenance and repairs performed on any pollution control devices at the facility.	Annual	February 15
A summary of all complaints received by the permittee and their resolution as required by Condition G11.	Annual	February 15
The excess emissions log required by Condition G16, if any planned or unplanned excess emissions have occurred during the reporting period.	Annual	February 15

GHG Reporting

47. The permittee is not subject to greenhouse gas reporting under OAR 340 Division 215 because actual greenhouse gas emissions are less than 2,500 metric tons (2,756 short tons) of CO₂ equivalents per year. If the source ever emits more than this amount, they will be required to report greenhouse gas emissions.

Public Notice

48. Issuance of a renewed Simple Air Contaminant Discharge Permit requires public notice in accordance with LRAPA 31-0030(3)(c), which requires LRAPA to provide notice of the proposed permit action and a minimum of 35 days for interested persons to submit written comments.

The proposed permit was on public notice from May 24, 2024 to June 28, 2024. No written comments were submitted during the public comment period. No public hearing was requested by ten (10) or more individuals or an individual representing a group of more than ten (10) individuals.

CNC/AA
07/08/2024

Emission Detail Sheets:

			Year	2023	2022	2021	2020	2019	2018	2017	2016	2015
			Tons shredded	111,826	93,107	91,851	70,281	93,085	102,608	78,449	22,610	13,642
			No. of autos	33,740	14,482	23,269	10,382	12,809	34,601	36,532	5,024	3,188
			(Tons of Autos)	53,984	23,171	37,230	16,611	20,494	55,362	58,451	8,038	5,101
			(Tons of non-Autos)	57,842	69,936	54,621	53,670	72,591	47,246	19,998	14,572	8,541
Emissions from Shredding			% Autos by mass	48%	25%	41%	24%	22%	54%	75%	36%	37%
Pollutant	EF Source	EF (lb/ton)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)
PM	Reference 1	0.0137	0.76	0.64	0.63	0.48	0.64	0.70	0.54	0.15	0.09	
PM ₁₀	Reference 1	0.0137	0.76	0.64	0.63	0.48	0.64	0.70	0.54	0.15	0.09	
PM _{2.5}	Reference 1	0.0137	0.76	0.64	0.63	0.48	0.64	0.70	0.54	0.15	0.09	
VOC - from Autos shredded	Reference 2	0.5730	15.47	6.64	10.67	4.76	5.87	15.86	16.75	2.30	1.46	
VOC - from Non-Auto Metal shredded	Reference 2	0.2520	7.29	8.81	6.88	6.76	9.15	5.95	2.52	1.84	1.08	
Total HAPs	Reference 3	0.1381	7.72	6.43	6.34	4.85	6.43	7.09	5.42	1.56	0.94	
Individual Hazardous Air Pollutants	CAS	EF (lb/ton)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)
Antimony and compounds	7440-36-0	8.76E-07	4.9E-05	4.1E-05	4.0E-05	3.1E-05	4.1E-05	4.5E-05	3.4E-05	9.9E-06	6.0E-06	
Arsenic and compounds	7440-38-2	3.50E-07	2.0E-05	1.6E-05	1.6E-05	1.2E-05	1.6E-05	1.8E-05	1.4E-05	4.0E-06	2.4E-06	
Barium and compounds	7440-39-3	7.82E-06	4.4E-04	3.6E-04	3.6E-04	2.7E-04	3.6E-04	4.0E-04	3.1E-04	8.8E-05	5.3E-05	
Beryllium and compounds	7440-41-7	7.32E-08	4.1E-06	3.4E-06	3.4E-06	2.6E-06	3.4E-06	3.8E-06	2.9E-06	8.3E-07	5.0E-07	
Cadmium and compounds	7440-43-9	1.65E-05	9.2E-04	7.7E-04	7.6E-04	5.8E-04	7.7E-04	8.5E-04	6.5E-04	1.9E-04	1.1E-04	
Chromium VI, chromate and dichromate particulate	18540-29-9	1.65E-05	9.2E-04	7.7E-04	7.6E-04	5.8E-04	7.7E-04	8.5E-04	6.5E-04	1.9E-04	1.1E-04	
Cobalt and compounds	7440-48-4	3.19E-07	1.8E-05	1.5E-05	1.5E-05	1.1E-05	1.5E-05	1.6E-05	1.3E-05	3.6E-06	2.2E-06	
Copper and compounds	7440-50-8	7.72E-06	4.3E-04	3.6E-04	3.5E-04	2.7E-04	3.6E-04	4.0E-04	3.0E-04	8.7E-05	5.3E-05	
Lead and compounds	7439-92-1	1.17E-04	6.5E-03	5.4E-03	5.4E-03	4.1E-03	5.4E-03	6.0E-03	4.6E-03	1.3E-03	8.0E-04	
Manganese and compounds	7439-96-5	1.19E-05	6.7E-04	5.6E-04	5.5E-04	4.2E-04	5.6E-04	6.1E-04	4.7E-04	1.3E-04	8.1E-05	
Mercury and compounds	7439-97-6	2.48E-04	1.4E-02	1.2E-02	1.1E-02	8.7E-03	1.2E-02	1.3E-02	9.7E-03	2.8E-03	1.7E-03	
Nickel compounds, insoluble	365	4.41E-06	2.5E-04	2.1E-04	2.0E-04	1.5E-04	2.1E-04	2.3E-04	1.7E-04	5.0E-05	3.0E-05	
Phosphorus and compounds	504	9.01E-06	5.0E-04	4.2E-04	4.1E-04	3.2E-04	4.2E-04	4.6E-04	3.5E-04	1.0E-04	6.1E-05	
Selenium and compounds	7782-49-2	1.50E-06	8.4E-05	7.0E-05	6.9E-05	5.3E-05	7.0E-05	7.7E-05	5.9E-05	1.7E-05	1.0E-05	
Thallium and compounds	7440-28-0	2.92E-07	1.6E-05	1.4E-05	1.3E-05	1.0E-05	1.4E-05	1.5E-05	1.1E-05	3.3E-06	2.0E-06	
Silver and compounds	7440-22-4	1.27E-06	7.1E-05	5.9E-05	5.8E-05	4.4E-05	5.9E-05	6.5E-05	5.0E-05	1.4E-05	8.6E-06	
Zinc and compounds	7440-66-6	8.43E-04	4.7E-02	3.9E-02	3.9E-02	3.0E-02	3.9E-02	4.3E-02	3.3E-02	9.5E-03	5.7E-03	
1,1-Dichloroethane (Ethylidene dichloride)	75-34-3	1.33E-05	7.4E-04	6.2E-04	6.1E-04	4.7E-04	6.2E-04	6.8E-04	5.2E-04	1.5E-04	9.1E-05	
Benzene	71-43-2	4.61E-03	2.6E-01	2.1E-01	2.1E-01	1.6E-01	2.1E-01	2.4E-01	1.8E-01	5.2E-02	3.1E-02	
Ethyl benzene	100-41-4	9.51E-03	5.3E-01	4.4E-01	4.4E-01	3.3E-01	4.4E-01	4.9E-01	3.7E-01	1.1E-01	6.5E-02	
Hexane	110-54-3	1.42E-02	7.9E-01	6.6E-01	6.5E-01	5.0E-01	6.6E-01	7.3E-01	5.6E-01	1.6E-01	9.7E-02	
Bromomethane (Methyl bromide)	74-83-9	1.30E-06	7.3E-05	6.0E-05	6.0E-05	4.6E-05	6.0E-05	6.7E-05	5.1E-05	1.5E-05	8.8E-06	
1,1,1-Trichloroethane (Methyl chloroform)	71-55-6	2.00E-04	1.1E-02	9.3E-03	9.2E-03	7.0E-03	9.3E-03	1.0E-02	7.8E-03	2.3E-03	1.4E-03	
2-Butanone (Methyl ethyl ketone)	78-93-3	1.62E-04	9.1E-03	7.5E-03	7.4E-03	5.7E-03	7.5E-03	8.3E-03	6.4E-03	1.8E-03	1.1E-03	
Methyl isobutyl ketone (MIBK, Hexone)	108-10-1	9.61E-05	5.4E-03	4.5E-03	4.4E-03	3.4E-03	4.5E-03	4.9E-03	3.8E-03	1.1E-03	6.6E-04	
Dichloromethane (Methylene chloride)	75-09-2	2.37E-04	1.3E-02	1.1E-02	1.1E-02	8.3E-03	1.1E-02	1.2E-02	9.3E-03	2.7E-03	1.6E-03	
Naphthalene	91-20-3	3.44E-05	1.9E-03	1.6E-03	1.6E-03	1.2E-03	1.6E-03	1.8E-03	1.3E-03	3.9E-04	2.3E-04	
Styrene	100-42-5	3.59E-04	2.0E-02	1.7E-02	1.6E-02	1.3E-02	1.7E-02	1.8E-02	1.4E-02	4.1E-03	2.4E-03	
Tetrachloroethene (Perchloroethylene)	127-18-4	1.59E-04	8.9E-03	7.4E-03	7.3E-03	5.6E-03	7.4E-03	8.2E-03	6.2E-03	1.8E-03	1.1E-03	
Toluene	108-88-3	3.76E-02	2.1E+00	1.7E+00	1.7E+00	1.3E+00	1.7E+00	1.9E+00	1.5E+00	4.2E-01	2.6E-01	
Trichloroethene (TCE, Trichloroethylene)	79-01-6	6.67E-05	3.7E-03	3.1E-03	3.1E-03	2.3E-03	3.1E-03	3.4E-03	2.6E-03	7.5E-04	4.5E-04	
Vinyl Chloride	75-01-4	3.44E-06	1.9E-04	1.6E-04	1.6E-04	1.2E-04	1.6E-04	1.8E-04	1.3E-04	3.9E-05	2.3E-05	
Vinylidene chloride	75-35-4	2.67E-05	1.5E-03	1.2E-03	1.2E-03	9.4E-04	1.2E-03	1.4E-03	1.0E-03	3.0E-04	1.8E-04	
Xylene (mixture), including m-xylene, o-xylene, p-xylene	1330-20-7	4.83E-02	2.7E+00	2.2E+00	2.2E+00	1.7E+00	2.2E+00	2.5E+00	1.9E+00	5.5E-01	3.3E-01	
Polychlorinated biphenyls (PCBs)	1336-36-3	1.51E-04	8.4E-03	7.0E-03	6.9E-03	5.3E-03	7.0E-03	7.7E-03	5.9E-03	1.7E-03	1.0E-03	
Polychlorinated biphenyls (PCBs) TEQ	645	2.61E-10	1.5E-08	1.2E-08	1.2E-08	9.2E-09	1.2E-08	1.3E-08	1.0E-08	3.0E-09	1.8E-09	
Polychlorinated dibenzo-p-dioxins (PCDDs) & dibenzofurans (PCDFs)	646	1.74E-11	9.7E-10	8.1E-10	8.0E-10	6.1E-10	8.1E-10	8.9E-10	6.8E-10	2.0E-10	1.2E-10	
1,3-Butadiene	106-99-0	6.53E-05	3.6E-03	3.0E-03	3.0E-03	2.3E-03	3.0E-03	3.3E-03	2.6E-03	7.4E-04	4.5E-04	
2,2,4-Trimethylpentane	540-84-1	2.04E-02	1.1E+00	9.5E-01	9.4E-01	7.2E-01	9.5E-01	1.0E+00	8.0E-01	2.3E-01	1.4E-01	
Cumene	98-82-8	2.25E-04	1.3E-02	1.0E-02	1.0E-02	7.9E-03	1.0E-02	1.2E-02	8.8E-03	2.5E-03	1.5E-03	
Methanol	67-56-1	1.41E-03	7.9E-02	6.6E-02	6.5E-02	5.0E-02	6.6E-02	7.2E-02	5.5E-02	1.6E-02	9.6E-03	
Total HAPs		1.38E-01	7.72	6.43	6.34	4.85	6.43	7.09	5.42	1.56	0.94	

References:

Reference 1: Average of Metal Shredder Stack Tests (Greenfield MA - wTe Recycling, November 18-20, 2015; SMM New England Corporation Johnston, RI, April 26, 2018; MN NorMet2017. <https://www.pca.state.mn.us/air/northern-metals-shredder-building-test-results>; ISRI Title V Applicability Workbook, 1998 Edition Table D10-F; Capitol City Metals 2005; General Iron, Chicago, IL, May 25, 2018

Reference 2: Source tests, Schnitzer Steel October 2018

Reference 3: The HAPs EFs were the highest EF from the following six source tests and references: General Iron, Chicago, IL, May 25, 2018; Northern Metals July-August 2017 Stack Test Data and MN Technical Support Document for Draft Air Emission Permit No. 14100076-101; Greenfield MA - wTe Recycling, November 18-20, 2015, SMM New England Corporation Johnston, RI April 26, 2018; ISRI Title V Applicability Workbook, 1998 Edition Table D10-F; Schnitzer Steel Compilation, October 2019 Foulweather Consulting Report, 100% Autos

Reference 3: The HAPs EFs were the highest EF from the following six source tests and references:
 Northern Metals July-August 2017 Stack Test Data and MN Technical Support Document for Draft Air Emission Permit No. 14100076-101
 Greenfield MA - wTe Recycling, November 18-20, 2015
 SMM New England Corporation Johnston, RI April 26, 2018
 ISRI Title V Applicability Workbook, 1998 Edition Table D10-F
 Schnitzer Steel Compilation, October 2019 Foulweather Consulting Report, 100% Autos

Emissions from ASR/Fluff conveying				Year	2023	2022	2021	2020	2019	2018	2017	2016	2015
Pollutant	EF (lb/ton)			(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)
PM	0.025			1.39	1.16	1.14	0.87	1.16	1.27	0.97	0.28	0.17	
PM ₁₀	0.012			0.66	0.55	0.54	0.41	0.55	0.60	0.46	0.13	0.08	
PM _{2.5}	0.0018			0.10	0.08	0.08	0.06	0.08	0.09	0.07	0.02	0.01	
VOC	0.00079			0.04	0.04	0.04	0.03	0.04	0.04	0.03	0.01	0.01	
Pollutant	CAS	max PPM	EF (lb/ton)										
Aluminum and compounds	7429-90-5	7870	1.66E-05	9.3E-04	7.7E-04	7.6E-04	5.8E-04	7.7E-04	8.5E-04	6.5E-04	1.9E-04	1.1E-04	
Arsenic and compounds	7440-38-2	16	3.37E-08	1.9E-06	1.6E-06	1.5E-06	1.2E-06	1.6E-06	1.7E-06	1.3E-06	3.8E-07	2.3E-07	
Barium and compounds	7440-39-3	34.5	7.26E-08	4.1E-06	3.4E-06	3.3E-06	2.6E-06	3.4E-06	3.7E-06	2.8E-06	8.2E-07	5.0E-07	
Cadmium and compounds	7440-43-9	25.4	5.35E-08	3.0E-06	2.5E-06	2.5E-06	1.9E-06	2.5E-06	2.7E-06	2.1E-06	6.0E-07	3.6E-07	
Cobalt and compounds	7440-48-4	21.9	4.61E-08	2.6E-06	2.1E-06	2.1E-06	1.6E-06	2.1E-06	2.4E-06	1.8E-06	5.2E-07	3.1E-07	
Copper and compounds	7440-50-8	35360	7.45E-05	4.2E-03	3.5E-03	3.4E-03	2.6E-03	3.5E-03	3.8E-03	2.9E-03	8.4E-04	5.1E-04	
Lead and compounds	7439-92-1	11600	2.44E-05	1.4E-03	1.1E-03	1.1E-03	8.6E-04	1.1E-03	1.3E-03	9.6E-04	2.8E-04	1.7E-04	
Manganese and compounds	7439-96-5	547	1.15E-06	6.4E-05	5.4E-05	5.3E-05	4.0E-05	5.4E-05	5.9E-05	4.5E-05	1.3E-05	7.9E-06	
Mercury and compounds	7439-97-6	0.65	1.37E-09	7.7E-08	6.4E-08	6.3E-08	4.8E-08	6.4E-08	7.0E-08	5.4E-08	1.5E-08	9.3E-09	
Nickel compounds, insoluble	365	390	8.21E-07	4.6E-05	3.8E-05	3.8E-05	2.9E-05	3.8E-05	4.2E-05	3.2E-05	9.3E-06	5.6E-06	
Zinc and compounds	7440-66-6	11700	2.46E-05	1.4E-03	1.1E-03	1.1E-03	8.7E-04	1.1E-03	1.3E-03	9.7E-04	2.8E-04	1.7E-04	
Polychlorinated biphenyls (PCBs)	1336-36-3	16	3.37E-08	1.9E-06	1.6E-06	1.5E-06	1.2E-06	1.6E-06	1.7E-06	1.3E-06	3.8E-07	2.3E-07	
Polychlorinated biphenyls (PCBs) TEQ	645	0.0002	4.21E-13	2.4E-11	2.0E-11	1.9E-11	1.5E-11	2.0E-11	2.2E-11	1.7E-11	4.8E-12	2.9E-12	
Polychlorinated dibenzo-p-dioxins (PCDDs) & dibenzofurans	646	0.00022	4.63E-13	2.6E-11	2.2E-11	2.1E-11	1.6E-11	2.2E-11	2.4E-11	1.8E-11	5.2E-12	3.2E-12	
Hexachlorobenzene	118-74-1	1.1	2.32E-09	1.3E-07	1.1E-07	1.1E-07	8.1E-08	1.1E-07	1.2E-07	9.1E-08	2.6E-08	1.6E-08	
Polybrominated diphenyl ethers (PBDEs)	447	175	3.68E-07	2.1E-05	1.7E-05	1.7E-05	1.3E-05	1.7E-05	1.9E-05	1.4E-05	4.2E-06	2.5E-06	
Polycyclic aromatic hydrocarbons (PAHs)	401	29.95	6.31E-08	3.5E-06	2.9E-06	2.9E-06	2.2E-06	2.9E-06	3.2E-06	2.5E-06	7.1E-07	4.3E-07	
Bis(2-ethylhexyl) phthalate (DEHP)	117-81-7	8.3	1.75E-08	9.8E-07	8.1E-07	8.0E-07	6.1E-07	8.1E-07	9.0E-07	6.9E-07	2.0E-07	1.2E-07	
Benzene	71-43-2	0.005	2.30E-06	1.3E-04	1.1E-04	1.1E-04	8.1E-05	1.1E-04	1.2E-04	9.0E-05	2.6E-05	1.6E-05	
2,4,6-Trichlorophenol	88-06-2	1	4.60E-04	2.6E-02	2.1E-02	2.1E-02	1.6E-02	2.1E-02	2.4E-02	1.8E-02	5.2E-03	3.1E-03	
*Tetrabromobisphenol A	79-94-7	0.585	2.69E-04	1.5E-02	1.3E-02	1.2E-02	9.5E-03	1.3E-02	1.4E-02	1.1E-02	3.0E-03	1.8E-03	
*2,4,6-Tribromophenol	118-79-6	0.124	5.70E-05	3.2E-03	2.7E-03	2.6E-03	2.0E-03	2.7E-03	2.9E-03	2.2E-03	6.4E-04	3.9E-04	
		Total HAPs	4.89E-04	0.027	0.023	0.022	0.017	0.023	0.025	0.019	0.006	0.003	
EFs derived from EPA AP-42 Chapter 13.2.4 (Aggregate Handling and Storage Piles), Eq (1)													
HAP EFs are based on PM10 emissions.													
VOCs are based on PPM and initial % ASR, not PM. Also assumed to fully volatilize regardless of number of drops													
Most VOC emissions from ASR accounted for in shredder emissions													
*Not on CAO TAC list - counting for VOC													
3-Sided Enclosure control efficiency 75% for PM10 from Sierra Research, 2003 Final BACM Technological and Economic Feasibility Analysis, report for the San Joaquin Valley Unified Air Pollution Control District.													

Emissions from storage piles				Year	2023	2022	2021	2020	2019	2018	2017	2016	2015
Pollutant	EF (lb/hr)			(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)
PM	0.098			0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43
PM ₁₀	0.046			0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
PM _{2.5}	0.0070			0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031
Pollutant	CAS	max PPM	EF (lb/hr)										
Aluminum and compounds	7429-90-5	7870	5.39E-05	2.36E-04	2.36E-04	2.36E-04	2.36E-04	2.36E-04	2.36E-04	2.36E-04	2.36E-04	2.36E-04	2.36E-04
Arsenic and compounds	7440-38-2	16	1.10E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07
Barium and compounds	7440-39-3	34.5	2.36E-07	1.03E-06	1.03E-06	1.03E-06	1.03E-06	1.03E-06	1.03E-06	1.03E-06	1.03E-06	1.03E-06	1.03E-06
Cadmium and compounds	7440-43-9	25.4	1.74E-07	7.61E-07	7.61E-07	7.61E-07	7.61E-07	7.61E-07	7.61E-07	7.61E-07	7.61E-07	7.61E-07	7.61E-07
Cobalt and compounds	7440-48-4	21.9	1.50E-07	6.57E-07	6.57E-07	6.57E-07	6.57E-07	6.57E-07	6.57E-07	6.57E-07	6.57E-07	6.57E-07	6.57E-07
Copper and compounds	7440-50-8	35360	2.42E-04	1.06E-03	1.06E-03	1.06E-03	1.06E-03	1.06E-03	1.06E-03	1.06E-03	1.06E-03	1.06E-03	1.06E-03
Lead and compounds	7439-92-1	11600	7.94E-05	3.48E-04	3.48E-04	3.48E-04	3.48E-04	3.48E-04	3.48E-04	3.48E-04	3.48E-04	3.48E-04	3.48E-04
Manganese and compounds	7439-96-5	547	3.74E-06	1.64E-05	1.64E-05	1.64E-05	1.64E-05	1.64E-05	1.64E-05	1.64E-05	1.64E-05	1.64E-05	1.64E-05
Mercury and compounds	7439-97-6	0.65	4.45E-09	1.95E-08	1.95E-08	1.95E-08	1.95E-08	1.95E-08	1.95E-08	1.95E-08	1.95E-08	1.95E-08	1.95E-08
Nickel compounds, insoluble	365	390	2.67E-06	1.17E-05	1.17E-05	1.17E-05	1.17E-05	1.17E-05	1.17E-05	1.17E-05	1.17E-05	1.17E-05	1.17E-05
Zinc and compounds	7440-66-6	11700	8.01E-05	3.51E-04	3.51E-04	3.51E-04	3.51E-04	3.51E-04	3.51E-04	3.51E-04	3.51E-04	3.51E-04	3.51E-04
Polychlorinated biphenyls (PCBs)	1336-36-3	16	1.10E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07
Polychlorinated biphenyls (PCBs) TEQ	645	0.0002	1.37E-12	6.00E-12	6.00E-12	6.00E-12	6.00E-12	6.00E-12	6.00E-12	6.00E-12	6.00E-12	6.00E-12	6.00E-12
Polychlorinated dibenzo-p-dioxins (PCDDs) & dibenzofurans	646	0.00022	1.51E-12	6.60E-12	6.60E-12	6.60E-12	6.60E-12	6.60E-12	6.60E-12	6.60E-12	6.60E-12	6.60E-12	6.60E-12
Hexachlorobenzene	118-74-1	1.1	7.53E-09	3.30E-08	3.30E-08	3.30E-08	3.30E-08	3.30E-08	3.30E-08	3.30E-08	3.30E-08	3.30E-08	3.30E-08
Polybrominated diphenyl ethers (PBDEs)	447	175	1.20E-06	5.25E-06	5.25E-06	5.25E-06	5.25E-06	5.25E-06	5.25E-06	5.25E-06	5.25E-06	5.25E-06	5.25E-06
Polycyclic aromatic hydrocarbons (PAHs)	401	29.95	2.05E-07	8.98E-07	8.98E-07	8.98E-07	8.98E-07	8.98E-07	8.98E-07	8.98E-07	8.98E-07	8.98E-07	8.98E-07
Bis(2-ethylhexyl) phthalate (DEHP)	117-81-7	8.3	5.68E-08	2.49E-07	2.49E-07	2.49E-07	2.49E-07	2.49E-07	2.49E-07	2.49E-07	2.49E-07	2.49E-07	2.49E-07
Total HAPs			8.66E-05	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004
EFs derived from EPA 450-3-88-008 (Control of Open Fugitive Dust Sources), Eq (4-9)													
HAP EFs are based on PM10 emissions.													
From AP-42 13.2.4 Drop Point Equation - It is assumed that 47.3% of the TSP equals PM10, and 7.2% is PM2.5.													
3-Sided Enclosure control efficiency 75% for PM10 from Sierra Research, 2003 Final BACM Technological and Economic Feasibility Analysis, report for the San Joaquin Valley Unified Air Pollution Control District.													

Fluid Draining Emissions				Year	2023	2022	2021	2020	2019	2018	2017	2016	2015
				Autos Shredded	33,740	14,482	23,269	10,382	12,809	34,601	36,532	5,024	3,188
				Tons Autos Shred	53,984	23,171	37,230	16,611	20,494	55,362	58,451	8,038	5,101
Pollutant	Emission Factor	Emission Factor Units	Emission Factor Source	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)
VOC	0.0691	lb/ton auto	Derived ⁽²⁾	1.864	0.800	1.286	0.574	0.708	1.912	2.018	0.278	0.176	0.176
Total HAPs	0.0105	lb/ton auto	Reference 1	0.283	0.122	0.195	0.087	0.108	0.291	0.307	0.042	0.027	0.027
Individual Hazardous Air Pollutants	% of total VOC	EF (lb/ton auto)	Emission Factor Source										
2,2,4 Trimethylpentane	2.6	1.80E-03	Reference 1	4.8E-02	2.1E-02	3.3E-02	1.5E-02	1.8E-02	5.0E-02	5.2E-02	7.2E-03	4.6E-03	4.6E-03
Benzene	2.2	1.52E-03	Reference 1	4.1E-02	1.8E-02	2.8E-02	1.3E-02	1.6E-02	4.2E-02	4.4E-02	6.1E-03	3.9E-03	3.9E-03
Ethylbenzene	0.5	3.45E-04	Reference 1	9.3E-03	4.0E-03	6.4E-03	2.9E-03	3.5E-03	9.6E-03	1.0E-02	1.4E-03	8.8E-04	8.8E-04
Hexane	4.4	3.04E-03	Reference 1	8.2E-02	3.5E-02	5.7E-02	2.5E-02	3.1E-02	8.4E-02	8.9E-02	1.2E-02	7.8E-03	7.8E-03
Toluene	4.0	2.76E-03	Reference 1	7.5E-02	3.2E-02	5.1E-02	2.3E-02	2.8E-02	7.6E-02	8.1E-02	1.1E-02	7.0E-03	7.0E-03
Xylenes	1.5	1.04E-03	Reference 1	2.8E-02	1.2E-02	1.9E-02	8.6E-03	1.1E-02	2.9E-02	3.0E-02	4.2E-03	2.6E-03	2.6E-03
Total HAPs	15.2	1.05E-02	Reference 1	0.283	0.122	0.195	0.087	0.108	0.291	0.307	0.042	0.027	0.027
(1) Table 3-1 from Gasoline Distribution Industry (Stage 1) Background Information For Proposed Standards (January 1994)													
(2) See "Drain" tab for formula and calculations													

Emissions from Torch Cutting		Year	2023	2022	2021	2020	2019	2018	2017	2016	2015
Pollutant	EF (lb/hr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)
PM	0.05	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
PM ₁₀	0.05	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
PM _{2.5}	0.05	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
NOx	0.037	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
Chromium	2.45E-03	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014
Chromium VI	1.22E-04	7.12E-04	7.12E-04	7.12E-04	7.12E-04	7.12E-04	7.12E-04	7.12E-04	7.12E-04	7.12E-04	7.12E-04
Nickel	2.08E-03	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02
Zinc Oxide	1.46E-04	8.52E-04	8.52E-04	8.52E-04	8.52E-04	8.52E-04	8.52E-04	8.52E-04	8.52E-04	8.52E-04	8.52E-04
Manganese	1.88E-04	1.09E-03	1.09E-03	1.09E-03	1.09E-03	1.09E-03	1.09E-03	1.09E-03	1.09E-03	1.09E-03	1.09E-03
Total HAPs	2.39E-03	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014

(1) EFs for annual reporting developed by ratioing the EFs for each cutting type to the average total hours cutting.
 (2) Skulls and Misc. cutting hours were included in the mild steel emissions calculations.
 (3) "Oxides of Nitrogen in Welding, Cutting and Oxy-Acetylene Heating Processes, A Review of Emission Rates, Exposure Levels and Control Measures" Eric Hansen, Han Thernøe. Undated.
 (4) "Final Report, Development of Emission Inventory for Metal Welding, Cutting and Spraying Operations" prepared by Pacific Environmental Services, Inc. May 31, 2000.
 (5) Taken from the chemical composition of 310 Stainless Steel, which has the highest chromium and nickel contents of the commonly used types of SS.
 (6) It was assumed that 5% of the Chromium in the metal is converted to Chromium VI when cut with a torch. Based on EPA Chromium Speciation for welding and cutting from the 2020 NEI.
 (7) Chromium is neither a TAC nor a HAP. Zinc Oxide is a TAC but not a HAP.
 (8) Generally, ferrous metals are those that contain iron. In some industries, such as metal recycling, ferrous metals are those which are magnetic. Stainless Steel contains iron but is not

Emissions from Unpaved Road Dust		Year	2023	2022	2021	2020	2019	2018	2017	2016	2015
Pollutant	EF (ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)
PM	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25
PM ₁₀	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
PM _{2.5}	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18

Road Dust EFs come from AP-42 Ch 13.2.2

Emissions from all sources												
Pollutant	Units	2023	2022	2021	2020	2019	2018	2017	2016	2015	PTE	
PM	ton/yr	10.12	9.76	9.73	9.32	9.76	9.94	9.48	8.40	8.23	11.3	
PM ₁₀	ton/yr	3.76	3.52	3.51	3.23	3.52	3.64	3.34	2.63	2.51	4.6	
PM _{2.5}	ton/yr	1.37	1.23	1.22	1.05	1.23	1.30	1.11	0.68	0.61	1.9	
VOC	ton/yr	24.66	16.29	18.87	12.12	15.76	23.77	21.32	4.43	2.72	39.0	
Combined HAPs	ton/yr	8.05	6.59	6.58	4.97	6.57	7.42	5.76	1.62	0.99	12.5	
										Individual HAP PTE	4.25 Xylenes	