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INVESTMENT GROUP LLC

12 **UNITED STATES DISTRICT COURT**
13 **NORTHERN DISTRICT OF CALIFORNIA**
14

15 ATHLETICS INVESTMENT GROUP LLC
16 Plaintiff,
17 v.
18 SCHNITZER STEEL INDUSTRIES, INC.,
19 Defendant.
20

Case No.

**COMPLAINT FOR DECLARATORY
AND INJUNCTIVE RELIEF**

DEMAND FOR JURY TRIAL

Action filed: July 7, 2021

21 **I. INTRODUCTION**

22 1. This case is about Defendant Schnitzer Steel Industries, Inc.’s (“Schnitzer”)
23 ongoing emission of excessive levels of air pollutants that harm the people and environment
24 surrounding its metal shredding facility in West Oakland (“Facility”).

25 2. At the Facility, Schnitzer shreds up to 720,000 tons of junked products containing
26 metal using a “mega-shredder” each year, processes an additional approximately 100,000 tons of
27 larger products using torch-cutting and other equipment, and maintains multi-story stockpiles of
28 hazardous material outdoors and exposed to the elements. These operations emit hundreds of

1 tons of hazardous pollutants every year, including ozone-forming volatile organic compounds
2 (“VOCs”), which cause numerous adverse health and environmental impacts. Schnitzer’s
3 Facility is not permitted under Title V of the federal Clean Air Act (“CAA”) and its air pollution
4 violates federally enforceable requirements of California’s State Implementation Plan (“SIP”)
5 and permit conditions imposed by the Bay Area Air Quality Management District
6 (“BAAQMD”).

7 3. West Oakland bears the brunt of Schnitzer’s ongoing air pollution in violation of
8 the CAA. Schnitzer’s Facility is located in West Oakland, a low-income community of color
9 with a long history of suffering environmental pollution. Within this community, Schnitzer’s
10 Facility is located closer to nearly every class of sensitive receptor, including hospitals, schools,
11 and daycare centers, than any other metal shredder in California; indeed, the Facility is less than
12 a mile away from schools, hospitals, senior living centers, parks, and approximately 23,000
13 residents. The Facility also adjoins the Oakland Inner Harbor of the San Francisco Bay, which is
14 impaired by multiple pollutants that Schnitzer’s operations are known to emit. Furthermore, the
15 operations are in an area designated pursuant to the CAA as a nonattainment area for national
16 ambient air quality standards (“NAAQS”), meaning the area exceeds upper limits on ambient air
17 pollution imposed to protect public health. In this sensitive location, Schnitzer shreds more
18 material, generates more hazardous waste, and emits more air pollutants than any other metal
19 shredding facility in California and any other stationary source in West Oakland. Yet, unlike
20 other large metal shredders in California, Schnitzer has not obtained a Title V permit or installed
21 all required air pollution control technologies.

22 4. Plaintiff Athletics Investment Group LLC (“Plaintiff”) maintains its business
23 operations near the Facility and is in the process of seeking approvals to build a ballpark for
24 Major League Baseball games and other events near the Facility. The Facility is less than a mile
25 away from Plaintiff’s headquarters.

26 5. Plaintiff brings this suit under the CAA’s citizen suit enforcement provision, 42
27 U.S.C. § 7604, to prevent Schnitzer’s violations of the CAA, federally enforceable state laws,
28 and its own permit conditions at the Facility. Among other relief, Plaintiff is asking the Court to

1 enjoin Schnitzer’s unlawful air pollution, assess civil penalties, and secure beneficial mitigation
2 projects authorized under the CAA to remedy, mitigate, and offset the harm to West Oakland’s
3 public health and the environment caused by Schnitzer’s CAA violations.

4 **II. JURISDICTION, VENUE, AND INTRADISTRICT ASSIGNMENT**

5 6. This Court has subject matter jurisdiction over the claims set forth in this
6 Complaint pursuant to 42 U.S.C. § 7604(a) (CAA citizen suit provision) and 28 U.S.C. § 1331
7 (federal question jurisdiction). The relief requested by Plaintiff is authorized by statute in 28
8 U.S.C. §§ 2201 and 2202, and 42 U.S.C. § 7604.

9 7. The violations complained of occurred and continue to occur in the Northern
10 District of California. Venue is therefore proper in the Northern District of California, pursuant
11 to the Clean Air Act, 42 U.S.C. § 7604(c)(1), and the federal venue statute, 28 U.S.C. § 1391(b)-
12 (c). For the same reason, intradistrict assignment is proper in the Oakland Division. *See* N.D.
13 Cal. L.R. 3-2.

14 8. On February 5, 2021, Plaintiff provided notice via certified mail of its intent to
15 sue to Defendant, the State of California, the California Air Resources Board, BAAQMD, the
16 Acting Regional Administrator of Region 9 of the U.S. Environmental Protection Agency
17 (“EPA”), and the Acting Administrator of EPA. The Notice of Intent letter and its attachments
18 are attached as Exhibit 1 and are incorporated by reference.

19 9. The Notice of Intent to Sue letter satisfies the CAA’s pre-suit notice requirements
20 of 42 U.S.C. § 7604(b) and 40 C.F.R. part 54, to the extent pre-suit notice is required. More than
21 sixty days have passed since Plaintiff provided notice of the claims alleged herein.

22 10. On information and belief, Plaintiff alleges that, as of the date of the filing of this
23 Complaint, neither the EPA Administrator nor the State of California has commenced and is
24 diligently prosecuting a court action to redress the ongoing violations alleged in Plaintiff’s
25 Notice of Intent letter and this Complaint.

26 11. Concurrently with filing this Complaint, Plaintiff is serving a copy of it upon the
27 U.S. Attorney General and the EPA Administrator, pursuant to 42 U.S.C. § 7604(c)(3).
28

1 **III. PARTIES**

2 12. Plaintiff Athletics Investment Group LLC is a limited liability corporation
3 organized under the laws of the State of California and having a principal place of business at 55
4 Harrison Street, Oakland, California 94607.

5 13. Plaintiff maintains its business operations near the Facility and is in the process of
6 seeking approvals to build a ballpark for Major League Baseball games and other events in close
7 proximity to the Facility. Defendant Schnitzer’s air pollution adversely affects the health and
8 wellbeing of Plaintiff’s employees and damages Plaintiff’s property interests in West Oakland.
9 For example, Schnitzer’s emissions have caused light fibrous material—a material that exceeds
10 toxicity thresholds for hazardous waste under California—to be deposited on and around
11 Plaintiff’s property in West Oakland. Plaintiff’s employees, along with other residents, workers,
12 and visitors to areas near the Facility, are subjected to harmful VOCs and other hazardous
13 pollutants emitted by Schnitzer into the ambient air. Plaintiff’s requested relief enjoining the
14 violations addressed in this complaint will redress these harms to Plaintiff and other members of
15 the West Oakland community harmed by Schnitzer’s emissions by reducing those emissions,
16 requiring mitigation of harms, deterring future violations, and enforcing permitting requirements
17 that improve transparency and provide for public participation.

18 14. Defendant Schnitzer Steel Industries, Inc. is a corporation organized under the
19 laws of the state of Oregon. It owns and operates its Facility, which is the largest metal shredder
20 in California, at 1101 Embarcadero West, Oakland, California, 94607. Schnitzer is a large,
21 profitable, multinational company that can afford to comply with the CAA and implement best
22 available control technologies necessary for protecting public health and the environment.
23 Schnitzer’s operations include both acquiring, processing, and selling scrap metals, and
24 manufacturing and selling finished steel products. Over the last three years, Schnitzer has
25 generated an average of over \$2 billion in total revenue and \$144 million in net income, with
26 cashflow from operations averaging approximately \$143 million.

27 **IV. STATUTORY FRAMEWORK**

28 15. This section outlines the provisions of the Clean Air Act and California State

1 Implementation Plan that are pertinent to this Complaint, explains the key statutory definitions,
2 and provides an overview of the applicable permitting regime.

3 **A. Federal Clean Air Act**

4 16. The CAA establishes a comprehensive program “to protect and enhance the
5 quality of the Nation’s air resources so as to promote the public health and welfare and the
6 productive capacity of its population.” 42 U.S.C. § 7401(b)(1).

7 17. The CAA requires EPA to promulgate National Ambient Air Quality Standards
8 (“NAAQS”) for a number of “criteria pollutants,” including ground-level ozone. *Id.* § 7409; 40
9 C.F.R. pt. 50. NAAQS are upper limits on air pollution in the ambient air designed to protect
10 public health and welfare. 42 U.S.C. § 7409. In accordance with the CAA, EPA determines
11 whether air quality in a specified area is better or worse than the NAAQS for each criteria
12 pollutant. *Id.* § 7407(b) & (d). An area that meets the NAAQS for a pollutant is known as an
13 “attainment” area, *id.* § 7407(d)(1)(A)(ii), while one that exceeds the NAAQS is a
14 “nonattainment” area, *id.* § 7407(d)(1)(A)(i).

15 18. The San Francisco Bay Area, including Alameda County, is designated as a
16 nonattainment area for the 2008 and 2015 8-hour ozone NAAQS and the 2006 PM_{2.5} NAAQS.
17 *See* 40 C.F.R. §§ 81.305, 52.247.

18 19. Ground-level ozone, the primary component of smog, is a poisonous gas created
19 when VOCs and nitrogen oxides (“NO_x”) react with sunlight. Ozone poses numerous adverse
20 health and environmental impacts. Public health impacts from ozone exposure range from
21 respiratory irritation and impairment to heart damage, hospitalization, and an increased risk of
22 premature death. Ground-level ozone further harms growing plants, causes defoliation of trees
23 and crops, and can impair the healthy functioning of entire ecosystems. *See* 40 C.F.R. §
24 51.21(b)(50)(i)(b)(1) (“[V]olatile organic compounds and nitrogen oxides are precursors to
25 ozone.”); *see also id.* § 51.100(s) (defining VOCs).

26 20. Particulate matter (“PM”) is an inhalable mixture of solid particles and liquid
27 droplets found in the air, and includes PM₁₀ (particles smaller than 10 micrometers) and PM_{2.5}
28 (fine particles smaller than 2.5 micrometers). Exposure to PM pollution has been linked to a wide

1 range of health problems, including premature death in people with heart or lung disease, heart
 2 attacks, decreased lung function, and respiratory symptoms such as irritation of the airways,
 3 coughing or difficulty breathing.

4 21. Hazardous air pollutants (“HAPs”), such as, benzene, cadmium,
 5 hexachloroethane, hexavalent chromium, lead, PCBs, toluene, trichloroethylene, and xylene, are
 6 pollutants listed in the CAA and subsequent EPA rulemakings that are known or suspected to
 7 cause cancer, other serious health effects such as respiratory issues and birth defects, or adverse
 8 environmental effects. 42 U.S. Code § 7412. For example, toluene exposure causes central
 9 nervous system dysfunction, including narcosis, fatigue, headaches and nausea.¹ Chronic
 10 exposure to xylenes causes “neurological effects such as headache, dizziness, fatigue, tremors,
 11 incoordination, anxiety, impaired short-term memory, and inability to concentrate,” and
 12 respiratory effects such as labored breathing.²

13 **B. California’s State Implementation Plan**

14 22. States work cooperatively with EPA to implement the CAA. States prepare State
 15 Implementation Plans, or SIPs, that contain a collection of rules—“enforceable emission
 16 limitations and other control measures means, or techniques, ... as well as schedules and
 17 timetables for compliance”—designed to, among other things, achieve and maintain compliance
 18 with the NAAQS. 42 U.S.C. § 7410(a)(2)(A). The states submit their SIPs to EPA for approval.
 19 *Id.* § 7410(k)(1)-(4). If found adequate and approved by EPA, a SIP becomes federal law and its
 20 provisions can be enforced by the state, EPA, or citizens. *Id.* § 7604(a)(1), (f).

21 23. EPA has approved California’s “Implementation Plan for Achieving and
 22 Maintaining the National Ambient Air Quality Standards.” 40 C.F.R. § 52.220.

23 24. In California, local and regional agencies have the primary authority to control air
 24

25 _____
 26 ¹ EPA, Toluene Fact Sheet, *available at* <https://www.epa.gov/sites/production/files/2016-09/documents/toluene.pdf>.

27 ² EPA, Xylenes^(A) (Mixed Isomers) Fact Sheet, *available at*
 28 <https://www.epa.gov/sites/production/files/2016-09/documents/xylenes.pdf>.

1 pollution. BAAQMD is tasked with regulating stationary sources of air pollution in the nine
2 counties that surround the San Francisco Bay, including Alameda County, where Schnitzer's
3 Facility is located.

4 25. BAAQMD has issued regulations and rules governing new sources of air
5 pollution, and the modification and operation of existing sources of air pollution. The
6 BAAQMD rules and regulations cited in this Complaint that Schnitzer has violated have been
7 approved by EPA and are part of the California SIP. 40 C.F.R. § 52.220.

8 **C. New Source Review and BACT Requirements**

9 26. Section 172 of the CAA requires a state with nonattainment areas to adopt, as part
10 of its SIP, additional regulatory programs designed to achieve and maintain relevant NAAQS in
11 those areas. 42 U.S.C. § 7502.

12 27. In nonattainment areas such as the San Francisco Bay Area, the SIP must "require
13 permits for the construction and operations of new or modified major stationary sources
14 anywhere in the nonattainment area." 42 U.S.C. § 7502(c)(5). BAAQMD Regulation 2, Rule 2
15 implements the federal nonattainment New Source Review ("NSR") requirements and is
16 incorporated into the California SIP. *See* BAAQMD Rule 2-2-101. This regulation requires a
17 new or modified source of air pollution to comply with applicable NSR requirements. *See*
18 BAAQMD Rule 2-1-232 (definition of "new" source); BAAQMD Rule 2-1-234 (definition of
19 "modification").

20 28. Substantive NSR permit requirements apply on a pollutant-specific basis. These
21 requirements include the use of Best Available Control Technology ("BACT"). Under
22 BAAQMD's rules, BACT is equivalent to the stringent Lowest Achievable Emissions Rate
23 standard used in the federal non-attainment NSR Program. *See* BAAQMD Rule 2-2-202; 42
24 U.S.C. § 7503; 40 C.F.R. §§ 51.165(i), 51.161. BAAQMD Rule 2-2-202 defines BACT as:

25 An emission limitation, control device, or control technique applied at a source
26 that is the most stringent of: [t]he most effective emission control device or
27 technique that has been successfully utilized for the type of equipment
28 comprising such a source; or [t]he most stringent emission limitation achieved
by an emission control device or technique for the type of equipment
comprising such a source; or [t]he most effective control device or technique or

1 most stringent emission limitation that the APCO has determined to be
 2 technologically feasible for a source, taking into consideration cost-
 3 effectiveness, any ancillary health and environmental impacts, and energy
 4 requirements; or [t]he most effective emission control limitation for the type of
 5 equipment comprising such a source that is contained in an approved
 6 implementation plan of any state, unless the applicant demonstrates to the
 7 satisfaction of the APCO that such limitation is not achievable. Under no
 8 circumstances shall BACT be less stringent than any emission control required
 9 by any applicable provision of federal, state or District laws, rules or
 10 regulations.

11 29. A “permit to operate for a new or modified source shall require BACT to control
 12 emissions of a District BACT pollutant if the source will have the potential to emit that pollutant
 13 in an amount of 10.0 or more pounds on any day.” BAAQMD Rule 2-2-301. District BACT
 14 pollutants include “[p]recursor organic compounds (POC),³ non-precursor organic compounds
 15 (NPOC), oxides of nitrogen (NO_x), sulfur dioxide (SO₂), PM₁₀, PM_{2.5}, and carbon monoxide
 16 (CO).” BAAQMD Rule 2-2-210. The California SIP imposes an ongoing obligation on
 17 facilities to comply with BACT and other rules.

18 **D. BAAQMD Permitting Requirements**

19 30. BAAQMD Rule 2-1-301 requires any person who installs “any article, machine,
 20 equipment or other contrivance, the use of which may cause ... the emission of air
 21 contaminants,” to first obtain an authority to construct (“ATC”). In addition to obtaining an
 22 ATC, BAAQMD Rule 2-1-302 requires a facility to obtain a valid permit to operate (“PTO”) in
 23 order to use or operate any equipment that may cause the emission of air contaminants.

24 31. A facility cannot construct or operate a source if it “would not or does not comply
 25 with any emission limitations or other regulations of the District ... or with applicable permit
 26 conditions or federal or California laws or regulations.” BAAQMD Rule 2-1-304. In addition,
 27 issuance of an ATC and/or PTO “shall not relieve the owner and operator of the facility from the
 28 responsibility to comply fully with all applicable provisions of the state implementation plan for

29 ³ “Precursor Organic Compounds” (POCs) are “Any compound of carbon, excluding methane,
 30 carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates and ammonium
 31 carbonate.” BAAQMD Rules 1-235, 1-233. POCs participate in atmospheric photochemical
 32 reactions to create ozone pollution.

1 California and all other requirements under local, California and federal law.” BAAQMD Rule
2 2-1-321.

3 32. A facility must renew its PTO annually. In order to obtain a permit renewal, the
4 PTO’s “permit conditions [must be] adequate to ensure compliance with, and the enforceability
5 of,” BAAQMD rules and regulations. Cal. Health & Saf. Code § 42301(e); *see also* Rule 2-6-
6 424 (“The APCO shall evaluate the applicability of [the Major Facility] rule to each facility as
7 part of the District’s annual permit renewal process required by Health & Safety Code Section
8 42301(e).”).

9 **E. Permitting Requirements under Title V of the CAA**

10 33. Title V of the CAA and BAAQMD’s implementing regulations require all major
11 stationary sources of air pollution to undergo detailed review and obtain an operating permit. 42
12 U.S.C. § 7661a(a).⁴

13 34. A “Major Facility” is a facility that has the potential to emit 100 tons per year or
14 more of any regulated air pollutant, 10 tons per year or more of a single hazardous air pollutant,
15 or 25 tons per year or more of a combination of HAPs. BAAQMD Rule 2-6-212; *see also* 42
16 U.S.C. §§ 7661(2), 7602(j) (defining “major source” similarly).

17 35. “Potential to emit” means the “maximum capacity of a stationary source to emit a
18 pollutant under its physical and operational design.” 40 C.F.R. § 51.166(b)(4); *see also*
19 BAAQMD Rule 2-1-217.

20 36. Fugitive emissions⁵ of regulated air pollutants are ordinarily excluded from the
21 determination of whether a facility is a major facility. 40 C.F.R. § 52.21(b)(1)(iii); 40 C.F.R.
22 § 70.2 (“Major Source” definition); BAAQMD Rule 2-6-212.1. However, “[a]ll fugitive
23 emissions of hazardous air pollutants are included in determining a facility’s potential to emit.”
24

25 _____
26 ⁴ BAAQMD refers to such sources as “major facilities” that require a “Major Facility Review
Permit,” while the CAA refers to such sources as “major sources” that require a “Title V permit.”

27 ⁵ Fugitive emissions are defined as emissions that “could not reasonably pass through a stack,
28 chimney, vent or other functionally equivalent opening.” 40 C.F.R. § 52.21(b)(20); 40 C.F.R. §
70.2; BAAQMD Rules 2-1-203, 2-6-209.

1 BAAQMD Rule 2-6-212.2. Additionally, “[o]nce any facility is determined to be a major
2 facility, all fugitive emissions from the facility shall be included in calculating the facility’s
3 emissions.” *Id.*

4 37. The CAA and BAAQMD’s regulations have, at all relevant times, required that
5 Title V permits include enforceable emission limitations and such other conditions as are
6 necessary to ensure compliance with applicable requirements of the CAA and the requirements
7 of the applicable SIP. 42 U.S.C. § 7661c(a); 40 C.F.R. § 70.6(a)(1); BAAQMD Regulation 2,
8 Rule 6.

9 38. Each state must develop and submit to EPA for approval a Title V operating
10 permit program that conforms to certain minimum elements established by EPA regulations.
11 42 U.S.C. § 7661a(d)(1); 40 C.F.R. § 70.1. EPA approved BAAQMD’s Title V operating
12 permitting program in 2001. *See Clean Air Act Full Approval of 34 Operating Permits Programs*
13 *in California*, 66 Fed. Reg. 63503 (Dec. 7, 2001). Like the CAA, the California SIP imposes an
14 ongoing obligation on facilities to comply with Title V requirements. It is unlawful for any
15 person to operate a major source except in compliance with a permit issued by a permitting
16 authority under Title V. BAAQMD Rule 2-1-302; *see also* 42 U.S.C. § 7661a(a); 40 C.F.R.
17 § 70.7(b).

18 **F. Clean Air Act Citizen Enforcement**

19 39. Any person may commence a civil enforcement action under the CAA against any
20 party “who is alleged to have violated ... or to be in violation of [] an emission standard or
21 limitation.” 42 U.S.C. § 7604(a).

22 40. An “emission standard or limitation” is, among other things, any “standard,
23 limitation, or schedule established under any permit issued pursuant to subchapter V or under
24 any applicable State implementation plan approved by the Administrator, any permit term or
25 condition, and any requirement to obtain a permit as a condition of operations.” *Id.* § 7604(f)(4).

26 41. The BAAQMD rules and regulations cited in this Complaint have been approved
27 by EPA and are enforceable under section 7604 of the CAA. 40 C.F.R. § 52.220(c). The terms
28 and conditions of any permit issued by BAAQMD pursuant to the California SIP, including the

1 conditions of Schnitzer’s permit to operate, are also enforceable under section 7604.

2 **FACTUAL ALLEGATIONS**

3 **A. Schnitzer’s Operations**

4 42. Schnitzer operates its Facility in Alameda County, which is designated as a
5 nonattainment area for the 2008 and 2015 8-hour ozone NAAQS and for the 2006 PM2.5
6 NAAQS.

7 43. The Facility receives and stockpiles junked products containing metal, such as
8 vehicles, appliances, construction and demolition materials, and manufacturing waste. Junk
9 vehicles and other metal-containing “feedstock” regularly contain hazardous materials.

10 44. Schnitzer loads this stockpiled feedstock into the “mega shredder,” which reduces
11 the feedstock to small pieces and releases emissions into the air. From there, magnets remove
12 ferrous (iron-containing) metals from the shredded feedstock. The remaining material, called
13 “metal shredder aggregate,” is dropped off a conveyor belt and stored in large, multiple-story
14 high stockpiles outside and uncovered. This aggregate typically contains non-ferrous metal and
15 a mixture of material frequently called “metal shredder residue” or “metal shredder waste,”
16 which consists of metals, plastics, rubber, glass, foam, fabrics, carpet, wood, residual automobile
17 fluids, road dirt, and/or other debris.

18 45. Schnitzer eventually moves stockpiled aggregate to the Facility’s “joint product
19 plant,” where non-ferrous metals such as aluminum, copper, lead, and zinc are removed. The
20 remaining metal shredder residue is stockpiled, eventually “treated” (sprayed with a sodium or
21 potassium silicate solution and an alkaline activator such as cement), and then again stockpiled
22 outside of the joint products plant.

23 46. Each step of the shredding process (including the stockpiling of material) emits
24 air pollutants, including VOCs, particulate matter, and numerous HAPs.

25 47. Every year, Schnitzer also uses torches and other equipment to process
26 approximately 100,000 tons of larger metal-containing materials that are too large to go through
27 the shredder. This process also emits numerous, harmful air pollutants.

28

1 **B. Schnitzer’s Permitting History and Emissions**

2 48. In 2006, Schnitzer applied for permits to construct and operate a new “mega-
3 shredder” at the Facility.

4 49. Schnitzer began operating the mega-shredder on or about November 1, 2006.

5 50. Schnitzer’s applications triggered NSR requirements under BAAQMD Rule 2-2
6 and federal law.

7 51. Because the Facility has the potential to emit 100 tons/year or more of certain
8 criteria air pollutants, including VOCs, or established thresholds of regulated HAPs, Schnitzer
9 was also required to complete Major Facility Review (Title V Review) and obtain a Major
10 Facility Review Permit (Title V Permit) under the federal CAA Title V program.

11 52. However, Schnitzer did not conduct Major Facility Review or obtain a Major
12 Facility Review Permit.

13 53. In April 2007, BAAQMD issued the Facility a PTO (“2007 PTO”) with a
14 throughput limit (the amount of material that may pass through the shredder) of 431,471 tons per
15 year.

16 54. In 2009, the permitted maximum throughput processed by the mega-shredder was
17 increased from 431,471 tons/yr to 720,000 tons/yr.

18 55. In 2016, Schnitzer applied for a permit to modify the mega-shredder. In
19 processing this application, BAAQMD found that Schnitzer had not previously provided
20 BAAQMD with accurate emissions rates for the mega-shredder. BAAQMD stated that it lacked
21 sufficient data to confirm whether NSR requirements were met with respect to permitting the
22 mega-shredder and increased throughput, and required Schnitzer to complete source testing to
23 inform whether it was in compliance with NSR requirements, including BACT. *See* Exhibit 2
24 (BAAQMD Engineering Evaluation Report, Schnitzer Steel Products Company, Plant Number
25 208, Application Number 27762 (Nov. 11, 2016)).

26 56. BAAQMD issued a new PTO on November 10, 2016. BAAQMD imposed a
27 permit condition (Condition No. 26401) requiring Schnitzer to conduct source tests and then
28 propose emission rate limits for its shredder based on the source test results, which BAAQMD

1 would then impose as emissions limits, if acceptable to the agency. This condition recognized
2 the need to accurately determine Schnitzer's emissions and then to set numerical limits and/or
3 take other regulatory action based on Schnitzer's actual emissions in order to ensure compliance
4 with applicable laws, including NSR requirements.

5 57. After enclosing the shredder in 2017, Schnitzer conducted several source tests,
6 which demonstrated clear violations of the CAA and federally enforceable requirements of
7 BAAQMD's rules.

8 58. On June 28-29, 2017, October 12-13, 2017, January 20-21, 2018, October 29-31,
9 2018, and January 21-23, 2019, Schnitzer conducted testing at the shredder stack, including
10 testing for VOCs, particulate matter, and some HAP emissions.

11 59. The source testing of the mega-shredder confirmed that the Facility's shredder
12 emits at least 183 pounds per hour of POCs, well over the triggers for application of BACT
13 requirements. *See* Exhibit 1 at 19 (Table of POC Emissions). This source test data shows that
14 the Facility annually emits approximately 174 tons/year of POCs, well over the threshold at
15 which a Title V / Major Facility Review Permit is required. *Id.*; *see* BAAQMD Rule 2-6-212; 42
16 U.S.C. §§ 7661(2), 7602(j).

17 60. The table of source emissions attached to Schnitzer's 2020-2021 permit to operate
18 ("2021 PTO") also confirms that Schnitzer's emissions are well over the applicable Major
19 Facility Review and BACT triggers. *See* Exhibit 3 (2021 PTO). Schnitzer's shredder emits an
20 annual average of 904 lbs/day of POCs, which amounts to 164.98 tons/year, while the associated
21 "infeed conveyor" that supplies the shredder with metal-containing feedstock emits another 48
22 lbs/day of POCs, which amounts to another 8.76 tons/year. Other sources, such as the outfeed
23 conveyor, stockpiles, and torch cutting, are not accounted for in this table but add still more
24 pollutants.

25 61. Emissions data regarding the Facility⁶ also show that the Facility has a potential
26

27 ⁶ Emissions associated with the shredder aggregate when it is conveyed to the Joint Products
28 Plant are based on emission testing conducted at wTe Recycling, Inc. shredding facility located
in Greenfield, Massachusetts. Montrose Environmental, Final Report, Scrap Metal Shredding

1 to emit more than 25 tons of HAPs a year, including more than 10 tons a year of both toluene
 2 and xylene. The Facility's HAP emissions therefore also trigger Title V / Major Facility Permit
 3 requirements.

4 62. The 2021 PTO also imposes new emissions limits. Condition # 27085 now
 5 imposes the following hourly and yearly emission limits for PM10 and POCs from the shredder:

3. Total emissions from the S-6 Auto Shredder shall not exceed any of the emission limits listed below:		
a. Maximum Permitted Emission Rates:		
	P-15 Stack Pounds/Hour	P-15 Stack Tons/Year
PM10 (total filterable + condensable)	5.91	6.15
POC (calculated as methane)	112.0	85.50

6
 7
 8
 9
 10 Additionally, Condition # 27085 requires that “[t]otal particulate emissions from the [shredder]
 11 stack shall not exceed a grain loading of 0.0046 grains/dscf” and that “[o]rganic emissions from
 12 [shredder] stack shall not exceed 300 ppmv (dry basis) of total carbon.”

13 63. As confirmed by both the 2017-2019 source tests and the table attached to
 14 Schnitzer's 2021 PTO, Schnitzer has violated and continues to violate all of the POC emission
 15 limits imposed by the PTO.

16 64. To date, Schnitzer does not have emissions control equipment on its shredder or
 17 other physical or operational limitation that reduces its capacity to emit VOCs to below the 100
 18 tons per year major facility threshold. Nor has Schnitzer installed any emissions control
 19 equipment or agreed to any other physical or operational limitation that reduces its facility-wide
 20 HAP emissions to below the 25 tons per year major facility threshold or toluene or xylene
 21 emissions below the 10 tons per year threshold. Schnitzer has not installed BACT to control
 22 VOC emissions from the Facility. And Schnitzer has not obtained a Title V permit for the
 23 Facility.

24 65. Schnitzer has been operating in violation of Title V and BAAQMD's federally
 25

26 _____
 27 and Processing Emissions Testing - wTe Recycling, Inc., Greenfield, MA. 29 January 2016.
 28 That testing resulted in the development of emission factors for such processes that are used by
 regulators beyond just Massachusetts.

1 enforceable BACT requirement for VOCs since Schnitzer began operating the mega-shredder on
2 or about November 2006 through the present day.

3 66. Schnitzer, as the owner and operator of the Facility, is responsible for the
4 Facility's violations of the CAA. Such violations have occurred and continue to occur at the
5 Facility. The violations first began at least when Schnitzer began operating the mega-shredder
6 on or about November 2006 and they are still ongoing.

7 67. On January 27, 2020, EPA issued a Notice of Violation ("NOV") finding that
8 Schnitzer has been violating Title V of the CAA and federally enforceable BAAQMD rules since
9 at least 2007. On information and belief, Plaintiff alleges that, as of the date of filing this
10 Complaint, EPA is not diligently prosecuting the NOV in a court.

11 68. In September 2020, BAAQMD and Schnitzer entered into a Compliance and
12 Settlement Agreement concerning Schnitzer's violation of total carbon limits imposed by
13 BAAQMD Regulation 8-2-301. The Agreement was not court-approved and did not address
14 Schnitzer's numerous other violations of air quality rules that are alleged here.

15 69. In February 2021, the California Attorney General, the California Department of
16 Toxic Substances Control ("DTSC"), and the District Attorney of the County of Alameda
17 entered into a stipulated consent decree to resolve a complaint these agencies brought against
18 Schnitzer. This complaint and consent decree arose from these agencies' investigation of
19 Schnitzer's dispersal of light fibrous material ("LFM") into the community. LFM is a fine
20 material that includes a toxic amalgam of hazardous substances. LFM frequently exceeds
21 toxicity thresholds for hazardous waste under California law due to high concentrations of lead,
22 copper, and zinc. The consent decree requires Schnitzer to, among other things, implement an
23 LFM inspection and clean-up plan. The consent decree states that it does not resolve or in any
24 way preclude claims under the Clean Air Act or BAAQMD's Rules.

25 70. In February 2021, DTSC issued a Corrective Action Order, which directed
26 Schnitzer to stop releasing toxic pollution into the Oakland community. The Order states that
27 Schnitzer has consistently released LFM into the air and surrounding community, including areas
28 owned by Plaintiff and visited by its employees. DTSC, Enforcement Order for Corrective

1 Action, Docket No. HWCA-FY20/21-006 (Feb. 23, 2021) (“DTSC 2021 Order”).⁷ The Order
2 states that in November 2020, DTSC “conducted a survey of the neighborhood surrounding the
3 Facility and observed LFM deposited at several locations,” including a parking lot where chalk
4 drawings were observed, “indicating that the area may be used by children.” *Id.* at 6. The DTSC
5 2021 Order also states that releases of LFM from the Facility have “migrated towards soil,
6 groundwater, air, neighboring properties, and the Oakland Inner Harbor, causing potential risk to
7 nearby residents, children, offsite workers, and ecological receptors.” *Id.* at 10. Schnitzer has
8 submitted a Notice of Defense opposing the DTSC 2021 Order, making clear it intends to
9 challenge the order.

10 71. Notwithstanding the Compliance and Settlement Agreement, consent decree, and
11 Corrective Action Order, Schnitzer’s ongoing violations of the Clean Air Act remain unresolved.
12 Notably, the above agency actions did not address Schnitzer’s failure to undergo Major Facility
13 review or obtain a Title V / Major Facility Permit. Nor did they address Schnitzer’s unpermitted
14 sources of air contaminants.

15 **C. Unpermitted Sources**

16 72. Schnitzer’s operations also consist of several other unpermitted sources of air
17 contaminants at the Facility that are in violation of the CAA and BAAQMD Rules.

18 73. As explained above, Schnitzer’s operations at the Facility produce aggregate and
19 shredder residue that exceed toxicity thresholds for hazardous waste under California law due to
20 high concentrations of lead, copper, and zinc. *See* DTSC 2021 Order at 3. Schnitzer stores this
21 hazardous material in large, multistory stockpiles outside and uncovered, where contaminants
22 can blow offsite into surrounding communities and the San Francisco Bay, and, as has occurred
23 on numerous occasions, catch fire.

24 74. As DTSC has explained, the offsite, airborne migration of these materials can
25

26 _____
27 ⁷ Available at [https://envirostor.dtsc.ca.gov/public/deliverable_documents/5999845743/EnforcementOrder_for_CorrectiveAction_Schnitzer%20Oakland%20Feb%202023%202021%20SIGNED](https://envirostor.dtsc.ca.gov/public/deliverable_documents/5999845743/EnforcementOrder_for_CorrectiveAction_Schnitzer%20Oakland%20Feb%202023%202021%20SIGNED.pdf)
28 .pdf.

1 “result in contamination of the metal shredding facilities and potentially the areas near the metal
2 shredding facilities, and may result in both the public and other biological organisms coming into
3 contact with or being exposed to these hazardous constituents, and *potentially suffering negative*
4 *health impacts and harm.*”⁸ Indeed, multiple agencies have found that releases from Schnitzer’s
5 Facility “have or may have migrated towards soil, groundwater, air, neighboring properties, and
6 the Oakland Inner Harbor, causing potential risk to nearby residents, children, offsite workers,
7 and ecological receptors.” DTSC 2021 Order at 10.

8 75. Schnitzer’s large stockpiles of toxic materials are a “source” of pollutants, which
9 could reasonably be made to pass through a stack by enclosing them.⁹ Other metal shredders have
10 enclosed stockpiles indoors, which, combined with other control measures, would substantially
11 reduce emissions from them.

12 76. Other industries that stockpile materials also enclose their stockpiles and
13 conveyors in order to control emissions. For example, a proposed coal facility in West Oakland,
14 whose operations would involve stockpiles larger in size than Schnitzer’s stockpiles, proposed to
15 enclose its stockpiles in order to control emissions from them.¹⁰ Similarly, the Draft
16 Supplemental Environmental Impact Report (“SEIR”) for the Eagle Rock Aggregate project at

17
18 ⁸ DTSC, Draft Evaluation and Analysis of Metal Shredding Facilities and Metal Shredder Wastes
19 (Jan. 2018) at 61-62, 67, 112, *available at* <https://dtsc.ca.gov/wp-content/uploads/sites/31/2017/01/Metal-Shredder-Analysis-DRAFT.pdf>; *see also* DTSC 2021 Order, at 2 (“Samples of
20 LFM have been shown to meet the criteria for hazardous waste in California Samples of LFM have
21 been shown to meet the criteria for hazardous waste in California due to concentrations of metals
at levels exceeding the toxicity criteria defined in California Code of Regulations, title 22, section
66261.24 (a)(2)(A).”).

22 ⁹ *See* BAAQMD Rule 2-6-209 (defining “Fugitive Emissions” as “[a]ll emissions from unintended
23 openings in process equipment, emissions occurring from miscellaneous activities relating to the
24 operation of a facility, and emissions that could not reasonably pass through a stack, chimney,
25 vent, or other functionally equivalent opening”) 40 C.F.R. § 70.2 (“Fugitive emissions are those
emissions which could not reasonably pass through a stack, chimney, vent, or other functionally-
equivalent opening.”).

26 ¹⁰ *See* Erin Baldassari, *Supporters of shipping coal through Oakland say it will bring jobs*, East
27 Bay Times (May 24, 2016), [https://www.eastbaytimes.com/2016/05/23/supporters-of-shipping-
28 coal-through-oakland-say-it-will-bring-jobs/](https://www.eastbaytimes.com/2016/05/23/supporters-of-shipping-coal-through-oakland-say-it-will-bring-jobs/) (depicting proposed enclosure of stockpiles and
conveyors).

1 the Oakland Harbor proposes an alternative pursuant to which a large building “would enclose
2 the approximately 14 acres occupied by the three [40-foot tall] stockpiles, conveyor system, and
3 truck loading operations” in order to control emissions of air pollutants.¹¹ Additionally, other air
4 permitting agencies have required full enclosure of similar petcoke and manganese stockpiles.¹²
5 Further demonstrating that its stockpiles reasonably can be enclosed and should be in order to
6 control emissions, Schnitzer has recently stated that it intends to fully enclose indoor storage and
7 truck-loading areas for treated metal shredder residue.

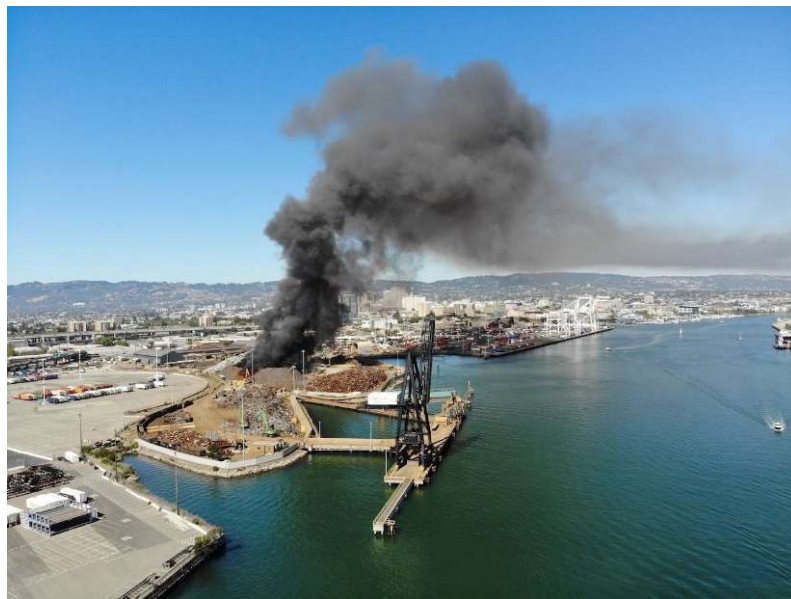
8 77. Yet Schnitzer has not enclosed its multi-story stockpiles of untreated, toxic metal
9 shredder aggregate and other materials. Schnitzer’s stockpiles emit, PM, POCs, HAPs, and other
10 pollutants as a result of off-gassing, wind erosion, and materials handling. Available data shows
11 that the stockpiles and associated operations have a potential to emit pollutants at levels that are
12 many times greater than applicable chronic trigger levels.¹³

21 ¹¹ SEIR, available at https://www.portofoakland.com/files/PDF/ERA%20Draft%20SEIR_11042
22 [0.pdf](https://www.portofoakland.com/files/PDF/ERA%20Draft%20SEIR_11042).

23 ¹² See South Coast Air Quality Management District Rule 1158 at Section (d)(2), available at
24 <http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/rule-1158.pdf> (petcoke stockpiles);
25 Department of Public Health of the City of Chicago, Large Recycling Facility Rules at Section
26 <https://www.chicago.gov/content/dam/city/depts/cdph/Inspectionsand>
[Permitting/CDPH%20Rules%20for%20Large%20Recycling%20Facilities_Issued%20June%205](https://www.chicago.gov/content/dam/city/depts/cdph/Inspectionsand)
[,%202020.pdf](https://www.chicago.gov/content/dam/city/depts/cdph/Inspectionsand) (petcoke and manganese stockpiles).

27 ¹³ BAAQMD chronic trigger levels are specified in BAAQMD Regulation 2, Rule 1. Chronic
28 trigger levels are based on a lifetime cancer risk of 1.0 in a million (10-6) or a non-cancer hazard
index of 0.2, whichever is stricter.

1 78. Beyond the emissions caused by off-gassing, wind erosion, and materials
2 handling, the stockpiles also have caught fire on numerous occasions, emitting toxic smoke
3 across Oakland. All of these concerns highlight the necessity of controlling the stockpiles in
4 compliance with the CAA.¹⁴



15 79. Schnitzer also uses torch cutting to break apart large metal pieces of metal. Torch
16 cutting is a regular, fixed part of Schnitzer's operations. Schnitzer maintains a designated area of
17 the Facility for torch cutting. Torch cutting vaporizes metal, resulting in emissions of fine
18 particulate matter (PM2.5) and metals, including nickel, cadmium, hexavalent chromium,
19 copper, lead, and other HAPs.¹⁵ Like its stockpiles, Schnitzer's torch cutting is not addressed in
20 the Facility's permit to operate.

21
22
23 ¹⁴ Photo from Kimberly Veklerov, *Fire at Oakland recycling plant sends black plume into sky*,
SF Gate (June 4, 2018), <https://www.sfgate.com/bayarea/article/Fire-at-Oakland-recycling-plant-sends-black-plume-12963199.php>

24
25 ¹⁵ Raun, et al. *Unanticipated Potential Cancer Risk Near Metal Recycling Facilities*,
Environmental Impact Assessment Review, Vol. 41, 2013, at 71-72; New York State Department
26 of Health, *Metal Recycling Industry Project* (Jun. 2007), at 3, available at https://www.health.ny.gov/environmental/workplace/metal_recycling/docs/metal_recycling_report.pdf; University
27 of Texas, 2018 MAPPS Report, Fifth Ward/Northside Near CMC Recycling (Oct. 2018) at 5;
University of Texas, 2018 MAPPS Report, Magnolia Park near Cronimet (Oct. 2018) at 5;
28 University of Texas, 2018 MAPPS Report, South Park near Allied Alloys (Oct. 2018) at 5.

1 BAAQMD Rules 2-2-301, 2-2-202; 40 C.F.R. § 52.220(c)(502)(i)(A)(1). These BACT
2 requirements are enforceable under the Clean Air Act’s citizen suit provision, 42 U.S.C. § 7604.

3 87. Source testing of the mega-shredder conducted on June 28-29, 2017, October 12-
4 13, 2017, January 20-21, 2018, October 29-31, 2018, and January 21-23, 2019, confirmed that
5 the Facility’s shredder emits up to 227 pounds per hour of POCs. *See* Exhibit 1 at 19 (Table of
6 POC Emissions).

7 88. The table of source emissions attached to the 2021 PTO also shows that
8 Schnitzer’s shredder emits an annual average of 904 lbs/day of POCs, which amounts to 164.98
9 tons/year. The associated “infeed conveyor” that supplies the shredder with metal-containing
10 feedstock emits an additional 48 lbs/day of POCs, which amounts to another 8.76 tons/year.

11 89. POCs emissions from the shredder and conveyors therefore significantly exceed
12 the emission threshold for BACT, which is 10 pounds of POC emissions on any day. *See*
13 BAAQMD Rule 2-2-301. However, Schnitzer has not installed BACT for POCs. Accordingly,
14 Schnitzer has been violating BAAQMD’s BACT requirements since at least 2006. *See*
15 BAAQMD Rules 2-2-301 and 2-2-302.

16 90. On information and belief, Plaintiff alleges that these violations are continuing.

17 **THIRD CLAIM FOR RELIEF**

18 ***CAA Citizen Suit Claim for Violations of Permit Conditions***

19 91. Plaintiff realleges and incorporates the allegations set forth herein.

20 92. Any term or condition contained in any permit issued under an applicable SIP is
21 an “emission standard or limitation” that is enforceable through a CAA citizen suit. 42 U.S.C. §
22 7604(f)(4).

23 93. Schnitzer’s permits to operate, including the 2021 PTO, were issued pursuant to
24 BAAQMD regulations that have been approved by EPA and incorporated into the California
25 SIP. 40 C.F.R. § 52.220(c)(502)(i)(A)(1).

26 94. The 2021 PTO applies to Schnitzer’s mega-shredder, infeed conveyor, cement
27 silo, auto body component screener, drum magnet line with enclosure, and related abatement
28 equipment. Condition # 27085 limits POC emissions from the shredder to less than 112

1 pounds/hour and 85.5 tons/year.

2 95. Schnitzer has violated and continues to violate these POC emission limits. The
3 2021 PTO itself shows in the table provided that Schnitzer's shredder emits an annual average of
4 904 lbs/day of POCs, which amounts to 164.98 tons/year, while the associated "infeed conveyor"
5 that supplies the shredder with metal-containing feedstock emits another 48 lbs/day of POCs,
6 which amounts to another 8.76 tons/year. Other sources at the Facility, including stockpiles,
7 other conveyors, torch cutting, and the joint products plant, emit additional, substantial quantities
8 of VOCs and other pollutants.

9 96. Schnitzer is violating Condition # 27085 of the PTO and is therefore in violation
10 of enforceable emission standards or limitations under the CAA.

11 97. On information and belief, Plaintiff alleges that these violations are ongoing.

12 **FOURTH CLAIM FOR RELIEF**

13 ***CAA Citizen Suit Claim for Operation of Unpermitted Air Pollutant Sources***

14 98. Plaintiff realleges and incorporates the allegations set forth herein.

15 99. The CAA and BAAQMD rules prohibit the operation of any source of air
16 pollutants without a permit. BAAQMD Rules 2-1-301, 2-1-302, 2-1-401, 2-2-302; 40 C.F.R. §
17 70.7(b).

18 100. Schnitzer operates stockpiles and torch cutting activities at the Facility. Each of
19 these sources emits air pollutants, including PM, POCs, and HAPs.

20 101. Schnitzer's existing PTO does not cover these sources of air pollutants. There is
21 no applicable exemption allowing Schnitzer to operate these sources without a permit. Schnitzer
22 is currently operating these sources without a permit, in violation of the CAA and federally
23 enforceable BAAQMD rules. These requirements are enforceable under the Clean Air Act's
24 citizen suit provision, 42 U.S.C. § 7604.

25 102. Emissions from these sources can reasonably be controlled through enclosure and
26 installation of emissions control technologies, as illustrated by similar sources' enclosure of
27 stockpiles to control emissions.

28 103. In addition to being unpermitted, BACT and other requirements that flow from

1 permitting have not been met with respect to these emissions.

2 104. On information and belief, Plaintiff alleges that these violations are ongoing.

3 **DEMAND FOR JURY TRIAL**

4 105. Plaintiff hereby demands a jury trial.

5 **PRAYER FOR RELIEF**

6 WHEREFORE, Plaintiff respectfully prays for this Court to:

- 7 A. Declare that Defendant has violated the Clean Air Act, relevant portions of the
8 California SIP, and conditions of its Permit to Operate;
- 9 B. Order Defendant to cease violating the Clean Air Act and California SIP and enjoin
10 Schnitzer's operations causing the violations.
- 11 C. Order Defendant to take other appropriate actions, including beneficial mitigation
12 projects authorized under the Clean Air Act, 42 U.S.C. § 7604(g)(2), to remedy,
13 mitigate, and offset the harm to the public health and the environment caused by the
14 violations of the Clean Air Act alleged above;
- 15 D. Assess civil penalties against Defendant pursuant to section 304(a) of the Clean Air
16 Act, 42 U.S.C § 7604(a)(3);
- 17 E. Award Plaintiff its costs and attorneys and expert witness fees related to this action
18 pursuant to 42 U.S.C. § 7604(d);
- 19 F. Grant such other relief as the Court deems just and proper.

20 Dated: July 7, 2021

VENABLE LLP

21
22 /s/ William. M. Sloan

23 By: William M. Sloan
24 Tyler G. Welti
25 Attorneys for Plaintiff ATHLETICS
26 INVESTMENT GROUP LLC
27
28

EXHIBIT 1



February 5, 2021

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VIA E-MAIL and CERTIFIED U.S. MAIL

Schnitzer Steel Industries, Inc. c/o CT Corporation System
818 West Seventh St., Suite 930
Los Angeles, CA 90017

Schnitzer Steel Products Company
1101 Embarcadero West
Oakland, CA, 94607

Re: Notice of Intent to Sue Pursuant to the Clean Air Act, 42 U.S.C. § 7604(b)(1)(A)

This letter provides notice under the Clean Air Act (CAA), 42 U.S.C. § 7604(b)(1)(A), and 40 C.F.R. Part 54 that the Oakland Athletics (A's) intends to file a citizen suit against Schnitzer Steel Industries, Inc. for ongoing violations of the CAA at the Schnitzer Steel Metals Recycling Yard and Port (the Facility) in Oakland, as detailed below. Schnitzer Steel Industries, Inc. operates the Facility under the name Schnitzer Steel Products Company (Schnitzer).

I. Background

A. Schnitzer's Oakland Facility

As you are aware, Schnitzer's Oakland Facility is the largest metal shredding facility in California. Its operations consist of shredding hundreds of thousands of tons a year of junk automobiles, appliances, and other metal-containing materials in a "mega-shredder," and removing ferrous (iron-containing) and non-ferrous metals. This shredding process and associated operations emit substantial amounts of numerous criteria air pollutants and toxic air contaminants (TACs).

The Facility is located in Alameda County, which is designated as a nonattainment area for the 2015 8-hour ozone national ambient air quality standard (NAAQS) and for the 2006 PM_{2.5} NAAQS.¹ More specifically, the Facility is located in West Oakland, a low-income community

¹ U.S. EPA, Green Book, California Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants (current as of Sept. 30, 2020), https://www3.epa.gov/airquality/greenbook/anayo_ca.html; see also Additional Air Quality Designations for the 2015 Ozone National Ambient Air Quality Standards, 83



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of color with a long, well-documented history of suffering environmental pollution. Numerous “sensitive receptors,” including schools, daycare centers, hospitals, senior living centers, parks, and several residential neighborhoods are located within a mile of the Facility, in addition to approximately 23,000 fulltime residents. Thousands more are present during the day in this area, which includes parts of downtown Oakland, busy commercial districts in Alameda, and all of Jack London Square, including its harbor and ferry terminals.

B. Schnitzer’s air pollution emissions and permitting history

Schnitzer applied for a permit to construct and operate a new mega-shredder in 2006 and began operating the shredder on or about November 1, 2006. On or about April 26, 2007, the Bay Area Air Quality Management District (BAAQMD) issued Schnitzer a permit to operate (PTO). The PTO included a throughput limit, which is a cap on the amount of metal feedstock that Schnitzer is permitted to shred, of 431,471 tons per year (tpy). Soon thereafter, Schnitzer applied to increase the throughput limit processed by the shredder from 431,471 tpy to 720,000 tpy.

Schnitzer’s applications for the new mega-shredder triggered New Source Review (NSR) requirements under BAAQMD Rule 2-2 and federal law, as well as toxic NSR requirements under BAAQMD Rule 2-5. While BAAQMD issued a permit for the new mega-shredder, BAAQMD later acknowledged that emissions from the mega-shredder were not properly estimated and evaluated and, therefore, additional best available control technology (BACT) and offsets may be required by law. BAAQMD moved to address these issues in 2016, when Schnitzer applied for an Authority to Construct (ATC) and a PTO for an enclosure and upgraded abatement system for the mega-shredder designed to improve the capture rate for shredder emissions of particulate pollution. In reviewing the application, BAAQMD recognized that Schnitzer had not accurately quantified the shredder’s emission rates and health risk, and therefore there was not sufficient data to confirm whether NSR and toxic NSR requirements were met with respect to permitting the mega-shredder, increased throughput, and associated emissions.²

Fed. Reg. 25776, 25789 (June 4, 2018). The CAA requires the U.S. Environmental Protection Agency (EPA) to divide each state into air quality control regions. Each region is designated as either “attainment” or “nonattainment” for each identified pollutant, depending on whether air quality in that area meets the NAAQS for that pollutant.

² See 2016 Engineering Report at 2 (stating BAAQMD would use new emission estimates “to determine if all new source review (NSR) and toxic NSR requirements for . . . previous permitting activities were fully complied with. If the District finds that NSR has not been fully satisfied, the District will require updated reviews, limits, offsets, and health risk assessments under this application, as needed, to ensure full NSR compliance for . . . previous permitting activities.”).



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Accordingly, BAAQMD required Schnitzer to conduct source tests to determine whether these previous permitting activities fully complied with NSR and toxic NSR requirements.³ As BAAQMD explained, the intended approach was to “require updated reviews, limits, offsets, and health risk assessments under this application, as needed, to ensure full NSR compliance for . . . previous permitting activities.”⁴ BAAQMD further explained that the “[e]missions data from the planned source test and the recalculation of total permitted emissions for the shredder will be used to determine POC [precursor organic compounds] BACT and offset applicability.”⁵ BAAQMD also required Schnitzer to propose emission rate limits for its shredder based on the source test results, which would then be imposed as emission limits in Schnitzer’s PTO, if acceptable.⁶

The history of Schnitzer’s PTO—which must be renewed annually and states that it covers the Facility’s mega-shredder, infeed conveyor, cement silo, auto body component screener, drum magnet line with enclosure, and related abatement equipment—has reflected this approach. For example, Schnitzer’s 2019-2020 PTO still did not specify emission limits. Rather, the PTO included a condition (Condition # 26401) that recognized the need to understand Schnitzer’s emissions and then to set numerical limits based on them that ensure compliance with applicable laws, including NSR requirements. The condition required Schnitzer to complete source tests and then propose emission limits. BAAQMD would then review the proposed emission limits and include them in the permit if they satisfy applicable requirements.

After enclosing the shredder in 2017, Schnitzer conducted several source tests, which demonstrated clear violations of the CAA and federally enforceable requirements of BAAQMD’s rules. On June 28-29, 2017, October 12-13, 2017, January 20-21, 2018, October 29-31, 2018, and January 21-23, 2019, Schnitzer conducted testing at the shredder stack, including testing for volatile organic compounds (VOCs),⁷ particulate matter, and TAC emissions. The tests show that the shredder has a potential to emit numerous TACs—including benzene, cadmium, hexavalent chromium, lead, PCBs, and trichloroethylene—at levels that are many times greater than applicable chronic trigger levels.⁸ The test results also show that the shredder’s potential to emit

³ *Id.* (directing Schnitzer to “conduct a series of [BAAQMD] approved source tests” required “to determine if all . . . toxic NSR requirements for these previous permitting activities were fully complied with”).

⁴ *Id.*

⁵ *Id.* at 4.

⁶ 2016 Engineering Report at 2; *see also id.* at 3 (“[T]he District will evaluate past NSR permitting activities for the S-6 shredder to ensure NSR has been fully satisfied. This may include adjustments to the offsets required for the shredder replacement and expansion projects . . .”).

⁷ VOCs include precursor organic compounds (POCs).

⁸ The Facility’s potential to emit these pollutants is shown by emission rates derived from these source test results and the Facility’s authorized throughput capacity of 720,000 tons/year. *See* BAAQMD Rule 2-1-217 (definition of “potential to emit”); Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Baseline Emissions Determination, Actual-to-Future-Actual Methodology, Plantwide Applicability Limitations, Clean Units, Pollution Control Projects, Fed. Reg. 80186, 80190-91 (Dec. 31, 2002).

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VOCs and actual emissions of VOCs have been in excess of the applicable major source threshold of 100 tpy.⁹ Therefore, the Facility is a Major Facility under BAAQMD's rules and a Major Source under the CAA, and has been since at least 2007, when Schnitzer began operating the new mega-shredder.¹⁰ Despite these high emissions, the Facility has not gone through Major Facility Review and does not have a Major Facility Permit (a Title V Permit), which is required before operations continue. The source test results further show that Schnitzer must include BACT for POC emissions, as the CAA and federally enforceable BAAQMD rules require.

In December 2020, BAAQMD issued Schnitzer a new PTO that includes several new and modified permit conditions. Condition # 27085 now imposes the following hourly and yearly emission limits for PM10 and precursor organic compounds (POCs) from the shredder:

3. Total emissions from the S-6 Auto Shredder shall not exceed any of the emission limits listed below:

a. Maximum Permitted Emission Rates:

	P-15 Stack Pounds/Hour	P-15 Stack Tons/Year
PM10 (total filterable + condensable)	5.91	6.15
POC (calculated as methane)	112.0	85.50

Additionally, Condition # 27085 now requires that “[t]otal particulate emissions from the [shredder] stack shall not exceed a grain loading of 0.0046 grains/dscf” and that “[o]rganic emissions from [shredder] stack shall not exceed 300 ppmv (dry basis) of total carbon.”¹¹ As further explained below and confirmed by both the 2017-2019 source tests and the table attached to Schnitzer's 2020-2021 PTO, Schnitzer has violated and continues to violate all of these POC and organic emission limits in its PTO. Reflecting the need to install BACT for POC emissions, Paragraph 4 of Condition # 27085 also recognizes that Schnitzer must install “an organic abatement system.”¹² To date, Schnitzer has not installed the required organic abatement system.

BAAQMD chronic trigger levels are specified in BAAQMD Regulation 2, Rule 5. Chronic trigger levels under that Regulation are based on a lifetime cancer risk of 1.0 in a million (10-6) or a non-cancer hazard index of 0.2, whichever is stricter.

⁹ See 42 U.S.C. § 7661(a) (making it unlawful to operate a major source except in compliance with a Title V permit); 40 C.F.R. § 70.7(b) (requires a major source to submit a timely and complete application under an approved permit program); BAAQMD Rule 2-6-212 (defining “Major Facility”); BAAQMD Rule 2-1-302 (requiring any major facility to comply with BAAQMD Rule 2-6).

¹⁰ See 42 U.S.C. § 7661(2); BAAQMD Rule 2-6-212.

¹¹ The 2021 PTO still does not include emission limits on numerous TACs emitted by the Facility.

¹² Paragraph 4 states that “quarterly monitoring shall continue *until an organic abatement system is operating* and continued compliance with Regulation 8-2-301 has been demonstrated.” (Emphasis added.)



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The significance of the test results has been confirmed by the U.S. Environmental Protection Agency (EPA). On January 27, 2020, EPA issued Schnitzer a Notice of Violation (NOV), confirming that the source tests show that Schnitzer has been in violation of Title V of the CAA and federally enforceable BAAQMD rules since it began operating the shredder in 2007.¹³ As of the date of this letter, EPA has not filed suit against Schnitzer with respect to the violations outlined in the NOV or any of the other violations identified below.

II. Description of Schnitzer's Violations of the Clean Air Act and Federally Enforceable BAAQMD Rules

Schnitzer, as the owner and operator of the Facility, is responsible for the violations raised by this notice. The violations have occurred and continue to occur at the Schnitzer Steel Metals Recycling Yard and Port located at 1101 Embarcadero West, Oakland, CA 94607. The violations that are the subject of this notice began as early as April 26, 2007, and are ongoing.

Pursuant to Section 7661(a) of the CAA, it is unlawful to operate a major source or any other source required to have a permit except in compliance with a Title V permit.¹⁴ Further, sections 7604(a) and (f) impose liability for violation of any "emission standard or limitation," which is defined to include any "standard, limitation, or schedule established under any permit issued . . . under any applicable State implementation plan approved by [EPA], any permit term or condition, and any requirement to obtain a permit as a condition of operations."¹⁵ BAAQMD's rules and regulations referenced in this notice are part of the California SIP and/or have otherwise been approved by EPA pursuant to the CAA.¹⁶ Accordingly, the BAAQMD rules referenced below are enforceable under Section 7604 of the CAA. The terms and conditions of any permit issued by BAAQMD pursuant to the California SIP, including the conditions of BAAQMD's permit to operate that are referenced below, also are enforceable under Section 7604.¹⁷

¹³ Finding and Notice of Violation to Schnitzer Steel Industries from U.S. Environmental Protection Agency Region 9 (Jan. 27, 2020) at 8.

¹⁴ 42 U.S.C. § 7661a; *see also* 40 C.F.R. § 70.2 (defining major source).

¹⁵ 42 U.S.C. §§ 7604(a), (f).

¹⁶ *See EPA-Approved Bay Area Air District Regulations in the California SIP*, <https://www.epa.gov/sips-ca/epa-approved-bay-area-air-district-regulations-california-sip>; *see also* 40 C.F.R. § 52.220 (listing provisions included in the California SIP).

¹⁷ *See* 42 U.S.C. §§ 7604(a), (f).



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A. Violations of Title V Permit Requirements

1. Legal background

Under Section 7661(a) of the CAA, it is unlawful to operate a major source except in compliance with a Title V permit.¹⁸ Relatedly, 40 C.F.R. § 70.7(b) requires a major source to submit a timely and complete application under an approved permit program, such as a state permit program established to meet the requirements of Title V.

BAAQMD's federally enforceable rules impose similar requirements. BAAQMD Rule 2-1-302, which has been approved by EPA and is part of the California SIP, requires a person to obtain a PTO before using or operating any article, machine, equipment, or other contrivance, the use of which may cause, reduce, or control the emission of air contaminants. In addition to securing a PTO, Rule 2-1-302 requires any Major Facility to comply with BAAQMD Regulation 2, Rule 6 ("Major Facility Review"). Rule 2-6 was adopted to meet the requirements of Title V and 40 C.F.R. Part 70. The rule establishes the procedures for Major Facilities to obtain Title V permits and other requirements applicable to such Major Facilities. BAAQMD Rule 2-6-212 defines a "Major Facility" as a "facility that has the potential to emit 100 tons per year or more of any regulated air pollutant" or a "facility that has the potential to emit 10 tons per year or more of a single hazardous air pollutant, 25 tons per year or more of a combination of hazardous air pollutants, or such lesser quantity as the EPA Administrator may establish by rule."¹⁹ The definition of "regulated air pollutant" explicitly includes VOCs.²⁰

2. Schnitzer's violations

As detailed above, source testing conducted on October 29-31, 2018, and January 21-23, 2019, showed that the mega-shredder has the potential to emit more than 100 tons per year of VOCs. Accordingly, the Facility is a Major Facility under BAAQMD's rules, and the shredder is a major source under the CAA.²¹

¹⁸ 42 U.S.C. § 7661a(a); *see also* 40 C.F.R. § 70.2 (defining major source). Under the CAA, a "major source" is defined as a stationary source or group of stationary sources that emit or have the potential to emit over 100 tons per year of regulated air pollutants, 10 tons per year or more of a hazardous air pollutant, or 25 tons per year or more of a combination of hazardous air pollutants. *Id.*

¹⁹ *See also* BAAQMD Rule 2-1-2 17 (defining PTE); BAAQMD Rule 2-6-222 (defining regulated air pollutants).

²⁰ BAAQMD Rule 2-6-222.

²¹ *See* 42 U.S.C. § 7661(2); BAAQMD Rule 2-6-212. The mega-shredder's PTE was calculated using its maximum throughput and emissions factors shown by the source test results.



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It follows that, since at least April 26, 2007, Schnitzer has been operating the Facility in violation of the Title V of the Clean Air Act and federally enforceable BAAQMD rules, including CAA section 502 (42 U.S.C. §§ 7661a–7661f), 40 C.F.R. § 70.7(b), BAAQMD Rule 2-1-302, and BAAQMD Rule 2-6. Schnitzer has failed to complete Major Facility Review and to obtain a Major Facility Permit. To date, Schnitzer has still not received a Title V permit from BAAQMD and therefore should not be operating the shredder and associated sources of air pollution.

B. Violations of New Source Review Requirements

1. Legal background

Section 172 of the CAA requires states with nonattainment areas to adopt as part of its SIP additional regulatory programs designed to achieve and maintain relevant NAAQS in those areas.²² The state’s plan for nonattainment areas must “require permits for the construction and operations of new or modified major stationary sources anywhere in the nonattainment area.”²³ Such a permit is known as a nonattainment New Source Review (NSR) permit.²⁴ BAAQMD Regulation 2, Rule 2 was incorporated into the California SIP to implement the federal nonattainment NSR requirements.²⁵ Under BAAQMD Regulation 2-2, NSR applies to a facility that installs a new source or modifies an existing source that will increase the facility’s air emissions.²⁶ While all new or modified sources must undergo NSR, the substantive NSR permit requirements apply on a pollutant-specific basis.²⁷

²² 42 U.S.C. § 7502.

²³ *Id.* See also 42 U.S.C. § 7503; 40 C.F.R. § 51.165 (requirements for permits to construct and operate).

²⁴ Under the CAA, a major NSR permit must require 1) installation of the Lowest Achievable Emission Rate (LAER); 2) emission offsets; and 3) public involvement during the permit issuance process. 42 U.S.C. § 7503; 40 C.F.R. §§ 51.165(i), 51.161. The CAA defines a “major” source as “a facility that has the potential to emit 100 tons per year or more” of volatile organic compounds (VOCs).” 40 C.F.R. § 51.165(a)(iv)(A). However, federally enforceable state rules (*i.e.*, those included in a state’s SIP) may be stricter than the CAA requirements.

²⁵ BAAQMD Rule 2-2-101.

²⁶ BAAQMD Rule 2-1-232 (definition of “new” source); BAAQMD Rule 2-1-234 (definition of “modification”).

²⁷ BAAQMD, Complex New Source Review Permitting Handbook, at 40 (2016).



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Two substantive NSR permit requirements are (1) Best Available Control Technology (BACT),²⁸ and (2) offsets.²⁹ Under BAAQMD Rule 2-2-301, a “permit to operate for a new or modified source shall require BACT to control emissions of a District BACT pollutant if the source will have the potential to emit that pollutant in an amount of 10.0 or more pounds on any day.” District BACT pollutants are POCs, non-precursor organic compounds (NPOC), oxides of nitrogen (NO_x), sulfur dioxide (SO₂), PM₁₀, PM_{2.5}, and carbon monoxide.³⁰ Additionally, offset requirements apply at any “facility that will have the potential to emit more than 10 tons per year of NO_x or POC after the new or modified source is constructed,”³¹ or any “facility that will have the potential to emit 100 tons per year or more of PM_{2.5}, PM₁₀ or sulfur dioxide after the new or modified source is constructed.”³²

2. Schnitzer’s violations

Source testing of the mega-shredder conducted on October 29-31, 2018, and January 21-23, 2019, confirmed that the Facility’s shredder emits at least 183 pounds per hour of POCs, well over the triggers for application of BACT and offset requirements.³³ The table of source emissions attached to Schnitzer’s recently issued 2020-2021 PTO also confirms that Schnitzer’s emissions are well over the applicable BACT and offset trigger. The table states that Schnitzer’s shredder emits an annual average of 904 lbs/day of POCs, which amounts to 164.98 tons/year, while the associated “infeed conveyor” that supplies the shredder with metal-containing feedstock emits another 48 lbs/day of POCs, which amounts to another 8.76 tons/years.

²⁸ BACT is defined at BAAQMD Rule 2-2-202 as: “An emission limitation, control device, or control technique applied at a source that is the most stringent of: [t]he most effective emission control device or technique that has been successfully utilized for the type of equipment comprising such a source; or [t]he most stringent emission limitation achieved by an emission control device or technique for the type of equipment comprising such a source; or [t]he most effective control device or technique or most stringent emission limitation that the APCO has determined to be technologically feasible for a source, taking into consideration cost-effectiveness, any ancillary health and environmental impacts, and energy requirements; or [t]he most effective emission control limitation for the type of equipment comprising such a source that is contained in an approved implementation plan of any state, unless the applicant demonstrates to the satisfaction of the APCO that such limitation is not achievable. Under no circumstances shall BACT be less stringent than any emission control required by any applicable provision of federal, state or District laws, rules or regulations.” Under BAAQMD’s rules, BACT is equivalent to the stringent LAER standard used in the federal non-attainment NSR Program. *See* BAAQMD Rule 2-2-202; 42 U.S.C. § 7503; 40 C.F.R. §§ 51.165(i), 51.161.

²⁹ Offsets are “banked emission reduction credits” that “are provided to compensate for cumulative increases in emissions.” BAAQMD Rule 2-2-221.

³⁰ BAAQMD Rule 2-2-210.

³¹ BAAQMD Rule 2-2-302.

³² BAAQMD Rule 2-2-303.

³³ *See also* Notice of Violation, at 7.



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Schnitzer has not installed BACT for POCs and has not fully complied with offset requirements for POCs even though the shredder's potential to emit POCs is well in excess of applicable triggers for these requirements. Accordingly, Schnitzer has been violating BAAQMD Rules 2-2-301 and 2-2-302 since at least 2007.

Today, the Facility continues to operate without complying with the substantive NSR requirements of BACT and offsets for at least POCs, requirements that are essential to ensuring that applicable NAAQS are met. Reflecting the need to install BACT for organic emissions, Paragraph 4 of Condition # 27085 of Schnitzer's permit to operate recognizes the need for "an organic abatement system." To date, Schnitzer has not installed the required system. BACT for POCs would, at a minimum, include installing a fully enclosed "state-of-the-art" shredder, such as the METSO Lindemann ZZ design that is vented to a baghouse,³⁴ installing regenerative thermal oxidizers (RTOs) and scrubbers, and installing a baghouse. Emissions control technology including but not limited to an enclosure and baghouse must also be installed to address POC emissions from associated material stockpiles and conveyors.

C. Violations of Permit Conditions

1. Legal background

Any term or condition contained in any permit issued under an applicable State Implementation Plan is an "emission standard or limitation" that is enforceable through a CAA citizen suit.³⁵ Schnitzer's current PTO was issued pursuant to BAAQMD regulations that have been approved by EPA and incorporated into the California SIP.³⁶

2. Schnitzer's violations

As explained above, Schnitzer's current PTO applies to its mega-shredder, infeed conveyor, cement silo, auto body component screener, drum magnet line with enclosure, and related abatement equipment. Condition # 27085 limits POC emissions from the shredder to less than 112 pounds/hour and 85.5 tons/year. Condition # 27085 also requires that "[o]rganic emissions from [shredder] stack shall not exceed 300 ppmv (dry basis) of total carbon."³⁷

³⁴ The METSO Lindemann ZZ series is described by METSO as "state-of-the-art" and illustrates that significantly more protective shredder designs employing full enclosure are available. See <https://www.metso.com/products/shredders/metal-shredders/lindemann-zz-shredders/>.

³⁵ 42 U.S.C. 7604(f)(4).

³⁶ BAAQMD Rule 2-1-302 (requiring permit to operate); see also *EPA-Approved Bay Area Air District Regulations in the California SIP*, <https://www.epa.gov/sips-ca/epa-approved-bay-area-air-district-regulations-california-sip>; 40 C.F.R. § 52.220 (listing all provisions included in the California SIP).

³⁷ The 2021 PTO still does not include emission limits on numerous TACs emitted by the Facility.



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As demonstrated in Table 1 appended below, based on Schnitzer's source tests and public information about Schnitzer's annual throughput, Schnitzer has violated and continues to violate these emission limits on POCs in its PTO. Indeed, the table of source emissions attached to Schnitzer's own, recently issued 2020-2021 PTO shows that Schnitzer is violating the permit's POC emission limits. The table in the PTO states that Schnitzer's shredder emits an annual average of 904 lbs/day of POCs, which amounts to 164.98 tons/year, while the associated "infeed conveyor" that supplies the shredder with metal-containing feedstock emits another 48 lbs/day of POCs, which amounts to another 8.76 tons/years. As noted, Paragraph 4 of Condition # 27085 also confirms that Schnitzer must install "an organic abatement system."³⁸ Schnitzer has not installed the required organic abatement system.

Accordingly, Schnitzer is not in compliance with numerous enforceable requirements of Condition # 27085 of the PTO related to POC emissions.

D. Additional Violations of Related BAAQMD Rules

1. Legal background

BAAQMD Rule 8-2-301 states that a person shall not discharge into the atmosphere from any miscellaneous operation an emission containing more than 6.8 kg (15 lbs) per day and containing a concentration of more than 300 ppm total carbon on a dry basis. BAAQMD Rule 8-2-301 has been approved by EPA and is incorporated into the California SIP.³⁹

2. Schnitzer's violations

According to the results of source testing conducted at the Facility on October 29-31, 2018, and January 21-23, 2019, and as corroborated by the EPA's NOV, the shredder emits more than 6.8 kg per day at a concentration of more than 300 ppm total carbon.⁴⁰ Accordingly, Schnitzer is not in compliance with BAAQMD Section 8-2-301.

³⁸ Paragraph 4 states that "quarterly monitoring shall continue *until an organic abatement system is operating and continued compliance with Regulation 8-2-301 has been demonstrated.*" (Emphasis added.)

³⁹ EPA-Approved Bay Area Air District Regulations in the California SIP, <https://www.epa.gov/sips-ca/epa-approved-bay-area-air-district-regulations-california-sip>; see also 40 C.F.R. § 52.220 (listing all provisions included in the California SIP).

⁴⁰ Notice of Violation, at 7.

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E. Operation of Unpermitted Sources in Violation of the CAA and BAAQMD Rules

Schnitzer is also in ongoing violation of the CAA and BAAQMD's rules, including but not limited to 40 C.F.R. §70.7(b) and BAAQMD Rules 2-1-301 and 2-2-302, because its stockpiles, conveyors, and torch cutting are unpermitted sources of air pollutants. Schnitzer's existing PTO does not cover these substantial sources of air pollutants. In addition to being unpermitted, BACT and other requirements that flow from permitting have not been met with respect to these emissions. Indeed, Schnitzer has not imposed any meaningful controls of emissions from these sources.

1. Stockpiles

BAAQMD policy requires permitting of storage piles.⁴¹ However, Schnitzer's PTO does not mention Schnitzer's large stockpiles. No exemption to BAAQMD's NSR or permitting requirements under Rule 2-1-302 applies to this source, which emits PM, POCs, TACs, and other pollutants as a result of wind erosion and materials handling, in addition to emissions from regular fires. The table attached to Schnitzer's 2020-2021 PTO demonstrates that POC and particulate emissions from handling of the stockpiles are significant, and appear to be well above the 10 lbs/day BACT trigger. The table states that the "infeed conveyor" that supplies the shredder with metal-containing feedstock alone emits 48 lbs/day of POCs and 11.3 lbs/day of particulates. Based on these numbers, POC and particulate emissions from routine handling of Schnitzer's large stockpiles of feedstock, aggregate, harvested metals, and shredder waste are significantly higher

⁴¹ BAAQMD, Engineering Division Permit Handbook (Oct. 23, 2018), at 211. The Handbook requires permitting of storage piles at crushed stone processing facilities because such storage piles emit particulates and metals. The stockpiles are not merely fugitive emissions because they could reasonably be made to pass through a stack by enclosing them, as illustrated by controls discussed by similar operations that are discussed below. See 40 C.F.R. § 70.2 ("Fugitive emissions are those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening."); EPA, Memorandum from John S. Seitz, Classification of Emissions from Landfills for NSR Applicability Purposes (Oct. 21, 1994), *available at* <https://www.epa.gov/sites/production/files/2015-08/documents/emsnldfl.pdf> (explaining that "[t]he existence of collection technology in use by other sources in a source category creates a presumption that collection is reasonable. Furthermore, in certain circumstances, the collection of emissions from a specific pollutant emitting activity can create a presumption that collection is reasonable for a similar pollutant-emitting activity, even if that activity is located within a different source category."); EPA, Memorandum from Thomas C. Curran to Judith M. Katz, Interpretation of the Definition of Fugitive Emissions in Parts 70 and 71 (Feb. 10, 1999) (interpreting the same definition of fugitive emissions in the context of Title V rather than NSR in order to find that emissions from certain printing industry and paint manufacturers could reasonably be collected and are therefore not fugitive), *available at* <https://www.epa.gov/sites/production/files/2015-07/documents/fug-def.pdf>.



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than the 10 lbs/day BACT threshold. Wind erosion of the stockpiles results in additional emissions.⁴²

Air pollution emissions from Schnitzer's stockpiles raise heightened health concerns because the stockpiles consist of "aggregate" and "shredder waste" that exceed toxicity thresholds for hazardous waste under California law due to high concentrations of lead, copper, and zinc.⁴³ Schnitzer stores this hazardous material in large, multistory stockpiles outside and uncovered, where contaminants can blow offsite into surrounding communities and the Bay, and, as has occurred on numerous occasions, catch fire. As California's Department of Toxic Substances Control (DTSC) has explained, the offsite, airborne migration of these materials can "result in contamination of the metal shredding facilities and potentially the areas near the metal shredding facilities, and may result in both the public and other biological organisms coming into contact with or being exposed to these hazardous constituents, and *potentially suffering negative health impacts and harm.*"⁴⁴ Indeed, multiple agencies have found that Schnitzer's operations have caused a large amount of light fibrous material (LFM) and contaminated dust to be emitted and deposited across a large area of West Oakland and into the San Francisco Bay.⁴⁵ Tests confirmed

⁴² According to Schnitzer, emissions from wind erosion at a metal recycling facility are estimated based on emission factors for crushed stone processing because emission factors do not exist for the scrap metal recycling industry. Trinity Consultants, Project Report, Proposed Changes to the Joint Products Plant, Schnitzer Steel Metal Recycling Facility (Apr. 2019), at 3-2. However, Schnitzer's large stockpiles of materials that exceed toxicity thresholds for hazardous waste emit additional pollutants and present more health risk. Additionally, the large quantity of LFM found to have been dispersed offsite suggests that Schnitzer's stockpiles result in a higher rate of emissions than stockpiles of crushed stone.

⁴³ Department of Toxic Substances Control (DTSC), Evaluation and Analysis of Metal Shredding Facilities and Metal Shredder Wastes (Jan. 2018) at 61-62, 67, 112 ("2018 DTSC Evaluation"), *available at* <https://dtsc.ca.gov/wp-content/uploads/sites/31/2017/01/Metal-Shredder-Analysis-DRAFT.pdf>; DTSC Draft Report of Investigation on Schnitzer Steel Industries, Inc. Oakland Facility (Aug. 6, 2015) at 17, 28-29, Attachment 7 ("2015 DTSC Report of Investigation"); DTSC, Public Workshop on Proposed Rulemaking, Conditional Exclusion for Chemically Treated Metal Shredder (June 26, 2018) at slide 16; DTSC, Treatment Levels for Auto Shredder Waste (June 1989) at Appendix C; DTSC, Proposed Concepts for Environmental Protection and Authorization of Hazardous Waste Operations at Metal Shredding Facilities (Mar. 2019) at 3.

⁴⁴ 2018 DTSC Evaluation at 78 (emphasis added).

⁴⁵ Alameda County District Attorney's Office, California Attorney General's Office, & DTSC, Community Meeting Concerning Schnitzer Steel Industries, Inc. (Nov. 20, 2014) ("Community Meeting Concerning Schnitzer Steel"); San Francisco Regional Water Quality Control Board, Inspection Report for Schnitzer Steel Products Co. (Mar. 29, 2012) at rows NS-7, NS-8, NS-11 (finding that "[a]irborne dust [is] also discharged into estuary waters, as evidence[d] by accumulation of dust on side railing and adjacent fence," "[e]xcessive dust and sediment is discharged from area into estuary waters via wind and stormwater," and "[o]nce airborne, the dust travels across the site and into off-site areas"); SF RWQCB, Cleanup and Abatement Order No. R2-2013-1001 (Jan. 2, 2013); *see also* Terraphase Engineering, Report on Light Fibrous Material Removal for Schnitzer Steel (Mar. 17, 2015). The deposition of Schnitzer's contaminated dust, LFM, and other material into the Oakland Inner Harbor is particularly concerning because the Oakland Inner Harbor is already impaired by multiple pollutants frequently found in materials generated by metal shredding facilities, including mercury, copper, lead,

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that LFM found at properties near Schnitzer was hazardous waste under California law due to concentrations of lead, zinc, copper, and other toxic metals.⁴⁶



“This photo depicts the stock pile of untreated shredder aggregate at the JPP.”⁴⁷

LFM that migrated from the Facility onto a neighboring property.⁴⁸

Due to these concerns, Schnitzer must obtain a permit for the stockpiles and comply with applicable permitting requirements, including NSR and BACT. Application of BACT would, at a minimum, require Schnitzer to enclose the stockpiles and conduct all processing in fully enclosed buildings outfitted with adequate air pollution controls. As the image obtained from DTSC below illustrates, other metal shredders have enclosed stockpiles indoors, which, combined with other control measures, would substantially reduce LFM and other emissions.⁴⁹

zinc, and PCBs. See State Water Resources Control Board, Region 2 Section 303(d) List, Final California 2010 Integrated Report (Clean Water Act Section 303(d) List/305(b) Report) – Statewide, available at https://www.waterboards.ca.gov/water_issues/programs/tmdl/2010state_ir_reports/00009.shtml#18094; UC Davis DELTA Group Study, Deposition of Coarse Toxic Particles in Wilmington, CA for DTSC: Summer 2008 and Spring 2009 (May 6, 2011) at 40, available at <http://delta.ucdavis.edu/Reports/ti%20report.pdf> (listing these pollutants for metal shredders). DTSC’s study of the auto-shredder in Wilmington, California, found that the facility is “the major source of stationary source emissions on the island.” The analysis identifies one of the pollution emissions sources from the site as “shredder product pile fugitive dust.” Among the pollutants the DTSC study found in the Terminal Island facility’s particulate waste emissions were lead, copper, iron, zinc, cadmium, mercury, and arsenic. Schnitzer conducts similar operations but at a much larger scale.

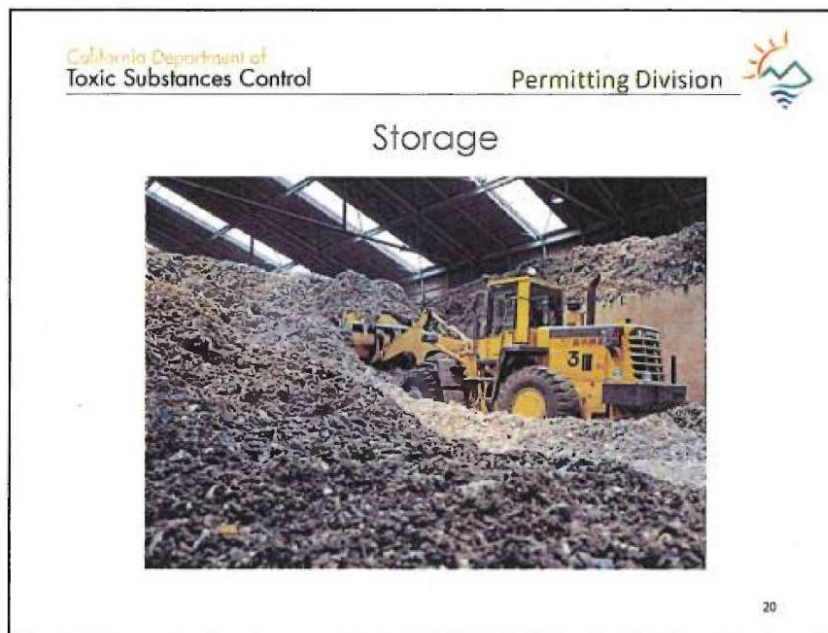
⁴⁶ Community Meeting Concerning Schnitzer Steel at 16.

⁴⁷ Photo by Paul Baranich, Senior Environmental Scientist, during March 17 and 18, 2015 Investigation of Schnitzer Steel Oakland Facility (photo and caption attached to 2015 DTSC Report of Investigation).

⁴⁸ Community Meeting Concerning Schnitzer Steel, at 47.

⁴⁹ DTSC, Metal Shredding Facilities Community Meeting Presentation (Jan. 11, 2019) at slide 20.

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Other industries that stockpile materials also enclose their stockpiles and conveyors in order to control emissions. For example, a proposed coal facility in West Oakland, whose operations would involve pollution-emitting stockpiles of even more material than Schnitzer, proposed to enclose its stockpiles of coal in order to control emissions.⁵⁰ Similarly, the Draft Supplemental Environmental Impact Report (SEIR) for the Eagle Rock Aggregate at the Oakland Harbor proposes an alternative pursuant to which a large building “would enclose the approximately 14 acres occupied by the three [40-foot tall] stockpiles, conveyor system, and truck loading operations,” in order to control emission of air pollutants.⁵¹ Additionally, other air permitting agencies have required full enclosure of similar petcoke and manganese stockpiles.⁵² If these larger stockpiles of construction aggregate can be enclosed to control emissions, Schnitzer’s smaller stockpiles of toxic metal shredder aggregate can too. Indeed, Schnitzer recently enclosed its shredder and joint products plant to control emissions generated by this same

⁵⁰ See Erin Baldassari, *Supporters of shipping coal through Oakland say it will bring jobs*, East Bay Times (May 24, 2016), <https://www.eastbaytimes.com/2016/05/23/supporters-of-shipping-coal-through-oakland-say-it-will-bring-jobs/> (depicting proposed enclosure of stockpiles and conveyors).

⁵¹ SEIR, available at https://www.portfoakland.com/files/PDF/ERA%20Draft%20SEIR_110420.pdf.

⁵² See Department of Public Health of the City of Chicago, Large Recycling Facility Rules at Section 4.4.2, available at https://www.chicago.gov/content/dam/city/depts/cdph/InspectionsandPermitting/CDPH%20Rules%20for%20Large%20Recycling%20Facilities_Issued%20June%205,%202020.pdf (petcoke and manganese stockpiles); South Coast Air Quality Management District Rule 1158 at Section (d)(2), available at <http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/rule-1158.pdf> (petcoke stockpiles).



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material. Given that other shredding facilities, similar businesses, and Schnitzer itself have successfully implemented this common-sense emissions control measure (enclosure), the CAA requires Schnitzer to implement this measure too.

2. Torch cutting

Public records show that Schnitzer's torch cutting is another significant source of emissions that is not covered by the PTO and requires application of BACT, offsets, and other protections. Schnitzer uses torch cutting to break apart large metal pieces of heavy melting steel.⁵³ Torch cutting vaporizes metal, resulting in airborne fine particulate matter (PM_{2.5}) and metals, including nickel, cadmium, hexavalent chromium, copper, lead, and other TACs.⁵⁴ As with the stockpiles, torch cutting at the Facility must be permitted and BACT must be imposed to reduce emissions and health risk. Notably, in a study of five recycling facilities in Houston, Texas, researchers found that ambient air concentrations of metals generated at the facilities resulted in potential cancer risks ranging from 10⁻⁶ to 10⁻⁴ for nearby residents.⁵⁵ Subsequent studies by the University of Texas confirmed that residential risks associated with three of the five recycling facilities were greater than 10⁻⁶.⁵⁶ Specific measures to control torch cutting emissions include prohibiting onsite torch cutting in the West Oakland environmental justice community;⁵⁷ a requirement to conduct torch cutting indoors onsite, except in exceptional, pre-defined, circumstances; a requirement that the structures in which torch cutting is conducted be fully enclosed, well-ventilated, and fitted with robust air pollution controls;⁵⁸ requirements related to fire prevention and control; and reporting

⁵³ Schnitzer, Emissions Minimization Plan (Dec. 17, 2015), at 5.

⁵⁴ Raun, et al. Unanticipated Potential Cancer Risk Near Metal Recycling Facilities, Environmental Impact Assessment Review, Vol. 41, 2013, at 71-72; New York State Department of Health, Metal Recycling Industry Project (Jun. 2007), at 3, available at https://www.health.ny.gov/environmental/workplace/metal_recycling/docs/metal_recycling_report.pdf.

⁵⁵ Raun, et al (2013), at 75. The studies attributed the risk caused by these facilities, which do not include shredders, to torch cutting.

⁵⁶ University of Texas, 2018 MAPPS Report, Fifth Ward/Northside Near CMC Recycling (Oct. 2018) at 5; University of Texas, 2018 MAPPS Report, Magnolia Park near Cronimet (Oct. 2018) at 5; University of Texas, 2018 MAPPS Report, South Park near Allied Alloys (Oct. 2018) at 5.

⁵⁷ See Metal Air Pollution Partnership Study, 2018 MAPPS Report for South Park near Allied Alloys, at 7 (discussing voluntary steps to reduce torch cutting from facility identified as posing an elevated cancer risk to the community, including adding additional processing equipment to reduce torch cutting and outsourcing majority of torch cutting while evaluating other technology to further reduce metal emissions), available at https://sph.uth.edu/research/centers/swcoeh/mapps/MAPPS_Layreport_AA_F103118.pdf.

⁵⁸ The Ohio EPA has issued a permit-to-install to Reserve FTL for a torch cutting area at one of its facilities, consisting of a three-walled enclosure equipped with baghouse. See Ohio EPA, Final Permit to Install issued to Reserve FTL, LLC, DBA Reserve Iron Ohio, issued May 7, 2012, available at http://web.epa.state.oh.us/dapc/permits_issued/589801.pdf.



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and monitoring requirements, including continuous ambient monitoring of PM and HAPs in the vicinity of torch cutting activities

As required by 40 C.F.R. § 54.3, the person providing this notice is:

Athletics Investment Group LLC 55 Harrison St. Oakland, California 94607	Attorneys for Oakland Athletics William Sloan Tyler Welti Venable LLP 101 California Street Suite 3800 San Francisco, CA 94111 415.343.4490 WMSloan@Venable.com TGWelti@Venable.com
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If you have any questions regarding the allegations in this notice or believe any of the foregoing information may be in error, please contact the undersigned counsel at the contact information included below. We are willing to discuss a resolution of this matter within the 60-day notice period, if you are prepared to remedy the violations discussed above.

Sincerely,

William M. Sloan
Venable LLP
101 California Street Suite 3800
San Francisco, CA 94111
WMSloan@Venable.com
415.343.4490

Tyler Welti
Venable LLP
101 California Street Suite 3800
San Francisco, CA 94111
TGWelti@Venable.com



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415.653.3750

Attorneys for Oakland Athletics

Enclosures:

Exhibit A, Finding and Notice of Violation to Schnitzer Steel Industries from U.S. Environmental Protection Agency Region 9

Exhibit B, Schnitzer's 2020-2021 PTO

CC:

Jack P. Broadbent
Chief Executive Officer/Air Pollution Control Officer
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105

Acting Administrator Jane Nishida
Office of the Administrator (Mail Code 1101A)
U.S. Environmental Protection Agency
William Jefferson Clinton Building
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460

Acting Regional Administrator Deborah Jordan
Office of the Regional Administrator
U.S. Environmental Protection Agency
Pacific Southwest, Region 9
75 Hawthorne Street
San Francisco, CA 94105

Governor Gavin Newsom
1303 10th Street, Suite 1173
Sacramento, CA 95814



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Liane M. Randolph, Chair
California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812

Richard Corey, Executive Officer
California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812-2815



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TABLE 1: COMPARISON OF ESTIMATED PRECURSOR ORGANIC COMPOUND (POC) EMISSIONS FROM THE SHREDDER STACK WITH SCHNITZER'S PERMIT TO OPERATE^(a)

Pollutant	Source Test Results ^(b)															Schnitzer's Permit to Operate Limitation ^(c)		
	June 2017			October 2017			January 2018			October 2018			January 2019					
	(lb/hr)	(ton/yr)	(ppmv)	(lb/hr)	(ton/yr)	(ppmv)	(lb/hr)	(ton/yr)	(ppmv)	(lb/hr)	(ton/yr)	(ppmv)	(lb/hr)	(ton/yr)	(ppmv)	(lb/hr)	(ton/yr)	(ppmv)
POC	56.5	83	164	125^(d)	182	362	200	160	565	183	266	526	227	208	653	112	85.5	300

Notes:

- (a) Based on a ferrous metal feed rate of 640,000 tons per year and shredder stack air flow rate of 140,000 actual cubic feet per minute.
- (b) POC emissions in tons per year are based on POC emission factors of 0.26, 0.57, 0.5, 0.65 and 1.2 lbs/ton estimated from results of source tests conducted in June 2017, October 2017, January 2018, October 2018, and January 2019, respectively. Available unredacted information indicates source tests were conducted at ferrous metal shredder feed rates of approximately 200 tons per hour. Actual hourly feed rates are likely to be higher.
- (c) BAAQMD Permit to Operate, Permit Expiration Date November 1, 2021.
- (d) Value shown in red boldface type indicates that parameter is greater than maximum permitted emission rate.

EXHIBIT A

JAN 27 2020



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 9
75 HAWTHORNE STREET
SAN FRANCISCO, CALIFORNIA 94105

ENFORCEMENT AND COMPLIANCE
ASSURANCE DIVISION

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

7019 0700 0001 7652 9923

Mr. Scott Sloan
Vice President – Environmental
Schnitzer Steel Industries, Inc.
23711 63rd Ave. SE
Woodinville, WA 98072

Re: Finding and Notice of Violation
Schnitzer Steel Industries, Inc.
Oakland, California

Dear Mr. Sloan:

Enclosed is a copy of the Finding and Notice of Violation (“NOV”) that the U.S. Environmental Protection Agency Region 9 (“EPA”) is issuing to Schnitzer Steel Industries, Inc. (“Schnitzer”), for violations of the Clean Air Act (“CAA”). Specifically, EPA finds that Schnitzer has violated and continues to violate Title V of the CAA, 42 U.S.C. §§ 7661a-7661f and federally-enforceable requirements in the Bay Area Air Quality Management District (“BAAQMD”) portion of the California State Implementation Plan (“SIP”) at its facility in Oakland, California.

Sections 113(a)(1), 113(b) and 113(d) of the CAA authorize EPA to issue an order requiring compliance with the requirements of the CAA, issue an administrative penalty order, or commence a civil action seeking an injunction and/or civil penalty. *See* 42 U.S.C. §§ 7413(a), 7413(b), 7413(d). Further, Section 113(c) of the CAA provides for criminal penalties in certain cases. *See* 42 U.S.C. § 7413(c).

Schnitzer may, upon request, confer with EPA. Schnitzer may request a conference with EPA within ten (10) working days of the receipt of this NOV. The conference will afford Schnitzer an opportunity to present information on the specific findings of violation, the nature of the violations, and any efforts Schnitzer may have taken to comply and the steps Schnitzer will take to prevent future violations. In addition, in order to make the conference more productive, we encourage Schnitzer to submit to EPA information responsive to the NOV prior to the conference date.

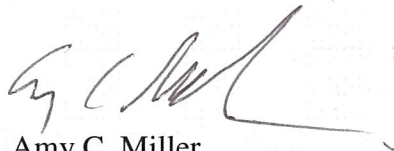
0505 5 S NAL

Please plan for your facility's technical and management personnel to attend the conference to discuss compliance measures and commitments. You may have an attorney represent you at this conference.

If you have any questions pertaining to this NOV, please contact Scott Connolly of the Enforcement and Compliance Assurance Division at (415) 947-4141 or connolly.scott@epa.gov, or have your attorney contact Denise Leong of the Office of Regional Counsel at (415) 972-3409 or leong.denise@epa.gov.

Thank you for your cooperation in this matter.

Sincerely,



Amy C. Miller
Director
Enforcement and Compliance Assurance Division
U.S. Environmental Protection Agency, Region 9

Enclosure

cc: Pamela Gray, Schnitzer Steel Industries, Inc.
Jeffrey Gove, Bay Area Air Quality Management District
Todd Sax, California Air Resources Board

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 9**

IN THE MATTER OF:)	
)	
Schnitzer Steel Industries, Inc.)	FINDING AND NOTICE
)	OF VIOLATION
Oakland, California)	
)	R9-CAA-20-1004
Proceedings Pursuant to)	
Section 113(a)(1) of the)	
Clean Air Act, 42 U.S.C.)	
§ 7413(a)(1))	

FINDING AND NOTICE OF VIOLATION

This Finding and Notice of Violation (“NOV”) is issued pursuant to Section 113(a) of the Clean Air Act 42 U.S.C. § 7401-7671q (“CAA”). Section 113(a)(1) requires the Administrator of the United States Environmental Protection Agency (“EPA”) to notify any person in violation of a state implementation plan (“SIP”) of the violations. This NOV is issued to Schnitzer Steel Industries, Inc. (“Schnitzer”) for violations of the CAA at its facility located in Oakland, California. Specifically, this NOV alleges violations of the Bay Area Air Quality Management District (“BAAQMD”) portion of the federally enforceable California SIP. This NOV also notifies Schnitzer of violations of the Title V of the CAA. The authority to issue NOVs has been delegated to the Regional Administrator of EPA, Region 9, and re-delegated to the Director of the Enforcement and Compliance Assurance Division for EPA, Region 9.

STATUTORY AND REGULATORY BACKGROUND

Clean Air Act Title V Operating Permit Program Requirements

1. Section 502(a) of the Act provides that after the effective date of any permit program approved or promulgated pursuant to the Title V of the Act, it is unlawful for any person to operate a Title V affected source, except in compliance with a permit issued by a permitting authority under Title V of the Act.
2. Under Section 502(b) of the Act, EPA promulgated 40 C.F.R. Part 70, "State Operating Permit Programs," which provides for the establishment of comprehensive state air quality permitting programs consistent with the requirements of Title V of the Act. EPA's Part 70 regulations define the minimum elements required by the Act for state operating permit programs, among other things. *See* 40 C.F.R. § 70.1.
3. Section 502(d) of the Act requires each state to develop, and submit to EPA for approval, a permit program meeting the requirements of Title V of the Act, including the requirements of the Part 70 State Operating Permit Programs regulations.
4. BAAQMD adopted Regulation 2, Rule 6 (“Major Facility Review”) to meet the requirements of Title V of the Act, and 40 C.F.R. Part 70. EPA granted interim approval

of Regulation 2, Rule 6 on June 23, 1995 and full approval on December 7, 2001. *See* 60 Fed. Reg. 32,606 and 66 Fed. Reg. 63,503.

5. The San Francisco Bay Area, including Alameda County, is designated as nonattainment and classified as “marginal” for both the 2008 and 2015 8-hour ozone National Ambient Air Quality Standards. *See* 40 C.F.R. § 81.305. Therefore, all sources in Alameda County with a potential to emit (“PTE”) volatile organic compounds (“VOCs”) or oxides of nitrogen above 100 tons per year are considered major stationary sources and required to obtain major source operating permits. 40 C.F.R. § 70.2.
6. 40 C.F.R. § 70.1(b) provides that all sources subject to the Part 70 regulations shall have a permit to operate that assures compliance by the source with all applicable requirements, as defined in 40 C.F.R. § 70.2.
7. 40 C.F.R. § 70.7(b) provides, in part, that no part 70 source may operate after the time that it is required to submit a timely and complete application under an approved permit program except in compliance with a permit issued under a Part 70 program.

Bay Area Air Quality Management District Compiled Rules and Regulations

8. Section 110(a)(1) of the CAA requires each state to adopt and submit to EPA for approval a plan that provides for the implementation, maintenance, and enforcement of each of the NAAQS. Such plans, once approved by EPA, are known as State Implementation Plans, or SIPs.
9. EPA has approved Regulation 1 (“General Provisions”), Rule 200 as amended on September 5, 1979, into the BAAQMD portion of the California SIP. *See* 46 Fed. Reg. 43,968 (Sep. 2, 1981).
 - a. BAAQMD Section 1-215 as approved into the California SIP defines “facility” as: any property, real or personal, which may incorporate one or more plants all being operated or maintained by a person as part of an identifiable business on contiguous or adjacent property, and shall include, but not be limited to manufacturing plants, refineries, power generating plants, ore processing plants, construction material processing plants, automobile assembly plants, foundries and waste processing sites.
 - b. BAAQMD Section 1-221 as approved into the California SIP defines “person” as: any natural person, corporation, government agency, public officer, association, joint venture, partnership or any combination of such or such entities as are included in Section 39047, California Health and Safety Code.
10. EPA has approved Regulation 2 (“Permits”), Rule 1, as amended on November 3, 1993, into the BAAQMD portion of the California SIP. *See* 64 Fed. Reg. 3,850 (Jan. 26, 1999).
 - a. BAAQMD Section 2-1-214 as approved into the California SIP defines “federally enforceable” as: all limitations and conditions that are enforceable by the Administrator of the U. S. EPA, including but not limited to (i) requirements developed pursuant to 40 CFR Parts 60 (NSPS), 61 (NESHAPS), 63 (HAP), 70 (State

- Operating Permit Programs) and 72 (Permits Regulation, Acid Rain); (ii) requirements contained in the State Implementation Plan (SIP) that are applicable to the District; (iii) District regulations approved pursuant to 40 CFR Part 51, Subpart I (NSR); (iv) requirements in any operating permit issued under an EPA-approved program that is a part of the SIP and expressly requires adherence to any permit issued under such program, including requirements of any District permit condition (excluding conditions that are not enforceable by the Administrator of the U.S. EPA); and (v) requirements in federal consent decrees that are enforceable by the Administrator of the U.S. EPA.
- b. BAAQMD Section 2-1-217 defines “potential to emit” as: the maximum capacity of a source or facility to emit a pollutant based on its physical and operational design. Any physical or operational limitation on the capacity of the source or facility to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as a part of its design only if the limitation, or the effect it would have on emissions, is enforceable by the District or EPA (or both). A source or facility that exceeds an enforceable limitation is considered to have a potential to emit that is unconstrained by any such exceeded limit.
 - c. BAAQMD Section 2-1-302 requires a person to obtain written authorization in the form of a permit to operate from the Air Pollution Control Officer (“APCO”) before using or operating any article, machine, equipment or other contrivance, the use of which may cause, reduce or control the emission of air contaminants. In addition to securing a permit to operate, Section 2-1-302 requires any major facility to also comply with Regulation 2, Rule 6 - Major Facility Review.
 - d. BAAQMD Section 2-6-212.1 defines “major facility,” for the purposes of Regulation 2, Rule 6, as a facility that has the potential to emit 100 tons per year or more of any regulated air pollutant, as defined in Section 2-6-222. For fugitive emissions of regulated air pollutants, only the fugitive emissions from facility categories listed in 40 C.F.R § 70.2 "Definitions - Major source (2)" shall be included in determining whether the facility is a major facility. Once any facility is determined to be a major facility, all fugitive emissions from the facility shall be included in calculating the facility's emissions.
11. EPA has approved Regulation 8, Rule 2, “Organic Compounds – Miscellaneous Operations,” as amended on June 15, 1994 into the BAAQMD portion of the California SIP. *See* 60 Fed. Reg. 15,062 (Mar. 22, 1995).
- a. BAAQMD Section 8-2-101 states that the purpose of this Rule is to reduce emissions of precursor organic compounds from miscellaneous operations.
 - b. BAAQMD Section 8-2-201 defines “miscellaneous operations” as any operation other than those limited by the other rules of Regulation 8 and the Rules of Regulation 10.

- c. BAAQMD Section 8-2-202 defines “total carbon” as organic compounds calculated as total carbon determined by either the total carbon of an individual organic compound equal to the ppm of that compound in an emission multiplied by the number of carbon atoms present in the molecule or the total carbon in an emission of the sum of the total carbon of all of the individual organic compounds present in the effluent. 1,1,1, trichloroethane, methylene chloride, methane and chlorofluorocarbons shall not be included in the calculation of total carbon.
- d. BAAQMD Section 8-2-301 states that a person shall not discharge into the atmosphere from any miscellaneous operation an emission containing more than 6.8 kg (15 lbs) per day and containing a concentration of more than 300 ppm total carbon on a dry basis.
- e. BAAQMD Section 8-2-601 states that compliance with the standards in 8-2-301 shall be measured by any of the following methods: 1) BAAQMD Manual of Procedures, Volume IV, ST-7, 2) EPA Method 25 or 25A, and that a source shall be considered in violation if the VOC emissions measured by any of the referenced test methods exceed the standards of this rule.

FINDINGS OF FACT

- 12. Schnitzer owns and operates a metal shredding and recycling facility located at 1101 Embarcadero West, Oakland, California (“Facility”) in Alameda County.
- 13. Schnitzer is a “person” as defined by BAAQMD Section 1-221.
- 14. Alameda County is part of the San Francisco Bay Area nonattainment area which is classified as “marginal” nonattainment under both the 2008 and 2015 8-Hour Ozone Standard.
- 15. Schnitzer stores, processes, and recycles ferrous and non-ferrous scrap metals from end-of-life vehicles and post-consumer sheet metal at the Facility.
- 16. Scrap metal is shredded in a metal shredder, which includes an electric hammermill shredder at the Facility.
- 17. On or about November 1, 2006, Schnitzer started operation of a new hammermill shredder.
- 18. On or about April 26, 2007, BAAQMD issued the Facility a permit to operate (not a Major Facility Review permit), which included a throughput limit of 431,471 tons per calendar year applicable to the hammermill shredder.
- 19. The Facility’s current throughput limit for the hammermill shredder is 720,000 tons per calendar year. On or about September 14, 2007, Schnitzer submitted an application to BAAQMD requesting to increase the throughput limit from 431,471 to 720,000 tons per calendar year.

20. On July 23, 2019, EPA Region 9 conducted an unannounced on-site inspection of the Facility. Inspectors from the California Air Resources Board (“CARB”) and BAAQMD were also present at the inspection. Schnitzer granted access to the Facility during the inspection and Schnitzer personnel were present to answer questions.
21. During the on-site inspection, EPA inspectors observed various process areas at the Facility, including the hammermill shredder.
22. At the conclusion of the inspection, EPA requested documents that Schnitzer subsequently provided.
23. On or about June 28-29, 2017, October 29-31, 2018, and January 21-23, 2019, Schnitzer conducted emissions testing of the hammermill shredder at the Facility, including testing for precursor organic compounds (“POC” or “VOC”), chromium, particulate matter and metals emissions.
24. Based on the results of the testing conducted on October 29-31, 2018 and January 21-23, 2019, the hammermill shredder at the Facility:
 - a. has the potential to emit more than 100 tons per year of VOCs; and
 - b. discharges into the atmosphere emissions of more than 6.8 kg per day at a concentration of more than 300 ppm total carbon; and
 - c. emits at least 217 pounds per hour of POCs.
25. Since at least April 26, 2007, when Schnitzer was issued a permit to operate that included the hammermill shredder throughput limit of 431,471 tons per year, Schnitzer has had the potential to emit more than 100 tons per calendar year of VOCs.
26. The Facility is a “major source” as defined at 42 U.S.C. § 7661(2) and a “major facility” as defined in BAAQMD Section 2-6-212.
27. By operating as a major source, the Facility is subject to the requirements of the CAA Title V, 42 U.S.C. §§ 7661a-7661f.
28. By operating the Facility as a major facility, Schnitzer is subject to the Major Facility Review requirements of BAAQMD Section 2-1-302, CAA section 502(b) and 40 C.F.R. § 70.7(b).
29. On October 15, 2018, Schnitzer submitted an application for Major Facility Review to BAAQMD.
30. On or about July 3, 2019, Schnitzer submitted applications for an Authority to Construct permit and a Synthetic Minor Operating permit to BAAQMD that propose to install and operate two regenerative thermal oxidizers control devices and two packed bed scrubbers at the Facility to reduce POC emissions and to limit facility-wide emissions to below the threshold for a major facility.

31. To date, Schnitzer has not received a Title V permit from BAAQMD.
32. To date, Schnitzer does not have any emissions control equipment on its shredder or a federally enforceable limit that reduces VOC emissions to below 100 tons per year.

FINDING OF VIOLATION

33. Schnitzer is operating the Facility as a major stationary source with the potential to emit at least 100 tons per year of VOCs but failed to submit a timely application for a Title V permit, in violation of CAA section 502 and 40 C.F.R. § 70.7(b).
34. Schnitzer is operating the Facility as a major facility without undergoing Major Facility Review, in violation of the BAAQMD Section 2-1-302.
35. Schnitzer has failed to prevent discharges into the atmosphere containing more than 6.8 kg per day at a concentration of more than 300 ppm total carbon at the hammermill shredder at the Facility, in violation of BAAQMD Section 8-2-301.

NOTICE OF VIOLATION

36. Notice is given to Schnitzer that the Administrator of the EPA, by authority duly delegated to the undersigned, finds that Schnitzer violated CAA section 502, 40 C.F.R. § 70.7(b), and BAAQMD Section 2-1-302, CAA section 110, and BAAQMD Section 8-2-301 in the California SIP, as set forth in the Findings of Violation.

ENFORCEMENT

37. Section 113(a)(1) of the Act and 40 C.F.R. Part 19 provides that, at any time following thirty (30) days after the EPA issues a notice of violation of a requirement or prohibition of an applicable implementation plan or permit, the EPA may:
 - issue an order requiring compliance with the requirement or prohibition;
 - issue an administrative penalty order pursuant to section 113(d) of the Act for civil administrative penalties; or
 - bring a civil action pursuant to section 113(b) of the Act for injunctive relief and/or civil penalties.

The amount of civil penalties that may be recovered for violations such as those discussed above of the CAA and its implementing regulations is set by statute. *See* 40 C.F.R. Part 19.

Furthermore, if a person knowingly violates any requirements of an applicable implementation plan more than thirty (30) days after the date of issuance of this NOV, section 113(c) of the Act provides for criminal penalties or imprisonment, or both. 42 U.S.C. § 7413(c). Under section 306(a) of the Act (42 U.S.C. § 7606(a)), the regulations promulgated thereunder (2 C.F.R. Part 1532), and Executive Order 11738, persons convicted of an offense under section 113(c) of the Act are disqualified from receiving federal contracts, grants, and loans.

PENALTY ASSESSMENT CRITERIA

38. Section 113(e)(1) of the Act states that, in determining the amount of any penalty to be assessed, the Administrator shall take into consideration (in addition to such other factors as justice may require) the size of the violator, the economic impact of the penalty on the violator, the violator's full compliance history and good faith efforts to comply, the duration of the violation as established by any credible evidence (including evidence other than the applicable test method), payment by the violator of penalties previously assessed for the same violation, the economic benefit of noncompliance, and the seriousness of the violation.
39. Section 113(e)(2) of the Act allows the Administrator to assess a penalty for each day of violation. For the purposes of determining the number of days of violation, where EPA makes a prima facie showing that the conduct or events giving rise to this violation are likely to have continued or recurred past the date of this NOV, the days of violation shall be presumed to include the date of this NOV and each and every day thereafter until the violator establishes that continuous compliance has been achieved, except to the extent that the violator can prove by a preponderance of the evidence that there were intervening days during which no violation occurred or that the violation was not continuing in nature.

OPPORTUNITY FOR CONFERENCE

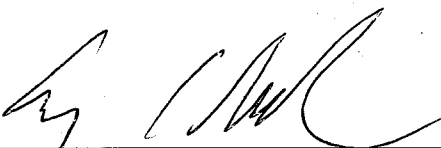
40. Schnitzer may, upon request, confer with the EPA. The conference will enable Schnitzer to present evidence bearing on the finding of violation, on the nature of the violations, and on any effort, it may have taken or proposes to take to achieve compliance. Schnitzer has the right to be represented by counsel. A request for a conference with the EPA must be made within ten (10) working days of receipt of this NOV, and the request for a conference or other inquiries concerning the NOV should be made in writing to:

Denise Leong
Assistant Regional Counsel
U.S. Environmental Protection Agency
Region 9
75 Hawthorne Street
San Francisco, CA 94105
(415) 972-3409
leong.denise@epa.gov

ENVIRONMENTAL IMPACT OF VIOLATIONS

- 41. These violations can cause and have caused excess emissions of VOCs.
- 42. VOCs are photochemical oxidants associated with a number of detrimental health effects, which include birth defects and cancer, as well as environmental and ecological effects. In the presence of sunlight, VOCs are influenced by a variety of meteorological conditions and have the ability to create photochemical smog. VOCs react with oxygen in the air to produce ground-level ozone.
- 43. Breathing ozone contributes to a variety of health problems including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ground-level ozone also can reduce lung function and inflame lung tissue. Repeated exposure may permanently scar lung tissue.

JANUARY 27, 2020
Date



Amy C. Miller
Director
Enforcement and Compliance Assurance Division

EXHIBIT B



**BAY AREA AIR QUALITY
MANAGEMENT DISTRICT**

**PERMIT
TO OPERATE**

This document does not permit the holder to violate any BAAQMD regulation or any other law.

PERMIT EXPIRATION DATE

NOV 1, 2021

Plant# 208

Pamela Gray, Regional Environmental Man
Schnitzer Steel Products Company
P O Box 747
Oakland, CA 94604

ORIGINAL SENT TO:

Schnitzer Steel Products Company
1101 Embarcadero-West
Oakland, CA 94607

Location: Adeline St, Foot of
Oakland, CA 94607

S#	DESCRIPTION	[Schedule]	PAID
6	MTGL/SEC> Crushing/shredding, Steel Shredder w/ water injection, electric, 225 tph (avg.) Abated by: A6 Water Spray System A11 Venturi Scrubber A12 Venturi Scrubber Emissions at: P15 Stack	[F]	528
7	MTGL/SEC> Conveying, Steel Infeed Conveyor (electric) Abated by: A6 Water Spray System A11 Venturi Scrubber A12 Venturi Scrubber Emissions at: P15 Stack	[F]	528
10	MINERL> Storage, contained, Cement Cement Silo Abated by: A10 Baghouse, Pulse Jet Emissions at: P10 Stack	[F]	480
11	MTGL/SEC> Screening, Auto body components, 120 tons/hr max Joint Products Plants w/ enclosure (2 Trommels, 3 Screens, Classifiers, Conveyors, and ot Abated by: A13 Water Spray System A14 Baghouse, Pulse Jet Emissions at: P14 Stack	[exempt]	0



BAY AREA AIR QUALITY MANAGEMENT DISTRICT

PERMIT TO OPERATE

This document does not permit the holder to violate any BAAQMD regulation or any other law.

PERMIT EXPIRATION DATE

NOV 1, 2021

Plant# 208

S#	DESCRIPTION	[Schedule]	PAID
12	MTGL/SEC> Screening, Auto body components, 5 tons/hr max Drum Magnet Line W/ enclosure	[exempt]	0
13	MTGL/SEC> Screening, Solid waste - other/not spec JPP from Wet Separation Unit downstream	[exempt]	0

3 Permitted Sources, 3 Exempt Sources

*** See attached Permit Conditions ***



BAY AREA AIR QUALITY MANAGEMENT DISTRICT

PERMIT TO OPERATE

This document does not permit the holder to violate any BAAQMD regulation or any other law.

PERMIT EXPIRATION DATE

NOV 1, 2021

Plant# 208

*** PERMIT CONDITIONS ***

=====

Source#	Subject to Condition Numbers
-----	-----
6	27085
7	27085
10	24125
11	27085
12	27085

The operating parameters described above are based on information supplied by permit holder and may differ from the limits set forth in the attached conditions of the Permit to Operate. The limits of operation in the permit conditions are not to be exceeded. Exceeding these limits is considered a violation of District regulations subject to enforcement action.



BAY AREA AIR QUALITY MANAGEMENT DISTRICT

PERMIT TO OPERATE

This document does not permit the holder to violate any BAAQMD regulation or any other law.

PERMIT EXPIRATION DATE

NOV 1, 2021

Plant# 208

*** PERMIT CONDITIONS ***

=====

COND# 24125 applies to S# 10

S-10, Cement Silo

1. The Permit Holder shall ensure the visible particulate emissions from the silo do not exceed Ringelmann Number 0.5 (or equivalent opacity) or result in fall out on adjacent property in such quantities as to cause annoyance to any other person.
(basis: Regulation 6-1-301, 1-301)
2. The Permit Holder shall not exceed a throughput of 21,900 tons of cement in any consecutive 12-month period. (basis: cumulative increase)
3. The Permit Holder shall abate emissions from the silo by a filter, A-10, at all times the silo is in operation. The filter shall be functioning properly within the manufacturer's specified pressure drop range.
(basis: cumulative increase)
4. In order to demonstrate compliance with part 2 of the condition, the Permit Holder shall keep daily, monthly, and consecutive 12-month records of the material throughput in a District approved logbook. The records shall be kept on site for at least 24 months from the date of data entry and be made available to the District staff for inspection.
(basis: cumulative increase, recordkeeping)

COND# 27085 applies to S#'s 6, 7, 11, 12, A12, A11

Condition # 27085

S-6 Shredder and S-7 Infeed Conveyor; abated by A-6 Water Sprays, A-11 Venturi Scrubber, and A-12 Venturi Scrubber (Revision 1: A #14194, 6/16/06; Revision 2: A #16721, 4/9/09; Revision 3: A #27762, 11/10/16; Revision 4: A #27762, 11/20/2020)

1. The owner/operator shall not exceed the scrap-in throughput limit of 720,000 tons in any calendar year at this facility. (Basis: Regulations 2-1-301 - baseline)



This document does not permit the holder to violate any BAAQMD regulation or any other law.

PERMIT EXPIRATION DATE

NOV 1, 2021

Plant# 208

*** PERMIT CONDITIONS ***

=====

2005 production level of 431,471 tons/year - and 2-5-302 and Cumulative Increase for the incremental throughput)

2. The owner/operator shall enclose the shredder, S-6, and shall vent the shredder emissions to the Venturi Scrubbers, A-11 and A-12, during all times that S-6 is operating. The owner/operator shall minimize fugitive emissions from the shredder enclosure during shredder operation by (a) designing the enclosure such that the total surface area of all openings in the enclosure does not exceed 5% of the total surface area of the enclosure walls, floor, and ceiling; (b) using curtain walls or strip curtains on the inlet feed conveyor opening; and c ensuring that the ventilation fan is operating within its design range. The owner/operator shall demonstrate that the ventilation fan is operating within its design range by maintaining the amperage greater than 480 amperes during shredder operation. The owner/operator shall operate each Venturi Scrubber in accordance with manufacture specifications. The owner/operator shall demonstrate this by maintaining a minimum water flow rate of 300 gallons per minute (gpm) to each venturi scrubber and an effective pressure differential operating range 15-22 inches of H2O across each venturi scrubber. (Basis: TBACT)

3. Total emissions from the S-6 Auto Shredder shall not exceed any of the emission limits listed below:

a. Maximum Permitted Emission Rates:

	P-15 Stack Pounds/Hour	P-15 Stack Tons/Year
PM10 (total filterable + condensable)	5.91	6.15
POC (calculated as methane)	112.0	85.50

b. Total particulate emissions from the P-15 stack shall not exceed a grain loading of 0.0046 grains/dscf as determined in accordance with Regulation 6-1-602.1.

c. Organic emissions from the P-15 stack shall not exceed 300 ppmv (dry basis) of total carbon as determined in accordance with Regulation



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PERMIT EXPIRATION DATE

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*** PERMIT CONDITIONS ***

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8-2-601.

- d. The owner/operator shall demonstrate compliance with the Part 3a stack emission limits as described in Part 4.

(Basis: Cumulative Increase, BACT, TBACT, and Regulations 2-5-302 and 8-2-301)

4. Source Testing Requirements for Part 3:

- a. Within 180 days of issuance of this Permit to Operate, the owner/operator shall initiate quarterly monitoring for the total carbon concentration in stack P-15, using authorized procedures and methods, to demonstrate compliance with Parts 3a, 3c and Regulation 8-2-301, and to assess excess POC emissions in the event of non-compliance with Part 3a, 3c or Regulation 8-2-301. This quarterly monitoring shall continue until an organic abatement system is operating and continued compliance with Regulation 8-2-301 has been demonstrated.
- b. Within 90 days of issuance of this Permit to Operate and annually thereafter, unless noted otherwise, the owner/operator shall conduct a District approved source test at stack P-15, while the S-6 Auto Shredder is operating at or near the maximum operating rate, to demonstrate compliance with the P-15 stack emission limits in Parts 3a-c. The owner/operator shall record the shredder processing rate, the water application rates for the infeed conveyor and the shredder, the water flow rates and the pressure differential operating ranges at each venturi scrubber, and the ventilation fan amperage during the source test. The source test shall determine the hourly emission rate and the average emission factor (pounds of pollutant per ton of material processed by the shredder) for the following compounds:
 - total carbon (calculated as methane and as defined in Regulation 8-2-202) shall be determined by Air District approved methods, such as EPA Methods 25A and 18,
 - total POC (calculated as methane), where total POC = total carbon (excluding methane only)
 - total NPOC. Total NPOC (calculated as methane) shall be determined by Air District approved



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methods, such as EPA Method 18 and EPA Method TO-15 or other similar GC/MS methods. Total NPOC is the sum of all NPOCs (other than methane) identified in Regulation 2-1-207, expressed as methane.

- total particulate emissions shall be determined using EPA Method 5/202. All measured total particulate emissions shall be assumed to be PM10 for comparison to the limits in Part 3a.
- Full speciation of organic TACs shall be determined by Air District approved methods, such as EPA Method TO-15 or other similar GC/MS methods.
- PCBs shall be determined by Air District approved methods, such as CARB Method 428. (This test shall be conducted within 90 days of Permit to Operate issuance and once every four years thereafter.)
- PAHs and naphthalene shall be determined by Air District approved methods, such as CARB Method 429. (This test shall be conducted within 90 days of Permit to Operate issuance and once every four years thereafter.)
- Full set of metal TACs (including arsenic (As), beryllium (Be), cadmium (Cd), chromium (Cr) which includes total chromium and hexavalent chromium (Cr VI), copper (Cu), lead (Pb), manganese (Mn), mercury (Hg), nickel (Ni), selenium (Se), and zinc (Zn)), shall be determined using Air District approved procedures for each compound, including CARB Method 425 for hexavalent chromium. (This test shall be conducted within 90 days of Permit to Operate issuance and once every four years thereafter.)
- Annual emissions for Stack P-15 shall be calculated based on the most recent 12-month shredder feedstock throughput rate and the pounds/ton emission factors determined by the most recent source test for total POC and total particulate emissions. Annual stack emission rates shall be compared to the Part 3a limits. The annual source test shall also determine the outlet grain loading and the concentration of total carbon in the P-15 stack to demonstrate compliance



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with Parts 3b and 3c using Air District approved methods.

- c. The owner/operator shall submit a source test protocol and notification of the scheduled source test date to the Air District's Source Test Section Manager and to the Permit Engineer at least 30 days prior to the scheduled test date.
 - d. The owner/operator shall notify the Source Test Section Manager of any changes to the scheduled test date as soon as possible.
 - e. The owner/operator shall submit a copy of the source test report to the Source Test Section Manager and the Permit Engineer within 60 days of the test date.
(Basis: Cumulative Increase, TBACT and Regulations 2-5-302 and 8-2-301)
5. The owner/operator shall apply water sprays (A-6) at the shredder, S-6, and infeed conveyor, S-7, at sufficient rates to ensure that non-metallic material exiting the sources is moist to the touch at all times of operation.
(Basis: Cumulative Increase, TBACT; and Regulation 2-5-302)
 6. The owner/operator shall operate the Recycling Center in such a manner that particulate emissions into the atmosphere from any operation/equipment for a period or periods aggregating more than three minutes in any hour shall not cause a visible emission which is as dark or darker than No. 0.5 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree or result in fallout on adjacent property in such quantities as to cause public nuisance per District Regulation 1-301.
(Basis: Regulations 1-301 and 6-1-301)
 7. The owner/operator shall use water spray to minimize fugitive dust emissions from material/scrap handling and storage to comply with Part 6. The owner/operator shall operate the facility at all times in accordance with its approved Emissions Minimization Plan (EMP).
(Basis: Regulations 1-301, 6-1-301, and 6-4-301)
 8. The owner/operator shall not exceed a total of 26 ship calls and 63,875 truck calls per calendar year to haul



BAY AREA AIR QUALITY MANAGEMENT DISTRICT

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*** PERMIT CONDITIONS ***

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in/out scrap/materials at the facility. (Basis: health risk assessment for CEQA review)

- 9. In order to demonstrate compliance with Part 1 and 8, the owner/operator shall keep records of monthly and yearly throughput of shredder feedstock materials, ship calls and truck calls in a District approved log. Shredder feedstock shall be totaled for each consecutive rolling 12-month period. The log shall be maintained for a period of at least 5 years from the date of data entry and shall be made available to the District staff for inspection upon request. (Basis: Regulations 2-1-301 and 2-5-302, Cumulative Increase, CEQA)

~~~~~ END OF CONDITIONS ~~~~~

Bay Area Air Quality  
Management District

\*\* SOURCE EMISSIONS \*\*

PLANT # 208  
Dec 2, 2020

| S#          | Source Description                         | Annual Average lbs/day |     |     |     | CO |
|-------------|--------------------------------------------|------------------------|-----|-----|-----|----|
|             |                                            | PART                   | ORG | NOx | SO2 |    |
| 6           | Shredder w/ water injection, electric, 225 | .1                     | 904 | -   | -   | -  |
| 7           | Infeed Conveyor (electric)                 | 11.3                   | 48  | -   | -   | -  |
| 10          | Cement Silo                                | -                      | -   | -   | -   | -  |
| 11          | Joint Products Plants w/ enclosure (2 Trom | -                      | -   | -   | -   | -  |
| 12          | Drum Magnet Line W/ enclosure              | .5                     | -   | -   | -   | -  |
| 13          | JPP from Wet Separation Unit downstream    | .6                     | -   | -   | -   | -  |
| T O T A L S |                                            | 12.5                   | 952 |     |     |    |

\*\* PLANT TOTALS FOR EACH EMITTED TOXIC POLLUTANT \*\*

| Pollutant Name                 | Emissions lbs/day |
|--------------------------------|-------------------|
| Benzene                        | 3.69              |
| Ethylene dichloride            | .09               |
| Hexane                         | 11.50             |
| Isopropyl alcohol              | 1.13              |
| Methyl ethyl ketone (MEK)      | 2.46              |
| Methyl alcohol                 | 2.62              |
| Perchloroethylene              | .62               |
| Styrene                        | 1.32              |
| Toluene                        | 31.97             |
| Xylene                         | 42.11             |
| Ethylbenzene                   | 8.54              |
| Acrylonitrile                  | .05               |
| Vinylidene chloride            | .13               |
| Methylene chloride             | 2.64              |
| 1,3-butadiene                  | .11               |
| Polychlorinated biphenyl (PCB) | .08               |
| Propylene                      | 3.20              |
| 1,1,1-Trichloroethane          | .32               |
| Copper (all) pollutant         | .06               |
| Lead (all) pollutant           | .02               |
| Manganese                      | .03               |
| Nickel pollutant               | .01               |

# **EXHIBIT 2**

Public Copy

## Bay Area Air Quality Management District Engineering Division

**Company Name** Schmitzer Steel Products Corp **Application Number** 027762  
**Equipment Address** Adeline St 1101 Embarcadero W **Site Number** 208  
**City, Zip Code** Oakland, CA-94607 **Assigned Engineer** DS

**Application Type:**

- |                                             |                                          |                                           |                                                 |
|---------------------------------------------|------------------------------------------|-------------------------------------------|-------------------------------------------------|
| <input type="checkbox"/> Standard           | <input type="checkbox"/> Accelerated     | <input type="checkbox"/> Precertification | <input type="checkbox"/> Experimental Exemption |
| <input type="checkbox"/> Title V            | <input type="checkbox"/> Synthetic Minor | <input type="checkbox"/> Banking          | <input type="checkbox"/> ERC Transfer           |
| <input type="checkbox"/> Portable Equipment | <input type="checkbox"/> GDF             | <input type="checkbox"/> Other _____      |                                                 |

**Application Status:**

|                         | Date        | Initials |
|-------------------------|-------------|----------|
| Application Received    | 2 / 16 / 16 | SS       |
| Permit Operation Review | / /         |          |
| Assigned to Engineer    | / /         |          |

|             |            |     |
|-------------|------------|-----|
| Incomplete  | 3 / 7 / 16 | / / |
| Reactivated | / /        | / / |

|                             |                         |     |
|-----------------------------|-------------------------|-----|
| Application Deemed Complete | 5 / 23 / 16             | DL  |
| Public Notice               | / /                     |     |
| Engineer                    | <del>10 / 07 / 16</del> | DL  |
| Supervisor                  | 11 / 16 / 16            | CSA |
| Manager                     | 11 / 10 / 16            | SK  |
| Permit Operations           | / /                     | ✓   |

**Recommendation**  
 26401  
 A/C A-11 & A-12 W Card 23114  
 " & Exe for S-11 & S-12  
 Concur

**Toxics Review:**

- Not Required       Required
- |                 | Date | Initials | Cancer Risk | Chronic Hazard Index | Acute Hazard Index |
|-----------------|------|----------|-------------|----------------------|--------------------|
| Review Complete | / /  |          |             |                      |                    |

**Emission Offsets:**

- Not Required       Required / Surrendered       Required / Deferred

**Emissions Summary (tons/years):** N/A

| Pollutant Increase | Increase Amount | Pollutant Decrease | Decrease Amount | Basis (1) | Offset Ratio | Bank Number | Regulation (Decreases) |
|--------------------|-----------------|--------------------|-----------------|-----------|--------------|-------------|------------------------|
|                    |                 |                    |                 |           |              |             |                        |
|                    |                 |                    |                 |           |              |             |                        |
|                    |                 |                    |                 |           |              |             |                        |
|                    |                 |                    |                 |           |              |             |                        |
|                    |                 |                    |                 |           |              |             |                        |
|                    |                 |                    |                 |           |              |             |                        |

(1) Basis:      **Bank**      Emission Bank Withdrawal      **RACT**      RACT Reduction  
                  **BACT**      Best Available Control Technology      **ONS**      On Site Credit  
                  **BARCT**      Best Available Retrofit Control Technology

**Title V:**

Plant Title V Status \_\_\_\_\_

**Comments:**

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Steel Products Corp  
 027762

Untitled

Date: 10Nov16  
 Application: 27762 <<archived record>>  
 Plant number: 208  
 Site number: A0208  
 Plant name: Schnitzer Steel Products Company  
 Plant emissions: PM: 0.248 POC: 3.619 NOx: 0 SO2: 0 (tpy)  
 Location: Adeline St, Foot of, Oakland, CA 94607  
 UTM coordinates: 562.5 Longitude 4183.4 Latitude  
 Project title: Shredder enclosure with Venturi Scrubbers  
 Applic. Contact: Scott B Sloan  
 Company name: Schnitzer  
 Mailing address: 1101 Embarcadero-West, Oakland, CA 94607  
 Telephone: (425) 420-1863  
 Engineer: Dharam Singh [536]  
 Folder : David M Brunelle  
 Received: 02/16/16 . . Completeness review due by: 03/08/16  
 Incomplete: 03/07/16 . . . . . Cancellation due by: 05/06/16  
 Re-activated: 05/23/16 . . Completeness review due by: 06/14/16  
 Complete: 05/23/16 . . . . . Evaluation due by: 07/11/16  
 A/C: 11/10/16 . . . . . Expiration due by: 11/10/18

Final disposition: A/C granted 11/10/16  
 Emission increase: none

~~Source: S-23114 Color Form Not Entered .  
 Codes: New/None  
 Condition No.: 23114 <<f>>  
 Final Disposition:NONE~~

Device No.: A-11 <f>  
 Description: Venturi Scrubber  
 Codes: New/None  
 Final Disposition: A/C granted, 11/10/16

Device No.: A-12 <f>  
 Description: Venturi Scrubber  
 Codes: New/None  
 Final Disposition: A/C granted, 11/10/16

Device No.: S-12 <c>  
 Description: Drum Magnet Line W/ enclosure  
 Codes: New/None  
 Condition No.: 23114 <<c>>  
 Condition No.: 26401 <<c>>  
 Final Disposition: Exempt, 11/10/16 <<archived>>

Device No.: S-11 <c>  
 Description: Joint Products Plants w/ enclosure (2 Trommels, 3 Screens,

Untitled

Codes: New/None

Condition No.: 26401 <<c>>

Condition No.: 23114 <<c>>

Final Disposition: Exempt, 11/10/16 <<archived>>

**ENGINEERING EVALUATION REPORT  
SCHNITZER STEEL PRODUCTS COMPANY  
PLANT NUMBER 208  
APPLICATION NUMBER 27762**

Adeline St. Foot of (1101 Embarcadero West)  
Oakland, CA 94607

**BACKGROUND**

Schnitzer Steel Products Company (SSPC) operates an automobile/appliance shredder at the facility in Oakland. SSPC replaced the old shredder with a new shredder (S-6), which was permitted in 2006 under Application # 14194. The permit to operate was issued on 4/26/2007. The maximum permitted throughput rate for the new shredder was increased in 2009 pursuant to Application # 16721.

The shredder utilizes a wet system to avoid overheating. The shredding of automobiles/appliances results in emissions of particulate matter and toxic/hazardous pollutants. Particulate emissions are controlled by cyclones and scrubber/demister system. In addition, SSPC has been operating a drum magnet line (DML) and a Joint Products Plant (JPP) consisting of 2 trommels, 3 screens, classifiers, conveyors, and other material handling equipment abated by water spray since April 1, 2010 without a permit. At DML, ferrous materials are separated from the non-ferrous materials. At JPP, non-ferrous materials/metal is sorted, by metal type, from non-metallic materials. The non-metallic residue from JPP is treated with chemicals and shipped offsite for use as alternate daily landfill cover.

SSPC has submitted this application to obtain an Authority to Construct (ATC) and Permit to Operate (PTO) for an upgraded abatement system at the shredder to minimize fugitive emissions. In the existing configuration, the shredding operation has fugitive emissions that are not collected or controlled. The shredder and part of the associated conveyor will be enclosed and vented to two venturi scrubbers with the help of two blowers. The blowers will reduce the pressure in the enclosure as much as possible to improve the capture rate for fugitive shredder emissions, and the venturi scrubbers will remove particulate matter from the blower vent streams. The proposed enclosure and venturi scrubbers will replace the existing abatement devices (A-3, A-4, and A-5) at the shredder.

SSPC has also applied to obtain exemptions from ATC and PTO for DML and JPP with its new abatement device.

The application covers the following sources:

- S-11 Joint Products Plant w/enclosure (2 Trommels, 3 Screens, Classifiers, Conveyors, and other material handling equipment), abated by A-13 and A-14.**
- S-12 Drum Magnet Line w/enclosure.**
- A-11 Venturi Scrubber, SLY, Model #12, abating S-6.**
- A-12 Venturi Scrubber, SLY, Model #12, abating S-6.**
- A-13 Water Spray, abating S-11.**
- A-14 Baghouse, Custom made, abating S-11.**

## **EMISSION CALCULATIONS**

### **Shredder:**

The proposed abatement system (enclosure and venturi scrubbers) will capture most of the emissions from the shredding operation including fugitive emissions, which were not properly accounted for when the shredder was initially permitted. Stack emissions from the shredder were calculated using emission factors from the report prepared by Versar, Inc. in 1996 for Scrap Recycling Industries. The emission calculations were updated after SSPC conducted a District approved source test at the shredder stack in March 2007.

Overall, the proposal to enclosure the shredder operations and upgrade the particulate abatement system is expected to result in a reduction of the current actual emissions from the shredder. However, since current fugitive emission rates from the shredder are not known, it is not possible to quantify the impacts of the proposed enclosure and abatement system. The applicant has proposed to conduct a series of District approved source tests that will enable the District to estimate the current (pre-enclosure) and post-enclosure fugitive emissions as well as the post-enclosure stack emissions.

Once the pre and post enclosure emission estimates are available, the District will establish new maximum permitted emission rates for the proposed operations (post enclosure with improved abatement). These proposed emission rates (POC, PM10, PM2.5, and TACs) will be compared to the District's new best estimate of the total shredder emissions (stack plus fugitives) for: (a) the 2007 shredder replacement and (b) the 2009 increase in permitted shredder throughput, to determine if all new source review (NSR) and toxic NSR requirements for these previous permitting activities were fully complied with. If the District finds that NSR has not been fully satisfied, the District will require updated reviews, limits, offsets, and health risk assessments under this application, as needed, to ensure full NSR compliance for these previous permitting activities.

### **Drum Magnet Line w/enclosure:**

The shredded material produced by S-6 travels by conveyor through the drum magnets where ferrous material is separated from non-ferrous materials. The shredded material has a high moisture content due to the water sprays applied during the shredding process. This conveyor line (S-12) is expected to have negligible particulate emissions due to the high moisture content, and it is exempt from Air District permit requirements per 2-1-115.1.4.2. This line will be covered with a floorless enclosure to prevent cross winds from generating any fugitive dust. The enclosure qualifies for permit exemption per Regulation 2-1-113.2.3.

### **Joint Products Plant w/enclosure:**

The applicant has submitted moisture test data and emission calculations (PM10, PM2.5, and TAC/HAP) to demonstrate that the S-11 Joint Products Plant (JPP) qualifies for permit exemption per Regulation 2-1-115.1.4. The moisture test data indicates that the materials processed by JPP contain more than 5% moisture, which meets the criteria for permit exemption under Section 115.1.4.

The applicant has marked their emission calculations as "Trade Secret" and therefore these calculations are not included in this report. However, the District has reviewed and verified these emission calculations. Total particulate emissions from JPP (before the proposed

enclosure) are: 2.13 pounds/day of PM10, 0.57 pounds/day of PM2.5, 0.28 tons/year of PM10, and 0.07 tons/year of PM2.5. TAC emissions include copper, lead, manganese, nickel, sulfate, and vanadium. For each TAC, the total emissions from JPP (before enclosure) are less than each applicable acute and chronic health risk assessment (HRA) trigger level. Therefore, S-11 does not require permitting under Section 2-1-319 because particulate emissions are less than 5 tons/year and TAC emissions are less than all applicable HRA trigger levels.

SSPC is proposing to enclose and vent the JPP to a baghouse (A-14) to further reduce the residual fugitive particulate emissions. Since the source (S-11) is exempt from District permitting requirements, the enclosure and abatement system are also exempt from District permitting requirements per 2-1-113.2.4.

## **PLANT CUMULATIVE INCREASE**

Emissions from exempt equipment (S-11 and S-12) are not subject to new source review and are not included in the plant cumulative emission increase.

The current cumulative emission increases for this application are shown below:

PM10 = 0.0 tpy

PM2.5 = 0.0 tpy

POC = 0.0 tpy

As discussed earlier, the District will reevaluate past NSR permitting activities for the S-6 shredder to ensure that NSR has been fully satisfied. This may include adjustments to the cumulative emission increases for the shredder replacement and expansion projects under Applications # 14194 and # 16721, respectively.

## **OFFSET REQUIREMENTS**

As discussed earlier, the District will reevaluate past NSR permitting activities for the S-6 shredder to ensure that NSR has been fully satisfied. This may include adjustments to the offsets required for the shredder replacement and expansion projects under Applications # 14194 and # 16721, respectively.

## **BEST AVAILABLE CONTROL TECHNOLOGY (BACT)**

### **Particulate Emissions:**

BACT requirements of Regulation 2-2-301 were triggered for the S-6 Shredder under Applications # 14194 and # 16721 because uncontrolled PM10 emissions exceeded 10 pounds per day. BACT for PM10 was also determined to be TBACT for particulate hazardous substances when the shredder was initially permitted in 2006.

Generally particulate emissions from automobile/appliance shredding operation are controlled by water injection with an abatement system consisting of cyclone/scrubber/filter/demister. Abatement factors depend on the configuration and operating parameter of the system. It can vary from as low as 57% to as high as 99.7% for scrubbers and other wet collectors (Ref.: Table

33, Air Pollution Engineering Manual, 2<sup>nd</sup> Edition, U.S.E.P.A). The above referenced abatement system is not effective at controlling organics such as benzene.

Exhaust loading from the scrubbers will be subject to the permit condition of not exceeding 0.01 gr/dscf. A source test conducted on the shredder at Schnitzer in March 2007 demonstrated compliance with the grain loading limit of 0.01 gr/dscf.

Based on the above referenced information, TBACT for particulate hazardous substance emissions from an auto shredder is the use of water injection, and scrubbers arranged in series with an exhaust PM loading of 0.01 gr/dscf or less.

The shredder will be expected to comply with the BACT/TBACT as determined for particulate emissions.

#### **Precursor Organic Compounds Emissions:**

BACT requirements of Regulation 2-2-301 for POC emissions will be considered if applicable. Emissions data from the planned source test and the recalculation of total permitted emissions for the shredder will be used to determine POC BACT and offset applicability.

### **CEQA REVIEW REQUIREMENTS**

The project is categorically exempt from the requirements of CEQA review per District Regulation 2-1-312.2.

**2-1-312 Other Categories of Exempt Projects:** In addition to ministerial projects, the following categories of projects subject to permit review by the District will be exempt from the CEQA review, either because the category is exempted by the express terms of CEQA (subsections 2-1-312.1 through 312.9) or because the project has no potential for causing a significant adverse environmental impact (subsections 2-1-312.10 and 312.11). Any permit applicant wishing to qualify under any of the specific exemptions set forth in this Section 2-1-312 must include in its permit application CEQA-related information in accordance with subsection 2-1-426.1. In addition, the CEQA-related information submitted by any permit applicant wishing to qualify under subsection 2-1-312.11 must demonstrate to the satisfaction of the APCO that the proposed project has no potential for resulting in a significant environmental effect in connection with any of the environmental media or resources listed in Section II of Appendix I of the State CEQA Guidelines.

312.2 Permit applications to install air pollution control or abatement equipment.

### **TOXIC EMISSIONS AND HEALTH RISK SCREENING ANALYSIS**

If the new maximum permitted shredder emissions are determined to be higher than the TAC emissions rates originally evaluated under Application # 16721, the District will require a new health risk screening analysis for this project.



**STATEMENT OF COMPLIANCE**

Regulation 2, Rule 1, Public Noticing:

The project is over 1000 feet from the nearest school and therefore is not subject to the public notification requirements of Regulation 2-1-412, Public Notice, Schools.

Regulation 2, Rule 2, PSD:

Prevention of Significant Deterioration, New Source Performance Standards, and National Emission Standards of Hazardous Air Pollutants do not apply.

Regulation 6, Rule 1, Particulate Matter – General Requirements:

The shredder will continue to comply with the requirements of Regulation 6, Rule 1, Particulate Matter, General Requirements after installation of enclosure and scrubbers.

**6-1-301 Ringelmann No. 1 Limitation:** *Except as provided in Sections 6-1-303, 6-1-304 and 6-1-306, a person shall not emit from any source for a period or periods aggregating more than three minutes in any hour, a visible emission which is as dark or darker than No. 1 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree.*

*(Amended July 11, 1990)*

**6-1-310 Particulate Weight Limitation:** *A person shall not emit from any source particulate matter in excess of 343 mg per dscm (0.15 gr. per dscf) of exhaust gas volume.*

Regulation 8, Rule 2, Organic Compounds - Miscellaneous Operations:

The S-6 Shredder is expected to comply with Regulation 8-2-301 by emitting less than 15 pounds per day of total carbon or by emitting no more than 300 ppmv of total carbon from the stack. Compliance status with this regulation will be confirmed upon final measurement and calculation of total POC emissions from the shredding operations.

**PERMIT CONDITIONS**

Condition ID# 23114 is revised by including the current abatement system. The revisions are shown in underlined format. The S-6 Shredder will also be subject to Condition # 26401, which will apply to S-6 and S-7 during and after the installation of the proposed enclosure and upgraded abatement systems.

COND# 23114 -----

S-6 & S-7 Shredder and Infeed Conveyor; abated by A-6 Water Sprays, A-2 Cyclone #2, A-3 Wet Scrubber; A-4 Dry Filter, A-9 Cyclone #3, and A-5 Mist Eliminator (until installation of enclosure and upgraded abatement system);

(A #14194; Revision 1: A #16721)

1. The owner/operator shall not exceed the scrap-in throughput limit of 720,000 tons in any calendar year at this facility.  
(basis: baseline 2005 production level of 431,471 tons/yr; cumulative increase for the incremental throughput; health risk screening analysis)
2. The owner/operator shall enclose and vent the shredder to the abatement system at all times it is operating to minimize fugitive emissions.  
(basis: TBACT)

3. The owner/operator shall abate particulate emissions from the shredder by water injection at a sufficient rate to ensure that non-metallic material exiting the unit be moist to the touch at all times, and abatement system consisting of cyclones, scrubber, filter, and demister at all times when the shredder is in operation. The PM grain loading at the exhaust outlet of the abatement system shall not exceed 0.01 gr/dscf.  
(basis: TBACT)
4. The owner/operator shall operate the Recycling Center in such a manner that particulate emissions into the atmosphere from any operation/equipment for a period or periods aggregating more than three minutes in any hour shall not cause a visible emission which is as dark or darker than No. 0.5 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree or result in fallout on adjacent property in such quantities as to cause public nuisance per District Regulation 1-301.  
(basis: Regulations 6-1-301; 1-301)
5. The owner/operator shall use water spray to minimize fugitive dust emissions from material/scrap handling and storage to comply with condition 4. The owner/operator shall pave the site truck transport roads and sweep/spray with water/other actions deemed appropriate by the District, if necessary, to minimize fugitive dust emissions from trucking activities to comply with condition 4.  
(basis: Regulations 6-1-301; 1-301)
6. The owner/operator shall not exceed a total of 26 ship calls and 63,875 truck calls per calendar year to haul in/out scrap/materials at the facility.  
(basis: health risk screening analysis; CEQA review)
7. In order to demonstrate compliance with condition numbers 1 and 6, the owner/operator shall keep records of monthly and yearly throughput of materials, ship and truck calls in a District approved log. The log shall be maintained for a period of at least 24 months from the date of data entry and shall be made available to the District staff upon request for inspection.  
(basis: recordkeeping)

The following set of conditions will replace the above set of conditions after issuance of permits to operate Venturi Scrubbers, A-11 and A-12.

**Condition # 26401**

**Upon installation of enclosure and upgraded abatement system for S-6:**

**S-6 Shredder and S-7 Infeed Conveyor; abated by A-6 Water Sprays, A-11 Venturi Scrubber, and A-12 Venturi Scrubber  
(A #14194; Revision 1: A #16721; A #27762)**

1. **The owner/operator shall not exceed the scrap-in throughput limit of 720,000 tons in any calendar year at this facility. (Basis: Regulations 2-1-301 - baseline 2005 production level of 431,471 tons/yr - and 2-5-302 and Cumulative Increase for the incremental throughput)**

2. The owner/operator shall enclose the shredder, S-6, and shall vent the shredder, at all times it is operating, to the Venturi Scrubbers, A-11 and A-12. The owner/operator shall minimize fugitive emissions from the shredder enclosure during shredder operation by (a) designing the enclosure such that the total surface area of all openings in the enclosure does not exceed 5% of the total surface area of the enclosure walls, floor, and ceiling; (b) using curtain walls or strip curtains on the inlet feed conveyor opening; and (c) ensuring that the ventilation fan is operating within its design range. The owner/operator shall demonstrate that the ventilation fan is operating within its design range by maintaining the amperage greater than [xxx, tbd by source test] amperes during shredder operation. The owner/operator shall operate each Venturi Scrubber in accordance with manufacture specifications. The owner/operator shall demonstrate this by maintaining a minimum water flow rate of [xx gallons per minute (gpm), tbd after source test] and an effective pressure differential operating range [xx to xx inches of H<sub>2</sub>O, tbd after source test]. (Basis: TBACT)
  
3. Based on the results of the source testing required by Part 4, the owner/operator shall propose new emission rate limits for the shredder at stack P-15. The owner/operator shall propose limits for each of the following pollutants: Precursor Organic Compounds (POC), PM<sub>10</sub>, PM<sub>2.5</sub>, benzene, hexavalent chromium, PCBs, cadmium, lead, tetrachloroethylene, and trichloroethylene. The proposed emission rate limits shall be submitted to the District within 90 days of receiving the Part 4 source test results. The District will analyze the proposed limits, notify the owner/operator of any necessary changes to these limits, and revise this condition to include the new stack limits and associated monitoring requirements for P-15. In addition, the owner/operator shall estimate the fugitive emission rates that are not captured by the new shredder enclosure. (Basis: Cumulative Increase and Regulation 2-5-302)
  
4. Source Testing Requirements for Parts 3 and 5:
  - a. Prior to removal of the existing particulate abatement system, the owner/operator shall conduct source testing on the existing shredder abatement system that is intended to be used in conjunction with source testing in Part 4b to estimate captured emissions from the shredder and its associated systems. Particulate emissions testing (filterable and condensable) shall be conducted at the inlet and outlet of the existing PM abatement system. In addition, the owner/operator shall estimate the fugitive emission rates that are not captured by the existing shredder enclosure.
  - b. Within 90 days of start-up of A-11 and A-12, the owner/operator shall conduct a District approved source test at stack P-15, while the S-6 Auto Shredder is operating at or near the maximum operating rate. The owner/operator shall record the shredder processing rate, the water application rates for the infeed conveyor and the shredder, the water flow rates and the pressure differential operating ranges at each venturi scrubber, and the ventilation fan amperage during the source test. The source test shall determine the hourly emission rate and the average emission factor (pounds of pollutant per ton of material processed by the shredder) for the following compounds: total POC, PM, benzene, tetrachloroethylene, trichloroethylene, hexavalent chromium, PCBs, cadmium, and lead, and shall determine the outlet grain loading to demonstrate compliance with Part 5. In addition, the owner/operator shall conduct PM testing at the inlet to the A-11 and A-12 Venturi Scrubbers to determine the PM removal efficiency achieved by A-11 and A-12. The owner/operator shall also establish the

- ventilation fan amperage range necessary to operate the venture scrubbers within the effective pressure differential ranges determined above.
- c. The owner/operator shall submit a source test protocol for the post enclosure construction compliance test to the Air District's Source Test Section Manager and to the Permit Engineer at least 30 days prior to the scheduled test date. The owner/operator shall submit a source test protocol for the pre-demolition source test to the Air District's Source Test Section Manager and to the Permit Engineer as soon as possible.
  - d. The owner/operator shall notify the Source Test Section Manager of the scheduled test date at least 7 days prior to the scheduled test date and shall obtain District approval for all source test procedures prior to conducting any testing.
  - e. The owner/operator shall submit a copy of the source test report to the Source Test Section Manager within 60 days of the test date.  
(Basis: Cumulative Increase and Regulation 2-5-302)
5. The owner/operator shall apply water sprays (A-6) at the shredder, S-6, and infeed conveyor, S-7, at a sufficient rate to ensure that non-metallic material exiting the sources is moist to the touch at all times of operation. The PM grain loading at the exhaust stack P-15 shall not exceed 0.01 gr/dscf. (Basis: Cumulative Increase, TBACT; and Regulation 2-5-302)
6. The owner/operator shall operate the Recycling Center in such a manner that particulate emissions into the atmosphere from any operation/equipment for a period or periods aggregating more than three minutes in any hour shall not cause a visible emission which is as dark or darker than No. 0.5 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree or result in fallout on adjacent property in such quantities as to cause public nuisance per District Regulation 1-301. (Basis: Regulations 1-301 and 6-1-301)
7. The owner/operator shall use water spray to minimize fugitive dust emissions from material/scrap handling and storage to comply with Part 6. The owner/operator shall operate the facility at all times in accordance with its approved Emissions Minimization Plan (EMP). (Basis: Regulations 1-301, 6-1-301, and 6-4-301)
8. The owner/operator shall not exceed a total of 26 ship calls and 63,875 truck calls per calendar year to haul in/out scrap/materials at the facility. (Basis: health risk assessment for CEQA review)
9. In order to demonstrate compliance with Part 1 and 8, the owner/operator shall keep records of monthly and yearly throughput of materials, ship and truck calls in a District approved log. The log shall be maintained for a period of at least 24 months from the date of data entry and shall be made available to the District staff for inspection upon request. (Basis: Regulations 2-1-301 and 2-5-302, Cumulative Increase, CEQA)

## RECOMMENDATIONS

It is recommended that Schnitzer Steel Products Company be issued an Authority to Construct the following abatement devices for S-6 and S-7, subject to new Condition # 26401 in addition to existing Condition # 23114:

**A-11 Venturi Scrubber, SLY, Model #12, abating S-6 and S-7.**

**A-12 Venturi Scrubber, SLY, Model #12, abating S-6 and S-7.**

Condition # 23114 will be deleted upon completion of construction of the new enclosure and venturi scrubbers. In addition, the following abatement devices will be archived upon completion of this project: A-2, A-3, A-4, A-5, and A-9. These devices will need to be shut down to accommodate construction of the new enclosure and venture scrubbers. The applicant is working with legal and enforcement to resolve this issue.

## **EXEMPTIONS**

It is recommended that Schnitzer Steel Products Company be issued exemptions per the indicated citations for the following sources:

**S-11 Joint Products Plant w/enclosure (2 Trommels, 3 Screens, Classifiers, Conveyors, and other material handling equipment), abated by A-13 and A-14.**

**A-13 Water Spray.**

**A-14 Baghouse, Custom made.**

**Exemption: Regulation 2-1-115.1.4: Exemption, Particulate Sources at Quarries, Mineral Processing and Biomass Facilities:** The following potential PM<sub>10</sub> sources are exempt from the requirements of sections 2-1-301 and 302, provided that the source does not require permitting pursuant to Section 2-1-319.

115.1 Sources located at quarrying; mineral or ore handling or processing; concrete production; asphaltic concrete production; marine bulk transfer stations; concrete or asphaltic concrete recycling; vehicle shredding; glass manufacturing; handling or processing of cement, coke, lime, flyash, fertilizer, or catalyst; or other similar facility which meets one of the following:

- 1.4 Operating, loading and unloading the following sources which process exclusively material with a moisture content greater than or equal to 5 percent by weight:
  - 1.4.1 Screen or other size classification;
  - 1.4.2 Conveyor, screw, auger, stacker or bucket elevator;
  - 1.4.3 Grizzly, or other material loading or unloading;
  - 1.4.4 Storage silos;
  - 1.4.5 Storage or weigh hopper/bin system.

**Exemption: Regulation 2-1-113.2.3 and 113.2.4:**

113.2 The following sources and operations are exempt from the requirements of Sections 2-1-301 and 302:

- 2.3 Structural changes which do not change the quality, nature or quantity of air contaminant emissions.
- 2.4 Any abatement device which is used solely to abate equipment that does not require an Authority to Construct or Permit to Operate.

**S-12 Drum Magnet Line with Enclosure.**

**Exemption: Regulation 2-1-115.1.4.2: Exemption, Particulate Sources at Quarries, Mineral Processing and Biomass Facilities:** The following potential PM<sub>10</sub> sources are exempt from the requirements of sections 2-1-301 and 302, provided that the source does not require permitting pursuant to Section 2-1-319.

115.1 Sources located at quarrying; mineral or ore handling or processing; concrete production; asphaltic concrete production; marine bulk transfer stations; concrete or asphaltic concrete recycling; vehicle shredding; glass manufacturing; handling or processing of cement, coke, lime, flyash, fertilizer, or catalyst; or other similar facility which meets one of the following:

- 1.4 Operating, loading and unloading the following sources which process exclusively material with a moisture content greater than or equal to 5 percent by weight:
  - 1.4.2 Conveyor, screw, auger, stacker or bucket elevator;

**Exemption: Regulation 2-1-113.2.3:**

- 113.2 The following sources and operations are exempt from the requirements of Sections 2-1-301 and 302:
  - 2.3 Structural changes which do not change the quality, nature or quantity of air contaminant emissions.

BY: CAA for DS 11/10/16  
Dharam Singh, PE  
Air Quality Engineer II



CA ▾

1101 Embarcadero West, Oakland, CA 94607

Nearby Cities: Alameda Emeryville Piedmont Oakland

**353 schools found near 1101 Embarcadero West, Oakland, CA 94607**

Save this search

Compare (0/4)

Sort by: Di

ASSIGNED SCHOOL

|                                                                                                                                               |           |   |                     |                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------|---|---------------------|-----------------------------------------------------------------------------------------|
| <p><b>Martin Luther King, Jr. Elementary School</b><br/>960 Tenth Street, Oakland, CA 94607-3106</p> <p>12 reviews   Public district PK-5</p> | 0.8 miles | 2 | GreatSchools Rating | <input type="button" value="Compare"/><br><input type="button" value="Homes for sale"/> |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------|---|---------------------|-----------------------------------------------------------------------------------------|

ASSIGNED SCHOOL

|                                                                                                                             |            |   |                     |                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------|------------|---|---------------------|-----------------------------------------------------------------------------------------|
| <p><b>West Oakland Middle School</b><br/>991 14th Street, Oakland, CA 94607-3230</p> <p>4 reviews   Public district 6-8</p> | 0.94 miles | 1 | GreatSchools Rating | <input type="button" value="Compare"/><br><input type="button" value="Homes for sale"/> |
|-----------------------------------------------------------------------------------------------------------------------------|------------|---|---------------------|-----------------------------------------------------------------------------------------|

ASSIGNED SCHOOL

|                                                                                                                             |           |   |                     |                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------|-----------|---|---------------------|-----------------------------------------------------------------------------------------|
| <p><b>McClymonds High School</b><br/>2607 Myrtle Street, Oakland, CA 94607-3415</p> <p>3 reviews   Public district 9-12</p> | 1.6 miles | 2 | GreatSchools Rating | <input type="button" value="Compare"/><br><input type="button" value="Homes for sale"/> |
|-----------------------------------------------------------------------------------------------------------------------------|-----------|---|---------------------|-----------------------------------------------------------------------------------------|

**Civicorps Corpsmember Academy**  
101 Myrtle Street, Oakland, CA 94607

1 review | Public charter K-9

0.3 miles

NR  
GreatSchools Rating


**City Towers Head Start**  
1050 7th Street, Oakland, CA 94607

0 reviews | Private PK

0.56 miles

NR  
GreatSchools Rating


**St. Vincent's Day Home, Inc. School**  
1086 8th Street, Oakland, CA 94607

7 reviews | Private PK-K

0.62 miles

NR  
GreatSchools Rating


**Creative Learning Center**  
418 Jefferson Street, Oakland, CA 94607

0 reviews | Private PK-K

0.66 miles

NR  
GreatSchools Rating


Top

Island High (Continuation) School

|                                                                                                                                  |            |                           |                           |
|----------------------------------------------------------------------------------------------------------------------------------|------------|---------------------------|---------------------------|
| 1900 Third Street, Alameda, CA 94501<br>6 reviews   Public district 9-12                                                         | 0.71 miles | NR<br>GreatSchools Rating | Compare<br>Homes for sale |
| Thurgood Marshall Early Head Start<br>1117 10th Street, Oakland, CA 94607<br>0 reviews   Private PK                              | 0.72 miles | NR<br>GreatSchools Rating | Compare<br>Homes for sale |
| Pentecostal Way Of Truth School Academy<br>1575 7th Street, Oakland, CA 94607<br>5 reviews   Private K-12                        | 0.76 miles | NR<br>GreatSchools Rating | Compare<br>Homes for sale |
| Martin Luther King Child Care<br>960 A 10th St, Oakland, CA 94607<br>0 reviews   Private PK                                      | 0.8 miles  | NR<br>GreatSchools Rating | Compare<br>Homes for sale |
| Martin Luther King, Jr. Elementary School<br>960 Tenth Street, Oakland, CA 94607<br>12 reviews   Public district PK-5            | 0.8 miles  | 2<br>GreatSchools Rating  | Compare<br>Homes for sale |
| Early Birds Kindergarten Prep School<br>934 Chester St., Oakland, CA 94607<br>0 reviews   Private PK                             | 0.84 miles | NR<br>GreatSchools Rating | Compare<br>Homes for sale |
| Early Birds Kindergarten Prep Pre-School<br>934 Chester Street, Oakland, CA 94607<br>0 reviews   Private PK                      | 0.85 miles | NR<br>GreatSchools Rating | Compare<br>Homes for sale |
| Preparatory Literary Academy Of Cultural Excellence<br>920 Campbell Street, Oakland, CA 94607<br>3 reviews   Public district K-5 | 0.94 miles | 1<br>GreatSchools Rating  | Compare<br>Homes for sale |
| West Oakland Middle School<br>991 14th Street, Oakland, CA 94607<br>4 reviews   Public district 6-8                              | 0.94 miles | 1<br>GreatSchools Rating  | Compare<br>Homes for sale |
| KIPP Bridge Charter School<br>991 14th Street, Oakland, CA 94607<br>24 reviews   Public charter 5-8                              | 0.94 miles | 7<br>GreatSchools Rating  | Compare<br>Homes for sale |
| Lamb-O Academy<br>416 8th Street, Oakland, CA 94607<br>16 reviews   Private 4-12                                                 | 0.96 miles | NR<br>GreatSchools Rating | Compare<br>Homes for sale |

Top

|                                                                                                                             |            |                           |                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------|------------|---------------------------|-----------------------------------------------------------------------------------------|
| <p>Lotus Blossom Academy<br/>1421 Linden Street, Oakland, CA 94607</p> <p>0 reviews   Private K-5</p>                       | 0.97 miles | NR<br>GreatSchools Rating | <input type="button" value="Compare"/><br><input type="button" value="Homes for sale"/> |
| <p>Ruby Bridges Elementary School<br/>351 Jack London Avenue, Alameda, CA 94501</p> <p>34 reviews   Public district K-5</p> | 1.04 miles | 6<br>GreatSchools Rating  | <input type="button" value="Compare"/><br><input type="button" value="Homes for sale"/> |
| <p>Sugar &amp; Spice Child Care Center<br/>2238 Mariner Square Drive, Alameda, CA 94501</p> <p>0 reviews   Private PK</p>   | 1.04 miles | NR<br>GreatSchools Rating | <input type="button" value="Compare"/><br><input type="button" value="Homes for sale"/> |
| <p>Ccumc Nursery<br/>321 8th St, Oakland, CA 94607</p> <p>0 reviews   Private PK</p>                                        | 1.07 miles | NR<br>GreatSchools Rating | <input type="button" value="Compare"/><br><input type="button" value="Homes for sale"/> |
| <p>Arroyo Viejo Head Start<br/>505 14th Street #300, Oakland, CA 94612</p> <p>0 reviews   Private PK</p>                    | 1.1 miles  | NR<br>GreatSchools Rating | <input type="button" value="Compare"/><br><input type="button" value="Homes for sale"/> |
| <p>Brookfield Head Start<br/>505 14th Street #300, Oakland, CA 94612</p> <p>0 reviews   Private PK</p>                      | 1.1 miles  | NR<br>GreatSchools Rating | <input type="button" value="Compare"/><br><input type="button" value="Homes for sale"/> |
| <p>Lafayette Elementary School<br/>1700 Market Street, Oakland, CA 94607</p> <p>8 reviews   Public district K-5</p>         | 1.11 miles | 1<br>GreatSchools Rating  | <input type="button" value="Compare"/><br><input type="button" value="Homes for sale"/> |
| <p>Little Seed Childrens Center<br/>2100 Mariner Square Drive, Alameda, CA 94501</p> <p>0 reviews   Private PK-K</p>        | 1.15 miles | NR<br>GreatSchools Rating | <input type="button" value="Compare"/><br><input type="button" value="Homes for sale"/> |
| <p>Peter Pan Pre-Schools<br/>2100 Mariner Square Drive, Alameda, CA 94501</p> <p>7 reviews   Private PK</p>                 | 1.15 miles | NR<br>GreatSchools Rating | <input type="button" value="Compare"/><br><input type="button" value="Homes for sale"/> |
| <p>Peter Pan Academy<br/>2100 Mariner Square Drive, Alameda, CA 94501</p> <p>4 reviews   Private K-3</p>                    | 1.15 miles | NR<br>GreatSchools Rating | <input type="button" value="Compare"/><br><input type="button" value="Homes for sale"/> |

Top  
Schools 1 to 2

School Boundaries © Maponics 2014. Duplication is strictly prohibited.

\*Disclaimer: Data on this page for assigned schools and school attendance zones is compiled from multiple sources and is subject to change. We've done our best to get broad coverage (up to 70% of the schools). In some cases data for your address may not be available. We always recommend double-checking with the district or school about enrollment and attendance rules and to determine legal eligibility. Boundaries are not available for preschools. For more information see our FAQs.

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**BAY AREA AIR QUALITY MANAGEMENT DISTRICT**  
 939 Ellis Street, San Francisco, CA 94109  
 Engineering Division (415) 749-4990  
 www.baaqmd.gov fax (415) 749-5030

**Form P-101B**  
 Authority to Construct/  
 Permit to Operate

|  |  |  |
|--|--|--|
|  |  |  |
|--|--|--|

*Public Copy*

**027762**

**1. Application Information**

BAAQMD Plant No. 208 Company Name Schnitzer Steel Products Company  
 Equipment/Project Description Installation of an enclosure and two Venturi scrubbers for the shredder

**2. Plant Information** *If you have not previously been assigned a Plant Number by the District or if you want to update any plant data that you have previously supplied to the District, please complete this section.*

Equipment Location Adeline St, Foot of (1101 Embarcadero West)  
 City Oakland Zip Code 94607  
 Mail Address P. O. Box 747  
 City Oakland State CA Zip Code 94604  
 Plant Contact Scott B. Sloan Title Vice President - Environmental  
 Telephone (425) 420 1863 Fax (425) 489 1470 Email ssloan@schn.com  
 NAICS (North American Industry Classification System) see [www.census.gov/epcd/naics02/naico602.htm](http://www.census.gov/epcd/naics02/naico602.htm) 423930

**3. Proximity to a School (K-12)**

The sources in this permit application (check one)  Are  Are not within 1,000 ft of the outer boundary of the nearest school.

**4. Application Contact Information** *All correspondence from the District regarding this application will be sent to the plant contact unless you wish to designate a different contact for this application.*

Application Contact Scott B. Sloan Title Vice President - Environmental  
 Mail Address 1101 Embarcadero West  
 City Oakland State CA Zip Code 94607  
 Telephone (425) 420 1863 Fax (425) 489 1470 Email ssloan@schn.com

**5. Additional Information** *The following additional information is required for all permit applications and should be included with your submittal. Failure to provide this information may delay the review of your application. Please indicate that each item has been addressed by checking the box. Contact the Engineering Division if you need assistance.*

- If a new Plant, a local street map showing the location of your business
- A facility map, drawn roughly to scale, that locates the equipment and its emission points
- Completed data form(s) and a pollutant flow diagram for each piece of equipment. (See [www.baaqmd.gov/Forms/Engineering.aspx](http://www.baaqmd.gov/Forms/Engineering.aspx) )
- Project/equipment description, manufacturer's data
- Discussion and/or calculations of the emissions of air pollutants from the equipment

**6. Trade Secrets** *Under the California Public Records Act, all information in your permit application will be considered a matter of public record and may be disclosed to a third party. If you wish to keep certain items separate as specified in Regulation 2, Rule 1, Section 202.7, please complete the following steps.*

- Each page containing trade secret information must be labeled "trade secret" with the trade secret information clearly marked.
- A second copy, with trade secret information blanked out, marked "public copy" must be provided.
- For each item asserted to be trade secret, you must provide a statement which provides the basis for your claim.

**7. Small Business Certification** *You are entitled to a reduced permit fee if you qualify as a small business as defined in Regulation 3. In order to qualify, you must certify that your business meets all of the following criteria:*

- The business does not employ more than 10 persons and its gross annual income does not exceed \$750,000.
- And the business is not an affiliate of a non-small business. (Note: a non-small business employs more than 10 persons and/or its gross income exceeds \$750,000.)

**8. Green Business Certification** *You are entitled to a reduced permit fee if you qualify as a green business as defined in Regulation 3. In order to qualify, you must certify that your business meets all of the following criteria:*

- The business has been certified under the Bay Area Green Business Program coordinated by the Association of Bay Area Governments and implemented by participating counties.
- A copy of the certification is included.

**9. Accelerated Permitting** *The Accelerated Permitting Program entitles you to install and operate qualifying sources of air pollution and abatement equipment without waiting for the District to issue a Permit to Operate. To participate in this program you must certify that your project will meet all of the following criteria. Please acknowledge each item by checking each box.*

- Uncontrolled emissions of any single pollutant are each less than 10 lb/highest day, or the equipment has been precertified by the BAAQMD.
- Emissions of toxic compounds do not exceed the trigger levels identified in Table 2-5-1 (see Regulation 2, Rule 5).
- The source is not a diesel engine.
- The project is not subject to public notice requirements (the source is either more than 1000 ft. from the nearest school, or the source does not emit any toxic compound in Table 2-5-1).
- For replacement of abatement equipment, the new equipment must have an equal or greater overall abatement efficiency for all pollutants than the equipment being replaced.
- For alterations of existing sources, for all pollutants the alteration does not result in an increase in emissions.
- Payment of applicable fees (the minimum permit fee to install and operate each source). See Regulation 3 or contact the Engineering Division for help in determining your fees.

**10. CEQA** *Please answer the following questions pertaining to CEQA (California Environmental Quality Act).*

- A. Has another public agency prepared, required preparation of, or issued a notice regarding preparation of a California Environmental Quality Act (CEQA) document (initial study, negative declaration, environmental impact report, or other CEQA document) that analyzes impacts of this project or another project of which it is a part or to which it is related?  YES  NO If no, go to section 10B.  
Describe the document or notice, preparer, and date of document or expected date of completion:

Negative Declaration/Mitigated Negative Declaration by Port of Oakland

- B. List and describe any other permits or agency approvals required for this project by city, regional, state or federal agencies:

Building permit - City of Oakland

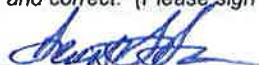
- C. List and describe all other prior or current projects for which either of the following statements is true: (1) the project that is the subject of this application could not be undertaken without the project listed below, (2) the project listed below could not be undertaken without the project that is the subject of this application:

N/A

**11. Certification** *I hereby certify that all information contained herein is true and correct. (Please sign and date this form)*

Scott B. Sloan

Vice President - Enviro



2-11-16

Name of person certifying (print)

Title of person certifying

Signature of person certifying

Date

Send all application materials to the BAAQMD Engineering Division, 939 Ellis Street, San Francisco, CA 94109.



Exempt per 2-1-115.1.4

**DATA FORM G**  
General Air Pollution Source

**BAY AREA AIR QUALITY MANAGEMENT DISTRICT**

939 Ellis Street San Francisco, CA 94109 (415) 749-4990 Fax (415) 749-5030 www.baaqmd.gov

Form G is for general air pollution sources. Use specific forms when applicable. If this source burns fuel, then also complete Form C.

1. Business Name: Schnitzer Steel Products Company Plant No: 208
2. SIC No.: 5093 Date of Initial Operation 04/01/2010 (if unknown, leave blank)
3. Name or Description: Joint Products Plant w/enclosure - 2 Trommels Source No.: S-11 (exempt)
4. Make, Model, and Rated Capacity of Equipment: 3 screens, classifiers, conveyors, etc. Custom--50 Tons per Hour
5. Process Code<sup>1</sup> 3077 Material Code<sup>2</sup> 32 Usage Unit<sup>2</sup> tons
6. Total throughput, last 12 mos. 164,027 usage units<sup>2</sup> Maximum operating rate: 50 usage units<sup>2</sup> /hr
7. Typical % of total throughput: Dec-Feb 25 % Mar-May 25 % Jun-Aug 25 % Sep-Nov 25 %
8. Typical operating times: 16 hrs/day 5 days/week 50 weeks/year
9. For batch or cyclic processes: \_\_\_\_\_ minutes/cycle \_\_\_\_\_ minutes between cycles
10. Exhaust gases from source: Wet gas flowrate \_\_\_\_\_ cfm at \_\_\_\_\_ °F  
(at maximum operation) Approximate water vapor content \_\_\_\_\_ volume%

**EMISSION FACTORS** (at maximum operating rate)

If this form is being submitted as part of an application for an **authority to construct**, completion of the following table is mandatory. If not, and the Source is *already in operation*, completion of the table is requested but not required.

If this source also burns fuel, do not include those combustion products in the emission factors below; they are accounted for on Form C. If source test or other data are available for composite emissions only, estimate from those data the emissions attributable to just the general process and show below.

Check box if factors apply to emissions **after** Abatement Device(s).

|                                                 | <b>Emission Factors</b><br><b>lb/Usage Unit<sup>2</sup></b> | <b>Basis Code<sup>3</sup></b> |
|-------------------------------------------------|-------------------------------------------------------------|-------------------------------|
| 11. Particulate .....                           | <u>7.8E-4 0.000054</u>                                      | <u>A 5</u>                    |
| 12. Organics .....                              |                                                             |                               |
| 13. Nitrogen Oxides (as NO <sub>2</sub> ) ..... |                                                             |                               |
| 14. Sulfur Dioxide .....                        |                                                             |                               |
| 15. Carbon Monoxide .....                       |                                                             |                               |
| 16. Other: _____                                |                                                             |                               |
| 17. Other: _____                                |                                                             |                               |

18. With regard to air pollutant flow from this source, what sources(s), abatement device(s) and/or emission point(s) are **immediately** downstream?

S- \_\_\_\_\_ S- \_\_\_\_\_ S- \_\_\_\_\_ A 13 A- \_\_\_\_\_ A- \_\_\_\_\_  
P- \_\_\_\_\_ P- \_\_\_\_\_ P- \_\_\_\_\_ P- \_\_\_\_\_ P- \_\_\_\_\_

<sup>1</sup>See Tables G-1 through G-7 for code  
<sup>3</sup>See Basis Code Table below

<sup>2</sup>See Table G5 or the Material Codes Table (available upon request)

Person completing this form: Chinghang Tong Date: 4/19/2016



Exempt per  
2015 US 14.2

**FORM G**  
General Air Pollution Source

**BAY AREA AIR QUALITY MANAGEMENT DISTRICT**

939 Ellis Street San Francisco, CA 94109 (415) 749-4990 FAX (415) 749-5030 www.baaqmd.gov

Form G is for general air pollution sources. Use specific forms when applicable. If this source burns fuel, then also complete Form C.

1. Business Name: Schmitz Steel Products Company Plant No: 208  
(if unknown, leave blank)
2. SIC No.: 5093 Date of Initial Operation 04/01/2010
3. Name or Description: Drum Magnet Line w/enclaves Source No.: S-12 (Exempt)
4. Make, Model, and Rated Capacity of Equipment: Custom
5. Process Code<sup>1</sup> 3077 Material Code<sup>2</sup> 32 Usage Unit<sup>2</sup> ton
6. Total throughput, last 12 mos. 10,000 usage units<sup>2</sup> Maximum operating rate: 5 usage units<sup>2</sup> /hr
7. Typical % of total throughput: Dec-Feb 25 % Mar-May 25 % Jun-Aug 25 % Sep-Nov 25 %
8. Typical operating times: 16 hrs/day 5 days/week 50 weeks/year
9. For batch or cyclic processes: \_\_\_\_\_ minutes/cycle \_\_\_\_\_ minutes between cycles
10. Exhaust gases from source: Wet gas flowrate \_\_\_\_\_ cfm at \_\_\_\_\_ °F  
(at maximum operation) Approximate water vapor content \_\_\_\_\_ volume%

**EMISSION FACTORS** (at maximum operating rate)

If this form is being submitted as part of an application for an **authority to construct**, completion of the following table is mandatory. If not, and the Source is *already in operation*, completion of the table is requested but not required.

If this source also burns fuel, do not include those combustion products in the emission factors below; they are accounted for on Form C. If source test or other data are available for composite emissions only, estimate from those data the emissions attributable to just the general process and show below.

Check box if factors apply to emissions **after** Abatement Device(s).

|                                                 | <b>Emission Factors</b><br><b>lb/Usage Unit<sup>2</sup></b> | <b>Basis Code<sup>3</sup></b> |
|-------------------------------------------------|-------------------------------------------------------------|-------------------------------|
| 11. Particulate .....                           | <u>0.0</u>                                                  | <u>D</u>                      |
| 12. Organics .....                              |                                                             |                               |
| 13. Nitrogen Oxides (as NO <sub>2</sub> ) ..... |                                                             |                               |
| 14. Sulfur Dioxide .....                        |                                                             |                               |
| 15. Carbon Monoxide .....                       |                                                             |                               |
| 16. Other: _____                                |                                                             |                               |
| 17. Other: _____                                |                                                             |                               |

18. With regard to air pollutant flow from this source, what sources(s), abatement device(s) and/or emission point(s) are **immediately** downstream?

S- \_\_\_\_\_ S- \_\_\_\_\_ S- \_\_\_\_\_ A- \_\_\_\_\_ A- \_\_\_\_\_ A- \_\_\_\_\_  
P- \_\_\_\_\_ P- \_\_\_\_\_ P- \_\_\_\_\_ P- \_\_\_\_\_ P- \_\_\_\_\_

<sup>1</sup>See Tables G-1 through G-7 for code      <sup>2</sup>See Table G5 or the Material Codes Table (available upon request)  
<sup>3</sup>See Basis Code Table below

Person completing this form: \_\_\_\_\_ Date: \_\_\_\_\_

| Basis Code |                                                                                         |
|------------|-----------------------------------------------------------------------------------------|
| Codes      | Method                                                                                  |
| 0          | Not applicable for this pollutant                                                       |
| 1          | Source Testing or other measurement <i>by plant</i>                                     |
| 2          | Source Testing or other measurement <i>by BAAQMD</i>                                    |
| 3          | Specification from vendor                                                               |
| 4          | Material balance <i>by plant</i> using engineering expertise and knowledge of process   |
| 5          | Material balances <i>by BAAQMD</i> using engineering expertise and knowledge of process |
| 6          | Taken from AP-42 ("Compilation of Air Pollutant Emission Factors," E.P.A.)              |
| 7          | Taken from literature, other than AP-42                                                 |
| 8          | Guess                                                                                   |

| Process Code Tables for General Air Pollution Sources (Data Form G) |                                  |
|---------------------------------------------------------------------|----------------------------------|
| Table                                                               | Process                          |
| G-1                                                                 | Food & Agricultural              |
| G-3                                                                 | Metallurgical (Secondary Metals) |
| G-4                                                                 | Mineral                          |
| G-5                                                                 | Petroleum Refining               |
| G-7                                                                 | Chemical/Other                   |
| G-8                                                                 | Miscellaneous                    |
| G-9                                                                 | Fugitive Emissions               |

TABLE G-1

## FOOD AND AGRICULTURAL PROCESSES

| <u>CODE</u> | <u>PROCESS</u>                               |
|-------------|----------------------------------------------|
| 1028        | Aging                                        |
| 1001        | Brewing                                      |
| 1022        | Cleaning                                     |
| 1021        | Conveying/transferring                       |
| 1003        | Cooking                                      |
| 1020        | Cooling/stoning                              |
| 1004        | Cotton ginning - cleaner                     |
| 1005        | Cotton ginning - stick/burr machine          |
| 1006        | Cotton ginning - unloading fan               |
| 1026        | Dehydration                                  |
| 1007        | Direct fired kiln                            |
| 1008        | Direct fired roaster                         |
| 1016        | Dryer - rotary                               |
| 1019        | Dryer - spray                                |
| 1023        | Dryer - other                                |
| 1009        | Drying tower                                 |
| 1030        | Extraction - mechanical                      |
| 1029        | Extraction - solvent                         |
| 1027        | Fermentation                                 |
| 1014        | Grinding                                     |
| 1010        | Indirect fired kiln                          |
| 1011        | Indirect fired roaster                       |
| 1007        | Kiln - direct fired                          |
| 1010        | Kiln - indirect fired                        |
| 1012        | Liquor aging                                 |
| 1013        | Meat smoker                                  |
| 1024        | Milling                                      |
| 1036        | Mixing/blending                              |
| 1025        | Oven baking                                  |
| 1035        | Packaging                                    |
| 1030        | Pressing - extraction                        |
| 1031        | Pressing - other                             |
| 1015        | Prilling                                     |
| 1008        | Roaster - direct fired                       |
| 1011        | Roaster - indirect fired                     |
| 1016        | Rotary dryer                                 |
| 1017        | Screening                                    |
| 1018        | Shipping & receiving                         |
| 1019        | Spray dryer                                  |
| 1032        | Sterilization - food/pharmaceutical products |
| 1020        | Stoning/cooling                              |
| 1034        | Storage                                      |
| 1033        | Sulfuring - fruit/food stuff                 |
| 1021        | Transferring/conveying                       |
| 1999        | Other/not specified                          |



**Data Form A  
ABATEMENT DEVICE**

**BAY AREA AIR QUALITY MANAGEMENT DISTRICT**

939 Ellis Street . . . San Francisco, CA 94109 . . . (415) 749-4990 . . . FAX (415) 749-5030

for office use only

**Abatement Device:** Equipment/process whose primary purpose is to reduce the quantity of pollutant(s) emitted to the atmosphere.

1. Business Name: Schnitzer Steel Products Company Plant No: 208  
(If unknown, leave blank)

2. Name or Description Venturi Scrubber Abatement Device No: A- 11

3. Make, Model, and Rated Capacity Sly Venturi Scrubbers Model #12

4. Abatement Device Code (See table\*) 46 Date of Initial Operation \_\_\_\_\_

5. With regard to air pollutant flow into this abatement device, what source(s) and/or abatement device(s) are **immediately** upstream?

S- \_\_\_\_\_ S- \_\_\_\_\_ S- \_\_\_\_\_ S- \_\_\_\_\_ S- \_\_\_\_\_  
 S- \_\_\_\_\_ A- 6 A- \_\_\_\_\_ A- \_\_\_\_\_ A- \_\_\_\_\_ A- \_\_\_\_\_

6. Typical gas stream temperature at inlet: 105 °F

027762

If this form is being submitted as part of an application for an **Authority to Construct**, completion of the following table is mandatory. If not, and the Abatement Device is *already in operation*, completion of the table is requested but not required.

|     | Pollutant                             | Weight Percent Reduction<br>(at typical operation) | Basis Codes<br>(See Table**) |
|-----|---------------------------------------|----------------------------------------------------|------------------------------|
| 7.  | Particulate                           | 99%                                                | 3                            |
| 8.  | Organics                              |                                                    |                              |
| 9.  | Nitrogen Oxides (as NO <sub>2</sub> ) |                                                    |                              |
| 10. | Sulfur Dioxide                        |                                                    |                              |
| 11. | Carbon Monoxide                       |                                                    |                              |
| 12. | Other:                                |                                                    |                              |
| 13. | Other:                                |                                                    |                              |

14.  Check box if this Abatement Device burns fuel; complete lines 1, 2 and 15-36 on Form C (using the Abatement Device No. above for the Source No.) and attach to this form.

15. With regard to air pollutant flow from this abatement device, what source(s), abatement device(s) and/or emission point(s) are **immediately** downstream?

S- \_\_\_\_\_ A- \_\_\_\_\_ A- \_\_\_\_\_ A- \_\_\_\_\_ P- 15 P- \_\_\_\_\_

Person completing this form: Chinghang (Candy) Tong Date: 1/26/2016



**Data Form A  
ABATEMENT DEVICE**

**BAY AREA AIR QUALITY MANAGEMENT DISTRICT**

939 Ellis Street . . . San Francisco, CA 94109 . . . (415) 749-4990 . . . FAX (415) 749-5030

for office use only

**Abatement Device:** Equipment/process whose primary purpose is to reduce the quantity of pollutant(s) emitted to the atmosphere.

1. Business Name: Schnitzer Steel Products Company Plant No: 208  
(If unknown, leave blank)
2. Name or Description Venturi Scrubber Abatement Device No: A- 12
3. Make, Model, and Rated Capacity Sly Venturi Scrubbers Model #12
4. Abatement Device Code (See table\*) 46 Date of Initial Operation \_\_\_\_\_
5. With regard to air pollutant flow into this abatement device, what source(s) and/or abatement device(s) are **immediately** upstream?  

|          |             |          |          |          |          |
|----------|-------------|----------|----------|----------|----------|
| S- _____ | S- _____    | S- _____ | S- _____ | S- _____ |          |
| S- _____ | A- <u>6</u> | A- _____ | A- _____ | A- _____ | A- _____ |
6. Typical gas stream temperature at inlet: 105 °F 027762

If this form is being submitted as part of an application for an **Authority to Construct**, completion of the following table is mandatory. If not, and the Abatement Device is *already in operation*, completion of the table is requested but not required.

|     | Pollutant                             | Weight Percent Reduction<br>(at typical operation) | Basis Codes<br>(See Table**) |
|-----|---------------------------------------|----------------------------------------------------|------------------------------|
| 7.  | Particulate                           | 99%                                                | 3                            |
| 8.  | Organics                              |                                                    |                              |
| 9.  | Nitrogen Oxides (as NO <sub>2</sub> ) |                                                    |                              |
| 10. | Sulfur Dioxide                        |                                                    |                              |
| 11. | Carbon Monoxide                       |                                                    |                              |
| 12. | Other:                                |                                                    |                              |
| 13. | Other:                                |                                                    |                              |

14.  Check box if this Abatement Device burns fuel; complete lines 1, 2 and 15-36 on Form C (using the Abatement Device No. above for the Source No.) and attach to this form.
15. With regard to air pollutant flow from this abatement device, what source(s), abatement device(s) and/or emission point(s) are **immediately** downstream?  

|          |          |          |          |              |          |
|----------|----------|----------|----------|--------------|----------|
| S- _____ | A- _____ | A- _____ | A- _____ | P- <u>15</u> | P- _____ |
|----------|----------|----------|----------|--------------|----------|

|                                                            |                        |
|------------------------------------------------------------|------------------------|
| Person completing this form: <u>Chinghang (Candy) Tong</u> | Date: <u>1/26/2016</u> |
|------------------------------------------------------------|------------------------|



Data Form A  
ABATEMENT DEVICE

**BAY AREA AIR QUALITY MANAGEMENT DISTRICT**

375 Beale Street, Suite 600 . . . San Francisco, CA 94105 . . . (415) 749-4990 . . . Fax (415) 749-5030

for office use only

**Abatement Device:** Equipment/process whose primary purpose is to reduce the quantity of pollutant(s) emitted to the atmosphere.

1. Business Name: Schmitzer Steel Products Company Plant No: 208  
(If unknown, leave blank)
2. Name or Description: Water Spray Abatement Device No: A-13
3. Make, Model, and Rated Capacity: -
4. Abatement Device Code (See table\*): 68 Date of Initial Operation: New
5. With regard to air pollutant flow into this abatement device, what source(s) and/or abatement device(s) are **immediately** upstream?  
 S- 11    S- \_\_\_\_\_    S- \_\_\_\_\_    S- \_\_\_\_\_    S- \_\_\_\_\_  
 S- \_\_\_\_\_    A- \_\_\_\_\_    A- \_\_\_\_\_    A- \_\_\_\_\_    A- \_\_\_\_\_    A- \_\_\_\_\_
6. Typical gas stream temperature at inlet: 106 °F

If this form is being submitted as part of an application for an **Authority to Construct**, completion of the following table is mandatory. If not, and the Abatement Device is *already in operation*, completion of the table is requested but not required.

| Pollutant                                | Weight Percent Reduction<br>(at typical operation) | Basis Codes<br>(See Table**) |
|------------------------------------------|----------------------------------------------------|------------------------------|
| 7. Particulate                           | <del>0.00%</del> <u>50</u>                         | <u>8</u>                     |
| 8. Organics                              |                                                    |                              |
| 9. Nitrogen Oxides (as NO <sub>2</sub> ) |                                                    |                              |
| 10. Sulfur Dioxide                       |                                                    |                              |
| 11. Carbon Monoxide                      |                                                    |                              |
| 12. Other:                               |                                                    |                              |
| 13. Other:                               |                                                    |                              |

14.  Check box if this Abatement Device burns fuel; complete lines 1, 2 and 15-36 on Form C (using the Abatement Device No. above for the Source No.) and attach to this form.
15. With regard to air pollutant flow from this abatement device, what source(s), abatement device(s) and/or emission point(s) are **immediately** downstream?  
 S- \_\_\_\_\_    A- 14    A- \_\_\_\_\_    A- \_\_\_\_\_    P- \_\_\_\_\_    P- \_\_\_\_\_

Person completing this form: \_\_\_\_\_ Date: \_\_\_\_\_

(revised 4/12/16)



**Data Form A  
ABATEMENT DEVICE**

**BAY AREA AIR QUALITY MANAGEMENT DISTRICT**

939 Ellis Street . . . San Francisco, CA 94109 . . . (415) 749-4990 . . . FAX (415) 749-5030

|  |  |
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|--|--|

for office use only

**Abatement Device:** Equipment/process whose primary purpose is to reduce the quantity of pollutant(s) emitted to the atmosphere.

1. Business Name: Schnitzer Steel Products Company Plant No: 208  
(If unknown, leave blank)

2. Name or Description Joint Products Plant - Baghouse Abatement Device No: A- 13 14

3. Make, Model, and Rated Capacity Custom--50 Tons per Hour

4. Abatement Device Code (See table\*) 8 Date of Initial Operation TBD

5. With regard to air pollutant flow into this abatement device, what sources(s) and/or abatement device(s) are **immediately** upstream?

S- 11 S- \_\_\_\_\_ S- \_\_\_\_\_ S- \_\_\_\_\_ S- \_\_\_\_\_  
 S- \_\_\_\_\_ A- 13 A- \_\_\_\_\_ A- \_\_\_\_\_ A- \_\_\_\_\_ A- \_\_\_\_\_

6. Typical gas stream temperature at inlet: 68 °F (Ambient Temperature)

If this form is being submitted as part of an application for an **Authority to Construct**, completion of the following table is mandatory. If not, and the Abatement Device is *already in operation*, completion of the table is requested but not required.

|     | Pollutant                             | Weight Percent Reduction<br>(at typical operation) | Basis Codes<br>(See Table**) |
|-----|---------------------------------------|----------------------------------------------------|------------------------------|
| 7.  | Particulate                           | 99%                                                | 3                            |
| 8.  | Organics                              |                                                    |                              |
| 9.  | Nitrogen Oxides (as NO <sub>2</sub> ) |                                                    |                              |
| 10. | Sulfur Dioxide                        |                                                    |                              |
| 11. | Carbon Monoxide                       |                                                    |                              |
| 12. | Other:                                |                                                    |                              |
| 13. | Other:                                |                                                    |                              |

14.  Check box if this Abatement Device burns fuel; complete lines 1, 2 and 15-36 on Form C (using the Abatement Device No. above for the Source No.) and attach to this form.

15. With regard to air pollutant flow from this abatement device, what sources(s), abatement device(s) and/or emission point(s) are **immediately** downstream?

S- \_\_\_\_\_ A- \_\_\_\_\_ A- \_\_\_\_\_ A- \_\_\_\_\_ P- 14 13 P- \_\_\_\_\_

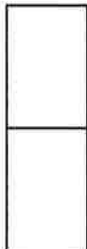
|                                                    |                        |
|----------------------------------------------------|------------------------|
| Person completing this form: <u>Chinghang Tong</u> | Date: <u>4/19/2016</u> |
|----------------------------------------------------|------------------------|

P:www\FormA (revised: 7/99)

**DATA FORM P**  
Emission Point

**BAY AREA AIR QUALITY MANAGEMENT DISTRICT**

375 Beale Street, Suite 600, San Francisco, CA 94105 . . . (415) 749-4990 . . . Fax (415) 749-5030



Form P is for well-defined emission points such as stacks or chimneys only; do not use for windows, room vents, etc.

Business Name: Schnitzer Steel Products Company Plant No: 208

Emission Point No: P- 11 15

With regard to air pollutant flow into this emission point, what sources(s) and/or abatement device(s) are **immediately** upstream?

S- \_\_\_\_\_ S- \_\_\_\_\_ S- \_\_\_\_\_ S- \_\_\_\_\_ S- \_\_\_\_\_  
 S- \_\_\_\_\_ A- 11 A- 12 A- \_\_\_\_\_ A- \_\_\_\_\_ A- \_\_\_\_\_

Exit cross-section area: 33 sq. ft. Height above grade: 60 ft.

**Effluent Flow from Stack**

|                                | <i>Typical Operating Condition</i> |       | <i>Maximum Operating Condition</i> |       |
|--------------------------------|------------------------------------|-------|------------------------------------|-------|
| <i>Actual Wet Gas Flowrate</i> | 150,000                            | cfm   | 150,000                            | cfm   |
| <i>Percent Water Vapor</i>     | Saturated                          | Vol % | Saturated                          | Vol % |
| <i>Temperature</i>             | 105                                | °F    | 105                                | °F    |

If this stack is equipped to measure (monitor) the emission of any air pollutants,

Is monitoring continuous?  yes  no

What pollutants are monitored? \_\_\_\_\_

Person completing this form Chinghang (Candy) Tong Date 10/18/2016

(revised 4/12/16)

**DATA FORM P**  
**Emission Point**

**BAY AREA AIR QUALITY MANAGEMENT DISTRICT**

939 Ellis Street . . . San Francisco, CA . . . 94109 . . . (415) 749-4990 . . . Fax (415) 749-5030

Form P is for well-defined emission points such as stacks or chimneys only; do not use for windows, room vents, etc.

Business Name: Schnitzer Steel Products Company Plant No: 208

Emission Point No: P- ~~13~~ 14

With regard to air pollutant flow into this emission point, what source(s) and/or abatement device(s) are **immediately** upstream?

S- \_\_\_\_\_ S- \_\_\_\_\_ S- \_\_\_\_\_ S- \_\_\_\_\_ S- \_\_\_\_\_  
 S- \_\_\_\_\_ A- ~~13~~ 14 A- \_\_\_\_\_ A- \_\_\_\_\_ A- \_\_\_\_\_ A- \_\_\_\_\_

Exit cross-section area: 64 sq. ft. Height above grade: 60 ft.

**Effluent Flow from Stack**

|                                | <i>Typical Operating Condition</i>   | <i>Maximum Operating Condition</i>   |
|--------------------------------|--------------------------------------|--------------------------------------|
| <i>Actual Wet Gas Flowrate</i> | 300,000 cfm                          | 300,000 cfm                          |
| <i>Percent Water Vapor</i>     | 2 Vol %                              | 2 Vol %                              |
| <i>Temperature</i>             | <del>Ambient temperature</del> 70 °F | <del>Ambient temperature</del> 90 °F |

If this stack is equipped to measure (monitor) the emission of any air pollutants,

Is monitoring continuous?  yes  no

What pollutants are monitored? \_\_\_\_\_

Person completing this form Chinghang Tong Date 4/19/2016



**Data Form A  
ABATEMENT DEVICE**

**BAY AREA AIR QUALITY MANAGEMENT DISTRICT**

939 Ellis Street . . . San Francisco, CA 94109 . . . (415) 749-4990 . . . Fax (415) 749-5030

|  |  |
|--|--|
|  |  |
|--|--|

for office use only

**Abatement Device:** Equipment/process whose primary purpose is to reduce the quantity of pollutant(s) emitted to the atmosphere.

1. Business Name: Schnitzer Steel Products Company Plant No: 208  
(If unknown, leave blank)
2. Name or Description Venturi Scrubber Abatement Device No: A- 11
3. Make, Model, and Rated Capacity Sly Venturi Scrubbers Model #12
4. Abatement Device Code (See table\*) 46 Date of Initial Operation New
5. With regard to air pollutant flow into this abatement device, what sources(s) and/or abatement device(s) are **immediately** upstream? 027762  

|             |          |          |          |          |          |
|-------------|----------|----------|----------|----------|----------|
| S- <u>6</u> | S- _____ | S- _____ | S- _____ | S- _____ | S- _____ |
| S- _____    | A- _____ | A- _____ | A- _____ | A- _____ | A- _____ |
6. Typical gas stream temperature at inlet: 105 °F

If this form is being submitted as part of an application for an **Authority to Construct**, completion of the following table is mandatory. If not, and the Abatement Device is *already in operation*, completion of the table is requested but not required.

|     | Pollutant                             | Weight Percent Reduction<br>(at typical operation) | Basis Codes<br>(See Table**) |
|-----|---------------------------------------|----------------------------------------------------|------------------------------|
| 7.  | Particulate                           | 99%                                                | 3                            |
| 8.  | Organics                              |                                                    |                              |
| 9.  | Nitrogen Oxides (as NO <sub>2</sub> ) |                                                    |                              |
| 10. | Sulfur Dioxide                        |                                                    |                              |
| 11. | Carbon Monoxide                       |                                                    |                              |
| 12. | Other:                                |                                                    |                              |
| 13. | Other:                                |                                                    |                              |

14.  Check box if this Abatement Device burns fuel; complete lines 1, 2 and 15-36 on Form C (using the Abatement Device No. above for the Source No.) and attach to this form.
15. With regard to air pollutant flow from this abatement device, what sources(s), abatement device(s) and/or emission point(s) are **immediately** downstream?

S- \_\_\_\_\_ A- \_\_\_\_\_ A- \_\_\_\_\_ A- \_\_\_\_\_ P- 11 P- \_\_\_\_\_

|                                                            |                        |
|------------------------------------------------------------|------------------------|
| Person completing this form: <u>Chinghang (Candy) Tong</u> | Date: <u>1/26/2016</u> |
|------------------------------------------------------------|------------------------|



**Data Form A  
ABATEMENT DEVICE**

**BAY AREA AIR QUALITY MANAGEMENT DISTRICT**

939 Ellis Street . . . San Francisco, CA 94109 . . . (415) 749-4990 . . . FAX (415) 749-5030

for office use only

**Abatement Device:** Equipment/process whose primary purpose is to reduce the quantity of pollutant(s) emitted to the atmosphere.

1. Business Name: Schnitzer Steel Products Company Plant No: 208  
(If unknown, leave blank)

2. Name or Description Venturi Scrubber Abatement Device No: A- 12

3. Make, Model, and Rated Capacity Sly Venturi Scrubbers Model #12

4. Abatement Device Code (See table\*) 46 Date of Initial Operation New

5. With regard to air pollutant flow into this abatement device, what sources(s) and/or abatement device(s) are **immediately** upstream?

027762

S- 6      S- \_\_\_\_\_      S- \_\_\_\_\_      S- \_\_\_\_\_      S- \_\_\_\_\_  
 A- \_\_\_\_\_      A- \_\_\_\_\_      A- \_\_\_\_\_      A- \_\_\_\_\_      A- \_\_\_\_\_

6. Typical gas stream temperature at inlet: 105 °F

If this form is being submitted as part of an application for an **Authority to Construct**, completion of the following table is mandatory. If not, and the Abatement Device is *already in operation*, completion of the table is requested but not required.

|     | Pollutant                             | Weight Percent Reduction<br>(at typical operation) | Basis Codes<br>(See Table**) |
|-----|---------------------------------------|----------------------------------------------------|------------------------------|
| 7.  | Particulate                           | 99%                                                | 3                            |
| 8.  | Organics                              |                                                    |                              |
| 9.  | Nitrogen Oxides (as NO <sub>2</sub> ) |                                                    |                              |
| 10. | Sulfur Dioxide                        |                                                    |                              |
| 11. | Carbon Monoxide                       |                                                    |                              |
| 12. | Other:                                |                                                    |                              |
| 13. | Other:                                |                                                    |                              |

14.  Check box if this Abatement Device burns fuel; complete lines 1, 2 and 15-36 on Form C (using the Abatement Device No. above for the Source No.) and attach to this form.

15. With regard to air pollutant flow from this abatement device, what sources(s), abatement device(s) and/or emission point(s) are **immediately** downstream?

S- \_\_\_\_\_ A- \_\_\_\_\_ A- \_\_\_\_\_ A- \_\_\_\_\_ P- 11 P- \_\_\_\_\_

Person completing this form: Chinghang (Candy) Tong Date: 1/26/2016

P:\www\FormA (revised: 7/99)

**DATA FORM P**  
**Emission Point**

**BAY AREA AIR QUALITY MANAGEMENT DISTRICT**

375 Beale Street, Suite 600, San Francisco, CA 94105 . . . (415) 749-4990 . . . Fax (415) 749-5030



Form P is for well-defined emission points such as stacks or chimneys only; do not use for windows, room vents, etc.

Business Name: Schnitzer Steel Products Company Plant No: 208

Emission Point No: P- 11

With regard to air pollutant flow into this emission point, what sources(s) and/or abatement device(s) are **immediately** upstream?

S- \_\_\_\_\_ S- \_\_\_\_\_ S- \_\_\_\_\_ S- \_\_\_\_\_ S- \_\_\_\_\_  
S- \_\_\_\_\_ A- 11 A- 12 A- \_\_\_\_\_ A- \_\_\_\_\_ A- \_\_\_\_\_

Exit cross-section area: 33 sq. ft.

Height above grade: 60 ft.

**Effluent Flow from Stack**

|                                | <i>Typical Operating Condition</i> |       | <i>Maximum Operating Condition</i> |       |
|--------------------------------|------------------------------------|-------|------------------------------------|-------|
| <i>Actual Wet Gas Flowrate</i> | 150,000                            | cfm   | 150,000                            | cfm   |
| <i>Percent Water Vapor</i>     | Saturated                          | Vol % | Saturated                          | Vol % |
| <i>Temperature</i>             | 105                                | °F    | 105                                | °F    |

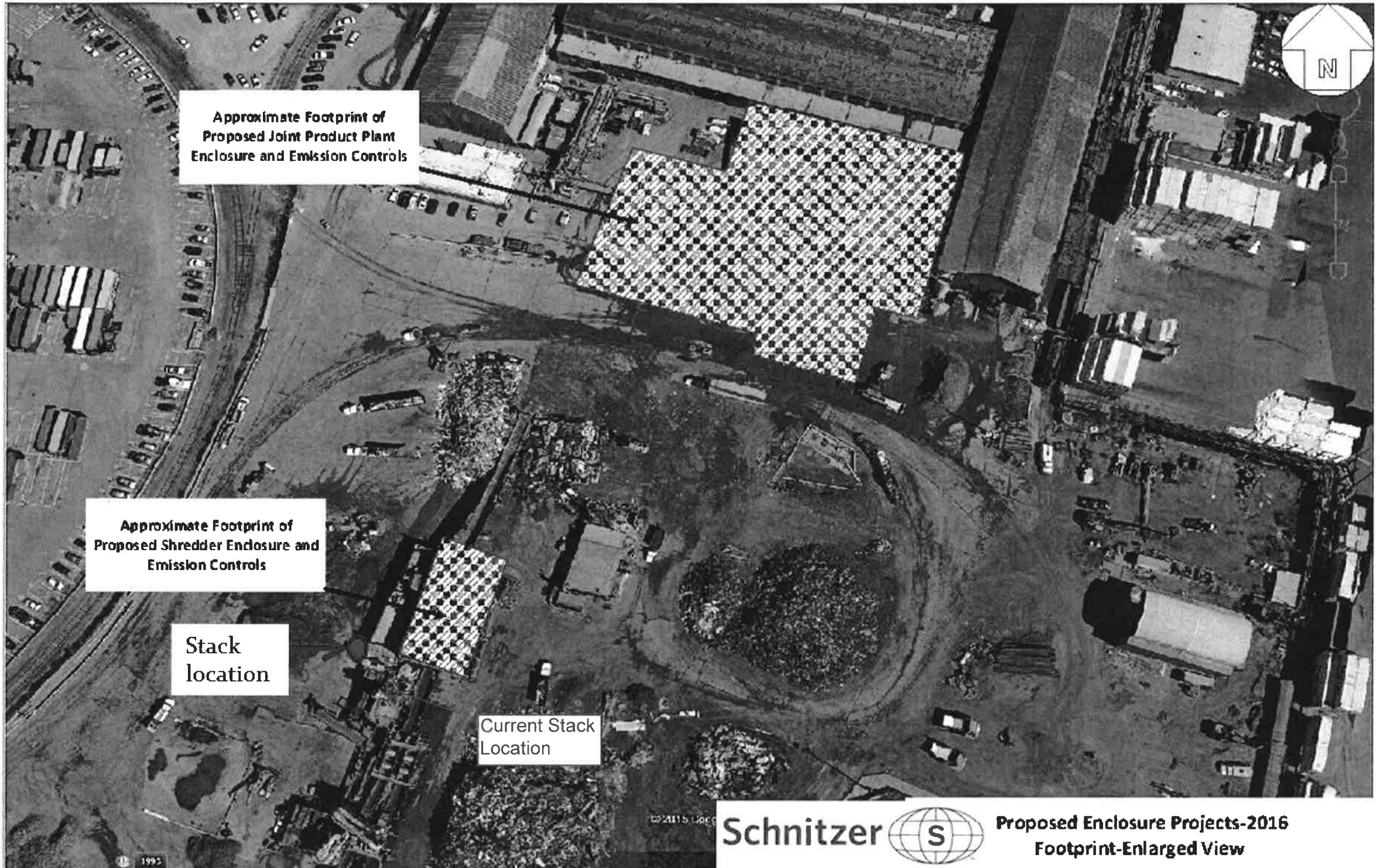
If this stack is equipped to measure (monitor) the emission of any air pollutants,

Is monitoring continuous?  yes  no

What pollutants are monitored? \_\_\_\_\_

Person completing this form Chinghang (Candy) Tong Date 10/18/2016

(revised 4/12/16)



Approximate Footprint of  
Proposed Joint Product Plant  
Enclosure and Emission Controls

Approximate Footprint of  
Proposed Shredder Enclosure and  
Emission Controls

Stack  
location

Current Stack  
Location

## **Appendix B**

Facility and Project Locations



Proposed Enclosure Projects-2016  
Vicinity Map



Approximate Footprint of  
Proposed Joint Product Plant  
Enclosure and Emission Controls

Approximate Footprint of  
Proposed Shredder Enclosure and  
Emission Controls

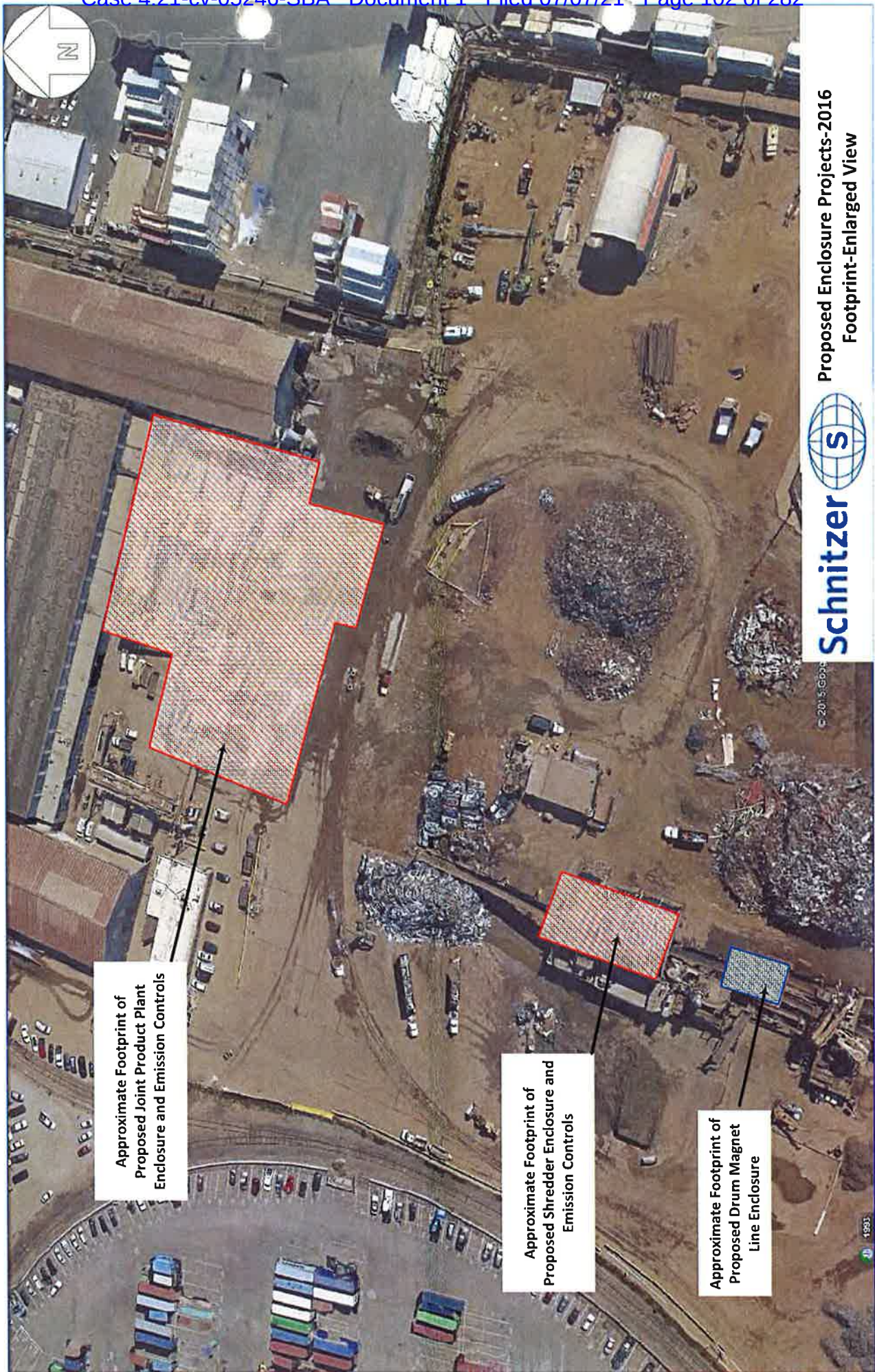
Approximate Footprint of  
Proposed Drum Magnet  
Line Enclosure



Proposed Enclosure Projects-2016  
Footprint-Vicinity View

© 2015 Google

1993



Approximate Footprint of Proposed Joint Product Plant Enclosure and Emission Controls

Approximate Footprint of Proposed Shredder Enclosure and Emission Controls

Approximate Footprint of Proposed Drum Magnet Line Enclosure

Proposed Enclosure Projects-2016  
Footprint-Enlarged View



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## **Appendix C**

Equipment Information of the Proposed PM Emission Controls for the Shredder

**Appendix D**

TRADE SECRET

Engineering Drawings of the Shredder Enclosure

# Venturi Scrubbers



## Collect Ultrafine Particles & Mists

The Venturi Scrubber uses the differential between high velocity gases and free-flowing water to create droplets which entrap contaminants, hold them in suspension and deliver them as a slurry.

## Unsurpassed for Separating and Recovering Liquid Mists and Ultrafine Particulate

Simple in design, yet highly efficient, the Sly Venturi Scrubber incorporates features proven to maximize collection efficiency while minimizing operating and maintenance costs. The Sly Venturi Scrubber offers a non-plugging, trouble-free method of introducing scrubbing liquid, a simple, easily-adjusted throat for optimizing efficiency, and a flooded elbow arrangement that collects agglomerated particulate while providing an abrasion-resistant barrier to deter scrubber wear.

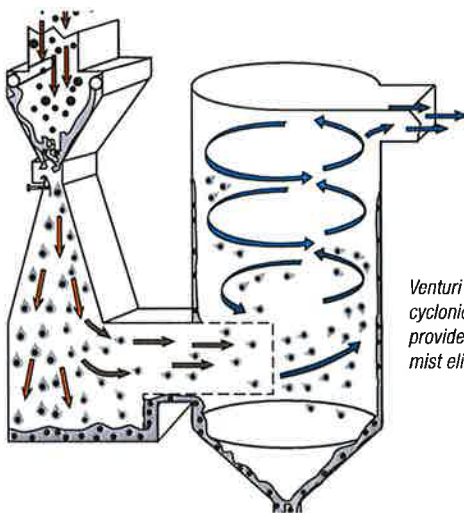
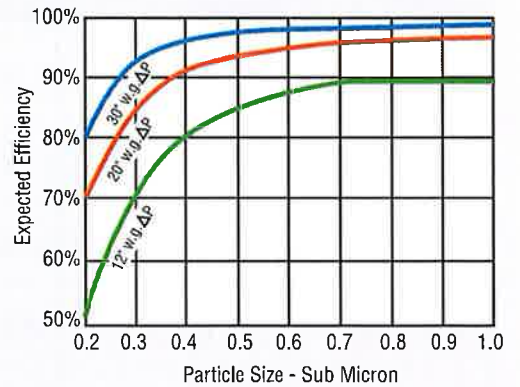
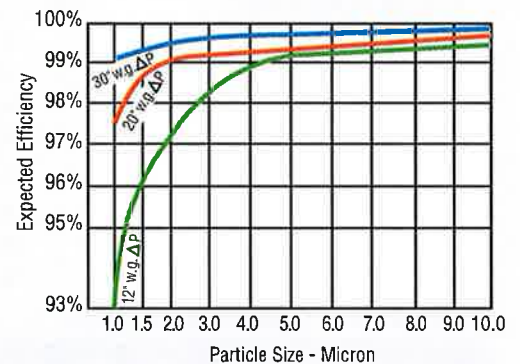
## Cleans and Reclaims

The Sly Venturi Scrubber removes pollutants present in process gas streams. This includes removing hazardous and nuisance dusts, fumes and mists from stack gases.

## Highlights

- Handles combustible dusts safely, without modifications
- Collects fine particles & mists
- Adjustable throat permits fine-tuning to maximize efficiency
- High efficiencies for sub-micron particulate
- Water requirements are typically 8 GPM per 1000 CFM
- Capacities from 1500 to 150,000 CFM
- Pressure drops from 12" w.g. to 40" w.g.
- Emission warranties available

## Sly Venturi Scrubber Efficiencies



*Venturi is coupled with a cyclonic separator which provides non-clogging mist elimination.*

# Venturi Scrubbers

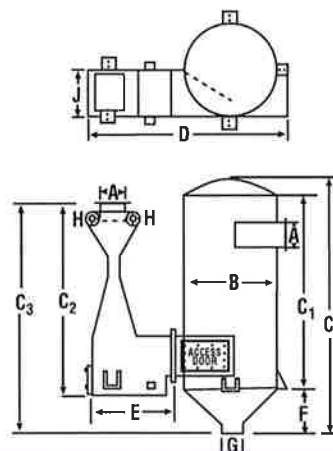


## Standard Equipment

- Wetted approach inlet
- Removable liquid distributors (no spray nozzles used)
- Manually adjustable throat
- Flooded elbow
- Adjustable cyclonic spin damper
- Access doors (bolted)
- Carbon steel/stainless steel construction

## Optional Equipment and Features

- Stainless steel, high alloy, FRP or plastic construction
- Combination units (Venturi/packed tower) available
- Auto adjustable throat positioner
- Quick opening doors
- Recirculation tanks
- Pumps
- Exhaust fans
- Instruments



## Venturi Scrubber Capacities & Dimensions

| Size | Nominal Capacity Sat. CFM | Inlet & Outlet A | Sep. Dia. B | Sep. C <sub>1</sub> | Vent C <sub>2</sub> | Vent C <sub>3</sub> | Sep C <sub>4</sub> | Overall Width D | Venturi Width E | Sep. Cone F | Drain Pipe G | Water Pipe H | Venturi Depth J |
|------|---------------------------|------------------|-------------|---------------------|---------------------|---------------------|--------------------|-----------------|-----------------|-------------|--------------|--------------|-----------------|
| 0.5  | 1,500/2,600               | 10x10            | 2'-2"       | 4'-4"               | 5'-8"               | * 6'-0"             | 5'-2"              | 5'-6"           | 2'-4"           | 10"         | 2"           | 2"           | 11"             |
| 1    | 2,600/3,600               | 13x13            | 3'-8"       | 6'-6"               | 6'-6"               | 7'-3"               | 7'-10"             | 6'-8"           | 2'-4"           | 1'-4"       | 3"           | 2"           | 1'-5"           |
| 2    | 3,600/4,700               | 15x15            | 4'-1"       | 7'-2"               | 6'-9"               | 7'-7"               | 8'-7"              | 7'-3"           | 2'-6"           | 1'-5"       | 4"           | 2"           | 1'-5"           |
| 3    | 4,700/6,300               | 17x17            | 4'-8"       | 8'-2"               | 7'-3"               | 8'-3"               | 9'-9"              | 8'              | 2'-11"          | 1'-7"       | 4"           | 2"           | 1'-9"           |
| 4    | 6,300/8,500               | 20x20            | 5'-3"       | 9'-1"               | 7'-9"               | 8'-11"              | 10'-10"            | 8'-11"          | 3'-2"           | 1'-9"       | 4"           | 2"           | 1'-9"           |
| 5    | 8,500/11,500              | 23x23            | 5'-11"      | 10'-4"              | 8'-10"              | 10'-2"              | 12'-4"             | 9'-11"          | 3'-7"           | 2'          | 6"           | 3"           | 2'-4"           |
| 6    | 11,500/15,000             | 26x26            | 6'-7"       | 12'-1"              | 9'-7"               | 11'-1"              | 14'-3"             | 11'             | 3'-11"          | 2'-2"       | 6"           | 3"           | 2'-4"           |
| 7    | 15,000/20,000             | 30x30            | 7'-5"       | 14'-1"              | 11'-4"              | 13'-1"              | 16'-6"             | 12'-6"          | 4'-9"           | 2'-5"       | 6"           | 4"           | 3'-1"           |
| 8    | 20,000/27,000             | 35x35            | 8'-4"       | 16'-5"              | 11'-11"             | 14'-2"              | 19'-3"             | 13'-8"          | 5'-1"           | 2'-10"      | 8"           | 4"           | 3'-1"           |
| 9    | 27,000/36,000             | 40x40            | 9'-4"       | 19'-0"              | 14'-7"              | 16'-11"             | 21'-11"            | 15'-8"          | 6'-1"           | 2'-11"      | 8"           | 4"           | 4'-5"           |
| 10   | 36,000/48,000             | 46x46            | 10'-6"      | 22'-1"              | 15'-4"              | 18'-1"              | 25'-5"             | 17'-3"          | 6'-6"           | 3'-4"       | 10"          | 6"           | 4'-5"           |
| 11   | 48,000/60,000             | 52x52            | 11'-10"     | 25'-7"              | 17'-6"              | 20'-7"              | 29'-3"             | 19'-4"          | 7'-5"           | 3'-8"       | 10"          | 6"           | 5'-10"          |
| 12   | 60,000/76,000             | 58x58            | 13'-4"      | 28'-5"              | 17'-7"              | 20'-9"              | 32'-7"             | 21'-1"          | 7'-5"           | 4'-2"       | 12"          | 6"           | 6'-6"           |

\*Note: Dimension "Vent C<sub>3</sub>" for Size 0.5 only represents the overall height of the scrubber system. For all other systems, dimension "Sep. C<sub>4</sub>" represents the overall height.



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**Appendix E**

TRADE SECRET

Emission Calculations

*[REDACTED]*





PUBLIC COPY



**Application for an  
Authority to Construct and a  
Permit to Operate for Upgraded  
Emission Control Systems at the  
Shredder**

**Oakland, CA**

prepared for:

**Schnitzer Steel Industries, Inc.**

February 2016

prepared by:

Sierra Research  
1801 J Street  
Sacramento, California 95811  
(916) 444-6666



PUBLIC COPY

**Application for an Authority to Construct and a  
Permit to Operate for Upgraded  
Emission Control Systems  
Oakland, CA**

prepared for:

Schnitzer Steel Industries, Inc.  
1101 Embarcadero West; Oakland, CA

February, 2016

Sierra Research  
1801 J Street  
Sacramento, CA 95811  
(916) 444-6666

**Application for an Authority to Construct and a Permit to Operate for  
Upgraded Emission Control Systems at  
Schnitzer Steel Industries, Inc.  
1101 Embarcadero West; Oakland, CA**

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---

## I. SUMMARY

Schnitzer Steel Industries, Inc. (Schnitzer Steel) requests an Authority to Construct (ATC) and Permit to Operate (PTO) from the Bay Area Air Quality Management District (District) for the installation of upgraded emission control equipment at its metal shredder located at 1101 Embarcadero West; Oakland, CA. The proposed upgraded emission control equipment includes an enclosure and two venturi scrubbers.

The project will reduce PM emissions and will not affect emissions of other pollutants. The new control device is subject to permit review per BAAQMD Rule 2-1-301. Since there will be no increase in emissions, the project is not subject to District Best Available Control Technology (BACT), offset, or risk assessment requirements. For the same reason, the project is not subject to federal Maximum Achievable Control Technology (MACT) or Prevention of Significant Deterioration (PSD) requirements. The proposed upgraded emission control system for the shredder will be operated to minimize visible emissions and will comply with Regulation 6.

## II. PROJECT DESCRIPTION

Schnitzer Steel Industries, Inc. (Schnitzer Steel) operates a scrap metal recovery, shredding, and recycling business in Oakland, California (Oakland facility). To further control emissions from the shredder and the Joint Products Plant (JPP), Schnitzer Steel is proposing to install the following upgraded emission control systems at the Oakland facility:

- Upgraded emission control equipment at the shredder;
- New particulate matter (PM) emission control equipment at the Joint Product Plant (JPP); and
- A small floorless building over the shredder's magnetic drum separators.

Moreover, Schnitzer Steel will remove the existing emergency standby diesel generator set from the facility.

The installation of the upgraded emission control equipment at the JPP will qualify for the exemption under BAAQMD Rule 2-1-115 Section 1.4, and the installation of the small floorless building at the magnetic separators will qualify for the exemption under BAAQMD Rule 2-1-113.2.3. An analysis supporting these exemptions is being submitted to the District under separate cover.

---

Schnitzer Steel is submitting this application requesting an Authority to Construct (ATC) and Permit to Operate (PTO) from the District for the installation of upgraded emission abatement devices at the Oakland facility shredder. No application is required for the construction of the JPP emission control equipment or the floorless building over the magnetic drum separators.

Permit application forms for the proposed emission control system upgrade for the shredder are included as Appendix A. We are also including a check for \$1,418, for the filing fee and initial fee.<sup>1</sup>

---

<sup>1</sup> Since there is no expected increase in TAC/HAP emissions from the proposed upgraded abatement devices, a risk screening fee and toxic surcharges are not applicable, and the abatement devices are exempt from PTO fees.

A. Applicant's Name and Business Description

Name of Applicant: Schnitzer Steel Industries, Inc. dba Schnitzer Steel Products Company

Mailing Address: P.O. Box 747  
Oakland, CA 94604

Facility Location: 1101 Embarcadero West  
Oakland, CA 94607

General Business: Metal Recycling

Submitting Officials: Bruce Rieser  
Regional Director

and

Scott B. Sloan  
Vice President – Environmental  
Schnitzer Steel Industries  
(425) 420-1863

Facility Operator: Schnitzer Steel Industries, Inc.

Estimated  
Construction Date: Upon the issuance of permit

B. Type of Application

This is an application for an Authority to Construct (ATC) and Permit to Operate (PTO) for upgraded emission abatement devices for the shredder at the Oakland facility.

### III. BACKGROUND

Recyclable material comprised of heavy iron, auto bodies, appliances, and other light iron is delivered to the Oakland facility by both rail and truck at the main commercial entrances where it is inspected and sorted. There are also small quantities of scrap metal delivered through the “Peddler Entrance” used for smaller vehicles.

At the shredder, material consisting of light iron products, including auto bodies, appliances, and other recyclable light steel materials, are shredded. Shredded material is then carried by conveyor under magnetized drums which attract the ferrous materials and separate them from the nonferrous materials. The remaining intermediate non-ferrous stream is known as non-ferrous raw (NFR), and consists of both non-ferrous metal and non-metallic materials. The NFR is transferred to the Joint Products Plant (JPP) where non-ferrous metal is further sorted, by metal type, from non-metallic materials. The non-metallic residue from the JPP is treated with chemicals and shipped offsite for use as alternate daily landfill cover.

In addition to bulk scrap metal, recyclable material consisting of non-bulk ferrous/nonferrous metal scrap is also received at the Oakland facility at the Peddler Gate. Material received at the peddler gate is inspected, weighed, sorted, and segregated by hand into bins by scrap type, and is baled at the non-ferrous recovery building and/or stored in cargo containers for transport by truck offsite.

Major operations at the Oakland facility include the following:

- Shredding of light iron products, including auto bodies, appliances, and other recyclable light steel materials, at the shredder;
- Preparation and sorting of NFR at the JPP;
- Re-sizing of heavy steel products not suitable for processing in the shredder
- Temporary storage and transfer of finished recycled metal products and shredder residue into various storage piles; and
- Shipment of material offsite via ship and truck.

#### A. Proposed Modifications at the Oakland Facility

To more effectively control emissions from the shredder and the JPP, Schnitzer Steel has proposed to install the following upgraded and additional emission control systems at the Oakland facility:

- Upgraded emission control equipment at the shredder;
- New emission control equipment at the JPP; and
- A small floorless building over the shredder’s magnetic drum separators.

Figures showing the locations of the proposed new and upgraded structures are included in Appendix B. In addition to the new installations mentioned above, Schnitzer Steel will remove the existing emergency diesel generator set from the Oakland facility.

## B. Equipment and Process Description

### 1. Shredder

Schnitzer Steel installed the shredder at the Oakland facility in 2006, and it became operational on November 1, 2006. The initial PTO for the shredder was issued by the District on April 26, 2007. The initial PTO requires operation of the existing emission control system which utilizes a fan and ducting to vent emissions directly from the shredder hammermill box. Vented emissions are controlled using a wet scrubber, mist eliminator and moving belt dry filtering system. Schnitzer Steel submitted an application to the BAAQMD on September 14, 2007,<sup>2</sup> requesting that the throughput limit of the shredder be increased to 720,000 tons (in any calendar year).<sup>3</sup>

The shredder (S6) uses multiple steel alloy hammers that are rotated by an electric motor and impacted against the material to be shredded. Water is injected into the shredder to control the heat generated as well as to reduce emissions. The emissions from the shredder are captured by an exhaust system placed at the shredder hammer mill box. The collected air passes through a wet scrubber (A3), a mist eliminator (A5), and a moving belt dry filtering system (A4) before being emitted to atmosphere via a vertical stack (P1). The associated infeed conveyor (S7) is an electric-powered conveyor system that is loaded with infeed material by manually operated cranes; the infeed material is fed into the shredder at a regulated mass rate. Fugitive emissions due to material handling at the infeed conveyor to the shredder are abated by water spraying

#### *Installation of New PM Emission Control Equipment at the Shredder*

Currently, the shredder is almost completely surrounded by a steel frame constructed of iron beams. The proposed emission control system upgrade for the shredder includes the components described below; an engineering drawing of the proposed shredder enclosure and the specification of the Venturi scrubbers are also included in Appendix C.

- **Enclosure:** An enclosure will be completed by installing additional I-beams on the existing steel frame to fully surround the shredder; the steel frame will be covered with metal siding to create an enclosure that will fully surround the shredder.
- **Upgraded Emission Control Devices:** A capture and control system consisting of metal ducting, two electric vacuum blowers, and two venturi scrubbers. The shredder enclosure building will operate at a negative pressure as a result of a total system air flow rate of up to 150,000 cubic feet per minute (cfm). Targeted air collection hoods will be installed and positioned within the enclosure to extract air from within the enclosure and remove fugitive emissions prior to discharging clean air via the stack.

<sup>2</sup> CEQA Initial Study, Modification of Schnitzer Steel Products Co. Permit to Operate Plant #208 (Permit Application #16721, BAAQMD, 12/4/2008, see <http://www.baaqmd.gov/Divisions/Engineering/Public-Notices-on-Permits/2009/011509-16721/Schnitzer-Steel-Products-Company.aspx>).

<sup>3</sup> BAAQMD Permit to Operate (PTO) for Schnitzer Steel Products Company (A0208), expires 11/1/2016.

The proposed emission control system described above will replace the current exhaust system and emission control equipment at the shredder, including the wet scrubber (A3), the mist eliminator (A5), the moving belt dry filtering system (A4), and the vertical stack (P1). However, the existing water spray system (A6) will remain to control the heat generated and fugitive emissions at the shredder hammermill box. The specification of the Venturi scrubbers is included in Appendix C; engineering drawings of the proposed new upgraded emission control system is included in Appendix D.

## 2. Magnetic Drum Separators

### *Installation of a small floorless building over the magnetic separators*

As described earlier, shredded material from the shredder is first carried by conveyor under magnetized drums where the bulk of the ferrous materials is separated from the nonferrous materials. A small floorless building will be constructed over the magnetic separators to reduce cross winds so that fugitive dust generated by the drum separators will be allowed to settle beneath the building.

Since the proposed small floorless building for the magnetic drum separators will not be an emission source and it will not affect the emissions from the magnetic drum separator (or any other equipment) at the Oakland facility, the proposed building for the magnetic separators will qualify for exemption under BAAQMD Rule 2-1-113.2.3.

## 3. Diesel Generator Set

### *Removal of the existing emergency diesel generator set*

The emergency diesel generator set (S9) was installed to provide emergency power to the facility in the case of power outage. The diesel generator engine is rated at 300 hp, and the operation of the emergency engine is limited to 20 hours per year for maintenance and other testing (excluding emission testing) purposes. However, the equipment has not been operated since 2012. Therefore, Schnitzer Steel will remove it from the facility.

## 4. Fly Ash Silo

The fly ash silo is abated by a pulse jet baghouse (A10), and the emissions from the fly ash silo are vented at a stack (P10). The throughput for the fly ash silo in the current permit is limited to 21,900 tons of fly ash in any consecutive 12-month period. The fly ash silo will continue to operate in accordance to the existing permit condition; no change is proposed for this equipment.

## 5. Joint Products Plant (JPP)

After the shredded material passes over magnets to separate ferrous and non-ferrous material, the NFR is routed into the existing JPP for further processing. At the JPP, the NFR is loaded onto a conveyor to trommels that split the NFR material into two material streams by size. The conveyor at the JPP is an electric-powered conveyor system, where the infeed material is loaded at the JPP at a regulated rate. Fugitive emissions due to

material handling at the conveyor to the JPP are abated by the initial moisture content of the NFR, water spraying, and process conveyor covers.

*Installation of New PM Emission Control Equipment at the JPP*

Currently, about 80% of the JPP processing equipment is located outdoors, and the remaining 20% of the JPP processing equipment is located within the southeastern portion of the facility's large warehouse. The proposed new emission control system will enclose the outdoor portion of the JPP. A building will be constructed to house the outdoor JPP equipment, and a PM capture and control system will be installed and integrated with the new building. The PM capture and control system is expected to resemble a standard ventilation system, but would operate under vacuum (extraction) conditions rather than to exhaust air. Air would be collected within the new building and routed to a baghouse to control PM.

The emission sources at the JPP qualify for the exemption under BAAQMD 2-1-115, and the proposed JPP enclosure includes only the JPP equipment (i.e., exempt emission sources), the proposed PM emission control systems for the JPP will be exempt from the permitting requirement pursuant to BAAQMD Rule 2-1-113 Section 2.4. A separate document containing the detailed analysis for the JPP will be submitted to BAAQMD separately<sup>4</sup>.

Section 301 of Rule 2-1 specifies that any facility installing non-exempt equipment that causes or controls the emission of air pollutants must first obtain an ATC from the District. Since the PM emission control equipment at the JPP and the magnetic drum separators is exempt, Schnitzer Steel is submitting this ATC application for the proposed upgraded emission control system for the shredder.

---

<sup>4</sup> A detailed analysis is provided in a separate submittal, *Proposed Emission Control for the Joint Products Plant, Schnitzer Steel Metal Recycling Facility, Oakland, California*, to be submitted to the BAAQMD.

## IV. EMISSION CALCULATIONS

### A. Criteria Pollutants

Emissions from the shredder include PM, volatile organic compounds (VOC), and toxic air contaminants (TACs)/hazardous air pollutants (HAPs). As discussed above, the initial Permit to Operate (PTO) for the shredder was issued by the District on April 26, 2007. Because no source test data were available for the S-6 Shredder at the time the permit was issued, the initial permitted emissions limits were based on emission factors for similar shredder operations obtained from a report prepared by Versar, Inc.<sup>5</sup> (Versar Report). In 2007, emission source tests were performed at the exhaust stack of the existing shredder emission control system at the Oakland facility to determine the emissions associated with this equipment (2007 Source Test).

As described above, the existing emission control system, with the exception of the water spray system within the shredder hammermill box (A6), will be replaced by the proposed upgraded emission control system. The proposed new upgraded emission control system is expected to operate at a significantly higher efficiency than the existing emission control system. Due to the significant improvement in the capture efficiency of the upgraded system, emissions that are currently released as fugitive emissions (and which were therefore not measured in the 2007 Source Test) will now be captured and may result in higher PM stack emissions than those measured in 2007 Source Test. However, this increase in capture efficiency will ensure that total shredder PM emissions (stack and fugitive) will not increase after the installation of the proposed upgraded emission control system. There will be no changes in the design, configuration, or operation of the shredder. In fact, there will be an overall reduction in shredder PM emissions, as the upgraded emission control system will collect and control previously uncontrolled fugitive emissions.

Schnitzer Steel certifies in this application that, for all pollutants, the proposed upgraded abatement system is as efficient as, or more efficient than, the existing abatement system being replaced [i.e., the wet scrubber (A3), a mist eliminator (A5), and a moving belt dry filtering system (A4)]. Due to the unique nature of the emission source and abatement system design, Schnitzer Steel proposes that the estimated PM emission data included in this application be re-evaluated based on the initial source testing that will be performed after the new emission control system is installed. Specifically, Schnitzer Steel proposes to conduct PM emission tests at the shredder prior to and after the installation of the proposed upgraded emission control system in order to provide a reliable estimate of the actual reduction in PM emissions associated with the new equipment. Proposed permit language related to this specific requirement is included in Section VI.

For the purposes of this application, Schnitzer proposes to use emission factors based on best engineering estimates and data from source tests at other similar facilities, as shown

---

<sup>5</sup> *Title V Applicability Workbook*, prepared by Versar, Inc. for the Institute of Scrap Recycling Industries, Inc. (ISRI), 1996.

in Table 1. Due to the unique nature of the emission source and abatement system design, Schnitzer Steel cannot provide an accurate estimate of total emissions (stack and fugitive) from the shredder at this time. However, the emission calculations presented in Tables 1 and 2 are based on best engineering estimates and available source test data from other similar facilities.

| <b>Table 1</b>                                                             |                                      |                                               |
|----------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|
| <b>Emission Calculations for the Shredder (S6) at the Oakland Facility</b> |                                      |                                               |
| <b>Pollutant</b>                                                           | <b>Emission Factors<br/>(lb/ton)</b> | <b>Annual Emissions<sup>a</sup><br/>(tpy)</b> |
| <b>Proposed Upgraded Abatement System</b>                                  |                                      |                                               |
| POC <sup>b</sup>                                                           | 0.08                                 | 28.80                                         |
| PM <sup>c,d</sup>                                                          | 0.0080                               | 2.88                                          |
| PM <sub>10</sub> <sup>d</sup>                                              | 0.0041                               | 1.47                                          |
| PM <sub>2.5</sub> <sup>d</sup>                                             | 0.0012                               | 0.43                                          |

- a. Annual emissions are calculated based on maximum annual throughput in BAAQMD PTO.
- b. Available POC emission factors range from 0.00137 lb/ton (Versar Report) to 0.247 lb/ton (“Draft Air Pollutant Permit-to-install and Operate” issued by the Ohio EPA to Omnisource Corp., 7/31/2008). The value provided is the best engineering estimate, reflecting a substantial amount of uncertainty due to shredder configuration and variability in the type of material shredded at the Oakland facility, and will be re-evaluated based on the initial source test after installation of the proposed upgraded emission control system.
- c. Available PM emission factors range from 0.00257 lb/ton (Versar Report) to 0.0192 lb/ton (source test data from a similar facility). The value provided is the best engineering estimate, and will be re-evaluated based on the initial source test after installation of the proposed upgraded emission control system.
- d. PM<sub>10</sub> and PM<sub>2.5</sub> emission factors are estimated based on the generalized particle size distribution, Category 3 of Appendix B.2, EPA AP-42. PM<sub>10</sub> is 51% of the total PM and PM<sub>2.5</sub> is 15% of the total PM.

#### B. Toxic Air Contaminants (TAC) Emission Calculations

TAC emissions from the shredder will remain the same, or will be reduced, after the installation of the proposed upgraded PM emission control system. Although TAC emission was also measured in the 2007 source test, TAC emissions from the shredder in this application were conservatively estimated using emission factors from the Versar Report since they were used in the permit review for the PTO of the shredder. Estimated TAC emissions are summarized in Table 2. Detailed emission calculations are included in Appendix E.

| Pollutant                           | Emission Factors <sup>a</sup><br>(lb/ton) | Emissions<br>(lb/year) |
|-------------------------------------|-------------------------------------------|------------------------|
| Total Chromium (Cr)                 | 1.37E-05                                  | 9.86                   |
| Chromium (VI) (Cr(VI)) <sup>b</sup> | 3.98E-07                                  | 0.29                   |
| Total PCBs                          | 8.74E-05                                  | 62.93                  |
| Benzene                             | 4.00E-04                                  | 288.00                 |
| TOTAL HAPs <sup>c</sup> (tpy)       |                                           | 0.18                   |

- a. Based on "Title V Applicability Workbook", prepared by Versar, Inc. for the Institute of Scrap Recycling Industries, Inc. (ISRI), 1996.
- b. Specific emission factor for Cr(VI) is not available in the Versar report. Cr(VI) is estimated to be 3% of the total Cr based on results in the report for the Initial Emission Compliance Test, Scrap Metal Shredder, Schnitzer Steel Products, Oakland, CA, by Avogadro Group, 3/28/2007.
- c. Pursuant to BAAQMD Rule 2-1-215, a pollutant is classified as a hazardous air pollutants (HAP) if is listed pursuant to Section 112(b) of the federal Clean Air Act. Chromium compounds, PCBs, and benzene are all classified as HAPs.

## V. COMPLIANCE WITH APPLICABLE REQUIREMENTS

Section 304 of Rule 2-1 (General Requirements) requires applicants to demonstrate compliance with applicable District, state, and federal requirements. District requirements applicable to the proposed PM emission control system for the shredder at the Oakland facility include those listed below.

### A. New Source Review

The requirements of BAAQMD Rule 2-2 are outlined below.

#### 1. Best Available Control Technology (BACT) Requirement

BAAQMD Rule 2-2-301 requires that BACT to be applied to a new or modified emissions source that has an increase in the potential to emit (PTE), on a pollutant-specific basis, exceeding 10 lb/day for precursor organic compounds (POC), non-precursor organic compounds (NPOC), NO<sub>x</sub>, SO<sub>2</sub>, PM<sub>10</sub>, or carbon monoxide (CO). The installation of the proposed PM emission control system at the shredder will not result in any change in the POC, NPOC, NO<sub>x</sub>, SO<sub>2</sub>, or CO emissions. As discussed above, total PM<sub>10</sub> emissions (stack and fugitive) from the shredder will be reduced by the proposed upgraded PM abatement system. Therefore, the proposed PM emission control system will not be subject to BACT requirements.

#### 2. Emission Offset Requirements

BAAQMD Rule 2-2-302 requires emissions offsets, on a pollutant-specific basis, at any facility with a PTE in excess of 35 tons/year for POC or NO<sub>x</sub> for a new or modified emissions source that has any increase in the potential to emit POC or NO<sub>x</sub>. Since the proposed PM emission control system will not result an increase of POC or NO<sub>x</sub>, it is unnecessary for Schnitzer Steel to acquire NO<sub>x</sub> or POC offsets

BAAQMD Rule 2-2-303 requires, on a pollutant-specific basis, offsets at any major facility for a new or modified source that results in a cumulative increase of more than 1 ton/year for PM<sub>10</sub> or SO<sub>2</sub>.

Since the proposed PM emission control system for the shredder will not result an increase in PM<sub>10</sub> or SO<sub>2</sub> emissions, it will not be subject to the offset requirements for PM<sub>10</sub> or SO<sub>2</sub>.

#### 3. Maximum Available Control Technology for Toxics (MACT) Requirement

Based on BAAQMD Rule 2-2-114 Section 114.1, the MACT requirement will be exempt if the combined increase in potential to emit from all related sources in a proposed construction or modification is less than 10 tons per year of any HAP and less than 25 tons per year for any combination of HAPs. Because the proposed PM emission control system for the shredder will not result an increase in HAPs emissions, exemption under

BAAQMD Rule 2-2-114 Section 114.1 will apply and the project will not be subject to the MACT requirements under BAAQMD Rule 2-2-317.

#### 4. Prevention of Significant Deterioration (PSD) Requirements

BAAQMD Rule 2-2-304 requires the applicant to perform an air quality modeling analysis if the cumulative increase from the PSD Baseline Date minus the contemporaneous emission reduction credits for the major modification of a major facility is in excess of the limits listed below.

- POC: 40 tons/year
- NO<sub>2</sub>: 40 tons/year
- SO<sub>2</sub>: 40 tons/year
- PM<sub>10</sub>: 15 tons/year
- CO: 100 tons/year

In addition, Rule 2-2-305 requires CO modeling for a major modification of a major facility that will cause an increase of 100 tpy or more.

Since there will be no emission increase from the proposed PM emission control system, the project will not be a major modification. As a result, the PSD air quality modeling analyses under Rules 2-2-304 and 2-2-305 will not be required.

#### B. New Source Review for Toxic Air Contaminants

BAAQMD Rule 2-5 requires a Health Risk Screening Analysis (HRSA) for a modified source of TACs, and Rule 2-5-301 requires Toxics BACT (TBACT) for any new or modified source of TACs where the source results in a cancer risk greater than 1.0 in one million ( $10^{-6}$ ) and/or a chronic hazard index greater than 0.20.

Since the proposed PM emission control system at the shredder will not result in any increase in the TAC/HAP emissions, the proposed PM emission control system will not be subject to the TBACT requirements and an HRSA will not be required.

#### C. Particulate Matter and Visible Emissions

Regulation 6 prohibits visible emissions exceeding 20% opacity (i.e., No. 1 on the Ringelmann Chart) for any period aggregating to three minutes in any one hour. The proposed new upgraded emission control system for the shredder will be operated to minimize visible emissions, and it will comply with the Regulation 6 PM opacity limit.

## VI. PROPOSED PERMIT CONDITIONS

Since the emergency diesel generator set (S9) will be removed from the Oakland facility, permit condition #22820, related to the operation of this generator set, should be removed from the PTO.

Schnitzer Steel suggests the following permit conditions for PM source testing that will be performed prior to and after the installation of the proposed upgraded abatement system.

- (1) Prior to the installation of the upgraded PM abatement system, the owner/operator shall submit a protocol designed to assess existing emissions from the shredder. Sampling shall be performed simultaneously at the inlet and outlet of the existing PM abatement system. The protocol shall indicate sampling locations that comply with District criteria, to the extent practicable. This protocol shall be submitted to the District for approval no less than 45 days prior to the date scheduled for the test. After the protocol has been approved, the owner/operator shall conduct a PM emission source test to assess PM emissions from the shredder using the approved testing procedures in the protocol.
- (2) Not later than 60 days after the initial operation of the upgraded PM abatement system, the owner/operator shall conduct District approved source tests to assess PM emissions from the shredder. Sampling shall be performed simultaneously at the inlet and outlet of the upgraded PM abatement system. The owner/operator shall submit the source test results to the District staff no later than 60 days after the source test. Based on the results of the source test, the owner/operator shall propose maximum hourly mass emission rates for stack P-1. Once approved by the District, the revised mass emission rates shall be established as a new emission limitation that will supersede the limits included in this permit.

The owner/operator shall obtain approval for all source test procedures from the District's Source Test Section prior to conducting any tests. The owner/operator shall comply with all applicable testing requirements as specified in Volume V of the District's Manual of Procedures. The owner/operator shall notify the District's Source Test Section, in writing, of the source test protocols and projected test dates at least 7 days prior to testing.



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**Proposed Emission Controls for  
the Joint Products Plant,  
Schnitzer Steel Metal Recycling  
Facility**

**Oakland, CA**

prepared for:

**Schnitzer Steel Industries, Inc.**

February 2016

prepared by:

Sierra Research  
1801 J Street  
Sacramento, California 95811  
(916) 444-6666



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## I. BACKGROUND

Recyclable material comprised of heavy iron, auto bodies, appliances, and other light iron is delivered to the Oakland facility by both rail and truck at the main commercial entrances where it is inspected and sorted. There are also small quantities of scrap metal delivered through the "Peddler Entrance" used for smaller vehicles.

At the shredder, material consisting of light iron products, including auto bodies, appliances, and other recyclable light steel materials, are shredded. Shredded material is then carried by conveyor under magnetized drums which attract the ferrous materials and separate them from the nonferrous materials. The remaining intermediate non-ferrous stream is known as non-ferrous raw (NFR), and consists of both non-ferrous metal and non-metallic materials. The NFR is transferred to the Joint Products Plant (JPP) where non-ferrous metal is further sorted, by metal type, from non-metallic materials. The non-metallic residue from the JPP is treated with chemicals and shipped offsite for use as alternate daily landfill cover.

In addition to bulk scrap metal, recyclable material consisting of non-bulk ferrous/nonferrous metal scrap is also received at the Oakland facility at the Peddler Gate. Material received at the peddler gate is inspected, weighed, sorted, and segregated by hand into bins by scrap type, and is baled at the non-ferrous recovery building and/or stored in cargo containers for transport by truck offsite.

The following major equipment is covered in the current BAAQMD Permit to Operate (PTO) for the facility:<sup>1</sup>

- Shredder (S6)
- Infeed conveyor (to the shredder) (S7)
- Emergency standby diesel generator set (S9)
- Fly ash silo (S10)

### A. Shredder

The shredder (S6) uses multiple steel alloy hammers that are rotated by an electric motor and impacted against the material to be shredded. Water is injected into the shredder to control the heat generated as well as to reduce emissions. The emissions from the shredder are captured by an exhaust system extracting air directly from the shredder hammermill box. The collected air passes through a wet scrubber (A3), a mist eliminator (A5), and a moving belt dry filtering system (A4) before being emitted to atmosphere via a vertical stack (P1). The associated infeed conveyor (S7) is an electric-powered conveyor system that is loaded with infeed material by manually operated cranes; the infeed material is fed into the shredder at a regulated mass rate. Fugitive emissions due to material handling at the infeed conveyor to the shredder are abated by water spraying (A6).

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<sup>1</sup> BAAQMD Permit to Operate (PTO) for Schnitzer Steel Products Company (A0208), expires 11/1/2016.

Currently, the shredder is almost completely surrounded by a steel frame constructed of iron beams. In a separate permit application to be submitted to the District, Schnitzer Steel has proposed to install a new upgraded shredder emission control system. The proposed upgraded shredder emission control system includes (1) an enclosure that will be completed by installing additional I-beams and siding on the existing steel frame to fully surround the shredder; and (2) an emission capture and control system consisting of metal ducting, an electric vacuum blower, dropout box, and two Venturi scrubbers.<sup>2</sup>

The proposed upgraded emission control system described above will replace the current exhaust system and emission control equipment at the shredder, including the wet scrubber (A3), the mist eliminator (A5), the moving belt dry filtering system (A4), and the vertical stack (P1). However, the existing water spray system injecting water directly into the hammermill box (A6) will remain to control the heat and emissions. A separate permit application will be submitted to the District for the proposed new emission control system for the shredder.

#### B. Fly Ash Silo

Also contained in the current PTO are the emergency standby diesel generator set (S9) and the fly ash silo (S10). The fly ash silo is abated by a pulse jet baghouse (A10), and the emissions from the fly ash silo are vented at a stack (P10). The throughput for the fly ash silo in the current permit is limited to 21,900 tons of fly ash in any consecutive 12-month period.

#### C. Diesel Generator Set

The diesel generator set was originally installed to provide emergency power to the facility in case of power outage. However, the equipment has not been operated since 2012, and is expected to be removed from the site in the future.

#### D. Joint Products Plant (JPP)

##### 1. General Process Description

After the shredded material passes over magnets to separate ferrous and non-ferrous material, the NFR is routed into the existing JPP for further processing. At the JPP, the NFR is loaded onto a conveyor to trommels that split the NFR material into two material streams by size. The conveyor at the JPP is an electric-powered conveyor system, where the infeed material is loaded at the JPP at a regulated maximum mass rate of 50 tph. Fugitive emissions due to material handling at the conveyor to the JPP are currently abated by the initial moisture content of the NFR, water spraying, and process conveyor covers.

---

<sup>2</sup> Based on the engineering drawings for the shredder enclosure, confidential business information, provided by Schnitzer Steel, dated 8/14/2015. Permit application for the proposed PM emission control system for the shredder will be submitted to the District at a later date.

2. Detailed Process Description (TRADE SECRET)

*[REDACTED]*

## II. PROPOSED MODIFICATION AT THE JPP

Currently, 80% of the JPP processing equipment is located outdoors, and the remaining 20% is located within the southeastern portion of the facility's large warehouse. The proposed particulate matter (PM) emission control system for the outdoor portion of the JPP includes:

- Enclosure: A building will be constructed to house the outdoor JPP equipment.
- Emission Control Devices: The proposed capture and control system is expected to resemble a standard ventilation system. The system would operate under vacuum (extraction) conditions. Air would be collected through several vent openings strategically positioned near emission source areas within the new building and routed to a baghouse to remove PM emissions.

Engineering drawings of the proposed PM emission control system for the JPP are included in Attachment B.

### III. EMISSION CALCULATIONS

The nature of the BAAQMD's permit exemption criteria requires that emissions from the entire facility be calculated in order to assess the applicability of specific exemptions to the JPP. These calculations are presented below.

#### A. Criteria Pollutants

##### 1. Shredder

Emissions from the shredder include PM, volatile organic compounds (VOC), and toxic air contaminants (TACs)/hazardous air pollutants (HAPs). As discussed above, the initial Permit to Operate (PTO) for the shredder was issued by the District on April 26, 2007. Because no source test data were available for the S-6 Shredder at the time the permit was issued, the initial permitted emissions limits were based on emission factors for similar shredder operations obtained from a report prepared by Versar, Inc.<sup>3</sup> (Versar Report). In 2007, emission source tests were performed at the exhaust stack of the existing shredder emission control system at the Oakland facility to determine the emissions associated with this equipment (2007 Source Test).

As described above, the existing emission control system, with the exception of the water spray system within the shredder hammermill box (A6), will be replaced by the proposed upgraded emission control system. The proposed new upgraded emission control system is expected to operate at a significantly higher efficiency than the existing emission control system. Due to the significant improvement in the capture efficiency of the upgraded system, emissions that are currently released as fugitive emissions (and which were therefore not measured in the 2007 Source Test) will now be captured and may result in higher PM stack emissions than those measured in 2007 Source Test. However, this increase in capture efficiency will ensure that total shredder PM emissions (stack and fugitive) will not increase after the installation of the proposed upgraded emission control system. There will be no changes in the design, configuration, or operation of the shredder. In fact, there will be an overall reduction in shredder PM emissions, as the upgraded emission control system will collect and control previously uncontrolled fugitive emissions.

For the purposes of this analysis, Schnitzer proposes to use emission factors based on best engineering estimates and data from source tests at other similar facilities, as shown in Table 1. Due to the unique nature of the emission source and abatement system design, Schnitzer Steel cannot provide an accurate estimate of total emissions (stack and fugitive) from the shredder at this time. Detailed emission calculations are included in Attachment D.

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<sup>3</sup> *Title V Applicability Workbook*, prepared by Versar, Inc. for the Institute of Scrap Recycling Industries, Inc. (ISRI), 1996.

| <b>Table 1</b>                                                             |                              |                                        |
|----------------------------------------------------------------------------|------------------------------|----------------------------------------|
| <b>Emission Calculations for the Shredder (S6) at the Oakland Facility</b> |                              |                                        |
| Pollutant                                                                  | Emission Factors<br>(lb/ton) | Annual Emissions <sup>a</sup><br>(tpy) |
| Proposed Upgraded Abatement System                                         |                              |                                        |
| POC <sup>b</sup>                                                           | 0.08                         | 28.80                                  |
| PM <sup>c,d</sup>                                                          | 0.0080                       | 2.88                                   |
| PM <sub>10</sub> <sup>d</sup>                                              | 0.0041                       | 1.47                                   |
| PM <sub>2.5</sub> <sup>d</sup>                                             | 0.0012                       | 0.43                                   |

- a. Annual emissions are calculated based on maximum annual throughput in BAAQMD PTO.
- b. Available POC emission factors range from 0.00137 lb/ton (Versar Report) to 0.247 lb/ton (“Draft Air Pollutant Permit-to-install and Operate” issued by the Ohio EPA to Omnisource Corp., 7/31/2008). The value provided is the best engineering estimate, reflecting a substantial amount of uncertainty due to shredder configuration and variability in the type of material shredded at the Oakland facility, and will be re-evaluated based on the initial source test after installation of the proposed upgraded emission control system.
- c. Available PM emission factors range from 0.00257 lb/ton (Versar Report) to 0.0192 lb/ton (source test data from a similar facility). The value provided is the best engineering estimate, and will be re-evaluated based on the initial source test after installation of the proposed upgraded emission control system.
- d. PM<sub>10</sub> and PM<sub>2.5</sub> emission factors are estimated based on the generalized particle size distribution, Category 3 of Appendix B.2, EPA AP 42. PM<sub>10</sub> is 51% of the total PM and PM<sub>2.5</sub> is 15% of the total PM.

## 2. Fly Ash Silo

Emissions from the fly ash silo (S10) consist of particulate matter (PM) emissions; emissions from the silo are controlled by a pulse jet baghouse (A10). Maximum potential emissions from the fly ash silo are calculated based on the throughput limit of 21,900 tons of fly ash in any consecutive 12-month period<sup>4</sup>, and maximum operation of 24 hours per day. Since the metals recycling industry has typically estimated PM emissions based on U.S. EPA’s AP-42 emission factors for “Crushed Stone and Pulverized Mineral Processing” (Chapter 11.19.2), the emission factor for “Product Storage with Fabric Filter Control” is used for the calculations, as shown in Table 2. Detailed emission calculations are included in Attachment D.

<sup>4</sup> BAAQMD Permit to Operate (PTO) for Schnitzer Steel Products Company (A0208), expires 11/1/2016.

| <b>Pollutant</b>  | <b>Emission Factors<sup>a</sup><br/>(lb/ton)</b> | <b>Emissions</b> |
|-------------------|--------------------------------------------------|------------------|
|                   |                                                  | <b>(tpy)</b>     |
| PM                | 0.0099                                           | 0.1              |
| PM <sub>10</sub>  | 0.0016                                           | 0.02             |
| PM <sub>2.5</sub> | 0.0006                                           | 0.01             |

a. PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emission factors are obtained from EPA AP-42 Table 11.19.2-2 and 11.19.2-4, Emission Factors for Product Storage with Fabric Filter Control.

### 3. Joint Products Plant (JPP)

Typically, emissions at a metal recycling facility are estimated based on EPA AP-42 emission factors for crushed stone processing (Chapter 11.19.2), since emission factors do not exist for the scrap metal recycling industry. These factors are assumed to be conservative for the metals recycling industry because of the characteristics of the recycling material being handled; in particular, the moisture content of the recyclable material is much higher than that of crushed stone, and emissions at the JPP are controlled by water suppression. Therefore, the “controlled” emission factors are used for all the processing units at the JPP.

Specifically, the EPA AP-42 emission factors for “screening” in crushed stone processing were used. Specifically, the EPA AP-42 emission factors for “screening” in crushed stone processing were used for the initial screening. For additional screening of the smaller NFR material, the AP-42 emission factors for “fines screening” were used.

For the classifiers, since no equipment specific emission factor is available, and the material transfer mechanism of these classifiers is very similar to that of a conveyor belt, the emission factors for “conveyor transfer points” were used for each of these classifiers at the JPP.

In addition to conveyors, the NFR material is transferred from one point to another along the JPP processing lines using other material handling equipment. Since they are material transfer equipment, and the most similar material transfer equipment listed in EPA AP-42 Table 11.19.2-2 and 11.19.2-4 is conveyor transfer, the emission factors for “conveyor transfer points” were used for material transfer for each of these other material handling equipment types, and for dropping of final metal products into product bins.

Following the guidance in the BAAQMD permit handbook,<sup>4</sup> equipment in the JPP should be grouped into permit units as shown below:

- Screens (each screen is a separate source)

<sup>4</sup> BAAQMD permitting handbook, Chapter 11.7 Crushing and Grinding, available at: [www.baaqmd.gov/permits/permitting-manuals](http://www.baaqmd.gov/permits/permitting-manuals).

- Conveyors (grouped as one source)
- Classifiers (grouped as one source)
- Other material transfer and handling, including dropping material into product bins (grouped as one source)

The emission factors used to estimate the potential emissions from the JPP are summarized in Table 3 for the following types of equipment and processing activities: screens, classifiers, conveyors, and material transfer points.

| Source of Emissions               | Description of AP-42 Emission Factor Used <sup>a,b</sup> | Emission Factor (lbs/ton) |                  |                      |
|-----------------------------------|----------------------------------------------------------|---------------------------|------------------|----------------------|
|                                   |                                                          | PM                        | PM <sub>10</sub> | PM <sub>2.5</sub>    |
| Trommels                          | Screening (Controlled)                                   | 0.0022                    | 0.00074          | 0.00005              |
| Screens                           | Fines Screening (Controlled)                             | 0.0018                    | 0.00110          | 0.00027 <sup>c</sup> |
| Classifiers                       | Conveyor Transfer Point (Controlled)                     | 0.00014                   | 0.000046         | 0.000013             |
| Conveyors                         | Conveyor Transfer Point (Controlled)                     | 0.00014                   | 0.000046         | 0.000013             |
| Other Material Handling Equipment | Conveyor Transfer Point (Controlled)                     | 0.00014                   | 0.000046         | 0.000013             |

- PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emission factors are obtained from EPA AP-42 Table 11.19.2-2, Emission Factors for Crushed Stone Processing Operations.
- “Controlled” sources are those that employ wet suppression (moisture content in study group in AP-42 ranged from 0.55 to 2.88%).
- PM<sub>2.5</sub> emission factor is not available for fines screening in EPA AP-42 Table 11.19.2-2. It is estimated based on the generalized particle size distribution, Category 3 of Appendix B.2, EPA AP-42. PM<sub>2.5</sub> is 15% of the total PM.

The throughput at each transfer point at the JPP was based on estimates of throughput for each type of process line and an initial maximum process rate. All transfer points along each type of processing line are calculated as a percentage of the maximum infeed rate. In reality, beyond the initial point of each of the processing lines, the process rate at any material transfer point downstream would be below the initial rate. By assuming the maximum process rates at all transfer points downstream of the initial feed along the processing lines, the calculated emissions presented in this analysis are conservative. Detailed throughput estimations are included in Attachment A.

The estimated JPP emissions shown in Table 4 were calculated by multiplying the process rates by the appropriate AP-42 emission factors (lbs/ton) listed in Table 3, the total estimated throughput for each equipment type, and a maximum annual operation<sup>5</sup>. For the proposed PM control emission system, the abated emissions were calculated by assuming a system capture efficiency of 100%<sup>6</sup> and a baghouse removal efficiency of 99%<sup>7</sup>. Annual PM emissions from the JPP are summarized in Table 4. Detailed emission calculations are included in Attachment D.

| <b>Table 4.</b>                                        |                                   |                        |                         |
|--------------------------------------------------------|-----------------------------------|------------------------|-------------------------|
| <b>Annual PM Emission for the Joint Products Plant</b> |                                   |                        |                         |
| <b>Source of Emissions</b>                             | <b>Controlled Emissions (tpy)</b> |                        |                         |
|                                                        | <b>PM</b>                         | <b>PM<sub>10</sub></b> | <b>PM<sub>2.5</sub></b> |
| Trommel (T-1)                                          | 0.28                              | 0.09                   | 0.01                    |
| Trommel (T-2)                                          | 0.03                              | 0.01                   | 0.001                   |
| Screen (S-1)                                           | 0.05                              | 0.03                   | 0.007                   |
| Screen (S-2)                                           | 0.05                              | 0.03                   | 0.007                   |
| Screen (S-3)                                           | 0.11                              | 0.07                   | 0.017                   |
| Classifiers                                            | 0.07                              | 0.02                   | 0.01                    |
| Conveyors                                              | 0.28                              | 0.09                   | 0.03                    |
| Other Material Handling Equipment                      | 0.12                              | 0.04                   | 0.01                    |
| <b>TOTAL</b>                                           | <b>0.67</b>                       | <b>0.28</b>            | <b>0.07</b>             |
| <b>Source of Emissions</b>                             | <b>Abated Emissions (tpy)</b>     |                        |                         |
|                                                        | <b>PM</b>                         | <b>PM<sub>10</sub></b> | <b>PM<sub>2.5</sub></b> |
| Trommel (T-1)                                          | 0.0028                            | 0.0009                 | 0.0001                  |
| Trommel (T-2)                                          | 0.0003                            | 0.0001                 | 0.0000                  |
| Screen (S-1)                                           | 0.0005                            | 0.0003                 | 0.0001                  |
| Screen (S-2)                                           | 0.0005                            | 0.0003                 | 0.0001                  |
| Screen (S-3)                                           | 0.0011                            | 0.0007                 | 0.0002                  |
| Classifiers                                            | 0.0007                            | 0.0002                 | 0.0001                  |
| Conveyors                                              | 0.0028                            | 0.0009                 | 0.0003                  |
| Other Material Handling Equipment                      | 0.0012                            | 0.0004                 | 0.0001                  |
| <b>TOTAL</b>                                           | <b>0.0067</b>                     | <b>0.0028</b>          | <b>0.0007</b>           |

## B. Toxic Air Contaminants (TAC) Emission Calculations

### 1. Shredder

Toxic Air Contaminant (TAC) emissions from the shredder are estimated using emission factors from the 2007 source tests. Annual TAC emissions are shown in Table 5.

<sup>5</sup> Estimated maximum annual operating hours for the JPP, confidential business information, provided by Oakland facility personnel, Chris Orsolini, email dated 9/23/2015.

<sup>6</sup> System collection efficiency is expected to be 100%, provided by Daniel Lee of Schnitzer Steel, email dated 10/15/2015.

<sup>7</sup> Baghouse removal efficiency was provided by Daniel Lee of Schnitzer Steel, emailed dated 10/15/2015.

| <b>Pollutant</b>                    | <b>Emission Factors<sup>a</sup><br/>(lb/ton)</b> | <b>Emissions<br/>(lb/year)</b> |
|-------------------------------------|--------------------------------------------------|--------------------------------|
| Total Chromium (Cr)                 | 1.37E-05                                         | 9.86                           |
| Chromium (VI) (Cr(VI)) <sup>b</sup> | 3.98E-07                                         | 0.29                           |
| Total PCBs                          | 8.74E-05                                         | 62.93                          |
| Benzene                             | 4.00E-04                                         | 288.00                         |
| TOTAL HAPs <sup>c</sup> (tpy)       |                                                  | 0.18                           |

- a. Based on "Title V Applicability Workbook", prepared by Versar, Inc. for the Institute of Scrap Recycling Industries, Inc. (ISRI), 1996.
- b. Specific emission factor for Cr(VI) is not available in the Versar report. Cr(VI) is estimated to be 3% of the total Cr based on results in the report for the Initial Emission Compliance Test, Scrap Metal Shredder, Schnitzer Steel Products, Oakland, CA, by Avogadro Group, 3/28/2007.
- c. Pursuant to BAAQMD Rule 2-1-215, a pollutant is classified as a hazardous air pollutants (HAP) if is listed pursuant to Section 112(b) of the federal Clean Air Act. Chromium compounds, PCBs, and benzene are all classified as HAPs.

## 2. Fly Ash Silo

The TAC content of the particulate from these sources was estimated using speciation profiles from EPA.<sup>8</sup> Because an exact match could not be found for these sources, the available profiles were assessed for representativeness. The profile for auto body or car shredding<sup>9</sup> was determined to be the most similar because the feed material to the JPP derives from a process similar to auto body shredding. The PM speciation profiles are included in Attachment E. Table 6 shows all of the compounds listed in the PM speciation profile for auto body shredding that are also listed as TACs in Table 2-5-1 of Regulation 2-5; also shown in Table 6 are the acute and chronic trigger levels.

<sup>8</sup> EPA SPECIATE Version 4.4, [www.epa.gov/ttnchie1/software/speciate/](http://www.epa.gov/ttnchie1/software/speciate/), accessed 10/9/2015

<sup>9</sup> Profile number 91180 for Auto Body Shredding – Composite, for PM<sub>2.5</sub>, and profile number 1710910 for Car Shredding, for PM<sub>10</sub>.

**Table 6.**  
**PM Speciation Profiles for Auto Body Shredding and BAAQMD Trigger Levels**

| Pollutant | HAPs | PM <sub>10</sub><br>Speciation<br>Profile <sup>a</sup> | PM <sub>2.5</sub><br>Speciation<br>Profile <sup>b</sup> | Acute<br>Trigger<br>Level <sup>c</sup> | Chronic<br>Trigger<br>Level <sup>c</sup> |
|-----------|------|--------------------------------------------------------|---------------------------------------------------------|----------------------------------------|------------------------------------------|
|           |      | Weight %                                               | Weight %                                                | (lb/hr)                                | (lb/yr)                                  |
| Copper    |      | 0.36%                                                  | 0.10%                                                   | 2.20E-01                               | N/A                                      |
| Lead      | Yes  | 0.35%                                                  | 0.49%                                                   | N/A                                    | 3.20                                     |
| Manganese | Yes  | 0.09%                                                  | 0.09%                                                   | N/A                                    | 3.50                                     |
| Nickel    | Yes  | 0.02%                                                  | 0.03%                                                   | 1.30E-02                               | 0.43                                     |
| Sulfate   |      | 0.21%                                                  | 0.29%                                                   | 2.60E-01                               | N/A                                      |
| Vanadium  |      | 0%                                                     | 0.001%                                                  | 6.60E-02                               | N/A                                      |
| Chlorine  | Yes  | 3.01%                                                  | 0.68%                                                   | 4.60E-01                               | 7.70                                     |

- a. Profile number 91180 for Auto Body Shredding – Composite, for PM<sub>2.5</sub>  
b. Profile number 1710910 for Car Shredding, for PM<sub>10</sub>  
c. BAAQMD Rule 2-5, Table 2-5-1.

TAC/HAP emissions from the fly ash silo were calculated by multiplying the weight % listed in Table 6 by the estimated PM<sub>10</sub> and PM<sub>2.5</sub> emissions (Table 2). Estimated toxic air contaminant emissions for the fly ash silo are summarized in Table 7.

**Table 7.**  
**TACs/HAPs Emission Calculations for the Fly Ash Silo and BAAQMD Trigger Levels**

| Pollutant        | HAPS | Acute<br>Trigger<br>Level <sup>a</sup> | Chronic<br>Trigger<br>Level <sup>a</sup> | Fly Ash Silo |
|------------------|------|----------------------------------------|------------------------------------------|--------------|
|                  |      | (lb/hr)                                | (lb/yr)                                  | (lb/yr)      |
| Copper           |      | 0.22                                   | N/A                                      | 0.14         |
| Lead             | Yes  | N/A                                    | 3.20                                     | 0.19         |
| Manganese        | Yes  | N/A                                    | 3.50                                     | 0.04         |
| Nickel           | Yes  | 0.013                                  | 0.43                                     | 0.01         |
| Sulfate          |      | 0.26                                   | N/A                                      | 0.11         |
| Vanadium         |      | 0.066                                  | N/A                                      | 0.00         |
| Chlorine         | Yes  | 0.46                                   | 7.70                                     | 1.15         |
| TOTAL HAPs (tpy) |      |                                        |                                          | 0.0007       |

- a. BAAQMD Rule 2-5, Table 2-5-1.

### 3. Joint Products Plant

Similarly, TAC/HAP emissions from the JPP were calculated by multiplying the weight % listed in Table 6 by the estimated PM<sub>10</sub> and PM<sub>2.5</sub> emissions (Table 4). Estimated TAC/HAP emissions for the JPP are summarized in Tables 8 and 9. Emission sources at the JPP are separated/ grouped as described above.



**Table 9.**  
**Annual TACs/HAPs Emission Calculations of the Emission Sources at the JPP and BAAQMD Trigger Levels**  
**(TRADE SECRET)**

| Pollutant                                                                                              | HAPS | Chronic Trigger Level <sup>a</sup><br>(lb/yr) | Trommel (T-1)<br>(lb/yr) | Trommel (T-2)<br>(lb/yr) | Screen (S-1)<br>(lb/yr) | Screen (S-2)<br>(lb/yr) | Screen (S-3)<br>(lb/yr) | Classifiers<br>(lb/yr) | Conveyors<br>(lb/yr) | Other Material Handling Equipment<br>(lb/yr) |                                                                                                        |
|--------------------------------------------------------------------------------------------------------|------|-----------------------------------------------|--------------------------|--------------------------|-------------------------|-------------------------|-------------------------|------------------------|----------------------|----------------------------------------------|--------------------------------------------------------------------------------------------------------|
|                                                                                                        |      |                                               |                          |                          |                         |                         |                         |                        |                      |                                              | Based on "Controlled" Emission (prior to the Installation of the Proposed PM Emission Control Systems) |
| Copper                                                                                                 |      | N/A                                           |                          |                          |                         |                         |                         |                        |                      |                                              |                                                                                                        |
| Lead                                                                                                   | Yes  | 3.20                                          |                          |                          |                         |                         |                         |                        |                      |                                              |                                                                                                        |
| Manganese                                                                                              | Yes  | 3.50                                          |                          |                          |                         |                         |                         |                        |                      |                                              |                                                                                                        |
| Nickel                                                                                                 | Yes  | 0.43                                          |                          |                          |                         |                         |                         |                        |                      |                                              |                                                                                                        |
| Sulfate                                                                                                |      | N/A                                           |                          |                          |                         |                         |                         |                        |                      |                                              |                                                                                                        |
| Vanadium                                                                                               |      | N/A                                           |                          |                          |                         |                         |                         |                        |                      |                                              |                                                                                                        |
| Chlorine                                                                                               | Yes  | 7.70                                          |                          |                          |                         |                         |                         |                        |                      |                                              |                                                                                                        |
| Total HAPs (tpy)                                                                                       |      |                                               | 3.29E-03                 | 3.29E-04                 | 1.04E-03                | 1.04E-03                | 2.60E-03                | 8.26E-04               | 3.56E-03             | 1.52E-03                                     |                                                                                                        |
| <b>Based on "Abated" Emission (after the Installation of the Proposed PM Emission Control Systems)</b> |      |                                               |                          |                          |                         |                         |                         |                        |                      |                                              |                                                                                                        |
| Copper                                                                                                 |      | N/A                                           |                          |                          |                         |                         |                         |                        |                      |                                              |                                                                                                        |
| Lead                                                                                                   | Yes  | 3.20                                          |                          |                          |                         |                         |                         |                        |                      |                                              |                                                                                                        |
| Manganese                                                                                              | Yes  | 3.50                                          |                          |                          |                         |                         |                         |                        |                      |                                              |                                                                                                        |
| Nickel                                                                                                 | Yes  | 0.43                                          |                          |                          |                         |                         |                         |                        |                      |                                              |                                                                                                        |
| Sulfate                                                                                                |      | N/A                                           |                          |                          |                         |                         |                         |                        |                      |                                              |                                                                                                        |
| Vanadium                                                                                               |      | N/A                                           |                          |                          |                         |                         |                         |                        |                      |                                              |                                                                                                        |
| Chlorine                                                                                               | Yes  | 7.70                                          |                          |                          |                         |                         |                         |                        |                      |                                              |                                                                                                        |
| Total HAPs (tpy)                                                                                       |      |                                               | 3.29E-05                 | 3.29E-06                 | 1.04E-05                | 1.04E-05                | 2.60E-05                | 8.26E-06               | 3.56E-05             | 1.52E-05                                     |                                                                                                        |

a. BAAQMD Rule 2-5, Table 2-5-1.

Maximum annual emissions for the Oakland Facility, including emissions from the shredder, the fly ash silo and the JPP, for the Oakland facility are summarized in Table 10.

| <b>Table 10.</b>                                           |                                   |           |                        |                         |             |
|------------------------------------------------------------|-----------------------------------|-----------|------------------------|-------------------------|-------------|
| <b>Summary of Annual Emissions at the Oakland Facility</b> |                                   |           |                        |                         |             |
|                                                            | <b>POC</b>                        | <b>PM</b> | <b>PM<sub>10</sub></b> | <b>PM<sub>2.5</sub></b> | <b>HAPs</b> |
|                                                            | <b>Controlled Emissions (tpy)</b> |           |                        |                         |             |
| Facility Total                                             | 28.80                             | 3.66      | 1.76                   | 0.51                    | 0.19        |
|                                                            | <b>Abated Emissions (tpy)</b>     |           |                        |                         |             |
| Facility Total                                             | 28.80                             | 3.00      | 1.49                   | 0.44                    | 0.18        |

#### IV. BAAQMD RULES REVIEW

A BAAQMD permit is required for a new emission source unless it is exempted under BAAQMD Rule 2-1. In order for the JPP to qualify for the exemption under BAAQMD Rule 2-1-115 Section 1.4, the JPP would have to satisfy all of the following requirements:

- The classification of the existing equipment is one of the source types under Section 1.4;
- The moisture content of the material processed is greater than or equal to 5 percent by weight; and
- The source does not require permitting pursuant to BAAQMD Rule 2-1-319 (Source Expressly Subject to Permitting Requirements).

##### Equipment Classification

The processing units in the JPP can be classified as screens, size classifiers, material loading and unloading equipment, and storage/product bins. As shown in the detailed equipment list included in Attachment A, all of the equipment in the JPP would satisfy the equipment classification requirement of BAAQMD 2-1-115 Section 1.4, subsections 1.4.1 to 1.4.5, as listed below:

- Screen or other size classification
- Conveyor, screw, auger, stacker or bucket elevator
- Grizzly, or other material loading or unloading
- Storage or weigh hopper/bin system

##### Moisture Content

A water spray system is installed at the JPP processing line to ensure the processing material remains moist throughout the sorting process. (Approximate locations of water sprays at the JPP are also shown in the JPP schematic in Attachment A). Moisture analyses are also conducted at the Oakland facility, and the test data have confirmed that the moisture content of the NFR is greater than or equal to 5% for the NFR fed to the JPP. The most recent test result, sampled on August 26, 2015, has shown that the moisture content of the NFR fed to the JPP is about 18% by weight.<sup>10</sup>

A separate moisture content analysis was conducted for the material near the end of the JPP processing lines, and the results show that the moisture content is above 5% by weight. Consequently, the moisture content of the material processed at the JPP satisfies the requirement under BAAQMD Rule 2-1-115 Section 1.4.

---

<sup>10</sup> Analytical report for Schnitzer Steel's Oakland facility on NFR moisture content, dated 8/27/2015, included in Attachment C.

Source Expressly Subject to Permitting Requirements (Rule 2-1-319)

Regulation 2-1-329 states the following:

**2-1-319 Source Expressly Subject to Permitting Requirements:** *Notwithstanding any exemption contained in Section 2-1-103 or Section 114 through 128, any source meeting any of the following criteria shall be subject to the requirements of Section 2-1-302:*

*319.1 The emission rate of any regulated air pollutant from the source is greater than 5 tons per year, after abatement.*

*319.2 The source is subject to the requirements of Section 2-1-316, 317, or 318.*

Based on the emissions calculated for the emission sources of the JPP (presented in Table 4), the maximum emissions from sources at the JPP are below 5 tpy. Therefore, the JPP is not subject to the permitting requirements under Rule 2-1-319 subsection 319.1.

The criteria listed under Section 319.2 reference the sections summarized below.

New or Modified Sources of Toxic Air Contaminants or Hazardous Air Pollutants (Rule 2-1-316)

This rule states the following:

**2-1-316 New or Modified Sources of Toxic Air Contaminants or Hazardous Air Pollutants:** *Notwithstanding any exemption contained in Section 2-1-103 or Section 114 through 128, any new or modified source meeting any of the following criteria shall be subject to the requirements of Regulation 2, Rule 1, Section 301 and/or 302.*

*316.1 If a new or modified source emits one or more toxic air contaminants in quantities that exceed the trigger levels listed in Table 2-5-1 of Regulation 2-5 and the source did not have a valid exemption from Regulation 2-1-302 when the source was constructed or modified, then the source shall be subject to the requirements of Sections 2-1-301 and 302, unless the owner or operator of the source can demonstrate to the satisfaction of the APCO that the source:*

*1.1 Will comply with the TBACT requirement of Regulation 2-5-301 (if applicable); and*

*1.2 Will comply with the project risk limits of Regulation 2-5-302 (if applicable).*

*316.2 If a new or modified source, or group of related sources in a proposed construction or modification will emit 2.5 or more tons per year of any single hazardous air pollutant or 6.25 or more tons per year of any combination of*

*hazardous air pollutants, then the source or group of sources shall be subject to the requirements of Sections 2-1-301 and 302.*

If any of the emission sources at the JPP are subject to the permit requirements under Rule 2-1-316 (either subsection 316.1 or 316.2), the JPP will not qualify for the exemption under Rule 2-1-115. As shown in Tables 8 and 9, hourly TAC emissions (lb/hr) and annual TAC emissions (lbs/year) of all the emission sources at the JPP are below the acute and chronic trigger levels listed in Table 2-5-1, both prior to and after the installation of the proposed PM emissions controls for the JPP.

As stated in BAAQMD Rule 2-1-215, a pollutant is classified as a HAP if is listed pursuant to Section 112(b) of the federal Clean Air Act.<sup>11</sup> Of all the compounds in the PM profiles for auto body shredding, only lead, manganese, nickel and chlorine are considered as HAPs.

As shown in Table 9, none of the emission sources has an emissions exceed 2.5 tpy of any single hazardous air pollutant. Also, as shown in Table 10, the total HAPs emissions for the JPP is well below 6.25 tpy. Therefore, the JPP is not subject to permitting requirements under Rule 2-1-316 subsection 316.2, prior to or after the installation of the proposed PM emissions controls for the JPP.

*Public Nuisance Source (Rule 2-1-317)* – Rule 2-1-317 states that if any exempt source receives two or more public nuisance violations within any consecutive 180-day period, the source will be subject to the permit requirement of BAAQMD Rule 2-1-301 and/or 302. The exemption under Rule 2-1-115 would be applicable if the Oakland facility did not receive two or more public nuisance violations for the existing JPP within any consecutive 180-day period. Since no public nuisance violation notices have been received by Schnitzer Steel for the JPP, exemption 2-1-115 can apply to the JPP.

*Hazardous Substances (Rule 2-1-318)*

This rule states the following:

***2-1-318 Hazardous Substances:*** *Notwithstanding any exemption contained in Section 2-1-103 or Section 114 through 128, any new or modified source meeting any of the following criteria shall be subject to the requirements of Regulation 2, Rule 1, Section 301 and/or 302. If a new or modified source at a PSD Major Facility, as defined in Regulation 2, Rule 2, Section 220.3, emits the following air contaminants in excess of the quantities listed below, then it is subject to the requirements of Sections 2-1-301 and 302.*

---

<sup>11</sup> The Clean Air Act Amendments of 1990 List of Hazardous Air Pollutants can be found at: <http://www.epa.gov/ttn/atw/orig189.html> and the list of modifications at can be found at: <http://www.epa.gov/ttn/atw/pollutants/atwsmo.html>

- 318.1 0.6 ton per year of lead,
- 318.2 0.007 ton per year of asbestos (excepting demolition, renovation, and waste disposal),
- 318.3 0.0004 ton per year of beryllium,
- 318.4 0.1 ton per year of mercury,
- 318.5 1 ton per year of vinyl chloride,
- 318.6 3 tons per year of fluorides,
- 318.7 7 tons per year of sulfuric acid mist, and
- 318.8 10 tons per year of reduced sulfur compounds (including hydrogen sulfide).

For Rule 2-1-318 to be applicable to the JPP, it must first be determined whether the Oakland facility is a Prevention of Significant Deterioration (PSD) Major Facility as defined in BAAQMD Rule 2-2-220.3. Although BAAQMD Rule 2-2-220 is deleted and currently not available,<sup>12</sup> the District's intention for Rule 2-1-318 to apply to major PSD facilities has not changed.

Based on 40 CFR 52 Section 52.21(b), a "major stationary source" is any stationary source listed in Section 52.21(b)(1)(i)(a)<sup>13</sup> which emits, or has the potential to emit, 100 tons per year or more of any regulated NSR pollutant; or any stationary source which emits, or has the potential to emit, 250 tons per year or more of a regulated NSR pollutant. Since the Oakland facility is not one of the stationary sources listed in Section 52.21(b)(1)(i)(a), the Oakland facility must have a potential to emit 250 tpy or more of any PSD pollutant for it to be classified as a major PSD stationary facility.<sup>14</sup>

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<sup>12</sup> BAAQMD Rule 2-2-220 was deleted May 17, 2000.

<sup>13</sup> The list of stationary sources in Section 52.21(b)(1)(i)(a) includes: Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning plants (with thermal dryers), kraft pulp mills, Portland cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants (with thermal dryers), primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production plants, chemical process plants (which does not include ethanol production facilities that produce ethanol by natural fermentation included in NAICS codes 325193 or 312140), fossil-fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input, petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels, taconite ore processing plants, glass fiber processing plants, and charcoal production plants.

<sup>14</sup> 40 CFR 52 Section 52.21(b)(1)(i)(b).

Based on the emissions calculated for the major existing equipment at the Oakland facility (Table 10), the estimated total facility emissions are well below 250 tpy. Since the maximum facility emissions will not exceed the major facility threshold, the JPP is not subject to the requirements in Rule 2-1-318.

## V. SUMMARY

### Joint Products Plant (JPP)

We conclude that the exemption under BAAQMD Rule 2-1-115—specifically, subsection 1.4—is applicable to the JPP at the Oakland metal recycling facility based on the following findings:

- All of the process units for the JPP can be categorized as size classifiers or conveyance processes; this satisfies the equipment classification requirement of BAAQMD 2-1-115 subsection 1.4.
- Schnitzer Steel maintains adequate records to demonstrate that the moisture content of material handled at the JPP is greater than or equal to 5%.
- PM emissions from the emission sources at the JPP are less than 5 tpy. Therefore, the JPP is not subject to the permitting requirements under Rule 2-1-319 subsection 319.1.
- TAC emissions from the source are below acute and chronic trigger levels in BAAQMD Rule 2-5. TAC emissions at the JPP have been estimated based on PM<sub>10</sub> and PM<sub>2.5</sub> emissions and the PM speciation profile for auto body and car shredding obtained from the EPA's SPECIATE database. Based on these estimates, the TAC emissions from the JPP are below the acute and chronic trigger levels listed in Table 2-5-1 in BAAQMD Rule 2-5. Therefore, the JPP is not subject to the permit requirements under Rule 2-1-316 subsection 316.1.
- HAP emissions from the emission sources at the JPP are individually less than 2.5 tpy, and are less than 6.5 tpy in total. Therefore, the existing JPP is not subject to permitting requirements under Rule 2-1-316 subsection 316.2.
- The source has not received two or more public nuisance violations within any consecutive 180-day period. The Oakland facility did not receive two or more public nuisance violations for the JPP within any consecutive 180-day period.
- The Oakland facility is not classified as a PSD major facility, and the JPP is not subject to the requirements in Rule 2-1-318.

### Emission Control Systems for the JPP

For the existing water spray system at the JPP and proposed emission control system for the JPP, the exemption under BAAQMD Rule 2-1-113.2, specifically Section 2.4, is applicable since the emission control system only abates emissions from exempt source.

BAAQMD Rule 2-1-113.2.4 states the following:

***2-1-113 Exemption, Sources and Operations:***

*113.2 The following sources and operations are exempt from the requirements of Sections 2-1-301 and 302:*

...

*2.4 Any abatement device which is used solely to abate equipment that does not require an Authority to Construct or Permit to Operate.*

All of the emission sources at the JPP qualify for the exemption under BAAQMD 2-1-115, and both the existing water spray system and the proposed JPP enclosure and PM emission control system abate emissions only from the JPP equipment. Therefore, both the existing water spray system and the proposed PM emission control system for the JPP will be exempt from the permitting requirement pursuant to BAAQMD Rule 2-1-113 Section 2.4.

Attachment A

**TRADE SECRET**

Joint Products Plant (JPP) Schematic

and

List of Transfer Points and Estimated Throughput

[REDACTED]

Attachment B

**TRADE SECRET**

Engineering Drawings for the Proposed PM Emission System for the JPP

*[REDACTED]*

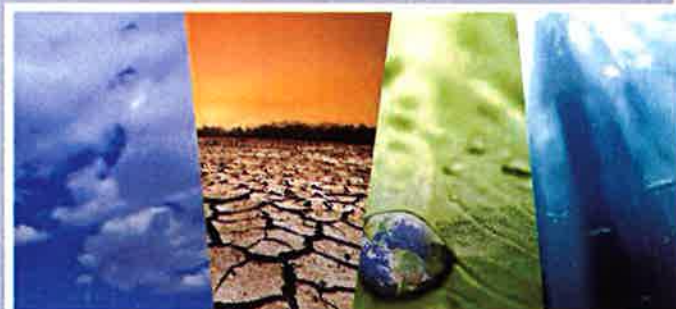
Attachment C

Moisture Content Data of the Infeed Material at the JPP



**WORK ORDER NUMBER: 15-08-1862**

*The difference is service*



AIR | SOIL | WATER | MARINE CHEMISTRY

**Analytical Report For**

**Client:** Schnitzer Steel

**Client Project Name:** NFR Moisture Content

**Attention:** Chris Orsolini  
1101 Embarcadero West  
Oakland, CA 94607-2536

*Nicole Scott for*

Approved for release on 09/03/2015 by:  
Amanda Porter  
Project Manager

ResultLink ▶

Email your PM ▶



Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



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Work Order Number: 15-08-1862

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## Work Order Narrative

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Work Order: 15-08-1862

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### **Condition Upon Receipt:**

Samples were received under Chain-of-Custody (COC) on 08/27/15. They were assigned to Work Order 15-08-1862.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

### **Holding Times:**

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of  $\leq 15$  minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

### **Quality Control:**

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

### **Subcontractor Information:**

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

### **Additional Comments:**

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.





## Analytical Report

Schnitzer Steel  
1101 Embarcadero West  
Oakland, CA 94607-2536

Date Received: 08/27/15  
Work Order: 15-08-1862  
Preparation: N/A  
Method: ASTM D-2216 (M)  
Units: %

Project: NFR Moisture Content

Page 1 of 1

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|----------------------|-------------------|---------------------|--------|------------|---------------|--------------------|-------------|
| NFR-19               | 15-08-1862-1-A    | 08/25/15<br>11:00   | Solid  | N/A        | 08/28/15      | 08/28/15<br>18:30  | F0828MOIB1  |

| Parameter | Result | RL   | DF   | Qualifiers |
|-----------|--------|------|------|------------|
| Moisture  | 18     | 0.10 | 1.00 |            |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|----------------------|-------------------|---------------------|--------|------------|---------------|--------------------|-------------|
| Method Blank         | 099-05-014-5586   | N/A                 | Solid  | N/A        | 08/28/15      | 08/28/15<br>18:30  | F0828MOIB1  |

| Parameter | Result | RL   | DF   | Qualifiers |
|-----------|--------|------|------|------------|
| Moisture  | ND     | 0.10 | 1.00 |            |

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



**Quality Control - Sample Duplicate**

Schnitzer Steel  
 1101 Embarcadero West  
 Oakland, CA 94607-2536

Date Received: 08/27/15  
 Work Order: 15-08-1862  
 Preparation: N/A  
 Method: ASTM D-2216 (M)

Project: NFR Moisture Content

Page 1 of 1

| Quality Control Sample ID | Type             | Matrix | Instrument | Date Prepared  | Date Analyzed  | Duplicate Batch Number |
|---------------------------|------------------|--------|------------|----------------|----------------|------------------------|
| 15-08-1810-1              | Sample           | Solid  | N/A        | 08/28/15 00:00 | 08/28/15 18:30 | F0828MOID1             |
| 15-08-1810-1              | Sample Duplicate | Solid  | N/A        | 08/28/15 00:00 | 08/28/15 18:30 | F0828MOID1             |

| <u>Parameter</u> | <u>Sample Conc.</u> | <u>DUP Conc.</u> | <u>RPD</u> | <u>RPD CL</u> | <u>Qualifiers</u> |
|------------------|---------------------|------------------|------------|---------------|-------------------|
| Moisture         | 75.80               | 76.20            | 1          | 0-10          |                   |

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RPD: Relative Percent Difference. CL: Control Limits



## Sample Analysis Summary Report

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Work Order: 15-08-1862

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| <u>Method</u>   | <u>Extraction</u> | <u>Chemist ID</u> | <u>Instrument</u> | <u>Analytical Location</u> |
|-----------------|-------------------|-------------------|-------------------|----------------------------|
| ASTM D-2216 (M) | N/A               | 977               | N/A               | 1                          |

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Location 1: 7440 Lincoln Way, Garden Grove, CA 92841



Calscience

## Glossary of Terms and Qualifiers

Work Order: 15-08-1862

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| <u>Qualifiers</u> | <u>Definition</u>                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| *                 | See applicable analysis comment.                                                                                                                                                                                                                                                                                                                                                    |
| <                 | Less than the indicated value.                                                                                                                                                                                                                                                                                                                                                      |
| >                 | Greater than the indicated value.                                                                                                                                                                                                                                                                                                                                                   |
| 1                 | Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.                                                                                                                                                                                                                            |
| 2                 | Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.                                                                                                                                                          |
| 3                 | Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.                                                                                                                                                                                                     |
| 4                 | The MS/MSD RPD was out of control due to suspected matrix interference.                                                                                                                                                                                                                                                                                                             |
| 5                 | The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.                                                                                                                                                                                                                                                             |
| 6                 | Surrogate recovery below the acceptance limit.                                                                                                                                                                                                                                                                                                                                      |
| 7                 | Surrogate recovery above the acceptance limit.                                                                                                                                                                                                                                                                                                                                      |
| B                 | Analyte was present in the associated method blank.                                                                                                                                                                                                                                                                                                                                 |
| BU                | Sample analyzed after holding time expired.                                                                                                                                                                                                                                                                                                                                         |
| BV                | Sample received after holding time expired.                                                                                                                                                                                                                                                                                                                                         |
| CI                | See case narrative.                                                                                                                                                                                                                                                                                                                                                                 |
| E                 | Concentration exceeds the calibration range.                                                                                                                                                                                                                                                                                                                                        |
| ET                | Sample was extracted past end of recommended max. holding time.                                                                                                                                                                                                                                                                                                                     |
| HD                | The chromatographic pattern was inconsistent with the profile of the reference fuel standard.                                                                                                                                                                                                                                                                                       |
| HDH               | The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).                                                                                                                                                                                                                  |
| HDL               | The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).                                                                                                                                                                                                                  |
| J                 | Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.                                                                                                                                                                                                                                     |
| JA                | Analyte positively identified but quantitation is an estimate.                                                                                                                                                                                                                                                                                                                      |
| ME                | LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).                                                                                                                                                                                                                                                                            |
| ND                | Parameter not detected at the indicated reporting limit.                                                                                                                                                                                                                                                                                                                            |
| Q                 | Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.                                                                                                                                                                                                       |
| SG                | The sample extract was subjected to Silica Gel treatment prior to analysis.                                                                                                                                                                                                                                                                                                         |
| X                 | % Recovery and/or RPD out-of-range.                                                                                                                                                                                                                                                                                                                                                 |
| Z                 | Analyte presence was not confirmed by second column or GC/MS analysis.                                                                                                                                                                                                                                                                                                              |
|                   | Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.                                                                                                                                                                                                           |
|                   | Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time. |
|                   | A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.                                                                                           |

  
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**CHAIN OF CUSTODY RECORD**  
 DATE: \_\_\_\_\_  
 PAGE: 1 OF 1

7440 LINCOLN WAY  
 GARDEN GROVE, CA 92841-1432  
 TEL: (714) 895-5494 . FAX: (714) 894-7501

**CalScience**  
**Environmental**  
**Laboratories, Inc.**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                             |                                                               |                                      |                   |               |       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|--------------------------------------|-------------------|---------------|-------|
| LABORATORY CLIENT:<br><b>Schnitzer Steel Industries</b>                                                                                                                                                                                                                                                                                                                                                                                                    |                             | CLIENT PROJECT NAME / NUMBER:<br><b>NFR Moisture Content</b>  |                                      | P.O. NO.:         |               |       |
| ADDRESS:<br><b>1101 Embarcadero West</b>                                                                                                                                                                                                                                                                                                                                                                                                                   |                             | PROJECT CONTACT:<br><b>Chris Orsolini</b>                     |                                      | QUOTE NO.:        |               |       |
| CITY:<br><b>Oakland</b>                                                                                                                                                                                                                                                                                                                                                                                                                                    | TEL:<br><b>916-512-0269</b> | FAX:<br><b>503-471-4457</b>                                   | E-MAIL:<br><b>corsolini@schn.com</b> | LABORATORY NO.:   |               |       |
| TURNAROUND TIME:<br><input type="checkbox"/> SAME DAY <input type="checkbox"/> 24 HR <input type="checkbox"/> 48HR <input type="checkbox"/> 72 HR <input checked="" type="checkbox"/> 5 DAYS <input type="checkbox"/> 10 DAYS<br>SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)<br><input type="checkbox"/> RWQCB REPORTING <input type="checkbox"/> ARCHIVE SAMPLES UNTIL / /<br>SPECIAL INSTRUCTIONS<br>Please email analytical to corsolini@schn.com |                             | REQUESTED ANALYSIS<br>Content (Solid)<br>ASTM D-2216 Moisture |                                      |                   |               |       |
| LAB USE ONLY                                                                                                                                                                                                                                                                                                                                                                                                                                               | SAMPLE ID                   | LOCATION/ DESCRIPTION                                         | SAMPLING DATE                        | SAMPLING TIME     | Matrix        | #Cont |
| ①                                                                                                                                                                                                                                                                                                                                                                                                                                                          | NFR-19                      | NFR Belt                                                      | 08/25/15                             | 11:00 am          | S             | 1     |
| Relinquished by: (Signature)<br><i>J. Marks</i>                                                                                                                                                                                                                                                                                                                                                                                                            |                             | Received by: (Signature)<br><i>Tom Mally</i>                  |                                      | Date:<br>08/26/15 | Time:<br>1105 |       |
| Relinquished by: (Signature)<br><i>Tom Mally</i>                                                                                                                                                                                                                                                                                                                                                                                                           |                             | Received by: (Signature)<br><i>ET</i>                         |                                      | Date:<br>08/27/15 | Time:<br>0940 |       |
| Relinquished by: (Signature)                                                                                                                                                                                                                                                                                                                                                                                                                               |                             | Received by: (Signature)                                      |                                      | Date:             | Time:         |       |



800-322-5555 www.gso.com

1862

**Ship From**  
CAL SCIENCE- CONCORD  
ALAN KEMP  
5063 COMMERCIAL CIRCLE  
#H  
CONCORD, CA 94520

**Tracking #: 529067699**

**NPS**



**Ship To**  
CEL  
SAMPLE RECEIVING  
7440 LINCOLN WAY  
GARDEN GROVE, CA 92841

**ORC**  
GARDEN GROVE

**A**

**COD:** \$0.00  
**Weight:** 0 lb(s)  
**Reference:**  
ETIC, SCHNITZER STEEL, PORT COSTA  
**Delivery Instructions:**

**D92845A**



41702514

**Signature Type:** REQUIRED

Print Date: 8/26/2015 3:43 PM

**LABEL INSTRUCTIONS:**

Do not copy or reprint this label for additional shipments - each package must have a unique barcode.

Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer. Securely attach this label to your package, do not cover the barcode.

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Calscience

WORK ORDER NUMBER: 15-08-1862

**SAMPLE RECEIPT CHECKLIST**

COOLER 1 OF 1

CLIENT: SSI

DATE: 08 / 27 / 2015

**TEMPERATURE:** (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC5 (CF:-0.2°C); Temperature (w/o CF): 2-9°C (w/ CF): 2-7°C;  Blank  Sample

Sample(s) outside temperature criteria (PM/APM contacted by: \_\_\_\_\_)

Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature:  Air  Filter

Checked by: 836

**CUSTODY SEAL:**

Cooler  Present and Intact  Present but Not Intact  Not Present  N/A

Checked by: 836

Sample(s)  Present and Intact  Present but Not Intact  Not Present  N/A

Checked by: 836

**SAMPLE CONDITION:**

Yes No N/A

Chain-of-Custody (COC) document(s) received with samples .....

COC document(s) received complete .....

Sampling date  Sampling time  Matrix  Number of containers

No analysis requested  Not relinquished  No relinquished date  No relinquished time

Sampler's name indicated on COC .....

Sample container label(s) consistent with COC .....

Sample container(s) intact and in good condition .....

Proper containers for analyses requested .....

Sufficient volume/mass for analyses requested .....

Samples received within holding time .....

Aqueous samples for certain analyses received within 15-minute holding time

pH  Residual Chlorine  Dissolved Sulfide  Dissolved Oxygen .....

Proper preservation chemical(s) noted on COC and/or sample container .....

Unpreserved aqueous sample(s) received for certain analyses

Volatile Organics  Total Metals  Dissolved Metals

Container(s) for certain analysis free of headspace .....

Volatile Organics  Dissolved Gases (RSK-175)  Dissolved Oxygen (SM 4500)

Carbon Dioxide (SM 4500)  Ferrous Iron (SM 3500)  Hydrogen Sulfide (Hach)

Tedlar™ bag(s) free of condensation .....

**CONTAINER TYPE:**

(Trip Blank Lot Number: \_\_\_\_\_)

**Aqueous:**  VOA  VOA<sub>h</sub>  VOA<sub>na2</sub>  100PJ  100PJ<sub>na2</sub>  125AGB  125AGB<sub>h</sub>  125AGB<sub>p</sub>  125PB

125PB<sub>z<sub>na</sub></sub>  250AGB  250CGB  250CGB<sub>s</sub>  250PB  250PB<sub>n</sub>  500AGB  500AGJ  500AG<sub>J<sub>s</sub></sub>

500PB  1AGB  1AGB<sub>na2</sub>  1AGB<sub>s</sub>  1PB  1PB<sub>na</sub>  \_\_\_\_\_  \_\_\_\_\_  \_\_\_\_\_

**Solid:**  4ozCGJ  8ozCGJ  16ozCGJ  Sleeve (\_\_\_\_\_)  EnCores® (\_\_\_\_\_)  TerraCores® (\_\_\_\_\_)  \_\_\_\_\_

**Air:**  Tedlar™  Canister  Sorbent Tube  PUF  \_\_\_\_\_ **Other Matrix** (\_\_\_\_\_) :  \_\_\_\_\_  \_\_\_\_\_

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO<sub>3</sub>, **na** = NaOH, **na<sub>2</sub>** = Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>, **p** = H<sub>3</sub>PO<sub>4</sub>, Labeled/Checked by: 836

**s** = H<sub>2</sub>SO<sub>4</sub>, **u** = ultra-pure, **z<sub>na</sub>** = Zn(CH<sub>3</sub>CO<sub>2</sub>)<sub>2</sub> + NaOH Reviewed by: 802

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**Additional Moisture Content Data**

| Date Sampled        | Sample Material         | % Water by Weight | Average (%) |
|---------------------|-------------------------|-------------------|-------------|
| 1/29/2015           | ISS-95, PF-85 Composite | 6.5               |             |
| 1/30/2015           | ISS-95, PF-85 Composite | 6.4               |             |
| 2/20/2015           | ISS-95, PF-85 Composite | 6                 | 6.3         |
| 3/6/2015            | ISS-90 Discrete         | 8                 |             |
| 3/6/2015            | ISS-90 Discrete         | 2                 |             |
| 3/6/2015            | ISS-90 Discrete         | 3                 |             |
| 3/9/2015            | ISS-90 Discrete         | 11                | 6           |
| 3/6/2015            | F-80 Discrete           | 7                 |             |
| 3/6/2015            | F-80 Discrete           | 5                 |             |
| 3/6/2015            | F-80 Discrete           | 5                 |             |
| 3/9/2015            | F-80 Discrete           | 4                 | 5.3         |
| Overall Average (%) |                         |                   | 5.8         |

Moisture content analysis for the material at the end of selected JPP processing line, provided by Schnitzer Steel 3/10/2015



Attachment D

**TRADE SECRET**

Detailed Emission Calculations for the JPP

Attachment E

EPA SPECIATE Data

Particulate Matter (PM) Profiles 91180 and 1710910

## EPA SPECIATE Data

Profile Number: 91180

Name: Auto Body Shredding – Composite

PM: PM2.5

| Pollutant Name            | Pollutant Symbol | Weight % | HAPS |
|---------------------------|------------------|----------|------|
| Particulate Water         | PH2O             | 0.0696   |      |
| Non-Carbon Organic Matter | PNCOM            | 3.08     |      |
| Metal-bound Oxygen        | MOx              | 4.50     |      |
| Other Unspeciated PM2.5   | PMO              | 71.43    |      |
| Aluminum                  | Al               | 0.47     |      |
| Calcium                   | Ca               | 0.48     |      |
| Chromium                  | Cr               | 0.04     |      |
| Copper                    | Cu               | 0.1      |      |
| Iron                      | Fe               | 5.76     |      |
| Lead                      | Pb               | 0.49     | Yes  |
| Magnesium                 | Mg               | 0.1      |      |
| Manganese                 | Mn               | 0.088    | Yes  |
| Nickel                    | Ni               | 0.031    | Yes  |
| Nitrate                   | NO3-             | 0.15     |      |
| Organic carbon            | OC               | 7.7      |      |
| Potassium                 | K                | 0.27     |      |
| Silicon                   | Si               | 0.87     |      |
| Sodium                    | Na               | 0.18     |      |
| Sulfate                   | SO4=             | 0.29     |      |
| Sulfur                    | S                | 0.47     |      |
| Titanium                  | Ti               | 0.025    |      |
| Vanadium                  | V                | 0.001    |      |
| Zinc                      | Zn               | 2.1      |      |
| Chlorine atom             | Cl               | 0.68     |      |
| Bromine Atom              | Br               | 0.49     |      |
| Elemental Carbon          | EC               | 0.6      |      |

EPA SPECIATE Data  
 Profile Number: 1710910  
 Name: Car Shredding  
 PM: PM10

| Pollutant Name   | Pollutant Symbol | Weight % | HAPS |
|------------------|------------------|----------|------|
| Aluminum         | Al               | 0.886    |      |
| Calcium          | Ca               | 1.94     |      |
| Chromium         | Cr               | 0.028    |      |
| Copper           | Cu               | 0.359    |      |
| Iron             | Fe               | 5.161    |      |
| Lead             | Pb               | 0.347    | Yes  |
| Magnesium        | Mg               | 0        |      |
| Manganese        | Mn               | 0.085    | Yes  |
| Nickel           | Ni               | 0.022    | Yes  |
| Nitrate          | NO3-             | 0.106    |      |
| Organic carbon   | OC               | 14.478   |      |
| Potassium        | K                | 0        |      |
| Silicon          | Si               | 0        |      |
| Sodium           | Na               | 0        |      |
| Sulfate          | SO4=             | 0.206    |      |
| Sulfur           | S                | 0        |      |
| Titanium         | Ti               | 0        |      |
| Vanadium         | V                | 0        |      |
| Zinc             | Zn               | 1.742    |      |
| Chlorine atom    | Cl               | 3.013    |      |
| Bromine Atom     | Br               | 2.791    |      |
| Fluoride ion     | F-               | 0.035    |      |
| Elemental Carbon | EC               | 1.589    |      |





**BAAQMD PERMITS - CEQA COMPLIANCE**

Sections A, B, and C must be completed for all permit applications. This completed form must be included in the permit Evaluation file.

**A. General Information**

Application Number \_\_\_\_\_  
 Application Title \_\_\_\_\_  
 Project Description \_\_\_\_\_

**B. Determination of Completeness**

Complete this section by placing a circle around the number corresponding to the action taken to determine that the application is complete for CEQA purposes and fill in blanks where appropriate.

1. Ministerial Exemption

This permit application is not subject to CEQA because the evaluation is a ministerial action conducted using the fixed standards and objective measurements outlined in the Permit Handbook Chapter \_\_\_\_\_ (See References - Part I). Therefore the applicant does not need to submit any CEQA-related information to deem the application complete.

2. Project Subject to Negative Declaration or EIR by Another Agency

This permit application is subject to a Negative Declaration or EIR prepared (or under preparation) by another agency. The District has received the necessary information indicating that another agency is acting as Lead Agency. Therefore, Regulation 2-1-426.2 Subsection \_\_\_\_\_ (See References - Part 11) has been complied with and the application may be deemed complete for CEQA purposes.

3. All Other Permits

The District has received from the applicant a completed, signed and dated preliminary environmental study as required by Regulation 2-1-426.1, with information equivalent to that contained in Appendix H of the State CEQA Guidelines. Therefore, the application may be deemed complete for CEQA purposes.

Permit Engineer \_\_\_\_\_ Date \_\_\_\_\_  
 Signature

**C. Final Action**

Complete this section by placing a circle around the number corresponding to the final action taken on the application for CEQA purposes and fill in blanks where appropriate.

1. Ministerial Exemption

This permit application is exempt from CEQA because the permit evaluation is a ministerial action. The Procedures for Ministerial Evaluation (Section 2-1-427) and Criteria for Approval of Ministerial Permit Applications (Section 2-1-428) have been complied with in the determination that this application is exempt from CEQA.

2. Project Subject to Negative Declaration or EIR by Negative Declaration by an Another Agency

This permit application was subject to an EIR or Negative Declaration by an agency other than the District. The final action by the District was taken only after review and consideration of the information in the certified CEQA document by the APCO, or District representative of the APCO.

3. Categorical Exemption

This permit application is categorically exempt from CEQA because the project has no potential for causing a significant adverse environmental impact or the application is categorically exempt from CEQA under Regulation 2-1-312 \_\_\_\_\_ (See References - Part III). In making the determination that this application is categorically exempt: 1) a review of the CEQA-Related Information submitted by the applicant (under Regulation 2-1-426-1), has been conducted indicating that there is no potential for a significant adverse environmental impact from the project; 2) a formal health risk assessment was not required; and 3) no unusual circumstances or cumulative impacts from successive projects of the same type in the same place over time were determined to result in significant adverse environmental impacts.

4. Permit Is Not Exempt from CEQA

This permit application was found not to be exempt from CEQA and no other agency will be conducting a Negative Declaration or EIR for the project. The District has prepared and certified a Negative Declaration or EIR for the project. The final action by the District was taken only after the information contained in the Final EIR or Negative Declaration was considered and Significant Adverse Environmental Impacts were mitigated to the extent feasible.

Permit Engineer \_\_\_\_\_ Date \_\_\_\_\_  
 Signature

**Part I: Permit Handbook Chapters for Ministerially Exempt Permits** [number of chapter in ( )]

|                                                          |                                                    |
|----------------------------------------------------------|----------------------------------------------------|
| Chapter 2. Combustion Equipment                          | 4. Semiconductor Manufacturing Operations (7.4)    |
| 1. Boilers, Steam Generators & Process Heaters (2.1)     | Chapter 8. Waste Processing Industry               |
| 2. (deleted)                                             | 1. (deleted)                                       |
| 3. Internal Combustion Engines                           | 2. Sewage Treatment Facilities Works (POTWs) (8.2) |
| 1. Stationary Diesel Engines (2.3.1)                     | Chapter 9. Soil/Water Remediation                  |
| 2. Stationary Natural Gas Engines (2.3.2)                | 1. Air Stripping (9.1)                             |
| 3. Portable Diesel Engines (2.3.3)                       | 2. Soil Vapor Extraction, Gasoline (9.2)           |
| 4. 1. MicroTurbines (25-500 KW)                          | 3. (deleted)                                       |
| Chapter 3. Petroleum Industry                            | Chapter 10. Toxic Emitting Operations              |
| 1. Bulk Loading Facilities (3.1)                         | 1. Chrome Plating (10.1)                           |
| 2. Gasoline Dispensing Facilities (3.2)                  | 2. Ethylene Oxide Sterilizers (10.2)               |
| 3. Oil-water Separators (3.3)                            | 3. (deleted)                                       |
| 4. Petroleum Refinery Fugitive Emissions (3.4)           | 4. Petroleum Solvent Dry cleaning (10.4)           |
| 5. Natural Gas Facilities (3.5)                          | 5. Synthetic Solvent Dry cleaning (10.5)           |
| Chapter 4. Organic Liquid Storage Tanks (4)              | Chapter 11. Miscellaneous Operations               |
| Chapter 5. Coating Operations                            | 1. Abrasive Blasting (Confined) (11.1)             |
| 1. Spray Booths & Spray Guns (5.1)                       | 2. Asphalt (Hot Mix) Facilities (11.2)             |
| 2. Coating and Ink Manufacturing (5.2)                   | 3. Coffee Roasters (11.3)                          |
| 3. Graphic Arts Printing and Coating Operations (5.3)    | 4. Cooling Towers (11.4)                           |
| Chapter 6. Solvent Cleaning                              | 5. Concrete Batch Plants (11.5)                    |
| 1. Cold Solvent Cleaning (6.1)                           | 6. Crematories (11.6)                              |
| 2. Vapor and Conveyorized Solvent Cleaning (6.2)         | 7. Crushing and Grinding (11.7)                    |
| 3. Wipe Cleaning Operations (6.3)                        | 8. (deleted)                                       |
| Chapter 7. Electronic & Semiconductor Industry           | 9. Misc. Organic Operations (11.9)                 |
| 1. Printed Circuit Board Manufacturing (7.1)             | 10. Portable Equipment (11.10)                     |
| 2. Electronic Assembly & Wave Soldering Operations (7.2) | 11. Polyester Resin Manufacturing (11.11)          |
| 3. Flexible and Rigid Disk Manufacturing (7.3)           | 12. Polyester Resin Operations (11.12)             |
|                                                          | 13. Tub Grinder (11.13)                            |

**Part II: Regulation 2-1-426.2 Subsections to Verify that Another Agency Will Be Lead Agency**

1. A Draft or Final Environmental Impact Report prepared by or under the supervision of the Lead Agency; or
2. A contract for the preparation of a Draft Environmental Impact Report executed by the Lead Agency together with the Initial Study prepared by the Lead Agency; or
3. A Negative Declaration prepared by the Lead Agency; or
4. A Notice of Preparation of a Draft EIR prepared by the Lead Agency
5. A copy of the Initial Study prepared by the Lead Agency; or
6. A commitment in writing from another agency indicating that it has assumed the role of Lead Agency for the project in question.

**Part III: Categorically Exempt Permits - Regulation 2-1-312 Subsection**

1. Permit modifications for existing or permitted sources or facilities which do not involve any increases in emissions or physical modifications.
2. Permit applications to install air pollution control or abatement equipment.
3. Permit applications for projects undertaken for the sole purpose of bringing an existing facility into compliance with newly adopted regulatory requirements of the District or of any other local, state, or federal agency.
4. Permit applications submitted by existing sources or facilities pursuant to a loss of a previously valid exemption from the District's permitting requirements.
5. Permit application submitted pursuant to the requirement of an order for abatement issued by the District's Hearing Board or of a judicial enforcement order.
6. Permit applications relating exclusively to the repair, maintenance or minor alteration of existing facilities, equipment or sources involving negligible or no expansion of use beyond that previously existing.
7. Permit applications for the replacement or reconstruction of existing sources or facilities where the new source or facility will be located on the same site as the source or facility replaced and will have substantially the same purpose and capacity as the source or facility replaced.
8. Permit applications for cogeneration facilities which meet the criteria of Section 15329 of the State CEQA Guidelines.
9. Projects exempt from CEQA review pursuant to the State CEQA Guidelines.
10. Applications to deposit emission reductions in the emissions bank pursuant to Regulation 2. Rule 4.
11. Permit applications for a new or modified source or sources or for process changes which will satisfy the "No Net Emission Increase" provisions of District Regulation 2, Rule 2, and for which there is no possibility that the project may have any significant environmental effect in connection with any environmental media or resources other than air quality.

**BAAQMD PERMITS - CEQA COMPLIANCE**

Sections A, B, and C must be completed for all permit applications. This completed form must be included in the permit Evaluation file.

**A. General Information**

Application Number \_\_\_\_\_  
 Application Title \_\_\_\_\_  
 Project Description Endorse and Venturi Scrubber for Shredder

**B. Determination of Completeness**

Complete this section by placing a circle around the number corresponding to the action taken to determine that the application is complete for CEQA purposes and fill in blanks where appropriate.

1. Ministerial Exemption  
 This permit application is not subject to CEQA because the evaluation is a ministerial action conducted using the fixed standards and objective measurements outlined in the Permit Handbook Chapter \_\_\_\_\_ (See References - Part I). Therefore the applicant does not need to submit any CEQA-related information to deem the application complete.
2. Project Subject to Negative Declaration or EIR by Another Agency  
 This permit application is subject to a Negative Declaration or EIR prepared (or under preparation) by another agency. The District has received the necessary information indicating that another agency is acting as Lead Agency. Therefore, Regulation 2-1-426.2 Subsection \_\_\_\_\_ (See References - Part 11) has been complied with and the application may be deemed complete for CEQA purposes.
3. All Other Permits  
 The District has received from the applicant a completed, signed and dated preliminary environmental study as required by Regulation 2-1-426.1, with information equivalent to that contained in Appendix H of the State CEQA Guidelines. Therefore, the application may be deemed complete for CEQA purposes.

027762

Permit Engineer [Signature] Date 3-7-16  
 Signature

**C. Final Action**

Complete this section by placing a circle around the number corresponding to the final action taken on the application for CEQA purposes and fill in blanks where appropriate.

1. Ministerial Exemption  
 This permit application is exempt from CEQA because the permit evaluation is a ministerial action. :The Procedures for Ministerial Evaluation (Section 2-1-427) and Criteria for Approval of Ministerial Permit Applications (Section 2-1-428) have been complied with in the determination that this application is exempt from CEQA.
2. Project Subject to Negative Declaration or EIR by Negative Declaration by an Another Agency  
 This permit application was subject to an EIR or Negative Declaration by an agency other than the District. The final action by the District was taken only after review and consideration of the information in the certified CEQA document by the APCO, or District representative of the APCO.
3. Categorical Exemption  
 This permit application is categorically exempt from CEQA because the project has no potential for causing a significant adverse environmental impact or the application is categorically exempt from CEQA under Regulation 2-1-312 2 (See References - Part III). In making the determination that this application is categorically exempt: 1) a review of the CEQA-Related Information submitted by the applicant (under Regulation 2-1-426-1), has been conducted indicating that there is no potential for a significant adverse environmental impact from the project; 2) a formal health risk assessment was not required; and 3) no unusual circumstances or cumulative impacts from successive projects of the same type in the same place over time were determined to result in significant adverse environmental impacts.
4. Permit Is Not Exempt from CEQA  
 This permit application was found not to be exempt from CEQA and no other agency will be conducting a Negative Declaration or EIR for the project. The District has prepared and certified a Negative Declaration or EIR for the project. The final action by the District was taken only after the information contained in the Final EIR or Negative Declaration was considered and Significant Adverse Environmental Impacts were mitigated to the extent feasible.

Permit Engineer [Signature] Date 10-31-16  
 Signature

**Part I: Permit Handbook Chapters for Ministerially Exempt Permits** [number of chapter in ( )]

|            |                                                       |             |                                                 |
|------------|-------------------------------------------------------|-------------|-------------------------------------------------|
| Chapter 2. | Combustion Equipment                                  | 4.          | Semiconductor Manufacturing Operations (7.4)    |
| 1.         | Boilers, Steam Generators & Process Heaters (2.1)     | Chapter 8.  | Waste Processing Industry                       |
| 2.         | (deleted)                                             | 1.          | (deleted)                                       |
| 3.         | Internal Combustion Engines                           | 2.          | Sewage Treatment Facilities Works (POTWs) (8.2) |
| 1.         | Stationary Diesel Engines (2.3.1)                     | Chapter 9.  | Soil/Water Remediation                          |
| 2.         | Stationary Natural Gas Engines (2.3.2)                | 1.          | Air Stripping (9.1)                             |
| 3.         | Portable Diesel Engines (2.3.3)                       | 2.          | Soil Vapor Extraction, Gasoline (9.2)           |
| 4.         | 1. MicroTurbines (25-500 KW)                          | 3.          | (deleted)                                       |
| Chapter 3. | Petroleum Industry                                    | Chapter 10. | Toxic Emitting Operations                       |
| 1.         | Bulk Loading Facilities (3.1)                         | 1.          | Chrome Plating (10.1)                           |
| 2.         | Gasoline Dispensing Facilities (3.2)                  | 2.          | Ethylene Oxide Sterilizers (10.2)               |
| 3.         | Oil-water Separators (3.3)                            | 3.          | (deleted)                                       |
| 4.         | Petroleum Refinery Fugitive Emissions (3.4)           | 4.          | Petroleum Solvent Dry cleaning (10.4)           |
| 5.         | Natural Gas Facilities (3.5)                          | 5.          | Synthetic Solvent Dry cleaning (10.5)           |
| Chapter 4. | Organic Liquid Storage Tanks (4)                      | Chapter 11. | Miscellaneous Operations                        |
| Chapter 5. | Coating Operations                                    | 1.          | Abrasive Blasting (Confined) (11.1)             |
| 1.         | Spray Booths & Spray Guns (5.1)                       | 2.          | Asphalt (Hot Mix) Facilities (11.2)             |
| 2.         | Coating and Ink Manufacturing (5.2)                   | 3.          | Coffee Roasters (11.3)                          |
| 3.         | Graphic Arts Printing and Coating Operations (5.3)    | 4.          | Cooling Towers (11.4)                           |
| Chapter 6. | Solvent Cleaning                                      | 5.          | Concrete Batch Plants (11.5)                    |
| 1.         | Cold Solvent Cleaning (6.1)                           | 6.          | Crematories (11.6)                              |
| 2.         | Vapor and ConveyORIZED Solvent Cleaning (6.2)         | 7.          | Crushing and Grinding (11.7)                    |
| 3.         | Wipe Cleaning Operations (6.3)                        | 8.          | (deleted)                                       |
| Chapter 7. | Electronic & Semiconductor Industry                   | 9.          | Misc. Organic Operations (11.9)                 |
| 1.         | Printed Circuit Board Manufacturing (7.1)             | 10.         | Portable Equipment (11.10)                      |
| 2.         | Electronic Assembly & Wave Soldering Operations (7.2) | 11.         | Polyester Resin Manufacturing (11.11)           |
| 3.         | Flexible and Rigid Disk Manufacturing (7.3)           | 12.         | Polyester Resin Operations (11.12)              |
|            |                                                       | 13.         | Tub Grinder (11.13)                             |

**Part II: Regulation 2-1-426.2 Subsections to Verify that Another Agency Will Be Lead Agency**

1. A Draft or Final Environmental Impact Report prepared by or under the supervision of the Lead Agency; or
2. A contract for the preparation of a Draft Environmental Impact Report executed by the Lead Agency together with the Initial Study prepared by the Lead Agency; or
3. A Negative Declaration prepared by the Lead Agency; or
4. A Notice of Preparation of a Draft EIR prepared by the Lead Agency
5. A copy of the Initial Study prepared by the Lead Agency; or
6. A commitment in writing from another agency indicating that it has assumed the role of Lead Agency for the project in question.

**Part III: Categorically Exempt Permits - Regulation 2-1-312 Subsection**

1. Permit modifications for existing or permitted sources or facilities which do not involve any increases in emissions or physical modifications.
2. Permit applications to install air pollution control or abatement equipment.
3. Permit applications for projects undertaken for the sole purpose of bringing an existing facility into compliance with newly adopted regulatory requirements of the District or of any other local, state, or federal agency.
4. Permit applications submitted by existing sources or facilities pursuant to a loss of a previously valid exemption from the District's permitting requirements.
5. Permit application submitted pursuant to the requirement of an order for abatement issued by the District's Hearing Board or of a judicial enforcement order.
6. Permit applications relating exclusively to the repair, maintenance or minor alteration of existing facilities, equipment or sources involving negligible or no expansion of use beyond that previously existing.
7. Permit applications for the replacement or reconstruction of existing sources or facilities where the new source or facility will be located on the same site as the source or facility replaced and will have substantially the same purpose and capacity as the source or facility replaced.
8. Permit applications for cogeneration facilities which meet the criteria of Section 15329 of the State CEQA Guidelines.
9. Projects exempt from CEQA review pursuant to the State CEQA Guidelines.
10. Applications to deposit emission reductions in the emissions bank pursuant to Regulation 2. Rule 4.
11. Permit applications for a new or modified source or sources or for process changes which will satisfy the "No Net Emission Increase" provisions of District Regulation 2, Rule 2, and for which there is no possibility that the project may have any significant environmental effect in connection with any environmental media or resources other than air quality.



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BAY AREA AIR QUALITY  
MANAGEMENT DISTRICT

May 29, 2018

Dharam Singh  
Bay Area Air Quality Management District  
375 Beale Street, Suite 600  
San Francisco, CA 94105

*RE: Proposed Emission Limits and Operating Parameters for the Shredder at the Schnitzer Steel Industries, Inc. Oakland Facility (Plant No. 208)*

Dear Mr. Singh:

On behalf of Schnitzer Steel Industries, Inc. (Schnitzer Steel), Trinity Consultants (Trinity) is submitting this letter to propose new emission rate limits and operational parameters for the shredder at the Oakland facility, as required by Condition 26401 Part 3 of the Authority to Construct (ATC) issued by the Bay Area Air Quality Management District (BAAQMD or District) on November 10, 2016.

This submittal includes trade secret process and production data and information pursuant to California Government Code Section 6254.7(d), which are not patented and which are known only to certain individuals within Schnitzer Steel who are using it to produce an article of trade or a service having commercial value and which gives its user an opportunity to obtain a business advantage over competitors who do not know or use it.

Emission source tests were conducted pursuant to Condition 26401 Part 4 of the ATC. The source tests were designed to measure emission rates from the shredder at stack P-15 and establish appropriate ranges for various operating parameters, as summarized below.

- Determine emission control system inlet emission rates, as pertinent to a demonstration that the new shredder enclosure and emission control system result in an overall reduction in emissions from the shredder, even if emissions from the P-15 stack have increased.
- Establish emission rate limits for Precursor Organic Compounds (POC), PM<sub>10</sub>, PM<sub>2.5</sub>, benzene, hexavalent chromium (Cr<sup>6+</sup>), PCBs, cadmium (Cd), lead (Pb), tetrachloroethylene, and trichloroethylene.
- Establish water flow rates (gallons per minute, gpm), pressure differential operating ranges (inches of H<sub>2</sub>O) at each Venturi Scrubber, and the ventilation fan amperage during the source test.

HEADQUARTERS >

12700 Park Central Drive | Suite 2100 | Dallas, TX 75251 | P (972) 661-8100 | F (972) 385-9203

North America | Europe | Middle East | Asia

**SOURCE TEST RESULTS SUMMARY****Pre-Project Source Testing: Particulate Matter Emission Source Tests for the Shredder Particulate Control System**

As required by Condition 26401 Part 4a of the ATC, particulate matter (PM) source tests were conducted for the then-existing shredder PM control system at the Oakland facility prior to the installation of the upgraded emission control system. Testing was conducted on November 8, 2016, and the tests were conducted according to the test plan dated October 24, 2016, that was submitted to, and approved by, the BAAQMD. The 2016 PM emission source test report was submitted to the District on February 1, 2017. PM source test results are summarized below in Table 1.

**Table 1. Pre-Project Average PM Results for the Shredder Control Device**

|                                                 | <b>Average Results (Inlet)</b> | <b>Average Results (Outlet)</b> |
|-------------------------------------------------|--------------------------------|---------------------------------|
| Date                                            | 11/8/2016                      | 11/8/2016                       |
| Oxygen (O <sub>2</sub> ), % volume dry          | 20.5                           | 20.7                            |
| Carbon Dioxide (CO <sub>2</sub> ), % volume dry | 0.7                            | 0.4                             |
| Flue Gas Temperature (°F)                       | 86.3                           | 94.5                            |
| Moisture, % volume                              | 3.4                            | 3.3                             |
| Volumetric Flow Rate, dscfm                     | ██████                         | ██████                          |
| <b>Total PM<sub>10</sub></b>                    |                                |                                 |
| (gr/dscf)                                       | 0.007                          | 0.004                           |
| (lb/hr)                                         | 1.2                            | 0.7                             |
| (lb/day)                                        | 29                             | 18                              |

Source: Source Test Report 2016 Emission Tests, Schnitzer Steel, Steel Shredder, Oakland, California, prepared by the Avogadro Group dba Montrose Air Quality Services Antioch, December 8, 2016, Table 1-1.

**Post-Project Source Testing: Source Test Results for the Upgraded Shredder Particulate Abatement System****June 2017 Tests**

The initial source tests for the upgraded shredder particulate abatement system were conducted pursuant to Condition 26401 Part 4b of the ATC. Testing was conducted on June 28-29, 2017, and the tests were conducted according to the test plan dated May 30, 2017, that was submitted to, and approved by, the BAAQMD. The June 2017 emission source test report was submitted to the District on August 24, 2017.

As described in Section 2.2 of the Source Test Report, for the post-project source tests the inlet sampling was conducted in one of the two horizontal ducts that are connected to the new abatement system. Therefore, the inlet PM samples represented approximately half of the total PM loading. Consequently, to account for the total PM loading from the shredder to the abatement system, the final inlet mass (but not concentration) PM results should be doubled. The measured and adjusted PM inlet emission rates are shown in Table 2.

**Table 2. Post-Project Average PM Results for the Upgraded Shredder Abatement System (6/2017)**

|                                                 | Average Results (Inlet)         |                              | Average Results (Outlet) |
|-------------------------------------------------|---------------------------------|------------------------------|--------------------------|
|                                                 | Without Adjustment <sup>a</sup> | With Adjustment <sup>b</sup> |                          |
| Date                                            | 6/28/2017 - 6/29/2017           |                              | 6/28/2017 - 6/29/2017    |
| Feed Rate (tph)                                 | ██████████                      |                              | ██████████               |
| Oxygen (O <sub>2</sub> ), % volume dry          | 21.0                            |                              | 21.0                     |
| Carbon Dioxide (CO <sub>2</sub> ), % volume dry | 0.0                             |                              | 0.0                      |
| Flue Gas Temperature (°F)                       | 63.2                            |                              | 74.4                     |
| Moisture, % volume                              | 2.3                             |                              | 2.9                      |
| Volumetric Flow Rate, dscfm                     | ██████████                      |                              | ██████████               |
| <b>Total PM<sub>2.5</sub></b>                   |                                 |                              |                          |
| (gr/dscf)                                       | --                              | --                           | 0.0028                   |
| (lb/hr)                                         | --                              | --                           | 3.5                      |
| (lb/ton material processed)                     | --                              | --                           | ██████████               |
| <b>Total PM<sub>10</sub></b>                    |                                 |                              |                          |
| (gr/dscf)                                       | 0.0027                          | 0.0027                       | 0.0031                   |
| (lb/hr)                                         | 1.6                             | 3.2                          | 3.8                      |
| (lb/ton material processed)                     | ██████████                      | ██████████                   | ██████████               |
| <b>Total PM</b>                                 |                                 |                              |                          |
| (gr/dscf)                                       | 0.0038                          | 0.0038                       | 0.0033                   |
| (lb/hr)                                         | 2.2                             | 4.4                          | 4.1                      |
| (lb/ton material processed)                     | ██████████                      | ██████████                   | ██████████               |

Source: Source Test Report 2017 Emission Tests, Schnitzer Steel, Steel Shredder, Oakland, California, prepared by Montrose Air Quality Services, August 23, 2017, Table 1-1.

Notes:

<sup>a</sup> PM measurements at the inlet of the PM abatement system, as presented in the source test report submitted to the BAAQMD on August 24, 2017.

<sup>b</sup> Inlet samples were collected at one of the two ducts that are connected to the abatement devices and the stack; therefore, the PM emission results at the inlet are doubled for proper comparison.

Due to the low PM loading at the inlet of the shredder abatement system, the uncertainty of the inlet measurements is expected to be high. Moreover, as mentioned above, measurements were taken at only one of the two inlet ducts connected to the new PM abatement system. To estimate the total PM loading at the inlet, we have assumed that both ducts have equal flow rate and PM loading. Because of the high variability of low PM inlet measurements and the assumptions used in the calculation, the total inlet PM loadings could be underestimated. Therefore, the outlet PM<sub>10</sub> measurements appear to be higher than the inlet PM<sub>10</sub> measurements, and there is little difference between the outlet and inlet total PM measurements. The source test firm also reported that the inlet PM filters were, in some cases, saturated with water, rendering the test

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results questionable. Finally, it is important to remember that the principal impetus for installing the shredder enclosure and control system at the Oakland facility was to mitigate any potential nuisance associated with the transport of light fibrous material (LFM) offsite. LFM is much larger than inhalable particulate matter (PM), and the efficiency of the shredder enclosure at capturing these large particles made the measurement of much smaller particles (PM<sub>2.5</sub>, PM<sub>10</sub> and PM) at the control system inlet more challenging. For all of these reasons, we do not believe these results are indicative of the control efficiency of the upgraded abatement system.

In addition to PM, PM<sub>10</sub>, and PM<sub>2.5</sub>, emissions rates for POC, benzene, Cr<sup>6+</sup>, PCBs, Cd, Pb, tetrachloroethylene, and trichloroethylene were also measured at the outlet for purposes of establishing emission limits at the stack. These source test results are summarized in Table 3.

**Table 3. Post-Project Average Emission Results (non-PM) for the Upgraded Shredder Abatement System (6/2017)**

|                                       | Average Results (Outlet) |                           |
|---------------------------------------|--------------------------|---------------------------|
|                                       | lb/hr                    | lb/ton material processed |
| Total POC                             | 56.5                     | ████                      |
| Hexavalent Chromium, Cr <sup>6+</sup> | Below Detection Limit    | Below Detection Limit     |
| Cadmium, Cd                           | 0.00024                  | ████████                  |
| Lead, Pb                              | 0.0017                   | ████████                  |
| Benzene                               | 0.29                     | ████                      |
| Tetrachloroethylene                   | Below Detection Limit    | Below Detection Limit     |
| Trichloroethylene                     | 0.063 <sup>a</sup>       | ████████                  |
| Total PCBs                            | 0.0106                   | ████████                  |

Source: Source Test Report 2017 Emission Tests, Schnitzer Steel, Steel Shredder, Oakland, California, prepared by Montrose Air Quality Services, August 23, 2017.

Note:

<sup>a</sup> Two of the three runs reported values below the detection limit; value shown is for the first run where measurements were above the detection limit.

### October 2017 Tests

A second set of source tests for the upgraded shredder particulate abatement system was conducted on October 12-13, 2017. The October 2017 emission source test report was submitted to the District on January 5, 2018.

The objectives of this retest were to:

- Use EPA Method 5 in lieu of EPA Method 201a to address a concern by the source test contractor that the anomalous PM results in the June tests may have been attributed to a combination of the nature of the particulate matter being measured and the nozzle/cyclone assembly used in Method 201a.
- Confirm the June test results for POC, which were higher than expected.
- Retest for speciated organic toxics to obtain a lower detection limit.

The results of the October 2017 tests are shown in Table 4 and Table 5.

**Table 4. Post-Project Average PM Results for the Upgraded Shredder Abatement System (10/2017)**

|                                                 | Average Results (Outlet) |
|-------------------------------------------------|--------------------------|
| Date                                            | 10/12/2017               |
| Feed Rate (tph)                                 | ██████                   |
| Oxygen (O <sub>2</sub> ), % volume dry          | 21.1                     |
| Carbon Dioxide (CO <sub>2</sub> ), % volume dry | 0.1                      |
| Flue Gas Temperature (°F)                       | 74.3                     |
| Moisture, % volume                              | 2.6                      |
| Volumetric Flow Rate, dscfm                     | ██████                   |
| <b>Total PM</b>                                 |                          |
| (gr/dscf)                                       | 0.002                    |
| (lb/hr)                                         | 2.4                      |
| (lb/ton material processed)                     | ██████                   |

Source: Source Test Report 2017 Emission Retests, Schnitzer Steel, Steel Shredder, Oakland, California, prepared by Montrose Air Quality Services, January 4, 2018.

**Table 5. Post-Project Average Emission Results (non-PM) for the Upgraded Shredder Abatement System (10/2017)**

|                                       | Average Results (Outlet) |                           |
|---------------------------------------|--------------------------|---------------------------|
|                                       | lb/hr                    | lb/ton material processed |
| Total POC                             | 125                      | ██████                    |
| Hexavalent Chromium, Cr <sup>6+</sup> | Not Measured             | Not Measured              |
| Cadmium, Cd                           | Not Measured             | Not Measured              |
| Lead, Pb                              | Not Measured             | Not Measured              |
| Benzene                               | 0.51                     | ██████                    |
| Tetrachloroethylene                   | 0.005                    | ██████                    |
| Trichloroethylene                     | 0.002                    | ██████                    |
| Total PCBs                            | 0.0148                   | ██████                    |

Source: Source Test Report 2017 Emission Retests, Schnitzer Steel, Steel Shredder, Oakland, California, prepared by Montrose Air Quality Services, January 4, 2018.

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### January 2018 Tests

A third set of source tests for the upgraded shredder particulate abatement system was conducted on January 20-22, 2018. The January 2018 emission source test report was submitted to the District on March 21, 2018.

The objectives of this retest were to:

- Evaluate the effect of trace residual fuel in vehicle fuel tanks on measured emissions of POC.
- Retest PM using EPA Methods 5/202 to assess the variability in these measurements
- Retest for hexavalent chromium and selected organic toxics to obtain a lower detection limit.

The results of the January 2018 tests are shown in Table 6 and Table 7.

**Table 6. Post-Project Average PM Results for the Upgraded Shredder Abatement System (1/2018)**

| Date                                            | Average Results (Outlet) |                 |
|-------------------------------------------------|--------------------------|-----------------|
|                                                 | 1/20/2018 - 1/22/2018    |                 |
|                                                 | Without Fuel Tanks       | With Fuel Tanks |
| Feed Rate (tph)                                 | █                        | █               |
| Oxygen (O <sub>2</sub> ), % volume dry          | 21.1                     | 20.8            |
| Carbon Dioxide (CO <sub>2</sub> ), % volume dry | 0.1                      | <0.1            |
| Flue Gas Temperature (°F)                       | 62.6                     | 60.6            |
| Moisture, % volume                              | 1.0                      | 1.4             |
| Volumetric Flow Rate, dscfm                     | █                        | █               |
| <b>Total PM</b>                                 |                          |                 |
| (gr/dscf)                                       | 0.0014                   | 0.0013          |
| (lb/hr)                                         | 1.7                      | 1.5             |
| (lb/ton material processed)                     | █                        | █               |

Source: Source Test Report 2018 Emission Retests, Schnitzer Steel, Steel Shredder, Oakland, California, prepared by Montrose Air Quality Services, March 21, 2018.

**Table 7. Post-Project Average Emission Results (non-PM) for the Upgraded Shredder Abatement System (1/2018)**

|                                       | Average Results (Outlet) |                           |                 |                           |
|---------------------------------------|--------------------------|---------------------------|-----------------|---------------------------|
|                                       | Without Fuel Tanks       |                           | With Fuel Tanks |                           |
|                                       | lb/hr                    | lb/ton material processed | lb/hr           | lb/ton material processed |
| Total POC                             | 94                       | █                         | 200             | █                         |
| Hexavalent Chromium, Cr <sup>6+</sup> | 0.00063                  | █                         | 0.00066         | █                         |
| Cadmium, Cd                           | Not Measured             | Not Measured              | Not Measured    | Not Measured              |
| Lead, Pb                              | Not Measured             | Not Measured              | Not Measured    | Not Measured              |
| Benzene                               | 0.14                     | █                         | 0.74            | █                         |
| Tetrachloroethylene                   | Not Measured             | Not Measured              | Not Measured    | Not Measured              |
| Trichloroethylene                     | Not Measured             | Not Measured              | Not Measured    | Not Measured              |
| Total PCBs                            | 0.0031                   | █                         | 0.0018          | █                         |

Source: Source Test Report 2018 Emission Retests, Schnitzer Steel, Steel Shredder, Oakland, California, prepared by Montrose Air Quality Services, March 21, 2018.

### PROPOSED EMISSION LIMITS AND ASSOCIATED MONITORING PARAMETERS

As required by the ATC Condition #26401 Part 3, Schnitzer Steel is proposing the following new emissions limits for the shredder at stack P-15. As required by the permit, we are providing a discussion of potential emission limits for the following:

- POC
- PM<sub>10</sub>
- PM<sub>2.5</sub>
- Benzene
- Hexavalent Chromium
- PCBs
- Cadmium
- Lead
- Tetrachloroethylene
- Trichloroethylene

The proposed emission limits and supporting analysis for each pollutant are presented below. For each pollutant, the source test results are presented, and the rationale for each proposed limit is presented. The permit limits reflect the mean test result, and an allowance for process and test method variability. This allowance is based on engineering judgment and reflects the variability in the test results (sometimes expressed through the standard deviation of the measurements), and a compliance margin of █















































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POC

POC emissions were measured during the three test programs (6/2017, 10/2017 and 1/2018). In the 2018 test program, POC emissions were measured with fuel tanks attached to the car bodies (as was the case in the two 2017 test programs), and without any fuel tanks attached. As shown in Table 8, three different POC test methods were used during the three test programs in an attempt to determine whether test method variability could explain some of the results. The data indicate reasonably good consistency between EPA Method 25C and SCAQMD Method 25.1 results, although concerns remain that these methods will show variable results as the POC composition varies from day-to-day due to the limitations of the FID analyzers used with this method.

Table 8. Proposed POC Emission Limits at Stack P-15

| Test Date                                       | Method      | Run | Shredder Feed Rate (tons/hr)                                                        | Concentration (ppmv as C) | Rate (lbs/ton as CH <sub>4</sub> )                                                    | Mass (lbs/hr as CH <sub>4</sub> ) | Mass Normalized to  tons/hr (lbs/hr as CH <sub>4</sub> ) <sup>a</sup> |
|-------------------------------------------------|-------------|-----|-------------------------------------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tests with fuel tanks attached to car bodies    |             |     |                                                                                     |                           |                                                                                       |                                   |                                                                                                                                                          |
| 6/28/2017                                       | EPA TO-12   | 1   |    | 172                       |    | 61.8                              |                                                                       |
| 6/28/2017                                       | EPA TO-12   | 2   |    | 161                       |    | 57.2                              |                                                                       |
| 6/29/2017                                       | EPA TO-12   | 3   |    | 138                       |    | 50.6                              |                                                                       |
| 10/12/2017                                      | EPA 25C     | 1   |   | 431                       |   | 148                               |                                                                      |
| 10/12/2017                                      | EPA 25C     | 2   |  | 327                       |  | 113                               |                                                                     |
| 10/12/2017                                      | EPA 25C     | 3   |  | 334                       |  | 116                               |                                                                     |
| 1/21/2018                                       | SCAQMD 25.1 | 4   |  | 613                       |  | 201                               |                                                                     |
| 1/21/2018                                       | SCAQMD 25.1 | 5   |  | 655                       |  | 213                               |                                                                     |
| 1/21/2018                                       | SCAQMD 25.1 | 6   |  | 571                       |  | 187                               |                                                                     |
| Mean                                            |             |     |                                                                                     |                           |                                                                                       |                                   |                                                                                                                                                          |
| All Tests                                       |             |     |  | 378                       |  | 128                               |                                                                     |
| Methods 25C/25.1 Tests                          |             |     |  | 489                       |  | 163                               |                                                                     |
| Tests with no fuel tanks attached to car bodies |             |     |                                                                                     |                           |                                                                                       |                                   |                                                                                                                                                          |
| 1/20/2018                                       | SCAQMD 25.1 | 1   |  | 248                       |  | 80                                |                                                                     |
| 1/20/2018                                       | SCAQMD 25.1 | 2   |  | 199                       |  | 65                                |                                                                     |
| 1/20/2018                                       | SCAQMD 25.1 | 3   |  | 418                       |  | 136                               |                                                                     |
| Mean                                            |             |     |  | 288                       |  | 94                                |                                                                     |
| Proposed Permit Limits                          |             |     |                                                                                     |                           |                                                                                       | 263 <sup>b</sup>                  |                                                                                                                                                          |

Notes:

- a.  tph used for normalized hourly mass emission rate reflecting the highest measured value during the test program ( tph on 1/21/2018)
- b.  lbs/hr \*  = 263 lbs/hr. See below for further explanation.

The high variability in test results observed, combined with the added complication of significantly different emission rates when fuel tanks remain in, or are pre-removed from, car bodies precludes the establishment of a single, simple emission limit for POC. Furthermore, after further study by Schnitzer Steel of the logistical implications of requiring that fuel tanks be removed at locations where the car bodies are sourced, and of

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tracking two different types of car bodies, we are proposing limits based solely on emissions from car bodies with fuel tanks attached. As a result, we are proposing the following set of emission limits for POC emissions.

Lbs/hr emission limit: 263 lbs/hr

Basis: Mean test results with fuel tanks attached, scaled to a shredder feed rate of [REDACTED] tons/hour, using Methods 25C/25.1 ([REDACTED] lbs/hr), with a [REDACTED] compliance margin.

Tons/year emission limit: 198 tons/year, calculated based on the following formula:

$$TPY = [REDACTED] \text{ (lb/ton)} \times \text{total shredder feed (tons/year)} / 2000$$

The operator can request revised emission factors, without a permit amendment, based on subsequent source tests conducted using EPA Method 25C, SCAQMD Method 25.1, or SCAQMD Method 25.3. Operator will be required to maintain records of total shredder feed, on a monthly basis, and on a 12-month rolling total basis.

Basis: Mean test results using Methods 25C/25.1.

#### *PM/PM<sub>10</sub>/PM<sub>2.5</sub>*

PM emissions were measured during the three test programs (6/2017, 10/2017 and 1/2018). In the 6/2017 test program, PM emissions were measured using EPA 201A/202; in the subsequent two test programs, EPA Methods 5/202 were used to address concerns that the type of material in the stack could interfere with the Method 201A cyclone. As shown in Table 9, the results of the Method 5/202 tests are lower, and more consistent, than the Method 201A/202 results.

In addition, during the 2018 test program, PM emissions were measured with fuel tanks attached to the car bodies (as was the case in the two 2017 test programs), and without any fuel tanks attached. However, there is no reason to believe that the presence or absence of fuel tanks would impact PM emissions and, as a result, the data from all six PM tests in 2018 are used for this analysis.

As shown in the table below, the average total PM emission rate from all tests is 3.9 lbs/hr (when normalized to the maximum hourly throughput rate of [REDACTED] tons/hr). Schnitzer proposes to add a compliance margin to this average, and proposes an hourly emission limit of 5.0 lbs/hr. This limit would apply to PM<sub>2.5</sub> and PM<sub>10</sub>, and would be based on the results of tests using EPA Methods 5/202.

Table 9. Proposed PM/PM<sub>10</sub>/PM<sub>2.5</sub> Emission Limits at Stack P-15

| Test Date  | Method       | Run | Shredder Feed Rate (tons/hr)  | Concentration (gr/dscf) |                  |        | Rate (lbs/ton)    |                  |            | Mass (lbs/hr)     |                  |      | Mass Normalized to [redacted] tons/hr (lbs/hr) <sup>a</sup> |                  |            |
|------------|--------------|-----|-------------------------------|-------------------------|------------------|--------|-------------------|------------------|------------|-------------------|------------------|------|-------------------------------------------------------------|------------------|------------|
|            |              |     |                               | PM <sub>2.5</sub>       | PM <sub>10</sub> | PM     | PM <sub>2.5</sub> | PM <sub>10</sub> | PM         | PM <sub>2.5</sub> | PM <sub>10</sub> | PM   | PM <sub>2.5</sub>                                           | PM <sub>10</sub> | PM         |
| 6/28/2017  | EPA 201A/202 | 1   | [redacted]                    | 0.0027                  | 0.0029           | 0.0032 | [redacted]        | [redacted]       | [redacted] | 3.30              | 3.60             | 3.90 | [redacted]                                                  | [redacted]       | [redacted] |
| 6/28/2017  | EPA 201A/202 | 2   | [redacted]                    | 0.0033                  | 0.0035           | 0.0037 | [redacted]        | [redacted]       | [redacted] | 4.00              | 4.30             | 4.60 | [redacted]                                                  | [redacted]       | [redacted] |
| 6/29/2017  | EPA 201A/202 | 3   | [redacted]                    | 0.0025                  | 0.0028           | 0.0030 | [redacted]        | [redacted]       | [redacted] | 3.20              | 3.50             | 3.80 | [redacted]                                                  | [redacted]       | [redacted] |
| 10/12/2017 | EPA 5/202    | 1   | [redacted]                    |                         |                  | 0.0021 | [redacted]        | [redacted]       | [redacted] |                   |                  | 2.48 |                                                             |                  |            |
| 10/12/2017 | EPA 5/202    | 2   | [redacted]                    |                         |                  | 0.0024 | [redacted]        | [redacted]       | [redacted] |                   |                  | 2.85 |                                                             |                  |            |
| 10/12/2017 | EPA 5/202    | 3   | [redacted]                    |                         |                  | 0.0016 | [redacted]        | [redacted]       | [redacted] |                   |                  | 1.91 |                                                             |                  |            |
| 1/20/2018  | EPA 5/202    | 1   | [redacted]                    |                         |                  | 0.0013 | [redacted]        | [redacted]       | [redacted] |                   |                  | 1.44 |                                                             |                  |            |
| 1/20/2018  | EPA 5/202    | 2   | [redacted]                    |                         |                  | 0.0018 | [redacted]        | [redacted]       | [redacted] |                   |                  | 2.02 |                                                             |                  |            |
| 1/20/2018  | EPA 5/202    | 3   | [redacted]                    |                         |                  | 0.0012 | [redacted]        | [redacted]       | [redacted] |                   |                  | 1.35 |                                                             |                  |            |
| 1/21/2018  | EPA 5/202    | 4   | [redacted]                    |                         |                  | 0.0013 | [redacted]        | [redacted]       | [redacted] |                   |                  | 1.47 |                                                             |                  |            |
| 1/21/2018  | EPA 5/202    | 5   | [redacted]                    |                         |                  | 0.0011 | [redacted]        | [redacted]       | [redacted] |                   |                  | 1.23 |                                                             |                  |            |
| 1/21/2018  | EPA 5/202    | 6   | [redacted]                    |                         |                  | 0.0014 | [redacted]        | [redacted]       | [redacted] |                   |                  | 1.58 |                                                             |                  |            |
|            |              |     | <b>Mean</b>                   | 0.0028                  | 0.0031           | 0.0020 | [redacted]        | [redacted]       | [redacted] | 3.5               | 3.8              | 2.4  | [redacted]                                                  | [redacted]       | [redacted] |
|            |              |     | <b>Standard Deviation</b>     | 0.0004                  | 0.0004           | 0.0009 | [redacted]        | [redacted]       | [redacted] | 0.4               | 0.4              | 1.2  | [redacted]                                                  | [redacted]       | [redacted] |
|            |              |     | <b>Proposed Permit Limits</b> |                         |                  |        | [redacted]        | [redacted]       | [redacted] | 5.0               | 5.0              | 5.0  | [redacted]                                                  | [redacted]       | [redacted] |

Notes:

a. [redacted] tph used for normalized hourly mass emission rate reflecting the highest measured value during the test program ([redacted] tph on 1/21/2018)

**Benzene**

Benzene emissions were measured during the three test programs (6/2017, 10/2017 and 1/2018) using EPA Method TO-15. As shown in Table 10, the results were, again, quite variable. In addition, during the 2018 test program, benzene emissions were measured with fuel tanks attached to the car bodies (as was the case in the two 2017 test programs), and without any fuel tanks attached. The benzene emission rates measured during the tests without fuel tanks were substantially lower than those measured during the tests with attached fuel tanks. However, for the reasons discussed above, Schnitzer Steel is proposing emission limits based on the operating condition in which all car bodies have fuel tanks attached.

**Table 10. Proposed Benzene Emission Limits at Stack P-15**

| Test Date                                              | Method      | Run | Shredder Feed Rate (tons/hr) | Concentration (ppmvd) | Rate (lbs/ton) | Mass (lbs/hr) | Mass Normalized to [REDACTED] tons/hr (lbs/hr) <sup>a</sup> |
|--------------------------------------------------------|-------------|-----|------------------------------|-----------------------|----------------|---------------|-------------------------------------------------------------|
| <b>Tests with fuel tanks attached to car bodies</b>    |             |     |                              |                       |                |               |                                                             |
| 6/28/2017                                              | TO-15       | 1   | [REDACTED]                   | 0.15                  | [REDACTED]     | 0.26          | [REDACTED]                                                  |
| 6/28/2017                                              | TO-15       | 2   | [REDACTED]                   | 0.16                  | [REDACTED]     | 0.28          | [REDACTED]                                                  |
| 6/29/2017                                              | TO-15       | 3   | [REDACTED]                   | 0.18                  | [REDACTED]     | 0.32          | [REDACTED]                                                  |
| 10/12/2017                                             | TO-15       | 1   | [REDACTED]                   | 0.40                  | [REDACTED]     | 0.67          | [REDACTED]                                                  |
| 10/12/2017                                             | TO-15       | 2   | [REDACTED]                   | 0.24                  | [REDACTED]     | 0.41          | [REDACTED]                                                  |
| 10/12/2017                                             | TO-15       | 3   | [REDACTED]                   | 0.26                  | [REDACTED]     | 0.44          | [REDACTED]                                                  |
| 1/21/2018                                              | TO-15       | 4   | [REDACTED]                   | 0.45                  | [REDACTED]     | 0.73          | [REDACTED]                                                  |
| 1/21/2018                                              | TO-15       | 5   | [REDACTED]                   | 0.46                  | [REDACTED]     | 0.72          | [REDACTED]                                                  |
| 1/21/2018                                              | TO-15       | 6   | [REDACTED]                   | 0.48                  | [REDACTED]     | 0.77          | [REDACTED]                                                  |
| <b>Mean</b>                                            |             |     |                              | 0.31                  | [REDACTED]     | 0.51          | [REDACTED]                                                  |
| <b>Standard Deviation</b>                              |             |     |                              | 0.14                  | [REDACTED]     | 0.21          | [REDACTED]                                                  |
| <b>Tests with no fuel tanks attached to car bodies</b> |             |     |                              |                       |                |               |                                                             |
| 1/20/2018                                              | SCAQMD 25.1 | 1   | [REDACTED]                   | 0.10                  | [REDACTED]     | 0.16          | [REDACTED]                                                  |
| 1/20/2018                                              | SCAQMD 25.1 | 2   | [REDACTED]                   | 0.19                  | [REDACTED]     | 0.30          | [REDACTED]                                                  |
| 1/20/2018                                              | SCAQMD 25.1 | 3   | [REDACTED]                   | 0.12                  | [REDACTED]     | 0.20          | [REDACTED]                                                  |
| <b>Mean</b>                                            |             |     |                              | 0.14                  | [REDACTED]     | 0.22          | [REDACTED]                                                  |
| <b>Standard Deviation</b>                              |             |     |                              | 0.05                  | [REDACTED]     | 0.07          | [REDACTED]                                                  |
| <b>Proposed Permit Limits</b>                          |             |     |                              |                       |                | 1.41          | [REDACTED]                                                  |

**Notes**

a. [REDACTED] tph used for normalized hourly mass emission rate reflecting the highest measured value during the test program ([REDACTED] tph on 1/21/2018)

As was the case for total POC, the high variability in test results observed complicates the selection of an emission limit. As a result, we are proposing the following emission limit for benzene emissions.

Lbs/hr emission limit: 1.41 lbs/hr

Basis: Mean test results plus two standard deviations, scaled to a shredder feed rate of [REDACTED] tons/hour, using EPA Method TO-15, with a [REDACTED] compliance margin.

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### Hexavalent Chromium

Hexavalent chromium (Cr6+) emissions were measured during the June 2017 test program using EPA Method 306, but were found to be below the detection limits. Cr6+ emissions were again measured during the January 2018 test program using CARB Method 425, and were above the detection limits. As shown in Table 11, the results were reasonably consistent. During the 2018 test program, Cr6+ emissions were measured with fuel tanks attached to the car bodies, and without any fuel tanks attached. The Cr6+ emission rates measured during the tests with and without fuel tanks were similar, and all six test results were combined for the purposes of this assessment

**Table 11. Proposed Hexavalent Chromium Emission Limits at Stack P-15**

| Test Date                     | Method       | Run | Shredder Feed Rate (tons/hr) | Concentration (ug/m3) | Rate (lbs/ton) | Mass (lbs/hr) | Mass Normalized to [redacted] tons/hr (lbs/hr) <sup>a</sup> |
|-------------------------------|--------------|-----|------------------------------|-----------------------|----------------|---------------|-------------------------------------------------------------|
| 6/29/2017                     | EPA 306      | 1   | [redacted]                   | BDL                   | BDL            | BDL           | BDL                                                         |
| 6/29/2017                     | EPA 306      | 2   | [redacted]                   | BDL                   | BDL            | BDL           | BDL                                                         |
| 6/29/2017                     | EPA 306      | 3   | [redacted]                   | BDL                   | BDL            | BDL           | BDL                                                         |
| 10/12/2017                    | not measured |     |                              |                       |                |               |                                                             |
| 10/12/2017                    | not measured |     |                              |                       |                |               |                                                             |
| 10/12/2017                    | not measured |     |                              |                       |                |               |                                                             |
| 1/20/2018                     | CARB 425     | 1   | [redacted]                   | 1.3                   | [redacted]     | 0.00066       | [redacted]                                                  |
| 1/20/2018                     | CARB 425     | 2   | [redacted]                   | 1.2                   | [redacted]     | 0.00062       | [redacted]                                                  |
| 1/20/2018                     | CARB 425     | 3   | [redacted]                   | 1.2                   | [redacted]     | 0.00062       | [redacted]                                                  |
| 1/21/2018                     | CARB 425     | 4   | [redacted]                   | 1.3                   | [redacted]     | 0.00068       | [redacted]                                                  |
| 1/21/2018                     | CARB 425     | 5   | [redacted]                   | 1.3                   | [redacted]     | 0.00066       | [redacted]                                                  |
| 1/21/2018                     | CARB 425     | 6   | [redacted]                   | 1.3                   | [redacted]     | 0.00066       | [redacted]                                                  |
| <b>Mean</b>                   |              |     |                              | 1.27                  | [redacted]     | 0.00065       | [redacted]                                                  |
| <b>Standard Deviation</b>     |              |     |                              | 0.05                  | [redacted]     | 0.00002       | [redacted]                                                  |
| <b>Proposed Permit Limits</b> |              |     |                              |                       |                | 0.0014        |                                                             |

Notes:

BDL: below detection limits

a. [redacted] tph used for normalized hourly mass emission rate reflecting the highest measured value during the test program ([redacted] tph on 1/21/2018)

Based on the results of the January 2018 tests, Schnitzer proposes the following emission limit for hexavalent chromium:

Lbs/hr emission limit: 0.0014 lbs/hr

Basis: Mean test results plus two standard deviations, scaled to a shredder feed rate of [redacted] tons/hour, using CARB Method 425, with a [redacted] compliance margin.

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### PCBs

PCB emissions were measured during all three test programs using CARB Method 428. As shown in Table 12, the results were quite variable. During the 2018 test program, PCB emissions were measured with fuel tanks attached to the car bodies, and without any fuel tanks attached. The PCB emission rates measured during the tests with and without fuel tanks were similar, and all test results were combined for the purposes of this assessment.

**Table 12. Proposed PCB Limits at Stack P-15**

| Test Date                     | Method   | Run | Shredder Feed Rate (tons/hr) | Concentration (ug/m3) | Rate (lbs/ton) | Mass (lbs/hr) | Mass Normalized to [REDACTED] tons/hr (lbs/hr) <sup>a</sup> |
|-------------------------------|----------|-----|------------------------------|-----------------------|----------------|---------------|-------------------------------------------------------------|
| 6/29/2017                     | CARB 428 | 1   | [REDACTED]                   | 17,574                | [REDACTED]     | 0.0097        | [REDACTED]                                                  |
| 6/29/2017                     | CARB 428 | 2   | [REDACTED]                   | 23,456                | [REDACTED]     | 0.0126        | [REDACTED]                                                  |
| 6/29/2017                     | CARB 428 | 3   | [REDACTED]                   | 17,361                | [REDACTED]     | 0.0094        | [REDACTED]                                                  |
| 10/12/2017                    | CARB 428 | 1   | [REDACTED]                   | 41,029                | [REDACTED]     | 0.0222        | [REDACTED]                                                  |
| 10/12/2017                    | CARB 428 | 2   | [REDACTED]                   | 18,108                | [REDACTED]     | 0.0099        | [REDACTED]                                                  |
| 10/12/2017                    | CARB 428 | 3   | [REDACTED]                   | 23,554                | [REDACTED]     | 0.0125        | [REDACTED]                                                  |
| 1/20/2018                     | CARB 428 | 1   | [REDACTED]                   | 6,152                 | [REDACTED]     | 0.00301       | [REDACTED]                                                  |
| 1/20/2018                     | CARB 428 | 2   | [REDACTED]                   | 7,290                 | [REDACTED]     | 0.00353       | [REDACTED]                                                  |
| 1/20/2018                     | CARB 428 | 3   | [REDACTED]                   | 5,693                 | [REDACTED]     | 0.00278       | [REDACTED]                                                  |
| 1/21/2018                     | CARB 428 | 4   | [REDACTED]                   | 4,276                 | [REDACTED]     | 0.00204       | [REDACTED]                                                  |
| 1/21/2018                     | CARB 428 | 5   | [REDACTED]                   | 4,557                 | [REDACTED]     | 0.00225       | [REDACTED]                                                  |
| 1/21/2018                     | CARB 428 | 6   | [REDACTED]                   | 2,062                 | [REDACTED]     | 0.00102       | [REDACTED]                                                  |
| <b>Mean</b>                   |          |     |                              | 14,259                |                | 0.00757       |                                                             |
| <b>Standard Deviation</b>     |          |     |                              | 11,494                |                | 0.00631       |                                                             |
| <b>Proposed Permit Limits</b> |          |     |                              |                       |                | 0.076         |                                                             |

Notes:

- a. [REDACTED] tph used for normalized hourly mass emission rate reflecting the highest measured value during the test program ([REDACTED] tph on 1/21/2018)

Based on the results of the tests shown above, Schnitzer proposes the following emission limit for PCB emissions:

Lbs/hr emission limit: 0.076 lbs/hr

Basis: Mean test results plus two standard deviations, scaled to a shredder feed rate of [REDACTED] tons/hour, using CARB Method 428, with a [REDACTED] compliance margin. [REDACTED]

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### Cadmium

Cadmium emissions were measured during the June 2017 test program using EPA Method 29. As shown in Table 13, the results were above the detection limit and reasonably consistent.

**Table 13. Proposed Cadmium Limits at Stack P-15**

| Test Date                     | Method       | Run | Shredder Feed Rate (tons/hr) | Rate (lbs/ton) | Mass (lbs/hr) | Mass Normalized to [redacted] tons/hr (lbs/hr) <sup>a</sup> |
|-------------------------------|--------------|-----|------------------------------|----------------|---------------|-------------------------------------------------------------|
| 6/28/2017                     | EPA 29       | 1   | [redacted]                   | [redacted]     | 0.00021       | [redacted]                                                  |
| 6/28/2017                     | EPA 29       | 2   | [redacted]                   | [redacted]     | 0.00029       | [redacted]                                                  |
| 6/29/2017                     | EPA 29       | 3   | [redacted]                   | [redacted]     | 0.00023       | [redacted]                                                  |
| 10/12/2017                    | not measured | 1   |                              |                |               |                                                             |
| 10/12/2017                    | not measured | 2   |                              |                |               |                                                             |
| 10/12/2017                    | not measured | 3   |                              |                |               |                                                             |
| 1/20/2018                     | not measured | 1   |                              |                |               |                                                             |
| 1/20/2018                     | not measured | 2   |                              |                |               |                                                             |
| 1/20/2018                     | not measured | 3   |                              |                |               |                                                             |
| 1/21/2018                     | not measured | 4   |                              |                |               |                                                             |
| 1/21/2018                     | not measured | 5   |                              |                |               |                                                             |
| 1/21/2018                     | not measured | 6   |                              |                |               |                                                             |
| <b>Mean</b>                   |              |     |                              | [redacted]     | 0.00024       | [redacted]                                                  |
| <b>Standard Deviation</b>     |              |     |                              | [redacted]     | 0.00004       | [redacted]                                                  |
| <b>Proposed Permit Limits</b> |              |     |                              |                | 9.2E-04       |                                                             |

Notes:

a. [redacted] tph used for normalized hourly mass emission rate reflecting the highest measured value during the test program ([redacted] tph on 1/21/2018)

Based on the results of the tests shown above, Schnitzer proposes the following emission limit for cadmium emissions:

Lbs/hr emission limit: 9.2 E-4 lbs/hr

Basis: Mean test results plus two standard deviations, scaled to a shredder feed rate of [redacted] tons/hour, using EPA Method 29, with a [redacted] compliance margin.

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### Lead

Lead emissions were measured during the June 2017 test program using EPA Method 29. As shown in Table 14, the results were above the detection limit and reasonably consistent.

**Table 14. Proposed Lead Limits at Stack P-15**

| Test Date                     | Method       | Run | Shredder Feed Rate (tons/hr) | Rate (lbs/ton) | Mass (lbs/hr) | Mass Normalized to [redacted] tons/hr (lbs/hr) <sup>a</sup> |
|-------------------------------|--------------|-----|------------------------------|----------------|---------------|-------------------------------------------------------------|
| 6/28/2017                     | EPA 29       | 1   | [redacted]                   | [redacted]     | 0.00145       | [redacted]                                                  |
| 6/28/2017                     | EPA 29       | 2   | [redacted]                   | [redacted]     | 0.00191       | [redacted]                                                  |
| 6/29/2017                     | EPA 29       | 3   | [redacted]                   | [redacted]     | 0.00181       | [redacted]                                                  |
| 10/12/2017                    | not measured | 1   |                              |                |               |                                                             |
| 10/12/2017                    | not measured | 2   |                              |                |               |                                                             |
| 10/12/2017                    | not measured | 3   |                              |                |               |                                                             |
| 1/20/2018                     | not measured | 1   |                              |                |               |                                                             |
| 1/20/2018                     | not measured | 2   |                              |                |               |                                                             |
| 1/20/2018                     | not measured | 3   |                              |                |               |                                                             |
| 1/21/2018                     | not measured | 4   |                              |                |               |                                                             |
| 1/21/2018                     | not measured | 5   |                              |                |               |                                                             |
| 1/21/2018                     | not measured | 6   |                              |                |               |                                                             |
| <b>Mean</b>                   |              |     |                              | [redacted]     | 0.00172       | [redacted]                                                  |
| <b>Standard Deviation</b>     |              |     |                              | [redacted]     | 0.00024       | [redacted]                                                  |
| <b>Proposed Permit Limits</b> |              |     |                              |                | 6.2E-03       |                                                             |

**Notes:**

a. [redacted] tph used for normalized hourly mass emission rate reflecting the highest measured value during the test program ([redacted] tph on 1/21/2018)

Based on the results of the tests shown above, Schnitzer proposes the following emission limit for lead emissions:

Lbs/hr emission limit: 6.2 E-3 lbs/hr

Basis: Mean test results plus two standard deviations, scaled to a shredder feed rate of [redacted] tons/hour, using EPA Method 28, with a [redacted] compliance margin.

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### Tetrachloroethylene

Tetrachloroethylene emissions were measured during the June and October 2017 test programs using EPA Method TO-15. The results were below the detection limits in the June 2017 test program. As shown in Table 15, the results were quite variable, as has been seen for other organic compounds.

**Table 15. Proposed Tetrachloroethylene Emission Limits at Stack P-15**

| Test Date                     | Method       | Run | Shredder Feed Rate (tons/hr)                                           | Concentration (ppmvd) | Rate (lbs/ton)                                                         | Mass (lbs/hr) | Mass Normalized to <span style="background-color: black; color: black;">[REDACTED]</span> tons/hr (lbs/hr) <sup>a</sup> |
|-------------------------------|--------------|-----|------------------------------------------------------------------------|-----------------------|------------------------------------------------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------|
| 6/28/2017                     | TO-15        | 1   | <span style="background-color: black; color: black;">[REDACTED]</span> | BDL                   | BDL                                                                    | BDL           | BDL                                                                                                                     |
| 6/28/2017                     | TO-15        | 2   | <span style="background-color: black; color: black;">[REDACTED]</span> | BDL                   | BDL                                                                    | BDL           | BDL                                                                                                                     |
| 6/29/2017                     | TO-15        | 3   | <span style="background-color: black; color: black;">[REDACTED]</span> | BDL                   | BDL                                                                    | BDL           | BDL                                                                                                                     |
| 10/12/2017                    | TO-15        | 1   | <span style="background-color: black; color: black;">[REDACTED]</span> | 0.0009                | <span style="background-color: black; color: black;">[REDACTED]</span> | 0.003         | <span style="background-color: black; color: black;">[REDACTED]</span>                                                  |
| 10/12/2017                    | TO-15        | 2   | <span style="background-color: black; color: black;">[REDACTED]</span> | 0.0030                | <span style="background-color: black; color: black;">[REDACTED]</span> | 0.010         | <span style="background-color: black; color: black;">[REDACTED]</span>                                                  |
| 10/12/2017                    | TO-15        | 3   | <span style="background-color: black; color: black;">[REDACTED]</span> | 0.0008                | <span style="background-color: black; color: black;">[REDACTED]</span> | 0.003         | <span style="background-color: black; color: black;">[REDACTED]</span>                                                  |
| 1/21/2018                     | not measured | 4   |                                                                        |                       |                                                                        |               |                                                                                                                         |
| 1/21/2018                     | not measured | 5   |                                                                        |                       |                                                                        |               |                                                                                                                         |
| 1/21/2018                     | not measured | 6   |                                                                        |                       |                                                                        |               |                                                                                                                         |
| <b>Mean</b>                   |              |     | <span style="background-color: black; color: black;">[REDACTED]</span> | 0.0016                | <span style="background-color: black; color: black;">[REDACTED]</span> | 0.005         | <span style="background-color: black; color: black;">[REDACTED]</span>                                                  |
| <b>Standard Deviation</b>     |              |     |                                                                        | 0.0012                | <span style="background-color: black; color: black;">[REDACTED]</span> | 0.004         | <span style="background-color: black; color: black;">[REDACTED]</span>                                                  |
| <b>Proposed Permit Limits</b> |              |     |                                                                        |                       |                                                                        | 0.049         |                                                                                                                         |

Notes:

- a. [REDACTED] tph used for normalized hourly mass emission rate reflecting the highest measured value during the test program ([REDACTED] tph on 1/21/2018)

Based on the results of the tests shown above, Schnitzer proposes the following emission limit for tetrachloroethylene emissions:

Lbs/hr emission limit: 0.049 lbs/hr

Basis: Mean test results plus two standard deviations, scaled to a shredder feed rate of [REDACTED] tons/hour, using EPA Method TO-15, with a [REDACTED] compliance margin.

Dharam Singh - Page 17  
May 29, 2018

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### Trichloroethylene

Trichloroethylene emissions were measured during the June and October 2017 test programs using EPA Method TO-15. The results were below the detection limits for two of the three runs in the June 2017 test program. As shown in Table 16, the results were quite variable, as has been seen for other organic compounds.

**Table 16. Proposed Trichloroethylene Emission Limits at Stack P-15**

| Test Date                     | Method       | Run | Shredder Feed Rate (tons/hr) | Concentration (ppmvd) | Rate (lbs/ton) | Mass (lbs/hr) | Mass Normalized to [REDACTED] tons/hr (lbs/hr) <sup>a</sup> |
|-------------------------------|--------------|-----|------------------------------|-----------------------|----------------|---------------|-------------------------------------------------------------|
| 6/28/2017                     | TO-15        | 1   | [REDACTED]                   | 0.021                 | [REDACTED]     | 0.063         | [REDACTED]                                                  |
| 6/28/2017                     | TO-15        | 2   | [REDACTED]                   | BDL                   | BDL            | BDL           | BDL                                                         |
| 6/29/2017                     | TO-15        | 3   | [REDACTED]                   | BDL                   | BDL            | BDL           | BDL                                                         |
| 10/12/2017                    | TO-15        | 1   | [REDACTED]                   | 0.0009                | [REDACTED]     | 0.002         | [REDACTED]                                                  |
| 10/12/2017                    | TO-15        | 2   | [REDACTED]                   | 0.0009                | [REDACTED]     | 0.002         | [REDACTED]                                                  |
| 10/12/2017                    | TO-15        | 3   | [REDACTED]                   | 0.0008                | [REDACTED]     | 0.002         | [REDACTED]                                                  |
| 1/21/2018                     | not measured | 4   |                              |                       |                |               |                                                             |
| 1/21/2018                     | not measured | 5   |                              |                       |                |               |                                                             |
| 1/21/2018                     | not measured | 6   |                              |                       |                |               |                                                             |
| <b>Mean</b>                   |              |     | [REDACTED]                   | 0.0059                | [REDACTED]     | 0.017         | [REDACTED]                                                  |
| <b>Standard Deviation</b>     |              |     |                              | 0.0101                | [REDACTED]     | 0.031         | [REDACTED]                                                  |
| <b>Proposed Permit Limits</b> |              |     |                              |                       |                | 0.29          |                                                             |

Based on the results of the tests shown above, Schnitzer proposes the following emission limit for trichloroethylene emissions:

Lbs/hr emission limit: 0.29 lbs/hr

Basis: Mean test results plus two standard deviations, scaled to a shredder feed rate of [REDACTED] tons/hour, using EPA Method TO-15, with a [REDACTED] compliance margin.

**Process Monitoring Parameters**

As noted above, the permit also requires that Schnitzer Steel establish process monitoring parameters to ensure that compliance with the permit emission limits will be maintained. Parametric limits are required for water flow rates (gallons per minute, gpm), pressure differential operating ranges (inches of H<sub>2</sub>O) at each Venturi Scrubber, and the ventilation fan amperage. These values are shown below in Table 17.

**Table 17. Associated Process Monitoring Parameters**

|                                                                                              | Values During Source Tests | Proposed Limits for Monitoring Parameters <sup>a</sup> |
|----------------------------------------------------------------------------------------------|----------------------------|--------------------------------------------------------|
| Water application rates for the infeed conveyor and the shredder                             | █ gpm (est)                | N/A <sup>b</sup>                                       |
| Water flow rates (gallons per minute, gpm) at each Venturi scrubber                          | █ gpm                      | █ gpm                                                  |
| Pressure differential operating range (inches of H <sub>2</sub> O) at each Venturi scrubber, | █" H <sub>2</sub> O (est)  | █" H <sub>2</sub> O                                    |
| Ventilation fan amperage (amp)                                                               | █ amps (est)               | █ amps                                                 |

<sup>a</sup> The proposed permit limit ranges are based on 1-hour average values for each parameter.

<sup>b</sup> Condition #26401 Part 4b only requires Schnitzer Steel to record the water application rates for the infeed conveyor and the shredder and submit the information to the District. No operational limit is required for this parameter.

**FUGITIVE DUST ESTIMATES**

As required by ATC Condition #26401 Part 3 and Part 4a, Schnitzer Steel is providing fugitive emission estimates for the "existing" (pre-project) shredder and the "new" (post-project) shredder, which is now fully enclosed. The estimates are discussed below.

The pre-project shredder had no enclosure for collection of fugitive emissions. Emissions from the pre-project shredder were captured by an exhaust system placed at the shredder hammer mill box. The collected air passed through a wet scrubber, a mist eliminator, and a moving belt dry filtering system before being emitted to the atmosphere via a vertical stack. The post-project shredder enclosure building operates at a negative pressure with targeted air collection hoods positioned to extract air from within the enclosure and remove fugitive particulate emissions with Venturi scrubbers prior to discharging clean air via the stack. Therefore, it is reasonable to assume that the post-project shredder enclosure is much more efficient than the pre-project PM control device (i.e., the capture efficiency of the pre-project PM control device is much lower than the capture efficiency of the post-project shredder enclosure). As required by Condition #26401 Part 2, the post-project enclosure is designed such that the total surface area of all openings in the enclosure is below 5% of the total surface area of the enclosure. Part 2 of the Condition also requires curtain walls or strip curtains to be used on the inlet feed conveyor opening and the ventilation fan to operate within its design range to maintain sufficient air flow. Therefore, the capture efficiency of the post-project shredder enclosure is likely to be close to 100%.

Dharam Singh - Page 19  
May 29, 2018

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As stated above, assuming the capture efficiency of the post-project shredder enclosure is 95% to 100%, and based on the average pre-project and post-project PM<sub>10</sub> emission rates (lb/hr) at the inlet of the PM control systems, the capture efficiency of the pre-project PM control system can be estimated as follows:

Assumed Post-Project Capture Efficiency = 95%

Post-Project PM<sub>10</sub> uncontrolled emission rate: 3.2 lbs/hr<sup>1</sup> / 0.95 = 3.4 lbs/hr

Pre-Project PM<sub>10</sub> control system inlet emission rate: 1.2 lbs/hr<sup>2</sup>

Estimated Pre-Project Capture Efficiency: 1.2 lbs/hr / 3.4 lbs/hr = 35%

Assumed Post-Project Capture Efficiency = 100%

Post-Project PM<sub>10</sub> uncontrolled emission rate: 3.2 lbs/hr / 1.00 = 3.2 lbs/hr

Pre-Project PM<sub>10</sub> control system inlet emission rate: 1.2 lbs/hr

Estimated Pre-Project Capture Efficiency: 1.2 lbs/hr / 3.2 lbs/hr = 38%

Thus, the estimated pre-project capture efficiency was 35%-38%. The estimated pre-project fugitive PM<sub>10</sub> emissions from the shredder are 2.0 lbs/hr to 2.2 lbs/hr.

As discussed above, due to the design and operational requirements of the post-project shredder enclosure (Condition #26401 Part 2), we believe the capture efficiency is 95%-100%. This would result in estimated post-project fugitive emissions from the shredder at 0.0 lbs/hr to 0.2 lbs/hr for PM<sub>10</sub> and for PM.<sup>3</sup>

Should you have any questions or require additional information related to this submittal, please contact me at (916) 273-5127.

Sincerely,



Jeffrey Adkins  
Trinity Consultants Inc.

cc: Carol Allen, BAAQMD  
Scott Sloan, Schnitzer Steel  
Daniel Lee, Schnitzer Steel

<sup>1</sup> Table 2, average inlet results (with adjustment)

<sup>2</sup> Table 1, average results (inlet)

<sup>3</sup> From Table 2, Total PM: 4.4 lbs/hr / 0.95 = 4.6 lbs/hr. 4.6 lbs/hr - 4.4 lbs/hr = 0.2 lbs/hr PM.

**Dharam Singh**

---

**From:** Jerry Bovee  
**Sent:** Monday, October 16, 2017 3:18 PM  
**To:** Dharam Singh  
**Cc:** Jeff Adkins (JAdkins@sierraresearch.com); Carol Allen  
**Subject:** RE: Notification of Additional Testing at Schnitzer Steel

Hi Dharam,

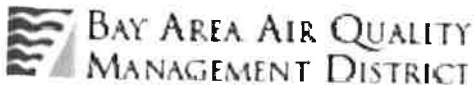
Sorry for the delay in responding to this. I was a little out of pocket last week due to the fires in the North Bay. I don't have a problem with the methodologies being proposed. They can use Method 5 in place of Method 201A, as Method 5 will actually bias the filterable particulate higher than Method 201A. However the reasoning provided is inadequate and will need to be addressed further in the test report.

Based on the data we have in-house the moisture content of the stack gas is  $\leq 3\%$ , which is not high enough to adversely impact Method 201A sampling and is not a sound argument for the switch to Method 5. The tester and facility will need to provide valid and sound reasons for the switch to Method 5 in the final test report. The reasons will not by themselves invalidate these test results, but may impact our willingness to accept Method 5 for future tests. Any limits developed going forward should consider both sets of results.

If you have any questions please let me know.

Thanks,

Jerry Bovee, P.E., QSTI  
Air Quality Engineering Manager  
**Meteorology and Measurement Division**  
**Source Test & Performance Evaluation Sections**  
Bay Area Air Quality Management District  
375 Beale Street, Suite 600  
San Francisco, CA 94105  
Office: 415.749.4601  
Fax: 415.749.4922  
[jbovee@baaqmd.gov](mailto:jbovee@baaqmd.gov) / [www.baaqmd.gov](http://www.baaqmd.gov)



**From:** Dharam Singh  
**Sent:** Wednesday, October 11, 2017 11:17 AM  
**To:** Jerry Bovee <jbovee@baaqmd.gov>  
**Cc:** Jeff Adkins (JAdkins@sierraresearch.com) <JAdkins@sierraresearch.com>; Carol Allen <CAllen@baaqmd.gov>  
**Subject:** FW: Notification of Additional Testing at Schnitzer Steel

Hi Jerry,

This is for your review and approval.

Thanks,

## Dharam Singh

---

**From:** Dharam Singh  
**Sent:** Wednesday, October 11, 2017 11:14 AM  
**To:** 'Jeff Adkins'; Jerry Bovee  
**Cc:** Scott Sloan; Daniel Lee; Rob Ellsworth; Gary Rubenstein; Candy Tong; Carol Allen  
**Subject:** RE: Notification of Additional Testing at Schnitzer Steel

Hello Jeff,

The proposed test method needs approval of the Source Test Section of the District. I have forwarded the email to Jerry Bovee, Source Test manager.

The requested extension is acceptable.

Dharam Singh, PE  
BAAQMD

---

**From:** Jeff Adkins [mailto:jadkins@sierraresearch.com]  
**Sent:** Tuesday, October 10, 2017 12:56 PM  
**To:** Dharam Singh <DSingh@baaqmd.gov>  
**Cc:** Scott Sloan <ssloan@sch.n.com>; Daniel Lee <dlee@sch.n.com>; Rob Ellsworth <rellsworth@sch.n.com>; Gary Rubenstein <gary@foulweatherconsulting.com>; Candy Tong <ctong@sierraresearch.com>; Jeff Adkins <jadkins@sierraresearch.com>; Carol Allen <CAllen@baaqmd.gov>  
**Subject:** Notification of Additional Testing at Schnitzer Steel

Hello Dharam,

Please find attached a notification that Schnitzer Steel is going to conduct some additional POC and PM testing at its Oakland facility.

We would like to postpone submittal of the proposed emission rate limits and operational limits until we can evaluate the new additional test data.

Please review the attached letter and let me know if you have any questions.

Thanks

*Jeffrey Adkins*

 **sierra research**  
*A Trinity Consultants Company*  
1801 J Street  
Sacramento, CA 95811  
(916) 444-6666  
(916) 273-5127 (direct/voice)  
(916) 444-8373 (fax)  
[jadkins@sierraresearch.com](mailto:jadkins@sierraresearch.com)

## Start-up Notification

**Instructions:** At least **seven days** before the scheduled initial operation contact your assigned Permit Engineer via email or complete and send this Start-up Notification to the District via fax or mail.

**Engineer:** Dharam Singh, Air Quality Engineer II

**Plant No.** 208

**Tel:** (415) 749-4714 **Fax:** (415) 749-5030

**Source No.** A-12

**Email:** dsingh@baaqmd.gov

**Application No.** 27762

The initial operation of this equipment is scheduled for May/31/2017 (month/day/year)

Print your first and last name Robert Ellsworth

Telephone No. 510-839-4714

## Start-up Notification

**Instructions:** At least **seven days** before the scheduled initial operation contact your assigned Permit Engineer via email or complete and send this Start-up Notification to the District via fax or mail.

**Engineer:** Dharam Singh, Air Quality Engineer II

**Plant No.** 208

**Tel:** (415) 749-4714 **Fax:** (415) 749-5030

**Source No.** A-11

**Email:** dsingh@baaqmd.gov

**Application No.** 27762

The initial operation of this equipment is scheduled for May/31/2017 (month/day/year)

Print your first and last name Robert Ellsworth

Telephone No. 510-839-4714

November 10, 2016

**BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT**

Schnitzer Steel Products Company  
P O Box 747  
Oakland, CA 94604

Attention: Robert Ellsworth

Application Number 27762  
Plant Number: 208  
Equipment Location:  
Adeline St, Foot of  
Oakland, CA 94607

**ALAMEDA COUNTY**  
Tom Bates  
Scott Haggerty  
Rebecca Kaplan  
Nate Miley

Dear Applicant:

**SUBJECT: LETTER OF EXEMPTION**

We have completed our evaluation of your application for a Permit to Operate the following equipment:

**S-11 Joint Products Plants w/ enclosure (2 Trommels, 3 Screens, Classifiers, Conveyors, and other material handling equipment)**

We have determined that your operation is exempt from permitting per the following:

**2-1-115 Exemption, Particulate Sources at Quarries, Mineral Processing and Biomass Facilities:**  
The following potential PM<sub>10</sub> sources are exempt from the requirements of sections 2-1-301 and 302, provided that the source does not require permitting pursuant to Section 2-1-319.

**115.1** Sources located at quarrying; mineral or ore handling or processing; concrete production; asphaltic concrete production; marine bulk transfer stations; concrete or asphaltic concrete recycling; vehicle shredding; glass manufacturing; handling or processing of cement, coke, lime, flyash, fertilizer, or catalyst; or other similar facility which meets one of the following:

**1.4** Operating, loading and unloading the following sources which process exclusively material with a moisture content greater than or equal to 5 percent by weight:

- 1.4.1** Screen or other size classification;
- 1.4.2** Conveyor, screw, auger, stacker or bucket elevator;
- 1.4.3** Grizzly, or other material loading or unloading;
- 1.4.4** Storage silos;
- 1.4.5** Storage or weigh hopper/bin system.


*(Amended 6/7/95; 5/17/00)*

This exemption applies solely to permits. The equipment must be operated in compliance with any applicable District regulations and with other regulatory agency requirements. The District's regulations may be viewed online at [www.baaqmd.gov/](http://www.baaqmd.gov/). Note that this exemption is not permanent. Any change in your operation or in District regulations may require you to obtain permits in the future.

Please include your application number with any correspondence with the District. If you have any questions on this matter, please call **Dharam Singh at (415) 749-4714**.

Very truly yours,

Jaime A. Williams  
Director of Engineering

by   
Air Quality Engineering Manager

115.01.04.9



November 10, 2016

**BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT**

Schnitzer Steel Products Company  
P O Box 747  
Oakland, CA 94604

Attention: Robert Ellsworth

Application Number 27762  
Plant Number: 208  
Equipment Location:  
Adeline St, Foot of  
Oakland, CA 94607

Dear Applicant:

**SUBJECT: LETTER OF EXEMPTION**

We have completed our evaluation of your application for a Permit to Operate the following equipment:

**S-12 Drum agnet Line with Enclosure**

We have determined that your operation is exempt from permitting per the following:

**2-1-115 Exemption, Particulate Sources at Quarries, Mineral Processing and Biomass Facilities:**  
The following potential PM<sub>10</sub> sources are exempt from the requirements of sections 2-1-301 and 302, provided that the source does not require permitting pursuant to Section 2-1-319.

**115.1** Sources located at quarrying; mineral or ore handling or processing; concrete production; asphaltic concrete production; marine bulk transfer stations; concrete or asphaltic concrete recycling; vehicle shredding; glass manufacturing; handling or processing of cement, coke, lime, flyash, fertilizer, or catalyst; or other similar facility which meets one of the following:

**1.4** Operating, loading and unloading the following sources which process exclusively material with a moisture content greater than or equal to 5 percent by weight:

**1.4.1** Screen or other size classification;

**1.4.2** Conveyor, screw, auger, stacker or bucket elevator;

*(Amended 6/7/95; 5/17/00)*

This exemption applies solely to permits. The equipment must be operated in compliance with any applicable District regulations and with other regulatory agency requirements. The District's regulations may be viewed online at [www.baaqmd.gov/](http://www.baaqmd.gov/). Note that this exemption is not permanent. Any change in your operation or in District regulations may require you to obtain permits in the future.

Please include your application number with any correspondence with the District. If you have any questions on this matter, please call **Dharam Singh at (415) 749-4714**.

Very truly yours,

Jaime A. Williams  
Director of Engineering

by   
Air Quality Engineering Manager

115.01.04.9

**ALAMEDA COUNTY**  
Tom Bates  
Scott Haggerty  
Rebecca Kaplan  
Nate Miley

**CONTRA COSTA COUNTY**  
John Gioia  
David Hudson  
(Secretary)  
Karen Mitchoff  
Mark Ross

**MARIN COUNTY**  
Katie Rice

**NAPA COUNTY**  
Brad Wagenknecht

**SAN FRANCISCO COUNTY**  
John Avalos  
Edwin M. Lee  
Eric Mar  
(Chair)

**SAN MATEO COUNTY**  
David J. Canepa  
Carole Groom  
Warren Slocum

**SANTA CLARA COUNTY**  
Cindy Chavez  
Liz Kniss  
(Vice-Chair)  
Jan Pepper  
Rod G. Sinks

**SOLANO COUNTY**  
James Sperring  
Osby Davis

**SONOMA COUNTY**  
Teresa Barrett  
Shirlee Zane

Jack P. Broadbent  
EXECUTIVE OFFICER/APCO



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

November 10, 2016

Schnitzer Steel Products Company  
P O Box 747  
Oakland, CA 94604

Attention: Robert Ellsworth

**Authority to Construct for Permit Application No. 27762, Plant No. 208**

---

**Required  
Action**

Your Authority to Construct is enclosed. This Authority to Construct is not a Permit to Operate. **To receive your Permit to Operate you must:**

1. Complete the Start-up Notification portion of the Authority to Construct.
2. Send the Start-up Notification to the assigned Permit Engineer via e-mail, fax or mail **at least seven days** prior to operating your equipment.

*Note: Operation of equipment without sending the Start-up Notification to the District may result in enforcement action.*

---

**Authorization  
of Limited Use**

The Authority to Construct authorizes operation during the start-up period from the date of initial operation indicated in your Start-up Notification until the Permit to Operate is issued, up to a maximum of 90 days. All conditions (specific or implied) included in this Authority to Construct will be in effect during the start-up period.

---

**Contact  
Information**

If you have any questions, please contact your assigned Permit Engineer:

Dharam Singh, Air Quality Engineer II

**Tel:** (415) 749-4714    **Fax:** (415) 749-5030    **Email:** dsingh@baaqmd.gov

---



# BAY AREA AIR QUALITY MANAGEMENT DISTRICT

## Authority to Construct

(This is not a Permit to Operate)

**Plant No. 208**

**Application No. 27762**

### Schnitzer Steel Products Company

Adeline St, Foot of, Oakland, CA 94607

is hereby granted an *Authority to Construct* for the following equipment:

**A-11 Venturi Scrubber, Sly, Model #12**

Approved by

for

JAIME A. WILLIAMS  
DIRECTOR OF ENGINEERING

*Issue date:* November 10, 2016

*Expiration date:* November 10, 2018

## Start-up Notification

**Instructions:** At least **seven days** before the scheduled initial operation contact your assigned Permit Engineer via email or complete and send this Start-up Notification to the District via fax or mail.

**Engineer:** Dharam Singh, Air Quality Engineer II

**Plant No.** 208

**Tel:** (415) 749-4714 **Fax:** (415) 749-5030

**Source No.** A-11

**Email:** dsingh@baaqmd.gov

**Application No.** 27762

The initial operation of this equipment is scheduled for \_\_\_\_\_ (month/day/year)

Print your first and last name \_\_\_\_\_

Telephone No. \_\_\_\_\_



# BAY AREA AIR QUALITY MANAGEMENT DISTRICT

## Authority to Construct

(This is not a Permit to Operate)

**Plant No. 208**

**Application No. 27762**

### Schnitzer Steel Products Company

Adeline St, Foot of, Oakland, CA 94607

is hereby granted an *Authority to Construct* for the following equipment:

**A-12 Venturi Scrubber, Sly, Model #12**

Approved by

for

JAIME A. WILLIAMS  
DIRECTOR OF ENGINEERING

*Issue date:* November 10, 2016

*Expiration date:* November 10, 2018

## Start-up Notification

**Instructions:** At least **seven days** before the scheduled initial operation contact your assigned Permit Engineer via email or complete and send this Start-up Notification to the District via fax or mail.

**Engineer:** Dharam Singh, Air Quality Engineer II

**Plant No.** 208

**Tel:** (415) 749-4714 **Fax:** (415) 749-5030

**Source No.** A-12

**Email:** dsingh@baaqmd.gov

**Application No.** 27762

The initial operation of this equipment is scheduled for \_\_\_\_\_ (month/day/year)

Print your first and last name \_\_\_\_\_

Telephone No. \_\_\_\_\_



Condition No. 23114 & 26401

Application No. 27762, S-6 Shredder and S-7 Infeed Conveyor

**Condition # 23114**

S-6 & S-7 Shredder and Infeed Conveyor; abated by A-6 Water Sprays, A-2 Cyclone #2, A-3 Wet Scrubber; A-4 Dry Filter, A-9 Cyclone #3, and A-5 Mist Eliminator (until installation of enclosure and upgraded abatement system);  
(A #14194; Revision 1: A #16721)

1. The owner/operator shall not exceed the scrap-in throughput limit of 720,000 tons in any calendar year at this facility.  
(basis: baseline 2005 production level of 431,471 tons/yr; cumulative increase for the incremental throughput; health risk screening analysis)
2. The owner/operator shall enclose and vent the shredder to the abatement system at all times it is operating to minimize fugitive emissions.  
(basis: TBACT)
3. The owner/operator shall abate particulate emissions from the shredder by water injection at a sufficient rate to ensure that non-metallic material exiting the unit be moist to the touch at all times, and abatement system consisting of cyclones, scrubber, filter, and demister at all times when the shredder is in operation. The PM grain loading at the exhaust outlet of the abatement system shall not exceed 0.01 gr/dscf.  
(basis: TBACT)
4. The owner/operator shall operate the Recycling Center in such a manner that particulate emissions into the atmosphere from any operation/equipment for a period or periods aggregating more than three minutes in any hour shall not cause a visible emission which is as dark or darker than No. 0.5 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree or result in fallout on adjacent property in such quantities as to cause public nuisance per District Regulation 1-301.  
(basis: Regulations 6-1-301; 1-301)
5. The owner/operator shall use water spray to minimize fugitive dust emissions from material/scrap handling and storage to comply with condition 4. The owner/operator shall pave the site truck transport roads and sweep/spray with water/other actions deemed appropriate by the District, if necessary, to minimize fugitive dust emissions from trucking activities to comply with condition 4.  
(basis: Regulations 6-1-301; 1-301)



Condition No. 23114 & 26401

Application No. 27762, S-6 Shredder and S-7 Infeed Conveyor

6. The owner/operator shall not exceed a total of 26 ship calls and 63,875 truck calls per calendar year to haul in/out scrap/materials at the facility.  
(basis: health risk screening analysis; CEQA review)
  
7. In order to demonstrate compliance with condition numbers 1 and 6, the owner/operator shall keep records of monthly and yearly throughput of materials, ship and truck calls in a District approved log. The log shall be maintained for a period of at least 24 months from the date of data entry and shall be made available to the District staff upon request for inspection.  
(basis: recordkeeping)

*End of Conditions*



Condition No. 23114 & 26401

Application No. 27762, S-6 Shredder and S-7 Infeed Conveyor

### Condition # 26401

Upon installation of enclosure and upgraded abatement system for S-6:

S-6 Shredder and S-7 Infeed Conveyor; abated by A-6 Water Sprays, A-11 Venturi Scrubber, and A-12 Venturi Scrubber  
(A #14194; Revision 1: A #16721; A #27762)

1. The owner/operator shall not exceed the scrap-in throughput limit of 720,000 tons in any calendar year at this facility. (Basis: Regulations 2-1-301 - baseline 2005 production level of 431,471 tons/yr - and 2-5-302 and Cumulative Increase for the incremental throughput)
2. The owner/operator shall enclose the shredder, S-6, and shall vent the shredder, at all times it is operating, to the Venturi Scrubbers, A-11 and A-12. The owner/operator shall minimize fugitive emissions from the shredder enclosure during shredder operation by (a) designing the enclosure such that the total surface area of all openings in the enclosure does not exceed 5% of the total surface area of the enclosure walls, floor, and ceiling; (b) using curtain walls or strip curtains on the inlet feed conveyor opening; and (c) ensuring that the ventilation fan is operating within its design range. The owner/operator shall demonstrate that the ventilation fan is operating within its design range by maintaining the amperage greater than [xxx, tbd by source test] amperes during shredder operation. The owner/operator shall operate each Venturi Scrubber in accordance with manufacture specifications. The owner/operator shall demonstrate this by maintaining a minimum water flow rate of [xx gallons per minute (gpm), tbd after source test] and an effective pressure differential operating range [xx to xx inches of H<sub>2</sub>O, tbd after source test]. (Basis: TBACT)
3. Based on the results of the source testing required by Part 4, the owner/operator shall propose new emission rate limits for the shredder at stack P-15. The owner/operator shall propose limits for each of the following pollutants: Precursor Organic Compounds (POC), PM<sub>10</sub>, PM<sub>2.5</sub>, benzene, hexavalent chromium, PCBs, cadmium, lead, tetrachloroethylene, and trichloroethylene. The proposed emission rate limits shall be submitted to the District within 90 days of receiving the Part 4 source test results. The District will analyze the proposed limits, notify the owner/operator of any necessary changes to these limits, and revise this condition to include the new stack limits and associated monitoring requirements for P-15. In addition, the owner/operator shall estimate the fugitive emission rates that are not captured by the new shredder enclosure. (Basis: Cumulative Increase and Regulation 2-5-302)
4. Source Testing Requirements for Parts 3 and 5:
  - a. Prior to removal of the existing particulate abatement system, the owner/operator shall conduct source testing on the existing shredder abatement system that is intended to be used in conjunction with source testing in Part 4b to estimate captured emissions from the shredder and its associated systems. Particulate



Condition No. 23114 & 26401

Application No. 27762, S-6 Shredder and S-7 Infeed Conveyor

emissions testing (filterable and condensable) shall be conducted at the inlet and outlet of the existing PM abatement system. In addition, the owner/operator shall estimate the fugitive emission rates that are not captured by the existing shredder enclosure.

- b. Within 90 days of start-up of A-11 and A-12, the owner/operator shall conduct a District approved source test at stack P-15, while the S-6 Auto Shredder is operating at or near the maximum operating rate. The owner/operator shall record the shredder processing rate, the water application rates for the infeed conveyor and the shredder, the water flow rates and the pressure differential operating ranges at each venturi scrubber, and the ventilation fan amperage during the source test. The source test shall determine the hourly emission rate and the average emission factor (pounds of pollutant per ton of material processed by the shredder) for the following compounds: total POC, PM, benzene, tetrachloroethylene, trichloroethylene, hexavalent chromium, PCBs, cadmium, and lead, and shall determine the outlet grain loading to demonstrate compliance with Part 5. In addition, the owner/operator shall conduct PM testing at the inlet to the A-11 and A-12 Venturi Scrubbers to determine the PM removal efficiency achieved by A-11 and A-12. The owner/operator shall also establish the ventilation fan amperage range necessary to operate the venturi scrubbers within the effective pressure differential ranges determined above.
- c. The owner/operator shall submit a source test protocol for the post enclosure construction compliance test to the Air District's Source Test Section Manager and to the Permit Engineer at least 30 days prior to the scheduled test date. The owner/operator shall submit a source test protocol for the pre-demolition source test to the Air District's Source Test Section Manager and to the Permit Engineer as soon as possible.
- d. The owner/operator shall notify the Source Test Section Manager of the scheduled test date at least 7 days prior to the scheduled test date and shall obtain District approval for all source test procedures prior to conducting any testing.
- e. The owner/operator shall submit a copy of the source test report to the Source Test Section Manager within 60 days of the test date.

(Basis: Cumulative Increase and Regulation 2-5-302)

5. The owner/operator shall apply water sprays (A-6) at the shredder, S-6, and infeed conveyor, S-7, at a sufficient rate to ensure that non-metallic material exiting the sources is moist to the touch at all times of operation. The PM grain loading at the exhaust stack P-15 shall not exceed 0.01 gr/dscf. (Basis: Cumulative Increase, TBACT; and Regulation 2-5-302)
6. The owner/operator shall operate the Recycling Center in such a manner that particulate emissions into the atmosphere from any operation/equipment for a period or periods aggregating more than three minutes in any hour shall not cause a visible emission which is as dark or darker than No. 0.5 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree or result in fallout on



Condition No. 23114 & 26401

Application No. 27762, S-6 Shredder and S-7 Infeed Conveyor

adjacent property in such quantities as to cause public nuisance per District Regulation 1-301. (Basis: Regulations 1-301 and 6-1-301)

7. The owner/operator shall use water spray to minimize fugitive dust emissions from material/scrap handling and storage to comply with Part 6. The owner/operator shall operate the facility at all times in accordance with its approved Emissions Minimization Plan (EMP). (Basis: Regulations 1-301, 6-1-301, and 6-4-301)
8. The owner/operator shall not exceed a total of 26 ship calls and 63,875 truck calls per calendar year to haul in/out scrap/materials at the facility. (Basis: health risk assessment for CEQA review)
9. In order to demonstrate compliance with Part 1 and 8, the owner/operator shall keep records of monthly and yearly throughput of materials, ship and truck calls in a District approved log. The log shall be maintained for a period of at least 24 months from the date of data entry and shall be made available to the District staff for inspection upon request. (Basis: Regulations 2-1-301 and 2-5-302, Cumulative Increase, CEQA)

*End of Conditions*

**Form Letter Request for Application No.** 27762

**Fee Summary<sup>1</sup>:**

Total Fees: 4708 Amount of Invoice: 4708 Amount Paid: 4708  
 Invoice No. 3 TF82 Refund Amount: 0.0 Eng. / Supv. initials DZ/CAA

**Remarks:**

1. If the Amount Paid is greater than the Invoice Amount the overpayment must be refunded or applied to another invoice. If refund is to be reapplied, provide instructions (amount, application and invoice no.) on the remarks line.

**Letters:**

- Authority to Construct A-11 & A-12 Condition ID Numbers: 23114 and 26401
- Authority to Construct Expired  Deny Banking
- Authority to Construct Renewal  Exemption<sup>S-11</sup> Citation 2-1-115.1.4 Enter Source Form (Y) N
- Alteration  Incomplete <sup>S-12</sup> : 2-1-113.1.4.2
- Banking: New Deposit  Incomplete Data & Fee Invoice No. \_\_\_\_\_
- Cancel: Application withdrawn by Applicant  Permit to Operate - Source
- Cancel: Failure to complete application  Permit to Operate - Abatement Device
- Change of Conditions<sup>1</sup>  Other \_\_\_\_\_
- Deny AC/PO

1. Use DB SP to confirm that the source is linked to the application and that the new condition is linked to the source. If not linked use PSDP program (option 2, option 3) to link the condition.

**Data Forms:** Attach all data forms requiring entry to this form letter request sheet. Take note that the source description on the Authority to Construct and the Permit to Operate will be taken from the data form.

| Data Form           | New Sources <sup>1</sup> | Modified Sources <sup>2</sup> | Other Permit Systems activity required:                                                            |
|---------------------|--------------------------|-------------------------------|----------------------------------------------------------------------------------------------------|
| Form A              | <u>4</u>                 |                               | <input type="checkbox"/> Abatement Factors <input type="checkbox"/> Emission Factors               |
| Form C              |                          |                               | <input checked="" type="checkbox"/> Pollutant Trains <input checked="" type="checkbox"/> Archiving |
| Form ICE            |                          |                               | <input type="checkbox"/> Other _____                                                               |
| Form F              |                          |                               | <u>S-7 → A-6</u>                                                                                   |
| Form G              | <u>2</u>                 |                               |                                                                                                    |
| Form P              | <u>2</u>                 |                               | <u>After P/O Issued</u>                                                                            |
| Form S              |                          |                               | <u>A-2, A-3, A-4, A-5, A-9</u>                                                                     |
| Form T              |                          |                               |                                                                                                    |
| Form X <sup>3</sup> |                          |                               |                                                                                                    |

- All new sources require a data form
- A modified source may or may not require a new form. If an AC is to be issued a new form is required, otherwise see Permit Systems for guidance. A change of permit conditions does not require a new form.
- Form X can only be entered once the PO has been issued (source data form entered and currentted)

**Engineer** I acknowledge the data forms have been screened and are ready for entry: DZ **Clerk:** \_\_\_\_\_ **Tech.:** MH

**Dharam Singh**

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**From:** Carol Allen  
**Sent:** Tuesday, November 1, 2016 4:44 PM  
**To:** Dharam Singh  
**Subject:** FW: Schnitzer Application #27762  
**Attachments:** Condition23114-draft-10-26-2016-EDITS.docx

Dharam,

I am OK with all of the changes that they have proposed. How about you?

Carol Allen

**From:** Candy Tong [mailto:ctong@sierraresearch.com]  
**Sent:** Tuesday, November 1, 2016 4:11 PM  
**To:** Carol Allen <CAllen@baaqmd.gov>; Dharam Singh <DSingh@baaqmd.gov>  
**Cc:** Scott Sloan <ssloan@sch.n.com>; Daniel Lee <dlee@sch.n.com>; 'Rob Ellsworth' <rellsworth@sch.n.com>; Gary Rubenstein <grubenstein@sierraresearch.com>; Steve Hill <shill@sierraresearch.com>  
**Subject:** RE: Schnitzer Application #27762

Carol,

Please see the attached changes to the draft permit condition for the Shredder Enclosure Project. The strikeouts and underlines show the permit condition changes compared to the draft permit conditions you sent to us on 10/26/2016.

Part 2, 4b – We suggest monitoring the water flow rates and the pressure differentials during source testing to establish an appropriate operating range. By measuring both the water flow rate and the pressure differential, we are essentially monitoring the liquid to gas flow rate ratio, but the pressure differential is a relatively easier and more reliable parameter to use.

Part 3, 4a – To clarify that we are conducting source tests to measure the captured PM emissions. We will estimate the remaining fugitive emissions.

We hope that the changes are acceptable, and please let us know if we need to discuss. Thank you very much for all of your help.

-Candy

**Chinghang (Candy) Tong, Ph.D**

**Sierra Research**  
1801 J Street | Sacramento, CA 95811

Tel: (916) 444-6666  
Direct line: (916) 273-5123  
Email: [ctong@sierraresearch.com](mailto:ctong@sierraresearch.com)

**Dharam Singh**

---

**From:** Candy Tong <ctong@sierraresearch.com>  
**Sent:** Tuesday, November 1, 2016 4:11 PM  
**To:** Carol Allen; Dharam Singh  
**Cc:** Scott Sloan; Daniel Lee; 'Rob Ellsworth'; Gary Rubenstein; Steve Hill  
**Subject:** RE: Schnitzer Application #27762  
**Attachments:** Condition23114-draft-10-26-2016-EDITS.docx

Carol,

Please see the attached changes to the draft permit condition for the Shredder Enclosure Project. The strikeouts and underlines show the permit condition changes compared to the draft permit conditions you sent to us on 10/26/2016.

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Part 3, 4a – To clarify that we are conducting source tests to measure the captured PM emissions. We will estimate the remaining fugitive emissions.

We hope that the changes are acceptable, and please let us know if we need to discuss. Thank you very much for all of your help.

-Candy

**Chinghang (Candy) Tong, Ph.D**

**Sierra Research**

1801 J Street | Sacramento, CA 95811

Tel: (916) 444-6666

Direct line: (916) 273-5123

Email: ctong@sierraresearch.com

## Schnitzer Steel Oakland Facility (Plant # 208)

COND# 23114 -----

## S-6 &amp; S-7 Shredder and Infeed conveyor

(A# 14194; Revision 1: A# 16721; Revision 2: A# 27762)

1. The owner/operator shall not exceed the scrap-in throughput limit of 720,000 tons in any calendar year at this facility. (Basis: Regulations 2-1-301 - baseline 2005 production level of 431,471 tons/yr - and 2-5-302 and Cumulative Increase for the incremental throughput)
2. The owner/operator shall enclose the shredder, S-6, and shall vent the shredder, at all times it is operating, to the Venturi Scrubbers, A-11 and A-12. The owner/operator shall minimize fugitive emissions from the shredder enclosure during shredder operation by (a) designing the enclosure such that the total surface area of all openings in the enclosure does not exceed 5% of the total surface area of the enclosure walls, floor, and ceiling; (b) using curtain walls or strip curtains on the inlet feed conveyor opening; and (c) ensuring that the ventilation fan is operating within its design range. The owner/operator shall demonstrate that the ventilation fan is operating within its design range by maintaining the amperage greater than [xxx, tbd by source test] amperes during shredder operation. The owner/operator shall operate each Venturi Scrubber in accordance with manufacture specifications. The owner/operator shall demonstrate this by maintaining a liquid to gas flow rate ratio less than minimum water flow rate of [xx gallons per minute (gpm), tbd after source test] and an effective pressure differential operating range [xx to xx inches H<sub>2</sub>O, tbd after source test]. (Basis: TBACT)
3. Based on the results of the source testing required by Part 4, the owner/operator shall propose new emission rate limits for the shredder at stack P-11 ~~and shall estimate the fugitive emission rates that are not captured by the new shredder enclosure~~. The owner/operator shall propose limits for each of the following pollutants: Precursor Organic Compounds (POC), PM<sub>10</sub>, PM<sub>2.5</sub>, benzene, hexavalent chromium, PCBs, cadmium, lead, tetrachloroethylene, and trichloroethylene. The proposed emission rate limits shall be submitted to the District within 90 days of receiving the Part 4 source test results. The District will analyze the proposed limits, notify the owner/operator of any necessary changes to these limits, and revise this condition to include the new stack limits and associated monitoring requirements for P-11. In addition, the owner/operator shall estimate the fugitive emission rates that are not captured by the new shredder enclosure. (Basis: Cumulative Increase and Regulation 2-5-302)
4. Source Testing Requirements for Parts 3 and 5:
  - a. Prior to removal of the existing particulate abatement system, the owner/operator shall conduct source testing on the existing shredder abatement system that is intended to be used in conjunction with source testing in Part 4b to ~~assess~~ estimate

the ~~existing fugitive and~~ captured emissions from the shredder and its associated systems. Particulate emissions testing (filterable and condensable) shall be conducted at the inlet and outlet of the existing PM abatement system. In addition, the owner/operator shall estimate the fugitive emission rates that are not captured by the existing shredder enclosure.

- b. Within 90 days of start-up of A-11 and A-12, the owner/operator shall conduct a District approved source test at stack P-11, while the S-6 Auto Shredder is operating at or near the maximum operating rate. The owner/operator shall record the shredder processing rate, the water application rates for the infeed conveyor and the shredder, the ~~gas and water~~ flow rates and the pressure differential operating ranges liquid to gas flow rate ratio at each ~~venture-venturi~~ scrubber, and the ventilation fan amperage during the source test. The source test shall determine the hourly emission rate and the average emission factor (pounds of pollutant per ton of material processed by the shredder) for the following compounds: total POC, PM, benzene, tetrachloroethylene, trichloroethylene, hexavalent chromium, PCBs, cadmium, and lead, and shall determine the outlet grain loading to demonstrate compliance with Part 5. In addition, the owner/operator shall conduct PM testing at the inlet to the A-11 and A-12 Venturi Scrubbers to determine ~~the PM capture rate for the new enclosure and the PM removal efficiency achieved by A-11 and A-12.~~ The owner/operator shall also establish the ~~minimum~~ ventilation fan amperage range necessary to operate the venturi scrubbers within the effective pressure differential operating ranges ~~meet the minimum PM capture rate determined above.~~
- c. The owner/operator shall submit a source test protocol for the post enclosure construction compliance test to the Air District's Source Test Section Manager and to the Permit Engineer at least 30 days prior to the scheduled test date. The owner/operator shall submit a source test protocol for the pre-demolition source test to the Air District's Source Test Section Manager and to the Permit Engineer as soon as possible.
- d. The owner/operator shall notify the Source Test Section Manager of the scheduled test date at least 7 days prior to the scheduled test date and shall obtain District approval for all source test procedures prior to conducting any testing.
- e. The owner/operator shall submit a copy of the source test report to the Source Test Section Manager within 60 days of the test date.

(Basis: Cumulative Increase and Regulation 2-5-302)

5. The owner/operator shall apply water sprays (A-6) at the shredder, S-6, and infeed conveyor, S-7, at a sufficient rate to ensure that non-metallic material exiting the sources is moist to the touch at all times of operation. The PM grain loading at the exhaust stack P-11 shall not exceed 0.01 gr/dscf. (Basis: Cumulative Increase, TBACT; and Regulation 2-5-302)
6. The owner/operator shall operate the Recycling Center in such a manner that particulate emissions into the atmosphere from any operation/equipment for a period or periods

aggregating more than three minutes in any hour shall not cause a visible emission which is as dark or darker than No. 0.5 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree or result in fallout on adjacent property in such quantities as to cause public nuisance per District Regulation 1-301. (Basis: Regulations 1-301 and 6-1-301)

7. The owner/operator shall use water spray to minimize fugitive dust emissions from material/scrap handling and storage to comply with Part 6. The owner/operator shall operate the facility at all times in accordance with its approved Emissions Minimization Plan (EMP). (Basis: Regulations 1-301, 6-1-301, and 6-4-301)
8. The owner/operator shall not exceed a total of 26 ship calls and 63,875 truck calls per calendar year to haul in/out scrap/materials at the facility. (Basis: health risk assessment for CEQA review)
9. In order to demonstrate compliance with Part 1 and 8, the owner/operator shall keep records of monthly and yearly throughput of materials, ship and truck calls in a District approved log. The log shall be maintained for a period of at least 24 months from the date of data entry and shall be made available to the District staff for inspection upon request. (Basis: Regulations 2-1-301 and 2-5-302, Cumulative Increase, CEQA)

**Dharam Singh**

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**From:** Dharam Singh  
**Sent:** Wednesday, October 26, 2016 10:18 AM  
**To:** Carol Allen  
**Subject:** RE: Schnitzer

It looks ok – can be sent to Steve.

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**From:** Carol Allen  
**Sent:** Wednesday, October 26, 2016 10:11 AM  
**To:** Dharam Singh <DSingh@baaqmd.gov>  
**Subject:** RE: Schnitzer

Good points. How's this?

Carol

---

**From:** Dharam Singh  
**Sent:** Wednesday, October 26, 2016 9:15 AM  
**To:** Carol Allen <CAllen@baaqmd.gov>  
**Subject:** RE: Schnitzer

Carol,

How about adding water injection rate in part 4b as follows:

The owner/operator shall record the shredder processing rate, the water injection rate, and the ventilation fan amperage during the source test.

Also, some parameters shall be recorded for venture scrubbers operation just like it is done for thermal/catalytic oxidizer (operating temperature), carbon adsorption (ppm measurement), etc.?

Dharam

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**From:** Carol Allen  
**Sent:** Tuesday, October 25, 2016 7:23 PM  
**To:** Dharam Singh <DSingh@baaqmd.gov>  
**Subject:** FW: Schnitzer

Dharam,

Steve Hill has stated that the new enclosure will meet some but not all of the EPA criteria for a "total" enclosure that achieves 100% capture efficiency. This enclosure will therefore be deemed a non-total or partial enclosure and will achieve something less than 100% capture efficiency. Steve has also said that the engineering designer cannot guarantee that the lower openings will achieve negative pressure and inlet air flow under all potential operating conditions. In this case, there is no point in us trying to require them to make such a demonstration. Instead, I have decided to include the minimum fan amperage requirement as the 3<sup>rd</sup> criteria (Part 2c) for demonstrating that fugitive emissions are being minimized. I agree that this is not directly related to enclosure capture efficiency but there should

be at least some correlation between t wo. Also, we can test for fan amperage ing the source test and ensure that the system continues to operate within this design parameter in the future.

I made the changes that Steve requested to Part 4c and I added a few items about testing and fan amperage to Part 4b.

Please review these final changes and let me know if you have any final comments.

If you have no further comments, please send these final condition changes to Steve Hill, incorporate them into your evaluation report, and send the application file to me for approval. I would like to get it into AC typing by Thursday.

Carol Allen

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**From:** Steve Hill [<mailto:shill@sierraresearch.com>]  
**Sent:** Monday, October 24, 2016 3:26 PM  
**To:** Carol Allen <[CAllen@baaqmd.gov](mailto:CAllen@baaqmd.gov)>  
**Subject:** Schnitzer

Draft suggested language is attached. Thanks.

---

**Steve Hill**

**Sierra Research**  
1801 J Street | Sacramento, CA 95811  
Cell: **510.684.3671**  
Email: [shill@sierraresearch.com](mailto:shill@sierraresearch.com)

Schnitzer Steel Oakland Facility (Plant # 208)

COND# 23114 -----

S-6 & S-7 Shredder and Infeed conveyor  
(A# 14194; Revision 1: A# 16721; Revision 2: A# 27762)

1. The owner/operator shall not exceed the scrap-in throughput limit of 720,000 tons in any calendar year at this facility. (b)Basis: Regulations 2-1-301 - baseline 2005 production level of 431,471 tons/yr - and 2-5-302; and eCumulative increase for the incremental throughput; health risk screening analysis)
2. The owner/operator shall enclose and vent the shredder, S-6, and shall vent the shredder, to the abatement system at all times it is operating, to the Venturi Scrubbers, A-11 and A-12 to minimize fugitive emissions. The owner/operator shall minimize fugitive emissions from the shredder enclosure during shredder operation by (a) designing the enclosure such that the total surface area of all openings in the enclosure does not exceed 5% of the total surface area of the enclosure walls, floor, and ceiling; (b) using curtain walls or strip curtains on the inlet feed conveyor opening; and (c) ensuring that the ventilation fan is operating within its design range. The owner/operator shall demonstrate that the ventilation fan is operating within its design range by maintaining the amperage greater than [xxx, tbd by source test] amperes during shredder operation. The owner/operator shall operate each Venturi Scrubber in accordance with manufacture specifications. The owner/operator shall demonstrate this by maintaining a liquid to gas flow rate ratio less than [xx, tbd after source test]. (b)Basis: TBACT)
3. Based on the results of the source testing required by Part 4, the owner/operator shall propose new emission rate limits for the shredder at stack P-11 and shall estimate the fugitive emission rates that are not captured by the new shredder enclosure. The owner/operator shall propose limits for each of the following pollutants: Precursor Organic Compounds (POC), PM<sub>10</sub>, PM<sub>2.5</sub>, benzene, hexavalent chromium, PCBs, cadmium, lead, tetrachloroethylene, and trichloroethylene. The proposed emission rate limits shall be submitted to the District within 90 days of receiving the Part 4 source test results. The District will analyze the proposed limits, notify the owner/operator of any necessary changes to these limits, and revise this condition to include the new stack limits and associated monitoring requirements for P-11. (Basis: Cumulative Increase and Regulation 2-5-302)
4. Source Testing Requirements for Parts 3 and 5:
  - a. Prior to removal of the existing particulate abatement system, the owner/operator shall conduct source testing on the existing shredder abatement system that is intended to be used in conjunction with source testing in Part 4b to assess the existing fugitive and captured emissions from the shredder and its associated

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systems. Particulate emissions testing (filterable and condensable) shall be conducted at the inlet and outlet of the existing PM abatement system.

- b. Within 90 days of start-up of A-11 and A-12, the owner/operator shall conduct a District approved source test at stack P-11, while the S-6 Auto Shredder is operating at or near the maximum operating rate. The owner/operator shall record the shredder processing rate, the water application rates for the infeed conveyor and the shredder, the gas and water flow rates and the liquid to gas flow rate ratio at each venture scrubber, and the ventilation fan amperage during the source test. The source test shall determine the hourly emission rate and the average emission factor (pounds of pollutant per ton of material processed by the shredder) for the following compounds: total POC, PM, benzene, tetrachloroethylene, trichloroethylene, hexavalent chromium, PCBs, cadmium, and lead, and shall determine the outlet grain loading to demonstrate compliance with Part 5. In addition, the owner/operator shall conduct PM testing at the inlet to the A-11 and A-12 Venturi Scrubbers to determine the PM capture rate for the new enclosure and the PM removal efficiency achieved by A-11 and A-12. The owner/operator shall also establish the minimum ventilation fan amperage necessary to meet the minimum PM capture rate determined above.
- c. The owner/operator shall submit a source test protocol for the post enclosure construction compliance test to the Air District's Source Test Section Manager and to the Permit Engineer at least 30 days prior to the scheduled test date. The owner/operator shall submit a source test protocol for the pre-demolition source test to the Air District's Source Test Section Manager and to the Permit Engineer as soon as possible.
- d. The owner/operator shall notify the Source Test Section Manager of the scheduled test date at least 7 days prior to the scheduled test date and shall obtain District approval for all source test procedures prior to conducting any testing.
- e. The owner/operator shall submit a copy of the source test report to the Source Test Section Manager within 60 days of the test date.

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(Basis: Cumulative Increase and Regulation 2-5-302)

35. The owner/operator shall abate particulate emissions from apply water sprays (A-6) at the shredder, S-6, and infeed conveyor, S-7, by water injection at a sufficient rate to ensure that non-metallic material exiting the sources unit be is moist to the touch at all times of operation, and abatement system consisting of cyclones, scrubber, filter, and demister at all times when the shredder is in operation. The PM grain loading at the exhaust outlet of the abatement system stack P-11 shall not exceed 0.01 gr/dscf. (Basis: Cumulative Increase, TBACT; and Regulation 2-5-302)

46. The owner/operator shall operate the Recycling Center in such a manner that particulate emissions into the atmosphere from any operation/equipment for a period or periods aggregating more than three minutes in any hour shall not cause a visible emission which is as dark or darker than No. 0.5 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree or result in fallout on

adjacent property in such quantities as to cause public nuisance per District Regulation 1-301. (bBasis: Regulations 1-301 and 6-1-301; ~~1-301~~)

57. The owner/operator shall use water spray to minimize fugitive dust emissions from material/scrap handling and storage to comply with ~~condition 4 Part 6~~. The owner/operator shall operate the facility at all times in accordance with its approved Emissions Minimization Plan (EMP) pave the site truck transport roads and sweep/spray with water/other actions deemed appropriate by the District, if necessary, to minimize fugitive dust emissions from trucking activities to comply with condition 4. (bBasis: Regulations 1-301, 6-1-301; ~~1-301~~, and 6-4-301)
68. The owner/operator shall not exceed a total of 26 ship calls and 63,875 truck calls per calendar year to haul in/out scrap/materials at the facility. (bBasis: health risk assessment screening analysis; for CEQA review)
79. In order to demonstrate compliance with ~~condition numbers Part 1~~ and ~~68~~, the owner/operator shall keep records of monthly and yearly throughput of materials, ship and truck calls in a District approved log. The log shall be maintained for a period of at least 24 months from the date of data entry and shall be made available to the District staff for inspection upon request for inspection. (bBasis: recordkeeping Regulations 2-1-301 and 2-5-302, Cumulative Increase, CEQA)

## Dharam Singh

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**From:** Candy Tong <ctong@sierraresearch.com>  
**Sent:** Thursday, October 20, 2016 2:39 PM  
**To:** Dharam Singh; Carol Allen  
**Cc:** 'Scott Sloan'; Rob Ellsworth; Daniel Lee; Steve Hill; Gary Rubenstein; 'Margaret Rosegay (margaret.rosegay@pillsburylaw.com)'  
**Subject:** RE: Draft Permit Conditions for the Shredder at the Schnitzer Steel Oakland Facility

Great! We appreciate that.

Thanks again.

-Candy

**Chinghang (Candy) Tong, Ph.D**

### Sierra Research

1801 J Street | Sacramento, CA 95811

Tel: (916) 444-6666

Direct line: (916) 273-5123

Email: ctong@sierraresearch.com

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**From:** Dharam Singh [mailto:DSingh@baaqmd.gov]  
**Sent:** Thursday, October 20, 2016 2:31 PM  
**To:** Candy Tong <ctong@sierraresearch.com>; Carol Allen <CAllen@baaqmd.gov>  
**Cc:** 'Scott Sloan' <ssloan@schn.com>; Rob Ellsworth <rellsworth@schn.com>; Daniel Lee <dlee@schn.com>; Steve Hill <shill@sierraresearch.com>; Gary Rubenstein <grubenstein@sierraresearch.com>; 'Margaret Rosegay (margaret.rosegay@pillsburylaw.com)' <margaret.rosegay@pillsburylaw.com>  
**Subject:** RE: Draft Permit Conditions for the Shredder at the Schnitzer Steel Oakland Facility

Resubmission of P form is not necessary – save paper.

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**From:** Candy Tong [mailto:ctong@sierraresearch.com]  
**Sent:** Thursday, October 20, 2016 2:25 PM  
**To:** Dharam Singh <DSingh@baaqmd.gov>; Carol Allen <CAllen@baaqmd.gov>  
**Cc:** 'Scott Sloan' <ssloan@schn.com>; Rob Ellsworth <rellsworth@schn.com>; Daniel Lee <dlee@schn.com>; Steve Hill <shill@sierraresearch.com>; Gary Rubenstein <grubenstein@sierraresearch.com>; 'Margaret Rosegay (margaret.rosegay@pillsburylaw.com)' <margaret.rosegay@pillsburylaw.com>  
**Subject:** RE: Draft Permit Conditions for the Shredder at the Schnitzer Steel Oakland Facility

Thanks so much Dharam.

You are correct, we previously submitted a P-Form for the JPP baghouse using number "P-11". So yes, the P number for the JPP baghouse should change to P-13. Do you need us to re-submit the P-Form for the JPP baghouse correcting P-11 to P-13, or will this email exchange suffice?

Let us know. Thanks again.

-Candy

**Chinghang (Candy) Tong, Ph.D**

**Sierra Research**

1801 J Street | Sacramento, CA 95811

Tel: (916) 444-6666

Direct line: (916) 273-5123

Email: [ctong@sierraresearch.com](mailto:ctong@sierraresearch.com)

---

**From:** Dharam Singh [<mailto:DSingh@baaqmd.gov>]

**Sent:** Thursday, October 20, 2016 1:51 PM

**To:** Candy Tong <[ctong@sierraresearch.com](mailto:ctong@sierraresearch.com)>; Carol Allen <[CAllen@baaqmd.gov](mailto:CAllen@baaqmd.gov)>

**Cc:** 'Scott Sloan' <[ssloan@sch.n.com](mailto:ssloan@sch.n.com)>; Rob Ellsworth <[rellsworth@sch.n.com](mailto:rellsworth@sch.n.com)>; Daniel Lee <[dlee@sch.n.com](mailto:dlee@sch.n.com)>; Steve Hill <[shill@sierraresearch.com](mailto:shill@sierraresearch.com)>; Gary Rubenstein <[grubenstein@sierraresearch.com](mailto:grubenstein@sierraresearch.com)>; 'Margaret Rosegay' <[margaret.rosegay@pillsburylaw.com](mailto:margaret.rosegay@pillsburylaw.com)> <[margaret.rosegay@pillsburylaw.com](mailto:margaret.rosegay@pillsburylaw.com)>

**Subject:** RE: Draft Permit Conditions for the Shredder at the Schnitzer Steel Oakland Facility

Candy,

There will be another stack for the exhaust from the JPP plant baghouse, A-13. P form for this stack was submitted on 4/19/16 and numbered P-11, which will be changed to P-13.

Dharam Singh, PE  
BAAQMD

---

**From:** Candy Tong [<mailto:ctong@sierraresearch.com>]

**Sent:** Thursday, October 20, 2016 11:06 AM

**To:** Carol Allen <[CAllen@baaqmd.gov](mailto:CAllen@baaqmd.gov)>; Dharam Singh <[DSingh@baaqmd.gov](mailto:DSingh@baaqmd.gov)>

**Cc:** 'Scott Sloan' <[ssloan@sch.n.com](mailto:ssloan@sch.n.com)>; Rob Ellsworth <[rellsworth@sch.n.com](mailto:rellsworth@sch.n.com)>; Daniel Lee <[dlee@sch.n.com](mailto:dlee@sch.n.com)>; Steve Hill <[shill@sierraresearch.com](mailto:shill@sierraresearch.com)>; Gary Rubenstein <[grubenstein@sierraresearch.com](mailto:grubenstein@sierraresearch.com)>; 'Margaret Rosegay' <[margaret.rosegay@pillsburylaw.com](mailto:margaret.rosegay@pillsburylaw.com)> <[margaret.rosegay@pillsburylaw.com](mailto:margaret.rosegay@pillsburylaw.com)>

**Subject:** RE: Draft Permit Conditions for the Shredder at the Schnitzer Steel Oakland Facility

Hi Carol,

Enclosed is the updated P-form for the new stack for the shredder at the Schnitzer Steel Oakland Facility.

Please note that we previously submitted a P-Form for the new stack on 8/5/2016 using the old stack number P-1, so this is an updated form for the new stack that will replaced the old stack, and per your advice, we have used a new stack number P-11.

Thanks a lot.

-Candy

Chinghang (Candy) Tong, Ph.D

**Sierra Research**

1801 J Street | Sacramento, CA 95811

Tel: (916) 444-6666

Direct line: (916) 273-5123

Email: [ctong@sierraresearch.com](mailto:ctong@sierraresearch.com)

---

**From:** Carol Allen [<mailto:CAllen@baaqmd.gov>]

**Sent:** Tuesday, October 18, 2016 5:17 PM

**To:** Steve Hill <[shill@sierraresearch.com](mailto:shill@sierraresearch.com)>

**Cc:** Dharam Singh <[DSingh@baaqmd.gov](mailto:DSingh@baaqmd.gov)>

**Subject:** RE: Draft Permit Conditions for the Shredder at the Schnitzer Steel Oakland Facility

Steve,

In the meeting today, Daniel stated that the stack would be replaced. Could you please complete a new P-Form for the new stack. The next stack number should be P-11.

Carol Allen

---

**From:** Steve Hill [<mailto:shill@sierraresearch.com>]

**Sent:** Thursday, September 15, 2016 10:56 AM

**To:** Carol Allen <[CAllen@baaqmd.gov](mailto:CAllen@baaqmd.gov)>; Dharam Singh <[DSingh@baaqmd.gov](mailto:DSingh@baaqmd.gov)>

**Cc:** Scott Sloan <[ssloan@schn.com](mailto:ssloan@schn.com)>; Gary Rubenstein <[grubenstein@sierraresearch.com](mailto:grubenstein@sierraresearch.com)>; Candy Tong <[ctong@sierraresearch.com](mailto:ctong@sierraresearch.com)>

**Subject:** Draft Permit Conditions for the Shredder at the Schnitzer Steel Oakland Facility

Thank you for the opportunity to review the draft permit conditions.

A letter providing comments on the draft permit conditions is attached.

.....  
**Steve Hill**

**Sierra Research**

1801 J Street | Sacramento, CA 95811

Cell: 510.684.3671

Email: [shill@sierraresearch.com](mailto:shill@sierraresearch.com)

**Dharam Singh**

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**From:** Carol Allen  
**Sent:** Wednesday, October 19, 2016 5:53 PM  
**To:** Steve Hill  
**Cc:** Dharam Singh  
**Subject:** Application # 27762, Schnitzer Steel  
**Attachments:** Condition23114-draft changes.docx

Steve,

Please see the attached proposed permit condition changes for the Shredder Enclosure Project. The strikeouts and underlines show the permit condition changes compared to the current existing conditions. I am available on Friday to discuss any final changes.

Comments on proposed changes to Condition # 23114

Part 1 – I updated the basis to clarify that the HRA in question was done pursuant to toxics NSR and in particular to ensure compliance with the project risk limits in Regulation 2-5-302. Similarly, I added the applicable regulation (Regulation 2-1-301) related to the cumulative increase and baseline permitted emission rates.

Part 2 – You suggested monitoring the amperage of the exhaust fan during source testing to establish an appropriate operating range. I don't see how this will demonstrate that the enclosure is under negative pressure. I have proposed alternatives that include the system design, the curtains we discussed earlier and some monitoring at the remaining openings.

Part 3 – I added some more detail about exactly which emission rates we are looking for here. I think we are very close on this one. Let me know if you have any further comments.

Part 4 – I combined all the testing under one condition. I removed the fan criteria, since we are not planning to use this in Part 2. I think I captured the essence of what needs to be tested here. We can discuss this more if necessary.

Parts 5-9 – I made the changes you requested. These should be acceptable now.

Carol Allen  
Supervising Air Quality Engineer  
Engineering Division, BAAQMD  
(415) 749-4702  
[Callen@baaqmd.gov](mailto:Callen@baaqmd.gov)

**The Air District Headquarters has Moved!**

Our new mailing address and location are:  
The Bay Area Air Quality Management District  
375 Beale Street, Suite 600  
San Francisco, CA 94105

Schnitzer Steel Oakland Facility (Plant # 208)

COND# 23114 -----

S-6 & S-7 Shredder and Infeed conveyor  
(A# 14194; Revision 1: A# 16721; Revision 2: A# 27762)

1. The owner/operator shall not exceed the scrap-in throughput limit of 720,000 tons in any calendar year at this facility. (b)Basis: Regulations 2-1-301 - baseline 2005 production level of 431,471 tons/yr - and 2-5-302; and eCumulative iincrease for the incremental throughput; health risk screening analysis)
2. The owner/operator shall totally enclose and vent the shredder, S-6, and shall vent the shredder, to the abatement system at all times it is operating, to the Venturi Scrubbers, A-11 and A-12 to minimize fugitive emissions. The owner/operator shall minimize fugitive emissions from the shredder enclosure during shredder operation by (a) designing the enclosure such that the total surface area of all openings in the enclosure does not exceed 5% of the total surface area of the enclosure walls, floor, and ceiling; (b) using curtain walls or strip curtains on openings that may not be under negative pressure during all hours that the shredder is operating; and (c) demonstrating that any other openings are under negative pressure with air flowing into the building during shredder operation. For openings without curtain walls or strip curtains, the owner/operator shall measure and record the pressure differential and air flow rate into the building for at least three locations per opening, during shredder operation, on a monthly basis. (basis: TBACT)
3. Based on the results of the source testing required by Part 4, the owner/operator shall propose new emission rate limits for the shredder at stack P-11 and shall estimate the fugitive emission rates that are not captured by the new shredder enclosure. The owner/operator shall propose limits for each of the following pollutants: Precursor Organic Compounds (POC), PM<sub>10</sub>, PM<sub>2.5</sub>, benzene, hexavalent chromium, PCBs, cadmium, lead, tetrachloroethylene, and trichloroethylene. The proposed emission rate limits shall be submitted to the District within 90 days of receiving the Part 4 source test results. The District will analyze the proposed limits, notify the owner/operator of any necessary changes to these limits, and revise this condition to include the new stack limits and associated monitoring requirements for P-11. (Basis: Cumulative Increase and Regulation 2-5-302)
4. Source Testing Requirements for Parts 3 and 5:
  - a. Prior to removal of the existing particulate abatement system, the owner/operator shall conduct source testing on the existing shredder abatement system that is intended to be used in conjunction with source testing in Part 4b to assess the existing fugitive and captured emissions from the shredder and its associated systems. Particulate emissions testing (filterable and condensable) shall be conducted at the inlet and outlet of the existing PM abatement system.

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- b. Within 90 days of start-up of A-11 and A-12, the owner/operator shall conduct a District approved source test at stack P-11, while the S-6 Auto Shredder is operating at or near the maximum operating rate. The owner/operator shall record the shredder processing rate during the source test. The source test shall determine the hourly emission rate and the average emission factor (pounds of pollutant per ton of material processed by the shredder) for the following compounds: total POC, PM, benzene, tetrachloroethylene, trichloroethylene, hexavalent chromium, PCBs, cadmium, and lead, and shall determine the outlet grain loading to demonstrate compliance with Part 5. In addition, the owner/operator shall conduct PM testing at the inlet to the A-11 and A-12 Venturi Scrubbers to determine the PM capture rate for the new enclosure and the PM removal efficiency achieved by A-11 and A-12.
- c. The owner/operator shall submit a source test protocols for each test to the Air District's Source Test Section Manager and to the Permit Engineer at least 30 days prior to the scheduled test date.
- d. The owner/operator shall notify the Source Test Section Manager of the scheduled test date at least 7 days prior to the scheduled test date and shall obtain District approval for all source test procedures prior to conducting any testing.
- e. The owner/operator shall submit a copy of the source test report to the Source Test Section Manager within 60 days of the test date.

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(Basis: Cumulative Increase and Regulation 2-5-302)

35. The owner/operator shall abate particulate emissions from apply water sprays (A-6) at the shredder, S-6, and infeed conveyor, S-7, by water injection at a sufficient rate to ensure that non-metallic material exiting the sources unit be is moist to the touch at all times of operation, and abatement system consisting of cyclones, scrubber, filter, and demister at all times when the shredder is in operation. The PM grain loading at the exhaust outlet of the abatement system stack P-11 shall not exceed 0.01 gr/dscf. (Basis: Cumulative Increase, TBACT; and Regulation 2-5-302)
46. The owner/operator shall operate the Recycling Center in such a manner that particulate emissions into the atmosphere from any operation/equipment for a period or periods aggregating more than three minutes in any hour shall not cause a visible emission which is as dark or darker than No. 0.5 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree or result in fallout on adjacent property in such quantities as to cause public nuisance per District Regulation 1-301. (Basis: Regulations 1-301 and 6-1-301; 1-301)
57. The owner/operator shall use water spray to minimize fugitive dust emissions from material/scrap handling and storage to comply with condition 4 Part 6. The owner/operator shall operate the facility at all times in accordance with its approved Emissions Minimization Plan (EMP) pave the site truck transport roads and sweep/spray with water/other actions deemed appropriate by the District, if necessary, to minimize

~~fugitive dust emissions from trucking activities to comply with condition 4. (b)Basis: Regulations 1-301, 6-1-301, 1-301, and 6-4-301)~~

68. The owner/operator shall not exceed a total of 26 ship calls and 63,875 truck calls per calendar year to haul in/out scrap/materials at the facility. (B)Basis: health risk assessment screening analysis; for CEQA review)
79. In order to demonstrate compliance with ~~condition numbers Part 1 and 68~~, the owner/operator shall keep records of monthly and yearly throughput of materials, ship and truck calls in a District approved log. The log shall be maintained for a period of at least 24 months from the date of data entry and shall be made available to the District staff for inspection upon request for inspection. (b)Basis: recordkeeping Regulations 2-1-301 and 2-5-302, Cumulative Increase, CEQA)

## Dharam Singh

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**From:** Steve Hill <shill@sierraresearch.com>  
**Sent:** Tuesday, October 18, 2016 5:18 PM  
**To:** Carol Allen  
**Cc:** Dharam Singh  
**Subject:** RE: Draft Permit Conditions for the Shredder at the Schnitzer Steel Oakland Facility

Yes, we will do that.

---

**From:** Carol Allen [mailto:CALLen@baaqmd.gov]  
**Sent:** Tuesday, October 18, 2016 5:17 PM  
**To:** Steve Hill <shill@sierraresearch.com>  
**Cc:** Dharam Singh <DSingh@baaqmd.gov>  
**Subject:** RE: Draft Permit Conditions for the Shredder at the Schnitzer Steel Oakland Facility

Steve,

In the meeting today, Daniel stated that the stack would be replaced. Could you please complete a new P-Form for the new stack. The next stack number should be P-11.

Carol Allen

---

**From:** Steve Hill [mailto:shill@sierraresearch.com]  
**Sent:** Thursday, September 15, 2016 10:56 AM  
**To:** Carol Allen <CALLen@baaqmd.gov>; Dharam Singh <DSingh@baaqmd.gov>  
**Cc:** Scott Sloan <ssloan@schn.com>; Gary Rubenstein <grubenstein@sierraresearch.com>; Candy Tong <ctong@sierraresearch.com>  
**Subject:** Draft Permit Conditions for the Shredder at the Schnitzer Steel Oakland Facility

Thank you for the opportunity to review the draft permit conditions.

A letter providing comments on the draft permit conditions is attached.

.....  
**Steve Hill**

**Sierra Research**  
1801 J Street | Sacramento, CA 95811  
Cell: 510.684.3671  
Email: [shill@sierraresearch.com](mailto:shill@sierraresearch.com)

## Dharam Singh

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**From:** Candy Tong <ctong@sierraresearch.com>  
**Sent:** Friday, September 30, 2016 4:20 PM  
**To:** Dharam Singh  
**Cc:** Scott Sloan; Gary Rubenstein; Steve Hill; Carol Allen  
**Subject:** RE: Draft Permit Conditions for the Shredder at the Schnitzer Steel Oakland Facility

Dharam,

We are wondering if you have any additional question for the comments on the draft permit conditions. Please feel free to contact us.  
Thanks a lot.

-Candy

**Chinghang (Candy) Tong, Ph.D**

**Sierra Research**  
1801 J Street | Sacramento, CA 95811  
Tel: (916) 444-6666  
Direct line: (916) 273-5123  
Email: ctong@sierraresearch.com

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**From:** Steve Hill  
**Sent:** Thursday, September 15, 2016 10:56 AM  
**To:** Carol Allen <CAllen@baaqmd.gov>; Dharam Singh <DSingh@baaqmd.gov>  
**Cc:** Scott Sloan <ssloan@sch.n.com>; Gary Rubenstein <grubenstein@sierraresearch.com>; Candy Tong <ctong@sierraresearch.com>  
**Subject:** Draft Permit Conditions for the Shredder at the Schnitzer Steel Oakland Facility

Thank you for the opportunity to review the draft permit conditions.

A letter providing comments on the draft permit conditions is attached.

.....  
**Steve Hill**

**Sierra Research**  
1801 J Street | Sacramento, CA 95811  
Cell: **510.684.3671**  
Email: [shill@sierraresearch.com](mailto:shill@sierraresearch.com)

## Dharam Singh

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**From:** Carol Allen  
**Sent:** Thursday, September 15, 2016 4:21 PM  
**To:** Dharam Singh  
**Subject:** FW: Draft Permit Conditions for the Shredder at the Schnitzer Steel Oakland Facility  
**Attachments:** 20160915\_Schnitzer\_Response\_Letter\_Draft\_Permit\_Conditions\_Revision.pdf

Lets discuss next week.

carol

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**From:** Steve Hill [mailto:shill@sierraresearch.com]  
**Sent:** Thursday, September 15, 2016 10:56 AM  
**To:** Carol Allen <CAllen@baaqmd.gov>; Dharam Singh <DSingh@baaqmd.gov>  
**Cc:** Scott Sloan <ssloan@sch.n.com>; Gary Rubenstein <grubenstein@sierraresearch.com>; Candy Tong <ctong@sierraresearch.com>  
**Subject:** Draft Permit Conditions for the Shredder at the Schnitzer Steel Oakland Facility

Thank you for the opportunity to review the draft permit conditions.

A letter providing comments on the draft permit conditions is attached.

---

**Steve Hill**

**Sierra Research**  
1801 J Street | Sacramento, CA 95811  
Cell: 510.684.3671  
Email: [shill@sierraresearch.com](mailto:shill@sierraresearch.com)



**sierra  
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September 15, 2016

Carol Allen and Dharam Singh  
Bay Area Air Quality Management District  
375 Beale Street, Suite 600  
San Francisco, CA 94105

Re: Draft Permit Conditions for the Shredder at the Schnitzer Steel Oakland Facility -  
Revision

Dear Ms. Allen and Mr. Singh:

On behalf of Schnitzer Steel, Sierra Research is submitting these additional comments on the draft permit conditions for the Shredder located at the Schnitzer Steel Industries (Schnitzer Steel) Oakland Facility, based on our discussion on September 7, 2016. This letter revises some of the proposed changes to the draft permit conditions included in our August 5, 2016 comment letter.

Schnitzer Steel submitted a permit application on February 12, 2016, for the installation of upgraded emission abatement devices at the Oakland facility shredder (2016 Shredder Application).<sup>1</sup> The proposed upgraded emission control equipment includes an enclosure and two venturi scrubbers. Schnitzer Steel is not proposing an increase in allowable throughput. The project is expected to reduce emissions from the shredder by collecting fugitive emissions and routing them to a control device. However, because the project will collect and route formerly fugitive emissions to the stack, emissions at the stack may increase, and our permit application reflects that possibility.

The District provided the draft permit conditions to Schnitzer Steel for comment on July 18, 2016. Sierra, on behalf of Schnitzer Steel, submitted comments on August 5, 2016. As a follow-up to the August 5<sup>th</sup> comment letter, we had a discussion on the draft permit on September 7, 2016. Based on the September 7, 2016 discussion, we agree to the revisions to the draft permit conditions (Condition 23114) outlined below.

- Part 2 of Condition 23114: Schnitzer Steel agrees to an alternative continuous monitoring method to demonstrate that the shredder enclosure is operating under a slight air inward flow at all times that the shredder is operating.

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<sup>1</sup> Application for an Authority to Construct and a Permit to Operate for Upgraded Emission Control Systems at the Shredder, Oakland, CA, CONFIDENTIAL, prepared for Schnitzer Steel Industries, Inc. Feb 2016

- Part 3 and Part 4 of the Condition 23114: The District prefers to remove all of the emission limits from Part 3, and indicate in the Part 4 source test requirement language that Schnitzer Steel will propose permit emissions limits for the shredder enclosure stack (Stack P-1) based on the results of the source test. Moreover, if the new permit limits trigger additional applicable NSR requirements, Schnitzer Steel will comply with those additional requirements.
- New requirement (Part 10) under Condition 23114: The District is requesting that Schnitzer Steel provide an estimate of the remaining fugitive emissions following completion of construction and initial source tests.

### Revision to the Proposed Changes of the Draft Permit Conditions

Listed below are the draft permit requirements (Parts 1 to 9 under condition 23114) for the shredder and infeed conveyor (S-6 and S-7). Our proposed changes are highlighted in ~~strike through~~ and **bold-underline** format to the draft permit condition issued on July 18, 2016.

1. The owner/operator shall not exceed the scrap-in throughput limit of 720,000 tons in any calendar year at this facility.  
(basis: baseline 2005 production level of 431,471 tons/yr; cumulative increase for the incremental throughput; health risk screening analysis)

*Same as the existing condition. No change proposed in the August 5, 2016 comment letter or revision.*

2. The owner/operator shall totally enclose ~~and vent~~ the shredder, S-6, and **shall vent the shredder to the venturi scrubbers, A-11 and A-12** at all times it is operating ~~to the venturi scrubbers, A-11 and A-12. The amperage to the exhaust fan of the enclosure shall be maintained within plus or minus 15% of an operational limit to be determined during the initial source test as required in Part 3~~ minimize emissions including fugitive emissions. During all times the shredder is operating the enclosure shall be maintained under negative pressure of at least 0.05" of water to be indicated by installing differential pressure gauge(s) at District approved location(s) and by demonstrating the tendency of air to enter the enclosure rather than exit at the openings.  
(basis: TBACT)

*We propose monitoring the amperage to the exhaust fan as an alternative continuous monitoring method. Since the amperage to the exhaust fan of the enclosure is directly related to the power consumed by the fan, it thereby relates to the overall volumetric flow rate of the enclosure. Once the appropriate operational flow rate, and the corresponding amperage of the exhaust fan, is determined during the initial source test of the shredder enclosure, monitoring the amperage will provide an indication that the system is operating at a proper volumetric flow rate, ensuring an overall inward air velocity.*

3. The owner/operator shall not exceed the following emission limits: Based on the results of the initial source test, the owner/operator shall propose maximum hourly mass emission rates for stack P-1 for the following pollutants. Once approved by the District, the proposed mass emission rates shall be established as new emission limitations.

- a. Precursor organic compounds (POC) = ~~14,400 lbs/yr~~
- b. PM emissions = ~~936 lbs/yr~~
- c. Benzene = ~~8.424 lbs/yr; 0.14 lb/hr~~
- d. Hexavalent Chromium = ~~0.0243 lb/yr~~
- e. PCB = ~~1.182 lbs/yr~~
- f. Cadmium = ~~0.8352 lb/yr~~
- g. Lead = ~~5.67 lbs/yr~~
- h. Tetrachloroethylene = ~~1.922 lbs/yr; 0.0009 lb/hr~~
- i. Trichloroethylene = ~~48.02 lbs/yr~~

(basis: cumulative increase; health risk screening analysis; emission factor of POC, PM, benzene, PCB, hex. Chromium from March 2007 source test and emission factor of the other materials from 1996 report prepared by Versar, Inc.)

*As requested by the District, all numerical limits are being deleted in this revision. Schnitzer Steel will proposed hourly emission limits at stack P-1 based on the results of the initial source test.*

4. Within 60 days after completion of initial commissioning and tuning activities, but not later than 180 days after the start-up date of A-11 and A-12, the owner/operator shall conduct a District-approved source test at the proposed abatement system stack P-1 to demonstrate compliance with the parts 3, 5 and to determine emission factors for the pollutants listed in Part 3 (with the exception of PM, PM emission source test requirements are included in Part 10), and the operational conditions for the exhaust fan (in amperes) and abatement efficiency of the new scrubbers within 30 days the start-up date. A source test protocol shall be submitted to the Source Test Section of the District to obtain for approval at least 30 days before conducting the test. The Source Test Section shall also be notified of the scheduled test date at least 7 days in advance of the test date. The owner/operator shall submit a copy of the source test report within 30 60 days of the test date to the District for review. If emission limits of part 3 will exceed then cumulative emissions increase, offsets, and health risk screening analysis will be reevaluated. The emission limits for the pollutants listed in Part 3 shall be established at the time that the permit to operate is issued based on source test results, if a health risk screening analysis demonstrates compliance with District rules.

(basis: cumulative increase; TBACT; health risk screening analysis)

*As discussed in the permit application and the August 5, 2016 comment letter, the total shredder PM emissions (stack and fugitive) will not increase after the installation of the proposed upgraded emission control system—in fact, there will be a significant overall reduction in shredder PM emissions. The proposed installation of the PM emission control system will not be subject to offset requirements. To provide sufficient time for Schnitzer Steel to perform the necessary commissioning and tuning activities on the*

*proposed enclosure and venturi scrubbers system, and laboratory analyses of the samples, Schnitzer Steel previously proposed to conduct the initial compliance testing within 60 days after the completion of the initial commissioning and tuning activities, and to submit the final source test report to the District within 60 days of the test date.*

*In this revision, we indicate in the draft condition that the emission limits for the pollutants listed in Part 3 and operational limits for the exhaust fan will be established based on the initial source test results.*

5. The owner/operator shall ~~abate particulate emissions from~~ apply water sprays (A-6) at the shredder, S-6, and infeed conveyor, S-7, ~~by water injection, A-6,~~ at a sufficient rate to ensure that non-metallic material exiting the sources is moist to the touch at all times of operation, ~~and abatement system consisting of venturi scrubbers, A-11 and A-12, at all times the shredder is in operation.~~ The PM grain loading at the exhaust outlet stack P-1 ~~of the abatement system~~ shall not exceed 0.01 gr/dscf. (basis: TBACT; cumulative increase; health risk screening analysis)

*Same change proposed in the August 5, 2016 comment letter. No revision.*

6. The owner/operator shall operate the Recycling Center in such a manner that particulate emissions into the atmosphere from any operation/equipment for a period or periods aggregating more than three minutes in any hour shall not cause a visible emission which is as dark or darker than No. 0.5 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree or result in fallout on adjacent property in such quantities as to cause public nuisance per District Regulation 1-301. (basis: Regulations 6-1-301; 1-301)

*Same as the existing condition. No change proposed in the August 5, 2016 comment letter or revision.*

7. The owner/operator shall use water spray to minimize fugitive dust emissions from material/scrap handling and storage to comply with Part 6. The owner/operator shall operate the facility at all times in accordance with its approved Emissions Minimization Plan (EMP). ~~pave the site truck transport roads and sweep/spray with water/other actions deemed appropriate by the District, if necessary, to minimize fugitive dust emissions from trucking activities to comply with Part 6.~~ (basis: Regulations 6-1-301; 1-301; 6-4-301)

*Same change proposed in the August 5, 2016 comment letter. No revision.*

8. The owner/operator shall not exceed a total of 26 ship calls and 63,875 truck calls per calendar year to haul in/out scrap/materials at the facility. (basis: health risk screening analysis; CEQA review)

*Same as the existing condition. No change proposed in the August 5, 2016 comment letter or revision.*

9. In order to demonstrate compliance with Parts 1 and 8, the owner/operator shall keep records of monthly and yearly throughput of materials, ship and truck calls in a District approved log. The log shall be maintained for a period of at least 24 months from the date of data entry and shall be made available to the District staff **for inspection** upon request ~~for inspection~~.  
(basis: recordkeeping)

*Same change proposed in the August 5, 2016 comment letter. No revision.*

**10. Prior to installation of the upgraded PM abatement system, the owner/operator shall submit a protocol designed to assess existing emissions from the shredder. Sampling shall be performed simultaneously at the inlet and outlet of the existing PM abatement system. The protocol shall indicate sampling locations that comply with District criteria, to the extent practicable. This protocol shall be submitted to the District for approval no less than 30 days prior to the date scheduled for the test. After the protocol has been approved, the owner/operator shall conduct a PM emission source test to assess PM emissions from the shredder using the approved testing procedures in the protocol.**

**Within 60 days after completion of initial commissioning and tuning activities, but not later than 180 days after the start-up date of A-11 and A-12, the owner/operator shall conduct District-approved source tests to assess PM emissions from the shredder. Sampling for PM emissions test shall be performed simultaneously at the inlet and outlet of the upgraded PM abatement system. The owner/operator shall submit the source test results to the District staff no later than 60 days after the source test. Based on the results of the PM source tests, the owner/operator shall provide an estimate of the remaining fugitive emissions to the District.**

**The owner/operator shall obtain approval for all source test procedures from the District's Source Test Section prior to conducting any tests. The Source Test Section shall be notified of the scheduled test date at least 7 days in advance of the test date.**

*To provide an estimate of the remaining fugitive emissions following completion of the construction and initial source tests, Schnitzer Steel proposes to conduct PM emission source tests prior to and after the installation of the proposed upgraded abatement system.*


Carol Allen and Dharam Singh

-6-

September 15, 2016

Thank you for your consideration of these comments. Please do not hesitate to contact me if you have any questions.

Sincerely,

  
Gary Rubenstein

cc: Scott Sloan, Schnitzer Steel  
Steve Hill, Sierra Research

**Dharam Singh**

---

**From:** Carol Allen  
**Sent:** Wednesday, September 7, 2016 6:23 PM  
**To:** Dharam Singh  
**Subject:** FW: Schnitzer Steel

---

**From:** Gary Rubenstein [mailto:grubenstein@sierraresearch.com]  
**Sent:** Wednesday, September 7, 2016 3:32 PM  
**To:** Carol Allen <CALLen@baaqmd.gov>  
**Cc:** Gary Rubenstein <grubenstein@sierraresearch.com>  
**Subject:** Schnitzer Steel

I agree that we're very close, but I'll need a couple of days to develop a monitoring system for the enclosure that will be acceptable to the District and practical for the plant. However, I think you can safely proceed to rewrite the other conditions as we discussed. Thanks again for your time today.

**Gary**

## Dharam Singh

---

**From:** Candy Tong <ctong@sierraresearch.com>  
**Sent:** Friday, August 5, 2016 12:28 PM  
**To:** Dharam Singh; Carol Allen  
**Cc:** Scott Sloan; Rob Ellsworth; Steve Hill; Gary Rubenstein; Daniel Lee; Margaret Rosegay (margaret.rosegay@pillsburylaw.com)  
**Subject:** RE: Follow-up to Schnitzer Permit Application  
**Attachments:** Shredder P-form.pdf; Stack\_Locations.pdf; 20160805\_Schnitzer\_Response\_Letter\_Draft\_Permit\_Conditions.pdf

Hi Dharam,

Thanks for providing us an opportunity to review draft permit conditions. Enclosed is our responses to the draft conditions.

In addition to the response letter, we would also like to schedule a meeting to further discuss and provide additional information for this project prior to the issuance of the final permit.

Also enclosed is the requested application form for Stack P-1, and a map showing the new and current locations of the stack.

Please let us know if you have any question.

Thanks a lot.

-Candy

### Chinghang (Candy) Tong

#### Sierra Research

1801 J Street | Sacramento, CA 95811

Tel: (916) 444-6666

Direct line: (916) 273-5123

Email: [ctong@sierraresearch.com](mailto:ctong@sierraresearch.com)

---

**From:** Dharam Singh [<mailto:DSingh@baaqmd.gov>]  
**Sent:** Monday, July 18, 2016 9:41 AM  
**To:** Candy Tong <[ctong@sierraresearch.com](mailto:ctong@sierraresearch.com)>  
**Cc:** Scott Sloan <[ssloan@schn.com](mailto:ssloan@schn.com)>; Rob Ellsworth <[rellsworth@schn.com](mailto:rellsworth@schn.com)>; Steve Hill <[shill@sierraresearch.com](mailto:shill@sierraresearch.com)>; Gary Rubenstein <[grubenstein@sierraresearch.com](mailto:grubenstein@sierraresearch.com)>  
**Subject:** RE: Follow-up to Schnitzer Permit Application

Hi Candy,

As discussed, a draft of revised permit condition is as follows for your comments. In addition, please clarify that the existing stack P-1 will remain at the current location and will be used to vent both proposed scrubbers. Complete data form P for P-1 for new configuration and submit a site map showing its current and new location, if applicable.

Thanks,  
Dharam Singh, PE  
BAAQMD

COND# 23114 -----

S-6 & S-7 Shredder and Infeed conveyor  
(A# 14194; Revision 1: A# 16721; Revision 2: A# 27762)

1. The owner/operator shall not exceed the scrap-in throughput limit of 720,000 tons in any calendar year at this facility.  
(basis: baseline 2005 production level of 431,471 tons/yr; cumulative increase for the incremental throughput; health risk screening analysis)
2. The owner/operator shall totally enclose and vent the shredder, S-6, to the venturi scrubbers, A-11 and A-12 at all times it is operating to minimize emissions including fugitive emissions. During all times the shredder is operating the enclosure shall be maintained under negative pressure of at least 0.05" of water to be indicated by installing differential pressure gauge(s) at District approved location(s) and by demonstrating the tendency of air to enter the enclosure rather than exit at the openings.  
(basis: TBACT)
3. The owner/operator shall not exceed the following emission limits:
  - a. Precursor organic compounds (POC) = 14,400 lbs
  - b. PM emissions = 936 lbs
  - c. Benzene = 8.424 lbs/yr; 0.14 lb/hr
  - d. Hexavalent Chromium = 0.0243 lb/yr
  - e. PCB = 1.182 lbs/yr
  - f. Cadmium = 0.8352 lb/yr
  - g. Lead = 5.67 lbs
  - h. Tetrachloroethylene = 1.922 lbs/yr; 0.0009 lb/hr
  - i. Trichloroethylene = 48.02 lbs/yr(basis: cumulative increase; health risk screening analysis; emission factor of POC, PM, benzene, PCB, hex. Chromium from March 2007 source test and emission factor of the other materials from 1996 report prepared by Versar, Inc.)
4. The owner/operator shall conduct a District approved source test the proposed abatement system to demonstrate compliance with parts 3, 5 and to determine emission factors and abatement efficiency of the new scrubbers within 30 days of the start-up date. Source test protocol shall be submitted to the Source Test Section of the District to obtain approval before conducting the test. The Source Test Section shall also be notified at least 7 days in advance of the test date. The owner/operator shall submit a copy of the source test report within 30 days of the test date to the District for review. If emission limits of part 3 will exceed then cumulative emissions increase, offsets, and health risk screening analysis will be reevaluated.  
(basis: cumulative increase; TBACT; health risk screening analysis)
5. The owner/operator shall abate particulate emissions from the shredder, S-6, and infeed conveyor, S-7, by water injection, A-6, at a sufficient rate to ensure that non-metallic material exiting the sources is moist to the touch at all times of operation, and abatement system consisting of venturi scrubbers, A-11 and A-12, at all times the shredder is in operation. The PM grain loading at

the exhaust outlet of the abatement system shall not exceed 0.01 gr/dscf.  
(basis: TBACT; cumulative increase; health risk screening analysis)

6. The owner/operator shall operate the Recycling Center in such a manner that particulate emissions into the atmosphere from any operation/equipment for a period or periods aggregating more than three minutes in any hour shall not cause a visible emission which is as dark or darker than No. 0.5 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree or result in fallout on adjacent property in such quantities as to cause public nuisance per District Regulation 1-301.  
(basis: Regulations 6-1-301; 1-301)
7. The owner/operator shall use water spray to minimize fugitive dust emissions from material/scrap handling and storage to comply with Part 6. The owner/operator shall pave the site truck transport roads and sweep/spray with water/other actions deemed appropriate by the District, if necessary, to minimize fugitive dust emissions from trucking activities to comply with Part 6.  
(basis: Regulations 6-1-301; 1-301)
8. The owner/operator shall not exceed a total of 26 ship calls and 63,875 truck calls per calendar year to haul in/out scrap/materials at the facility.  
(basis: health risk screening analysis; CEQA review)
9. In order to demonstrate compliance with Parts 1 and 8, the owner/operator shall keep records of monthly and yearly throughput of materials, ship and truck calls in a District approved log. The log shall be maintained for a period of at least 24 months from the date of data entry and shall be made available to the District staff upon request for inspection.  
(basis: recordkeeping)

---

**From:** Candy Tong [<mailto:ctong@sierraresearch.com>]

**Sent:** Thursday, July 7, 2016 11:03 AM

**To:** Dharam Singh <[DSingh@baaqmd.gov](mailto:DSingh@baaqmd.gov)>

**Cc:** Scott Sloan <[ssloan@sch.n.com](mailto:ssloan@sch.n.com)>; Rob Ellsworth <[rellsworth@sch.n.com](mailto:rellsworth@sch.n.com)>; Steve Hill <[shill@sierraresearch.com](mailto:shill@sierraresearch.com)>; Gary Rubenstein <[grubenstein@sierraresearch.com](mailto:grubenstein@sierraresearch.com)>

**Subject:** RE: Follow-up to Schnitzer Permit Application

To follow up our phone discussion yesterday, enclosed is the letter requesting that the Schnitzer Steel's permit application review period be extended to July 25, 2016.

Please feel free to contact me if you have any question. Thanks.

**Chinghang (Candy) Tong**

**Sierra Research**

1801 J Street | Sacramento, CA 95811

Tel: (916) 444-6666

Direct line: (916) 273-5123

Email: [ctong@sierraresearch.com](mailto:ctong@sierraresearch.com)



**sierra  
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August 5, 2016

Dharam Singh  
Bay Area Air Quality Management District  
375 Beale Street, Suite 600  
San Francisco, CA 94105

Re: Draft Permit Conditions for the Shredder at the Schnitzer Steel Oakland Facility

Dear Mr. Singh:

Thank you for the opportunity to review draft permit conditions for the Shredder located at the Schnitzer Steel Industries (Schnitzer Steel) Oakland Facility. On behalf of Schnitzer Steel, Sierra Research (Sierra) is providing the following comments.

Schnitzer Steel submitted a permit application on February 12, 2016 for the installation of upgraded emission abatement devices at the Oakland facility shredder (2016 Shredder Application)<sup>1</sup>. The proposed upgraded emission control equipment includes an enclosure and two venturi scrubbers. Schnitzer Steel is not proposing an increase in allowable throughput. The project is expected to reduce emissions from the shredder by collecting fugitive emissions and routing them to a control device. However, because the project will collect and route formerly fugitive emissions to the stack, emissions at the stack may increase, and our permit application reflects that possibility.

Because the project will not result in a net increase in emissions from the shredder operation, under District regulations this project is not a modification, but an alteration. For this reason, District regulations that are applicable to modified sources are not triggered; and any permit conditions based on such regulations are not appropriate.

### Proposed Changes to the Draft Permit Conditions

Listed below are the draft permit requirements (Parts 1 to 9 under condition 23114) for the shredder and infeed conveyor (S-6 and S-7). Our proposed changes are highlighted in ~~strikethrough~~ and **bold-underline** format; the reasons for the proposed changes are also provided.

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<sup>1</sup> Application for an Authority to Construct and a Permit to Operate for Upgraded Emission Control Systems at the Shredder, Oakland, CA, CONFIDENTIAL, prepared for Schnitzer Steel Industries, Inc. Feb 2016

1. The owner/operator shall not exceed the scrap-in throughput limit of 720,000 tons in any calendar year at this facility.  
(basis: baseline 2005 production level of 431,471 tons/yr; cumulative increase for the incremental throughput; health risk screening analysis)

*Same as the existing condition. No proposed change.*

2. The owner/operator shall totally enclose ~~and vent~~ the shredder, S-6, and shall vent the shredder to the venturi scrubbers, A-11 and A-12 at all times it is operating to the venturi scrubbers, A-11 and A-12. The total area of all openings shall not exceed 5 percent of the surface area of the enclosure walls, floor, and ceiling. ~~minimize emissions including fugitive emissions. During all times the shredder is operating the enclosure shall be maintained under negative pressure of at least 0.05" of water to be indicated by installing differential pressure gauge(s) at District approved location(s) and by demonstrating the tendency of air to enter the enclosure rather than exit at the openings.~~  
(basis: TBACT)

*The District cited Best Available Control Technology for Toxics (TBACT) as the basis for its proposed language. TBACT is a requirement under the current BAAQMD Rule 2-5 New Source Review of Toxic Air Contaminants. As discussed in Section V.B. of the 2016 Shredder Application, TBACT does not apply because the proposed upgraded PM emission control system at the shredder will not result in any increase in the TAC/HAP emissions from the shredder. We propose to include the design criteria (specified in the application) of less than 5% of openings for the proposed enclosure to ensure that the system will operate with an overall inward air velocity.*

3. The owner/operator shall not exceed the following emission limits:
  - a. Precursor organic compounds (POC) = ~~14,400~~ 57,600 lbs/yr
  - b. PM emissions = ~~936~~ 5,760 lbs/yr
  - c. Benzene = ~~8.424~~ 34 lbs/yr; ~~0.14~~ lb/hr
  - d. Hexavalent Chromium = ~~0.0243~~ 0.2 lb/yr
  - e. PCB = ~~1.182~~ 5 lbs/yr
  - f. Cadmium = ~~0.8352~~ 5 lb/yr
  - g. Lead = ~~5.67~~ 35 lbs/yr
  - h. Tetrachloroethylene = ~~1.922~~ 8 lbs/yr; ~~0.0009~~ lb/hr
  - i. Trichloroethylene = ~~48.02~~ 192 lbs/yr
 (basis: cumulative increase; health risk screening analysis; ~~emission factor of POC, PM, benzene, PCB, hex. Chromium from March 2007 source test and emission factor of the other materials from 1996 report prepared by Versar, Inc.)~~)

*As discussed in Section V.A.1 of the 2016 Shredder Application, the installation of the proposed PM emission control system at the shredder will not result in any change in the POC, NPOC, NO<sub>x</sub>, SO<sub>2</sub>, or CO emissions from the shredder operation. The total PM<sub>10</sub> emissions (stack and fugitive) from the shredder will be reduced by the proposed upgraded PM abatement system, because all of the emissions that are currently fugitive*

*will be collected and abated. Although total PM emissions from the shredder will decrease, PM emissions measured at the stack may increase.*

*As described in Section IV.A of the 2016 Shredder Application, Schnitzer Steel proposes to use emission factors based on best engineering estimates and data from source tests at other similar facilities. We propose that the stack emission limits be developed after the installation of the proposed PM emission system; initial stack emission limits contained in the Authority to Construct should be based on the emission estimates in the 2016 Shredder Application for POC and PM emissions. Our proposed stack emission limits for toxics that are generally associated with POC (benzene, PCB, tetrachloroethylene, and trichloroethylene) were calculated by scaling the District's proposed limits by the ratio of the proposed POC emissions to the District's proposed POC limit. Our proposed stack emission limits for toxics that are generally associated with PM (hexavalent chromium, cadmium and lead), were calculated by scaling the District's proposed draft emission limits by the ratio of the proposed PM emissions to the District's proposed PM limit.*

4. The owner/operator shall conduct a District approved source test at the proposed abatement system stack P-1 to demonstrate compliance with the emission limits in parts 3, 5 and to determine emission factors for the pollutants listed in part 3, and abatement efficiency of the new scrubbers within 30 60 days after completion of initial commissioning and tuning activities, but not later than 180 days after the start-up date of A-11 and A-12. A source test protocol shall be submitted to the Source Test Section of the District to obtain for approval at least 30 days before conducting the test. The Source Test Section shall also be notified of the scheduled test date at least 7 days in advance of the test date. The owner/operator shall submit a copy of the source test report within 30 60 days of the test date to the District for review. If emission limits of part 3 will exceed then cumulative emissions increase, offsets, and health risk screening analysis will be reevaluated. The limits in Part 3 may be adjusted upward at the time that the permit to operate is issued based on source test results, if a health risk screening analysis demonstrates compliance with District rules.  
(basis: ~~cumulative increase; TBACT;~~ health risk screening analysis)

*Due to the significant improvement in the capture efficiency of the upgraded system, all emissions will now be captured and this may result in higher PM stack emissions than those measured in 2007 Source Test. However, the total shredder PM emissions (stack and fugitive) will not increase after the installation of the proposed upgraded emission control system. In fact, there will be a significant overall reduction in shredder PM emissions, as the upgraded emission control system will collect and control previously uncontrolled fugitive emissions. The proposed installation of the PM emission control system will not be subject to offset requirements. To provide sufficient time for Schnitzer Steel to perform the necessary commissioning and tuning activities on the proposed enclosure and venturi scrubbers system, Schnitzer Steel proposes to conduct the initial compliance testing within 60 days after the completion of the initial commissioning and tuning activities. In order to allow sufficient time for laboratory analyses of the samples, Schnitzer Steel proposes to submit the final source test report to the District within 60 days of the test date.*

5. The owner/operator shall ~~abate particulate emissions from~~ **apply water sprays (A-6)** ~~at~~ the shredder, S-6, and infeed conveyor, S-7, ~~by water injection, A-6,~~ at a sufficient rate to ensure that non-metallic material exiting the sources is moist to the touch at all times of operation, ~~and abatement system consisting of venturi scrubbers, A-11 and A-12, at all times the shredder is in operation.~~ The PM grain loading at the exhaust outlet **stack P-1** ~~of the abatement system~~ shall not exceed 0.01 gr/dscf. (basis: TBACT; cumulative increase; health risk screening analysis)

*Continual operation of the venturi scrubbers during shredder's operation is already required in Part 2. Proposed simplified language focuses on the water abatement systems for S-6 and S-7.*

6. The owner/operator shall operate the Recycling Center in such a manner that particulate emissions into the atmosphere from any operation/equipment for a period or periods aggregating more than three minutes in any hour shall not cause a visible emission which is as dark or darker than No. 0.5 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree or result in fallout on adjacent property in such quantities as to cause public nuisance per District Regulation 1-301. (basis: Regulations 6-1-301; 1-301)

*Same as the existing condition. No proposed change.*

7. The owner/operator shall use water spray to minimize fugitive dust emissions from material/scrap handling and storage to comply with Part 6. The owner/operator shall **operate the facility at all times in accordance with its approved Emissions Minimization Plan (EMP)**, ~~pave the site truck transport roads and sweep/spray with water/other actions deemed appropriate by the District, if necessary, to minimize fugitive dust emissions from trucking activities to comply with Part 6.~~ (basis: Regulations 6-1-301; 1-301; **6-4-301**)

*Pursuant to BAAQMD Rule 6-4 (adopted May 1, 2013), Schnitzer Steel is required to develop and comply with an Emissions Minimization Plan (EMP) to minimize the fugitive emissions of particulate matter. Schnitzer Steel has submitted the EMP and will comply with the proposed fugitive emission control measures as described in the EMP.*

8. The owner/operator shall not exceed a total of 26 ship calls and 63,875 truck calls per calendar year to haul in/out scrap/materials at the facility. (basis: health risk screening analysis; CEQA review)

*Same as the existing condition. No proposed change.*

Dharam Singh

-5-

August 5, 2016

9. In order to demonstrate compliance with Parts 1 and 8, the owner/operator shall keep records of monthly and yearly throughput of materials, ship and truck calls in a District approved log. The log shall be maintained for a period of at least 24 months from the date of data entry and shall be made available to the District staff **for inspection** upon request ~~for inspection~~.  
(basis: recordkeeping)

*Proposed minor editorial change*

Please do not hesitate to contact me if you have any questions. In addition to this response letter to the District, we would also like to meet with the District staff to further discuss and provide additional information for this project prior to the issuance of the final permit.

Sincerely,

  
Chinghang (Candy) Tong

cc: Scott Sloan, Schnitzer Steel  
Steve Hill, Sierra Research

**Dharam Singh**

---

**From:** Candy Tong <ctong@sierraresearch.com>  
**Sent:** Thursday, July 7, 2016 11:03 AM  
**To:** Dharam Singh  
**Cc:** Scott Sloan; Rob Ellsworth; Steve Hill; Gary Rubenstein  
**Subject:** RE: Follow-up to Schnitzer Permit Application  
**Attachments:** 20160707\_Schnitzer\_Extension\_Letter.pdf

To follow up our phone discussion yesterday, enclosed is the letter requesting that the Schnitzer Steel's permit application review period be extended to July 25, 2016.

Please feel free to contact me if you have any question. Thanks.

**Chinghang (Candy) Tong**

**Sierra Research**  
1801 J Street | Sacramento, CA 95811

Tel: (916) 444-6666  
Direct line: (916) 273-5123  
Email: ctong@sierraresearch.com



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Fax: (734) 761-6755

July 7, 2016


Dharam Singh  
Bay Area Air Quality Management District  
375 Beale Street, Suite 600  
San Francisco, CA 94105

Dear Mr. Singh:

This letter is to follow up on our July 6 phone conversation regarding Schnitzer Steel's application for District permits. During the discussion, the District requested that the permit application review period be extended for two weeks to allow additional time for completion of the District's evaluation. On behalf of Schnitzer Steel, Sierra is requesting that the permit application review period be extended to July 25, 2016.

Please do not hesitate to contact me if you have any questions.

Sincerely,

  
Chinghang (Candy) Tong

cc: Scott Sloan, Schnitzer Steel  
Steve Hill, Sierra Research

## Dharam Singh

---

**From:** Candy Tong <ctong@sierraresearch.com>  
**Sent:** Monday, June 20, 2016 9:48 AM  
**To:** Dharam Singh  
**Subject:** RE: Follow-up to Schnitzer Permit Application

Hi Dharam,

Good morning.

Since we have not heard from the District for any additional request/question, we are hoping that everything is in order. If not, will you please let us know as soon as possible?

Thanks a lot.

-Candy

### Chinghang (Candy) Tong

#### Sierra Research

1801 J Street | Sacramento, CA 95811

Tel: (916) 444-6666

Direct line: (916) 273-5123

Email: ctong@sierraresearch.com

---

**From:** Dharam Singh [mailto:DSingh@baaqmd.gov]  
**Sent:** Tuesday, May 31, 2016 2:17 PM  
**To:** Candy Tong <ctong@sierraresearch.com>  
**Subject:** RE: Follow-up to Schnitzer Permit Application

Hi Candy,

It appears that the payment was received but it is not showing in the current status – may be in a couple of days it will be updated. As you know the District has 49 days to process permit after application is deemed complete.

Dharam

---

**From:** Candy Tong [mailto:ctong@sierraresearch.com]  
**Sent:** Thursday, May 26, 2016 11:29 AM  
**To:** Dharam Singh <DSingh@baaqmd.gov>  
**Subject:** RE: Follow-up to Schnitzer Permit Application

Hi Dharam,

I have just called the BAAQMD and left you a message. I understand that things could be hectic since the BAAQMD is moving office.

But I would like to make sure you have received the payment from Schnitzer Steel and everything is in order now. As you know, things could get lost in the mail or in the moving process. Please kindly let me know you got the check.

Also, if you can provide an update on the status of the permit application, it would be much appreciated.  
Thanks a lot.

-Candy

**Chinghang (Candy) Tong**

**Sierra Research**

1801 J Street | Sacramento, CA 95811

Tel: (916) 444-6666

Direct line: (916) 273-5123

Email: [ctong@sierraresearch.com](mailto:ctong@sierraresearch.com)

---

**From:** Candy Tong

**Sent:** Monday, May 16, 2016 9:17 AM

**To:** 'Dharam Singh' <[DSingh@baaqmd.gov](mailto:DSingh@baaqmd.gov)>

**Subject:** RE: Follow-up to Schnitzer Meeting

Good morning Dharam,

Schnitzer Steel sent in the remaining payment last wed. We think the payment should have arrived the District. Please let me know otherwise, and if you have any other question on the application.

Thanks again.

-Candy

**Chinghang (Candy) Tong**

**Sierra Research**

1801 J Street | Sacramento, CA 95811

Tel: (916) 444-6666

Direct line: (916) 273-5123

Email: [ctong@sierraresearch.com](mailto:ctong@sierraresearch.com)

---

**From:** Dharam Singh [<mailto:DSingh@baaqmd.gov>]

**Sent:** Monday, May 02, 2016 1:22 PM

**To:** Candy Tong <[ctong@sierraresearch.com](mailto:ctong@sierraresearch.com)>

**Subject:** RE: Follow-up to Schnitzer Meeting

Yes

---

**From:** Candy Tong [<mailto:ctong@sierraresearch.com>]

**Sent:** Monday, May 2, 2016 11:25 AM

**To:** Dharam Singh <[DSingh@baaqmu.gov](mailto:DSingh@baaqmu.gov)>  
**Subject:** RE: Follow-up to Schnitzer Meeting

Thanks. Do you mean making the payment with the attached invoice dated 2/18/16 even though the amount is not \$3,290?

-Candy

---

**From:** Dharam Singh [<mailto:DSingh@baaqmd.gov>]  
**Sent:** Monday, May 02, 2016 11:19 AM  
**To:** Candy Tong <[ctong@sierraresearch.com](mailto:ctong@sierraresearch.com)>  
**Subject:** RE: Follow-up to Schnitzer Meeting

\$3,290 is the correct amount. Make this payment along with the copy of invoice.

Dharam

---

**From:** Candy Tong [<mailto:ctong@sierraresearch.com>]  
**Sent:** Monday, May 2, 2016 10:55 AM  
**To:** Dharam Singh <[DSingh@baaqmd.gov](mailto:DSingh@baaqmd.gov)>  
**Subject:** RE: Follow-up to Schnitzer Meeting

We are expecting a new invoice to be issued from the District with the fee adjustment.

Just to be sure, can you provide a number for the final application fee that Schnitzer Steel should paid? Should it be \$3,290?

Thanks.

-Candy

**Chinghang (Candy) Tong**

**Sierra Research**  
1801 J Street | Sacramento, CA 95811  
Tel: (916) 444-6666  
Direct line: (916) 273-5123  
Email: [ctong@sierraresearch.com](mailto:ctong@sierraresearch.com)

---

**From:** Dharam Singh [<mailto:DSingh@baaqmd.gov>]  
**Sent:** Monday, May 02, 2016 10:34 AM  
**To:** Candy Tong <[ctong@sierraresearch.com](mailto:ctong@sierraresearch.com)>  
**Subject:** RE: Follow-up to Schnitzer Meeting

Hi Candy,

Have the permit fee been paid?

Dharam

---

**From:** Candy Tong [<mailto:ctong@sierraresearch.com>]  
**Sent:** Thursday, April 21, 2016 6:10 PM  
**To:** Dharam Singh <[DSingh@baaqmd.gov](mailto:DSingh@baaqmd.gov)>  
**Cc:** Carol Allen <[CAllen@baaqmd.gov](mailto:CAllen@baaqmd.gov)>; Scott Sloan <[ssloan@sch.n.com](mailto:ssloan@sch.n.com)>; Rob Ellsworth <[rellsworth@sch.n.com](mailto:rellsworth@sch.n.com)>; Daniel Lee <[dlee@sch.n.com](mailto:dlee@sch.n.com)>; Gary Rubenstein <[grubenstein@sierraresearch.com](mailto:grubenstein@sierraresearch.com)>; Steve Hill <[shill@sierraresearch.com](mailto:shill@sierraresearch.com)>  
**Subject:** RE: Follow-up to Schnitzer Meeting

Hi Dharam,

Per your request, enclosed are the additional permit application forms for the JPP.

Also, please note that Schnitzer Steel has not made the final purchasing order for the JPP emission control equipment. The final details of the emission control equipment (e.g. baghouse outlet height and area) could be slightly different from what we are currently providing in the attached application forms. If there is any change to the JPP emission control equipment information provided, we will submit updated application forms to the District.

Thanks a lot. Please let us know if you have any question.

-Candy

**Chinghang (Candy) Tong**

**Sierra Research**  
1801 J Street | Sacramento, CA 95811  
Tel: (916) 444-6666  
Direct line: (916) 273-5123  
Email: [ctong@sierraresearch.com](mailto:ctong@sierraresearch.com)

---

**From:** Dharam Singh [<mailto:DSingh@baaqmd.gov>]  
**Sent:** Tuesday, April 19, 2016 11:18 AM  
**To:** Steve Hill <[shill@sierraresearch.com](mailto:shill@sierraresearch.com)>  
**Cc:** Carol Allen <[CAllen@baaqmd.gov](mailto:CAllen@baaqmd.gov)>; Scott Sloan <[ssloan@sch.n.com](mailto:ssloan@sch.n.com)>; Gary Rubenstein <[grubenstein@sierraresearch.com](mailto:grubenstein@sierraresearch.com)>; Candy Tong <[ctong@sierraresearch.com](mailto:ctong@sierraresearch.com)>  
**Subject:** RE: Follow-up to Schnitzer Meeting

Hello Steve,

Even for an exempt source a correct train (including abatement device and emission point) are needed to enter into database.

Dharam

---

**From:** Steve Hill [<mailto:shill@sierraresearch.com>]  
**Sent:** Tuesday, April 19, 2016 9:01 AM  
**To:** Dharam Singh <[DSingh@baaqmd.gov](mailto:DSingh@baaqmd.gov)>  
**Cc:** Carol Allen <[CAllen@baaqmd.gov](mailto:CAllen@baaqmd.gov)>; Scott Sloan <[ssloan@sch.n.com](mailto:ssloan@sch.n.com)>; Gary Rubenstein

<grubenstein@sierraresearch.com>; Candy Tong <ctong@sierraresearch.com>

**Subject:** RE: Follow-up to Schnitzer Meeting

Hello, Dharam.

The G-Form indicates that the emission factors are after abatement. Abatement is by a baghouse, also exempt. No abatement device number has been assigned to that exempt baghouse; hence no abatement device number was indicated on the G-Form.

The G-Form for the JPP was submitted at the District's request in order to register the exempt source in the District's database. Because of the limited purpose for filing the form for the source, additional forms for the baghouse and emission point were not prepared.

---

**From:** Dharam Singh [mailto:DSingh@baaqmd.gov]

**Sent:** Monday, April 18, 2016 3:50 PM

**To:** Steve Hill <shill@sierraresearch.com>

**Cc:** Carol Allen <CAllen@baaqmd.gov>; Scott Sloan <ssloan@sch.n.com>; Gary Rubenstein <grubenstein@sierraresearch.com>; Candy Tong <ctong@sierraresearch.com>

**Subject:** RE: Follow-up to Schnitzer Meeting

Hello Steve,

G form for JPP indicates that it does not or will not be abated. Please clarify.

You can make the payment by subtracting all other fees except the filing fee for JPP. Fee invoice will be adjusted.

Thanks,

Dharam Singh, PE

BAAQMD

---

**From:** Steve Hill [mailto:shill@sierraresearch.com]

**Sent:** Monday, April 11, 2016 2:30 PM

**To:** Dharam Singh <DSingh@baaqmd.gov>

**Cc:** Carol Allen <CAllen@baaqmd.gov>; Scott Sloan <ssloan@sch.n.com>; Gary Rubenstein <grubenstein@sierraresearch.com>; Candy Tong <ctong@sierraresearch.com>

**Subject:** Follow-up to Schnitzer Meeting

Attached is a letter conveying information requested by the District at our recent meeting.

Thank you for meeting with me. Please feel free to contact me if you have any questions.

.....  
**Steve Hill**

**Sierra Research**

1801 J Street | Sacramento, CA 95811

Cell: 510.684.3671

Email: [shill@sierraresearch.com](mailto:shill@sierraresearch.com)



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

939 ELLIS STREET  
SAN FRANCISCO, CA 94109  
(415) 749-4990

PERMIT APPLICATION INVOICE

|                  |            |
|------------------|------------|
| INVOICE NUMBER:  | 3TF82      |
| INVOICE DATE:    | 2/18/16    |
| DUE DATE:        | 4/6/16     |
| APPLICATION NO:  | 27762      |
| SITE NUMBER:     | A0208      |
| CUSTOMER NUMBER: | 04HP5A0208 |

Schnitzer  
1101 Embarcadero-West  
Oakland, CA 94607  
  
Scott B Sloan

**Equipment Location :**  
Schnitzer Steel Products Company  
Adeline St, Foot of  
Oakland, CA 94607

Direct all inquiries about this invoice to :  
**Dharam Singh (415) 749 - 4714**  
Questions on credit card payments,  
call (415) 749-4636. The District accepts Visa and Master Card.

| Item   | Description                               | Amount    |
|--------|-------------------------------------------|-----------|
| 000098 | Joint Product Plant and Abatement Devices | 6,599.00  |
| 000099 | Fee adjustment                            | -1,891.00 |

Total Application Fees **4,708.00**  
Amount Paid **1,418.00**  
Amount Due **\$3,290.00**

*Recd  
5/23/16*

Please tear off the bottom portion, mail it with your payment by using the envelope provided

THIS INVOICE IS NOW DUE AND PAYABLE

**Amount Due: \$3,290.00**

|                  |            |
|------------------|------------|
| INVOICE NUMBER:  | 3TF82      |
| INVOICE DATE:    | 2/18/16    |
| DUE DATE:        | 4/6/16     |
| APPLICATION NO:  | 27762      |
| SITE NUMBER:     | A0208      |
| CUSTOMER NUMBER: | 04HP5A0208 |

VISA  
MASTER  
Card  
Payment

Name on Card \_\_\_\_\_  
Card# \_\_\_\_\_  
Exp: (mo/yr) \_\_ / \_\_ ZIP code \_\_\_\_\_ CVV2 code \_\_\_\_\_  
Signature: \_\_\_\_\_

Pay by credit card or by check. Please make your check payable to :

**BAY AREA AIR QUALITY MGMT DIST.  
939 ELLIS STREET  
SAN FRANCISCO, CA 94109-7799**

Your Application is subject to cancellation if payment is not received by the invoice due date. Your application will be reactivated upon payment of this invoice.  
Construction or operation of equipment without an Authority to Construct or Permit to Operate will result in appropriate enforcement action. BAAQMD Regulations are on display at the District Offices, 939 Ellis Street, San Francisco. A copy of Regulation 3 (FEES) may be obtained by calling the Public Information & Education Office at (415) 749-4900. BAAQMD Regulations are also available on the District's web site at [www.baaqmd.gov](http://www.baaqmd.gov).

Please mail this portion with your payment





BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT  
SINCE 1955

March 7, 2016

SCHNITZER STEEL PRODUCTS COMPANY  
1101 Embarcadero West  
Oakland, CA 94607

**Attention: Scott B. Sloan, VP-Environmental**

Application Number: 27762  
Plant Number: 208  
Equipment Location:  
Same as above

Dear Mr. Sloan:

Your application to obtain an Authority to Construct and Permit to Operate for the following equipment:

- S-11 Joint Products Plant (2 Trommels, 3 Screens, Classifiers, Conveyors, other material handling equipment), abated by A-13 & A-14.**
- A-11 Venturi Scrubber, Sly, Model #12.**
- A-12 Venturi Scrubber, Sly, Model #12.**
- A-13 Water Spray.**
- A-14 Baghouse.**

has been assigned the above application number and is currently incomplete. Please provide the following information.

- 1. Provide a process and material flow diagram showing all equipment and material streams.**
- 2. Please complete data form G for Joint Product Plant (JPP) S-11, form A for A-13 & A-14, and form P for A-11, A-12, and A-14.**
- 3. Provide a copy of the brochure/specifications for venturi scrubber and baghouse.**
- 4. HAPs calculations in Table 8 & 9 indicate that Chlorine can be abated by a baghouse (?) with abatement efficiency of 100%. Provide documents to justify this claim. Chlorine yearly emissions are likely to exceed chronic toxic trigger level and therefore require health risk analysis and permit for S-11. Complete form HRSA for each emission point.**
- 5. The fee invoice is enclosed. It may be reassessed based on the information to be provided.**

*Save the Air*

The Air District is a Certified Green Business

Printed using soy-based inks on 100% post-consumer recycled content paper



The District's Regulation 3 contains the fee schedule for new and renewed permits.

Please submit your fee and the information requested within 60 days or the application will be cancelled. Make your check payable to the "BAAQMD" and include your application number on the check. Also include the enclosed remittance copy. Your submittal will be acted upon within 21 days of receipt of the above items, and if complete, your permit will be issued within 49 days. Construction or operation of equipment without an Authority to Construct or Permit to Operate will result in appropriate enforcement action.

Please include your application number with any correspondence with the District regarding this matter. If you have any questions on this matter, please call Dharam Singh – Air Quality Engineer II at **(415) 749-4714 (fax 415-749-5030); dsingh@baaqmd.gov**.

Very truly yours,



Dharam Singh, PE  
Air Quality Engineer II

DS:ds  
enclosure



**BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT**

**PERMIT APPLICATION INVOICE**

|                         |            |
|-------------------------|------------|
| <b>INVOICE NUMBER:</b>  | 3TF82      |
| <b>INVOICE DATE:</b>    | 2/18/16    |
| <b>DUE DATE:</b>        | 4/6/16     |
| <b>APPLICATION NO:</b>  | 27762      |
| <b>SITE NUMBER:</b>     | A0208      |
| <b>CUSTOMER NUMBER:</b> | 04HP5A0208 |

939 ELLIS STREET  
SAN FRANCISCO, CA 94109  
(415) 749-4990

Schnitzer  
1101 Embarcadero-West  
Oakland, CA 94607

Scott B Sloan

**Equipment Location :**  
Schnitzer Steel Products Company  
Adeline St, Foot of  
Oakland, CA 94607

**Direct all inquiries about this invoice to :**  
**Dharam Singh (415) 749 - 4714**  
**Questions on credit card payments,**  
**call (415) 749-4636. The District accepts Visa and Master Card.**

| Item   | Description                               | Amount   |
|--------|-------------------------------------------|----------|
| 000098 | Joint Product Plant and Abatement Devices | 6,599.00 |

|                        |                   |
|------------------------|-------------------|
| Total Application Fees | <b>6,599.00</b>   |
| Amount Paid            | <b>1,418.00</b>   |
| <b>Amount Due</b>      | <b>\$5,181.00</b> |

*Paid  
5304H*

Please tear off the bottom portion, mail it with your payment by using the envelope provided

**THIS INVOICE IS NOW DUE AND PAYABLE**

**Amount Due: \$5,181.00**

|                         |            |
|-------------------------|------------|
| <b>INVOICE NUMBER:</b>  | 3TF82      |
| <b>INVOICE DATE:</b>    | 2/18/16    |
| <b>DUE DATE:</b>        | 4/6/16     |
| <b>APPLICATION NO:</b>  | 27762      |
| <b>SITE NUMBER:</b>     | A0208      |
| <b>CUSTOMER NUMBER:</b> | 04HP5A0208 |

**VISA  
MASTER  
Card  
Payment**

Name on Card \_\_\_\_\_  
Card# \_\_\_\_\_  
Exp: (mo/yr) \_\_\_ / \_\_\_ ZIP code \_\_\_\_\_ CVV2 code \_\_\_\_\_  
Signature: \_\_\_\_\_

Pay by credit card or by check. Please make your check payable to :

**BAY AREA AIR QUALITY MGMT DIST.  
939 ELLIS STREET  
SAN FRANCISCO, CA 94109-7799**

Your Application is subject to cancellation if payment is not received by the invoice due date. Your application will be reactivated upon payment of this invoice.  
Construction or operation of equipment without an Authority to Construct or Permit to Operate will result in appropriate enforcement action. BAAQMD Regulations are on display at the District Offices, 939 Ellis Street, San Francisco. A copy of Regulation 3 (FEES) may be obtained by calling the Public Information & Education Office at (415) 749-4900. BAAQMD Regulations are also available on the District's web site at [www.baaqmd.gov](http://www.baaqmd.gov).

**Please mail this portion with your payment**

**Engineering Division**

**Application No.:** 27762

**Project Title:** Shredder enclosure with Venturi Scrubbers

|                                 |
|---------------------------------|
| <b>Invoice No. :</b> 3TF82      |
| <b>Invoice Date :</b> 2/18/2016 |
| <b>Due Date :</b> 4/6/2016      |

| Device Type | Device No. | Equipment Description | Filing Fee | Initial Fee | Late Fee | Permit Fee | Back Fee | Toxic Fee | Risk Fee | Fee Sched. |
|-------------|------------|-----------------------|------------|-------------|----------|------------|----------|-----------|----------|------------|
| A           | 11         | Venturi scrubber      | 452.00     | 1,676.00    | 0.00     | 0.00       | 0.00     | 0.00      | 0.00     | G1         |
| A           | 12         | Venturi scrubber      | 452.00     | 1,676.00    | 0.00     | 0.00       | 0.00     | 0.00      | 0.00     | G1         |
| S           | 11         | Joint Product plant   | 452.00     | 514.00      | 0.00     | 374.00     | 0.00     | 37.00     | 966.00   | F          |



**BAY AREA AIR QUALITY  
MANAGEMENT DISTRICT**

939 ELLIS STREET  
SAN FRANCISCO, CA 94109  
(415) 771-6000 WWW.BAAQMD.GOV

February 24, 2016

**Schnitzer  
1101 Embarcadero-West  
Oakland, CA 94607**

Attention: **Scott B Sloan**

Application Number :27762  
Site No. :208  
Equipment Location :  
**Schnitzer Steel Products Company  
Adeline St, Foot of  
Oakland, CA 94607**

Dear Applicant:

Subject: Shredder enclosure with Venturi Scrubbers

This letter is to inform you that your application was received by the District on 02/16/16. You will be notified if your application is complete or if additional information is needed as soon as possible.

Please include your application number with any correspondence with the District. If you have any questions on this matter, please call **Dharam Singh, Air Quality Engineer II at (415) 749-4714**.

CC: DS

RECEIVED

2016 FEB 16 AM 9: 57

BAY AREA AIR QUALITY  
MANAGEMENT DISTRICT

Schnitzer



P.O. Box 747  
Oakland, CA 94604  
(253) 279-4752

February 9, 2016

Dharam Singh  
Bay Area Air Quality Management District  
939 Ellis Street  
San Francisco, CA 94109

RE: Proposed Emission Controls for the Joint Products Plant, Schnitzer Steel Metal Recycling Facility, Oakland, California.

Dear Mr. Singh:

Schnitzer Steel operates a scrap metal recovery, shredding, and recycling business in Oakland, California (Oakland facility). To further control emissions from the Joint Products Plant (JPP) at the Oakland facility, Schnitzer Steel is considering the installation of new emission control equipment. Based on the equipment and processing information for the JPP at the Oakland facility, we have determined that the BAAQMD Rule 2-1-115 exemption is applicable to the JPP. Consequently, the proposed PM emission control system for the JPP will be exempt from permit requirements pursuant to BAAQMD Rule 2-1-113 Section 2.4. The attached supporting document provides the basis for this conclusion.

Please also note this submittal contains proprietary information. The process design information and production data are considered as trade secret based on the Government Code Section 6254.7(d). Based on the BAAQMD Guidance, all "Trade Secret" information are clearly marked in the confidential copy, and a second copy of this submittal labeled as "Public Copy" is provided. Moreover, a signed statement identifying the confidential business information is included.

Please do not hesitate to contact me or Scott Sloan at (425) 420-1863 if you have any questions regarding this submittal.

Sincerely,



Bruce Rieser  
Regional Director

**Designation of Confidential Business Information**

Based on BAAQMD Guidance for Declaring Confidential/Trade Secret information<sup>1</sup>, Schnitzer Steel is providing this signed statement declaring the following sections of the attached document as “Trade Secret,” as defined by Government Code Section 6254.7(d)<sup>2</sup>.

| Section        | Description of Confidential Information                                                                                 |
|----------------|-------------------------------------------------------------------------------------------------------------------------|
| Section I.D.2  | Detailed process and equipment design information of the JPP equipment                                                  |
| Tables 8 and 9 | Detailed emission information of the JPP processing equipment                                                           |
| Attachment A   | JPP schematic and detailed list of JPP processing units and throughput data.                                            |
| Attachment B   | Engineering drawings of the proposed PM emission system                                                                 |
| Attachment D   | Detailed emission calculations of the JPP emission sources that contain production data and processing unit information |

Signed by:   
Bruce Rieser, Regional Director

Dated: February 9, 2016

<sup>1</sup> Guidance for declaring confidential/trade secret information, available at:

<http://www.baaqmd.gov/~media/files/engineering/forms/new-technology-forms/common-to-all-pmt-apps/instructions-confidential-information.pdf?la=en>

<sup>2</sup> “Trade secrets” may include, but are not limited to, any formula, plan, pattern, process, tool, mechanism, compound, procedure, production data, or compilation of information which is not patented; which is known only to certain individuals within a commercial concern who are using it to fabricate, produce, or compound an article of trade or a service having commercial value; and which gives its user an opportunity to obtain a business advantage over competitors who do not know or use it.

RECEIVED

2016 FEB 16 AM 9:57

BAY AREA AIR QUALITY  
MANAGEMENT DISTRICT



P.O. Box 747  
Oakland, CA 94604  
(253) 279-4752

February 9, 2016

Dharam Singh  
Bay Area Air Quality Management District  
939 Ellis Street  
San Francisco, CA 94109

RE: Application for an Authority to Construct and a Permit to Operate for Upgraded Emission Control Systems at the Shredder.

Dear Mr. Singh:

Schnitzer Steel Industries, Inc. (Schnitzer Steel) is pleased to submit this application requesting an Authority to Construct (ATC) and Permit to Operate (PTO) from the Bay Area Air Quality Management District (BAAQMD or District) for the installation of upgraded emission abatement devices at the shredder. The proposed upgraded emission control system will replace the current exhaust system and emission control equipment at the shredder. Schnitzer Steel certifies that, for all pollutants, the proposed upgraded abatement system is as efficient as, or more efficient than, the abatement system being replaced.

Please note this submittal contains proprietary information. The process design information and production data are considered as trade secret based on the Government Code Section 6254.7(d). Based on the BAAQMD Guidance, all "Trade Secret" information are clearly marked in the confidential copy, and a second copy of this submittal labeled as "Public Copy" is provided. Moreover, a signed statement identifying the confidential business information is included.

Permit application forms for the proposed emission control system upgrade for the shredder are included as Appendix A. We are also including a check for \$1,418, for the filing fee and initial fee. Please do not hesitate to contact me or Scott Sloan at (425) 420-1863 if you have any questions regarding this submittal.

Sincerely,



Bruce Rieser  
Regional Director

### Designation of Confidential Business Information

Based on the BAAQMD Guidance for Declaring Confidential/Trade Secret information,<sup>1</sup> Schnitzer Steel is providing this signed statement declaring the following sections of the attached document as "Trade Secret," as defined by Government Code Section 6254.7(d).<sup>2</sup>

| Section    | Description of Confidential Information                                                                                                                     |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Appendix D | Engineering drawings for the upgraded emission systems for the shredder                                                                                     |
| Appendix E | Detailed emission calculations of the shredder after the installation of the proposed upgraded emission control system that contain maximum production data |

Signed by:



Bruce Rieser, Regional Director

Dated: February 9, 2016

<sup>1</sup> Guidance for declaring confidential/trade secret information, available at:

<http://www.baaqmd.gov/~media/files/engineering/forms/new-technology-forms/common-to-all-pmt-apps/instructions-confidential-information.pdf?la=en>

<sup>2</sup> "Trade secrets" may include, but are not limited to, any formula, plan, pattern, process, tool, mechanism, compound, procedure, production data, or compilation of information which is not patented; which is known only to certain individuals within a commercial concern who are using it to fabricate, produce, or compound an article of trade or a service having commercial value; and which gives its user an opportunity to obtain a business advantage over competitors who do not know or use it.

### COMMUNICATION LOG SHEET

Permit Application # 027762

Assigned Employee \_\_\_\_\_  
(Initials)

Plant # \_\_\_\_\_ Renewal

| Date/Time | Summary of Discussion |
|-----------|-----------------------|
|           |                       |

# **EXHIBIT 3**



**BAY AREA AIR QUALITY  
MANAGEMENT DISTRICT**

**PERMIT  
TO OPERATE**

This document does not permit the holder to violate any BAAQMD regulation or any other law.

**PERMIT EXPIRATION DATE**

NOV 1, 2021

Plant# 208

Pamela Gray, Regional Environmental Man  
Schnitzer Steel Products Company  
P O Box 747  
Oakland, CA 94604

**ORIGINAL SENT TO:**

Schnitzer Steel Products Company  
1101 Embarcadero-West  
Oakland, CA 94607

Location: Adeline St, Foot of  
Oakland, CA 94607

| S# | DESCRIPTION                                                                                                                                                                                                                                        | [Schedule] | PAID |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------|
| 6  | MTGL/SEC> Crushing/shredding, Steel<br>Shredder w/ water injection, electric, 225 tph (avg.)<br>Abated by: A6 Water Spray System<br>A11 Venturi Scrubber<br>A12 Venturi Scrubber<br>Emissions at: P15 Stack                                        | [F]        | 528  |
| 7  | MTGL/SEC> Conveying, Steel<br>Infeed Conveyor (electric)<br>Abated by: A6 Water Spray System<br>A11 Venturi Scrubber<br>A12 Venturi Scrubber<br>Emissions at: P15 Stack                                                                            | [F]        | 528  |
| 10 | MINERL> Storage, contained, Cement<br>Cement Silo<br>Abated by: A10 Baghouse, Pulse Jet<br>Emissions at: P10 Stack                                                                                                                                 | [F]        | 480  |
| 11 | MTGL/SEC> Screening, Auto body components, 120 tons/hr max<br>Joint Products Plants w/ enclosure (2 Trommels, 3 Screens, Classifiers, Conveyors, and ot<br>Abated by: A13 Water Spray System<br>A14 Baghouse, Pulse Jet<br>Emissions at: P14 Stack | [exempt]   | 0    |



# BAY AREA AIR QUALITY MANAGEMENT DISTRICT

# PERMIT TO OPERATE

This document does not permit the holder to violate any BAAQMD regulation or any other law.

PERMIT EXPIRATION DATE

NOV 1, 2021

Plant# 208

| S# | DESCRIPTION                                                                                  | [Schedule] | PAID |
|----|----------------------------------------------------------------------------------------------|------------|------|
| 12 | MTGL/SEC> Screening, Auto body components, 5 tons/hr max<br>Drum Magnet Line W/ enclosure    | [exempt]   | 0    |
| 13 | MTGL/SEC> Screening, Solid waste - other/not spec<br>JPP from Wet Separation Unit downstream | [exempt]   | 0    |

~~~~~

3 Permitted Sources, 3 Exempt Sources

*** See attached Permit Conditions ***



BAY AREA AIR QUALITY MANAGEMENT DISTRICT

PERMIT TO OPERATE

This document does not permit the holder to violate any BAAQMD regulation or any other law.

PERMIT EXPIRATION DATE

NOV 1, 2021

Plant# 208

*** PERMIT CONDITIONS ***

=====

Source#	Subject to Condition Numbers
-----	-----

6	27085
7	27085
10	24125
11	27085
12	27085

The operating parameters described above are based on information supplied by permit holder and may differ from the limits set forth in the attached conditions of the Permit to Operate. The limits of operation in the permit conditions are not to be exceeded. Exceeding these limits is considered a violation of District regulations subject to enforcement action.



BAY AREA AIR QUALITY MANAGEMENT DISTRICT

PERMIT TO OPERATE

This document does not permit the holder to violate any BAAQMD regulation or any other law.

PERMIT EXPIRATION DATE

NOV 1, 2021

Plant# 208

*** PERMIT CONDITIONS ***

=====

COND# 24125 applies to S# 10

S-10, Cement Silo

1. The Permit Holder shall ensure the visible particulate emissions from the silo do not exceed Ringelmann Number 0.5 (or equivalent opacity) or result in fall out on adjacent property in such quantities as to cause annoyance to any other person.
(basis: Regulation 6-1-301, 1-301)
2. The Permit Holder shall not exceed a throughput of 21,900 tons of cement in any consecutive 12-month period. (basis: cumulative increase)
3. The Permit Holder shall abate emissions from the silo by a filter, A-10, at all times the silo is in operation. The filter shall be functioning properly within the manufacturer's specified pressure drop range.
(basis: cumulative increase)
4. In order to demonstrate compliance with part 2 of the condition, the Permit Holder shall keep daily, monthly, and consecutive 12-month records of the material throughput in a District approved logbook. The records shall be kept on site for at least 24 months from the date of data entry and be made available to the District staff for inspection.
(basis: cumulative increase, recordkeeping)

COND# 27085 applies to S#'s 6, 7, 11, 12, A12, A11

Condition # 27085

S-6 Shredder and S-7 Infeed Conveyor; abated by A-6 Water Sprays, A-11 Venturi Scrubber, and A-12 Venturi Scrubber (Revision 1: A #14194, 6/16/06; Revision 2: A #16721, 4/9/09; Revision 3: A #27762, 11/10/16; Revision 4: A #27762, 11/20/2020)

1. The owner/operator shall not exceed the scrap-in throughput limit of 720,000 tons in any calendar year at this facility. (Basis: Regulations 2-1-301 - baseline)



This document does not permit the holder to violate any BAAQMD regulation or any other law.

PERMIT EXPIRATION DATE

NOV 1, 2021

Plant# 208

*** PERMIT CONDITIONS ***

=====

2005 production level of 431,471 tons/year - and 2-5-302 and Cumulative Increase for the incremental throughput)

- 2. The owner/operator shall enclose the shredder, S-6, and shall vent the shredder emissions to the Venturi Scrubbers, A-11 and A-12, during all times that S-6 is operating. The owner/operator shall minimize fugitive emissions from the shredder enclosure during shredder operation by (a) designing the enclosure such that the total surface area of all openings in the enclosure does not exceed 5% of the total surface area of the enclosure walls, floor, and ceiling; (b) using curtain walls or strip curtains on the inlet feed conveyor opening; and c ensuring that the ventilation fan is operating within its design range. The owner/operator shall demonstrate that the ventilation fan is operating within its design range by maintaining the amperage greater than 480 amperes during shredder operation. The owner/operator shall operate each Venturi Scrubber in accordance with manufacture specifications. The owner/operator shall demonstrate this by maintaining a minimum water flow rate of 300 gallons per minute (gpm) to each venturi scrubber and an effective pressure differential operating range 15-22 inches of H2O across each venturi scrubber. (Basis: TBACT)

- 3. Total emissions from the S-6 Auto Shredder shall not exceed any of the emission limits listed below:

a. Maximum Permitted Emission Rates:

	P-15 Stack Pounds/Hour	P-15 Stack Tons/Year
PM10 (total filterable + condensable)	5.91	6.15
POC (calculated as methane)	112.0	85.50

b. Total particulate emissions from the P-15 stack shall not exceed a grain loading of 0.0046 grains/dscf as determined in accordance with Regulation 6-1-602.1.

c. Organic emissions from the P-15 stack shall not exceed 300 ppmv (dry basis) of total carbon as determined in accordance with Regulation



This document does not permit the holder to violate any BAAQMD regulation or any other law.

PERMIT EXPIRATION DATE

NOV 1, 2021

Plant# 208

*** PERMIT CONDITIONS ***

=====

8-2-601.

- d. The owner/operator shall demonstrate compliance with the Part 3a stack emission limits as described in Part 4.

(Basis: Cumulative Increase, BACT, TBACT, and Regulations 2-5-302 and 8-2-301)

4. Source Testing Requirements for Part 3:

- a. Within 180 days of issuance of this Permit to Operate, the owner/operator shall initiate quarterly monitoring for the total carbon concentration in stack P-15, using authorized procedures and methods, to demonstrate compliance with Parts 3a, 3c and Regulation 8-2-301, and to assess excess POC emissions in the event of non-compliance with Part 3a, 3c or Regulation 8-2-301. This quarterly monitoring shall continue until an organic abatement system is operating and continued compliance with Regulation 8-2-301 has been demonstrated.
- b. Within 90 days of issuance of this Permit to Operate and annually thereafter, unless noted otherwise, the owner/operator shall conduct a District approved source test at stack P-15, while the S-6 Auto Shredder is operating at or near the maximum operating rate, to demonstrate compliance with the P-15 stack emission limits in Parts 3a-c. The owner/operator shall record the shredder processing rate, the water application rates for the infeed conveyor and the shredder, the water flow rates and the pressure differential operating ranges at each venturi scrubber, and the ventilation fan amperage during the source test. The source test shall determine the hourly emission rate and the average emission factor (pounds of pollutant per ton of material processed by the shredder) for the following compounds:
 - total carbon (calculated as methane and as defined in Regulation 8-2-202) shall be determined by Air District approved methods, such as EPA Methods 25A and 18,
 - total POC (calculated as methane), where total POC = total carbon (excluding methane only)
 - total NPOC. Total NPOC (calculated as methane) shall be determined by Air District approved



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methods, such as EPA Method 18 and EPA Method TO-15 or other similar GC/MS methods. Total NPOC is the sum of all NPOCs (other than methane) identified in Regulation 2-1-207, expressed as methane.

- total particulate emissions shall be determined using EPA Method 5/202. All measured total particulate emissions shall be assumed to be PM10 for comparison to the limits in Part 3a.
- Full speciation of organic TACs shall be determined by Air District approved methods, such as EPA Method TO-15 or other similar GC/MS methods.
- PCBs shall be determined by Air District approved methods, such as CARB Method 428. (This test shall be conducted within 90 days of Permit to Operate issuance and once every four years thereafter.)
- PAHs and naphthalene shall be determined by Air District approved methods, such as CARB Method 429. (This test shall be conducted within 90 days of Permit to Operate issuance and once every four years thereafter.)
- Full set of metal TACs (including arsenic (As), beryllium (Be), cadmium (Cd), chromium (Cr) which includes total chromium and hexavalent chromium (Cr VI), copper (Cu), lead (Pb), manganese (Mn), mercury (Hg), nickel (Ni), selenium (Se), and zinc (Zn)), shall be determined using Air District approved procedures for each compound, including CARB Method 425 for hexavalent chromium. (This test shall be conducted within 90 days of Permit to Operate issuance and once every four years thereafter.)
- Annual emissions for Stack P-15 shall be calculated based on the most recent 12-month shredder feedstock throughput rate and the pounds/ton emission factors determined by the most recent source test for total POC and total particulate emissions. Annual stack emission rates shall be compared to the Part 3a limits. The annual source test shall also determine the outlet grain loading and the concentration of total carbon in the P-15 stack to demonstrate compliance



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with Parts 3b and 3c using Air District approved methods.

- c. The owner/operator shall submit a source test protocol and notification of the scheduled source test date to the Air District's Source Test Section Manager and to the Permit Engineer at least 30 days prior to the scheduled test date.
 - d. The owner/operator shall notify the Source Test Section Manager of any changes to the scheduled test date as soon as possible.
 - e. The owner/operator shall submit a copy of the source test report to the Source Test Section Manager and the Permit Engineer within 60 days of the test date.
(Basis: Cumulative Increase, TBACT and Regulations 2-5-302 and 8-2-301)
5. The owner/operator shall apply water sprays (A-6) at the shredder, S-6, and infeed conveyor, S-7, at sufficient rates to ensure that non-metallic material exiting the sources is moist to the touch at all times of operation.
(Basis: Cumulative Increase, TBACT; and Regulation 2-5-302)
 6. The owner/operator shall operate the Recycling Center in such a manner that particulate emissions into the atmosphere from any operation/equipment for a period or periods aggregating more than three minutes in any hour shall not cause a visible emission which is as dark or darker than No. 0.5 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree or result in fallout on adjacent property in such quantities as to cause public nuisance per District Regulation 1-301.
(Basis: Regulations 1-301 and 6-1-301)
 7. The owner/operator shall use water spray to minimize fugitive dust emissions from material/scrap handling and storage to comply with Part 6. The owner/operator shall operate the facility at all times in accordance with its approved Emissions Minimization Plan (EMP).
(Basis: Regulations 1-301, 6-1-301, and 6-4-301)
 8. The owner/operator shall not exceed a total of 26 ship calls and 63,875 truck calls per calendar year to haul



BAY AREA AIR QUALITY MANAGEMENT DISTRICT

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in/out scrap/materials at the facility. (Basis: health risk assessment for CEQA review)

- 9. In order to demonstrate compliance with Part 1 and 8, the owner/operator shall keep records of monthly and yearly throughput of shredder feedstock materials, ship calls and truck calls in a District approved log. Shredder feedstock shall be totaled for each consecutive rolling 12-month period. The log shall be maintained for a period of at least 5 years from the date of data entry and shall be made available to the District staff for inspection upon request. (Basis: Regulations 2-1-301 and 2-5-302, Cumulative Increase, CEQA)

~~~~~ END OF CONDITIONS ~~~~~

Bay Area Air Quality  
Management District

\*\* SOURCE EMISSIONS \*\*

PLANT # 208  
Dec 2, 2020

| S#          | Source Description                          | Annual Average lbs/day |     |     |     | CO |
|-------------|---------------------------------------------|------------------------|-----|-----|-----|----|
|             |                                             | PART                   | ORG | NOx | SO2 |    |
| 6           | Shredder w/ water injection, electric, 225  | .1                     | 904 | -   | -   | -  |
| 7           | Infeed Conveyor (electric)                  | 11.3                   | 48  | -   | -   | -  |
| 10          | Cement Silo                                 | -                      | -   | -   | -   | -  |
| 11          | Joint Products Plants w/ enclosure (2 Trom) | -                      | -   | -   | -   | -  |
| 12          | Drum Magnet Line W/ enclosure               | .5                     | -   | -   | -   | -  |
| 13          | JPP from Wet Separation Unit downstream     | .6                     | -   | -   | -   | -  |
| T O T A L S |                                             | 12.5                   | 952 |     |     |    |

\*\* PLANT TOTALS FOR EACH EMITTED TOXIC POLLUTANT \*\*

| Pollutant Name                 | Emissions lbs/day |
|--------------------------------|-------------------|
| Benzene                        | 3.69              |
| Ethylene dichloride            | .09               |
| Hexane                         | 11.50             |
| Isopropyl alcohol              | 1.13              |
| Methyl ethyl ketone (MEK)      | 2.46              |
| Methyl alcohol                 | 2.62              |
| Perchloroethylene              | .62               |
| Styrene                        | 1.32              |
| Toluene                        | 31.97             |
| Xylene                         | 42.11             |
| Ethylbenzene                   | 8.54              |
| Acrylonitrile                  | .05               |
| Vinylidene chloride            | .13               |
| Methylene chloride             | 2.64              |
| 1,3-butadiene                  | .11               |
| Polychlorinated biphenyl (PCB) | .08               |
| Propylene                      | 3.20              |
| 1,1,1-Trichloroethane          | .32               |
| Copper (all) pollutant         | .06               |
| Lead (all) pollutant           | .02               |
| Manganese                      | .03               |
| Nickel pollutant               | .01               |