

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT  
RENEWAL

PERMITTEE

National City Recycling L.L.C.  
Attn: Peter Gross  
1200 North First Street  
National City, Illinois 62071

Application No.: 76010080

I.D. No.: 163100AAM

Applicant's Designation: AUTO SHREDDING

Date Received: June 9, 2000

Subject: Metal Shredding and Recovery

Date Issued:

Expiration Date:

Location: 1200 North First Street, National City

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of 4 diesel-fired generators (2,000 hp, each), propane-fired armature furnace with cyclone and thermal afterburner (1.85 mmBtu/hr burn-off oven), gas-fired Coreco metal separator with cyclones, afterfilter, and thermal afterburner (combination sweating furnace and burn-off oven, 6 mmBtu/hr), auto shredding controlled by 2 cyclones (consisting of a hammermill, rotary magnet, and 2 sets of cascades and conveyors), trommel drum with water suppression system and 6 screens, natural gas-fired thermal afterburner controlling armature furnace and metal separator (6 mmBtu), and 4 cyclones pursuant to the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued to limit the emissions of air pollutants from the source to less than major source thresholds (i.e., nitrogen oxides (NO<sub>x</sub>) and carbon monoxide (CO) to less than 100 tons/year). As a result the source is excluded from the requirement to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.
  - b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
  - c. This permit supersedes all operating permits issued for this location.
2. The emissions of Hazardous Air Pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act shall not equal or exceed 10 tons per year of any single HAP or 25 tons per year of any combination of such HAPs, or such lesser quantity as USEPA may establish in rule which would require the Permittee to obtain a CAAPP permit from the Illinois EPA. As a result of this condition, this permit is issued based on the emissions of any HAP from this source not triggering the requirement to obtain a CAAPP permit from the Illinois EPA.

3. Emissions and operation of four diesel-fired generators shall not exceed the following limits:

<u>Item of Equipment</u>	<u>Fuel Oil Usage</u>		<u>Pollutant</u>	<u>Emission Factor (Lb/mmBtu)</u>	<u>Emissions (Lb/Mo) (T/Yr)</u>	
	<u>(Gal/Mo)</u>	<u>(Gal/Yr)</u>				
Four Diesel Generators (Total)	36,479	364,789	NO <sub>x</sub>	3.2	15,996	80.0
			CO	0.85	4,249	21.24
			SO <sub>2</sub>	0.3	1,500	7.5
			TSP	0.1	500	2.5
			VOM	0.09	450	2.25

These limits are based on standard AP-42 emission factors, a density of 7.1 lbs/gallon, 19,300 Btu/lb of fuel oil, maximum sulfur content of 0.3%, 4,500 hours of operation for all combined generators, and information provided in the permit application. Compliance with annual limits shall be determined from a running total of 12 months of data.

4. Emissions and operation of armature furnace fuel combustion shall not exceed the following limits:

<u>Item of Equipment</u>	<u>Propane</u>		<u>Pollutant</u>	<u>Emission Factor (Lb/1000 Gal)</u>	<u>Emissions (Lb/Hr)(T/Yr)</u>	
	<u>(Gal/Mo)</u>	<u>(Gal/Yr)</u>				
Armature Furnace	2,125	21,250	NO <sub>x</sub>	19	40.38	0.20
			CO	3.2	6.80	0.03

These limits are based on standard AP-42 emission factors, 90,500 Btu/gal for propane, 1,040 hours of operation, and information provided in the permit application. Compliance with annual limits shall be determined from a running total of 12 months of data.

5. Emissions and operation of afterburner and Coreco metal separator fuel combustion shall not exceed the following limits:

<u>Item of Equipment</u>	<u>Total Natural Gas Usage</u>		<u>Pollutant</u>	<u>Emission Factor (lb/mmscf)</u>	<u>Emissions (Lb/Mo)(T/Yr)</u>	
	<u>(mmscf/Mo)</u>	<u>(mmscf/Yr)</u>				
Afterburner and Coreco Metal Separator	3	16	NO <sub>x</sub>	100	300	0.8
			CO	84	252	0.67

These limits are based on standard AP-42 emission factors, 1,020 Btu/scf for natural gas, 832 hours of operation for the metal separator and 1872 hours of operation for the afterburner, and information provided in the permit application. Compliance with annual limits shall be determined from a running total of 12 months of data.

- 6a. Emissions and operation of particulate emission sources shall not exceed the following limits:

<u>Item of Equipment</u>	<u>PWR (Lb/Hr)</u>	<u>Hours of Operation</u>	<u>TSP Emissions</u>	
			<u>(Lb/Hr)</u>	<u>(Ton/Yr)</u>
Armature Furnace*	825	1,040	1.58	0.82
Metal Separator*	5,000	832	4.14	1.72
Auto Shredder**	174,000	8,760	9	39.42
Trommel Drum*	20,000	600	8.7	2.61

\* Emissions based on allowable per 35 Ill. Adm. Code 212.321

\*\* Emissions based on performance stack test.

These limits are based on maximum process weight rates, hours of operation, and information provided in the permit application. Compliance with annual limits shall be determined from a running total of 12 months of data.

- b. The Permittee shall not operate the armature furnace and metal separator simultaneously.
- 7a. Fuel oil shall be the only permitted fuel for the generators
- b. Natural gas shall be the only permitted fuel for the Coreco metal separator and thermal afterburner.
- c. Propane shall be the only permitted fuel for the armature furnace.
8. This permit is issued based on negligible emissions of volatile organic material (VOM) from armature furnace and Coreco metal separator both ducted through the thermal afterburner. For this purpose emissions from each emission source shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/yr.
9. At the above location, the Permittee shall not keep, store, or utilize:
- a. Distillate fuel oil (Grades No. 1 and 2) with a sulfur content greater than the larger of the following two values:
- i. 0.28 weight percent, or
- ii. The wt. percent given by the formula: Maximum wt. percent sulfur = (0.000015) x (Gross heating value of oil, Btu/lb).
10. Organic liquid by-products or waste materials shall not be used in these fuel combustion emission sources without written approval from the Illinois EPA.
11. The Illinois EPA shall be allowed to sample all fuels stored at the above location.

- 12a. Material insulated with polyvinyl chloride or asbestos, or scrap containing the fuming metals tin, zinc, or lead shall not be charged to the armature furnace nor the Coreco metal separator.
- b. The afterburner shall be heated to an operating temperature of 1400EF before charging and this temperature shall be maintained during operation of the metal separator and armature furnace.
- c. The Coreco metal separator and armature furnace shall be equipped with an afterburner temperature indicator.

13a. Within 90 days of a written request from the Illinois EPA, pursuant to 35 Ill. Adm. Code Section 201.282, the emissions of particulate matter and volatile organic material concentration in the effluent streams of the armature furnace and metal separator at inlet and outlet control shall be measured by an approved testing service, during conditions which are representative of the maximum performance. The Illinois EPA may provide additional time for the performance of this testing upon request from the Permittee which shows that it is not feasible to perform representative testing within 90 days.

- b. i. The following methods and procedures shall be used for testing of emissions. Refer to 40 CFR, Appendix A for USEPA test methods.

Opacity	USEPA Method 9
Location of Sample Points	USEPA Method 1
Gas Flow and Velocity	USEPA Method 2
Particulate Matter	USEPA Method 5
Volatile Organic Material	USEPA Method 25, 25A if outlet, VOM Content < 50 ppmv as C non CH <sub>4</sub>

- i. A test shall consist of three separate runs each at least 60 minutes in duration. Compliance shall be determined from the average of the runs provided that the Illinois EPA may accept the arithmetic mean of the two runs in circumstances described in 40 CFR 60.8(f).
- c. Testing shall be performed by a qualified independent testing service.
- d. At least 30 days prior to the actual date of testing a written test plan shall be submitted to the Illinois EPA for review and approval. A copy shall also be submitted to the USEPA. This plan shall describe the specific procedures for testing, including:
  - i. The person(s) who will be performing sampling and analysis and their experience with similar tests.
  - ii. The conditions under which testing will be performed, including a discussion of why these conditions will be representative of the maximum operating rate, the levels of operating parameters at or within which compliance is intended to be shown, if applicable,

and the means by which the operating parameters for the process and any control equipment will be determined.

- e. The Illinois EPA shall be notified prior to these tests to enable the Illinois EPA to observe these tests notification for the expected date of testing shall be submitted a minimum of thirty (30) days prior to the expected date. Notification of the actual date and expected time of testing shall be submitted a minimum of five (5) working days prior to the actual date of the tests. The Illinois EPA may, at its discretion, accept notification with shorter advance notice provided that the Illinois EPA will not accept such notification if it interferes with the Illinois EPA's ability to observe the testing.
- 14. Copies of the Final Report(s) for these tests shall be submitted to the Illinois EPA within 14 days after the test results are compiled and finalized.
  - 15. Thirty (30) days after completion of sampling, the Final Report shall include as a minimum:
    - a. A summary of results
    - b. General information
    - c. Description of test method(s), including description of sampling points, sampling train, analysis equipment, and test schedule
    - d. Detailed description of test conditions, including
      - i. Process information, i.e., mode(s) of operation, process rate, e.g. fuel or raw material consumption
      - ii. Control equipment information, i.e., equipment condition and operating parameters during testing, and
      - iii. A discussion of any preparatory actions taken, i.e., inspections, maintenance and repair
    - e. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration
    - f. An explanation of any discrepancies among individual tests or anomalous data
  - 16. No person shall cause or allow any visible emissions of fugitive particulate matter from any process, including any material handling or storage activity beyond the property line of the emission source, pursuant to 35 Ill. Adm. Code 212.301.
  - 17. The Permittee shall, in accordance with the manufacturer(s) and/or vendor(s) recommendations, perform periodic maintenance on the

pollution control equipment covered under this permit such that the pollution control equipment be kept in proper working condition and not cause a violation of the Environmental Protection Act or regulations promulgated therein.

18. The Permittee shall maintain the following records:
  - a. Natural gas usage (mmscf/mo and mmscf/yr).
  - b. Propane usage (gal/mo and gal/yr).
  - c. Fuel oil usage (gal/mo and gal/yr).
  - d. Amount of material processed (ton/mo and ton/yr) and the hours of operation for the following:
    - i. Armature furnace.
    - ii. Metal Separator.
    - iii. Each diesel generator.
    - iv. Auto shredder.
    - v. Trommel drum.
19. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.
20. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.
21. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
Compliance Section (#40)  
P.O. Box 19276  
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
2009 Mall Street  
Collinsville, Illinois 62234

22. The Permittee shall submit the following additional information with the Annual Emissions Report, due May 1st of each year: Records required by Condition 18.

It should be noted that the 2 fuel oil storage tanks (18,000-gallon and 12,000-gallon) are exempt from state permit requirements, pursuant to 35 Ill. Adm. Code 201.146(n)(3).

If you have any questions on this, please call Eric Jones at 217/782-2113.

Donald E. Sutton, P.E.  
Manager, Permit Section  
Division of Air Pollution Control

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cc: Illinois EPA, FOS Region 3  
Illinois EPA, Compliance Section  
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from auto shredding operation operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such a plant. They are limiting diesel fuel consumed by the 4 generators to 364,789 gal/yr, and hours of operation of the armature furnace, metal separator, and trommel drum. The resulting maximum emissions are well below the levels, e.g., 100 ton/yr of nitrogen oxides (NO<sub>x</sub>) and 100 tons/yr of carbon dioxide (CO) each, at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled and control measures are more effective than required in this permit.

1. The emissions of Hazardous Air Pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act shall not equal or exceed 10 tons per year of any single HAP or 25 tons per year of any combination of such HAPs, or such lesser quantity as USEPA may establish in rule which would require the Permittee to obtain a CAAPP permit from the Illinois EPA. As a result of this condition, this permit is issued based on the emissions of any HAP from this source not triggering the requirement to obtain a CAAPP permit from the Illinois EPA.
  
2. Emissions and operation of four diesel-fired generators shall not exceed the following limits:

<u>Item of Equipment</u>	<u>Fuel Oil Usage</u>		<u>Pollutant</u>	<u>Emission</u>	<u>Emissions</u>	
	<u>(Gal/Mo)</u>	<u>(Gal/Yr)</u>		<u>Factor</u>	<u>(Lb/Mo)</u>	<u>(T/Yr)</u>
Four Diesel Generators (Total)	36,479	364,789	NO <sub>x</sub>	3.2	15,996	80.0
			CO	0.85	4,249	21.24
			SO <sub>2</sub>	0.3	1,500	7.5
			TSP	0.1	500	2.5
			VOM	0.09	450	2.25

These limits are based on standard AP-42 emission factors, a density of 7.1 lbs/gallon, 19,300 Btu/lb of fuel oil, maximum sulfur content of 0.3%, 4,500 hours of operation for all combined generators, and information provided in the permit application. Compliance with annual limits shall be determined from a running total of 12 months of data.

3. Emissions and operation of armature furnace fuel combustion shall not exceed the following limits:

<u>Item of Equipment</u>	<u>Propane</u>		<u>Pollutant</u>	<u>Emission</u>	<u>Emissions</u>
	<u>(Gal/Mo)</u>	<u>(Gal/Yr)</u>		<u>Factor</u>	
<u>(Lb/Hr)</u>	<u>(T/Yr)</u>	<u>(Lb/1000 Gal)</u>			

Armature Furnace	2,125	21,250	NO <sub>x</sub>	19	40.38	0.20
			CO	3.2	6.80	0.03

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These limits are based on standard AP-42 emission factors, 90,500 Btu/gal for propane, 1,040 hours of operation, and information provided in the permit application. Compliance with annual limits shall be determined from a running total of 12 months of data.

4. Emissions and operation of afterburner and Coreco metal separator fuel combustion shall not exceed the following limits:

<u>Item of Equipment</u> <u>(Lb/Mo)(T/Yr)</u>	<u>Total</u> <u>Natural Gas Usage</u>		<u>Pollutant</u>	<u>Emission</u> <u>Factor</u>	
	<u>(mmscf/Mo)</u>	<u>(mmscf/Yr)</u>		<u>(lb/mmscf)</u>	<u>(T/Yr)</u>
Afterburner and 0.8	3	16	NO <sub>x</sub>	100	300
Coreco Metal Separator 0.67			CO	84	252

These limits are based on standard AP-42 emission factors, 1,020 Btu/scf for natural gas, 832 hours of operation for the metal separator and 1872 hours of operation for the afterburner, and information provided in the permit application. Compliance with annual limits shall be determined from a running total of 12 months of data.

- 5a. Emissions and operation of particulate emission sources shall not exceed the following limits:

<u>Item of Equipment</u> <u>(Ton/Yr)</u>	<u>PWR</u> <u>(Lb/Hr)</u>	<u>Hours of</u> <u>Operation</u>	<u>TSP Emissions</u> <u>(Lb/Hr)</u>	
Armature Furnace*	825	1,040	1.58	0.82
Metal Separator*	5,000	832	4.14	1.72
Auto Shredder**	174,000	8,760	9	39.42
Trommel Drum*	20,000	600	8.7	2.61

- \* Emissions based on allowable per 35 Ill. Adm. Code 212.321  
 \*\* Emissions based on performance stack test.

These limits are based on maximum process weight rates, hours of operation, and information provided in the permit application. Compliance with annual limits shall be determined from a running total of 12 months of data.

- b. The Permittee shall not operate the armature furnace and metal separator simultaneously.

- 6a. Fuel oil shall be the only permitted fuel for the generators
- b. Natural gas shall be the only permitted fuel for the metal separator and thermal afterburner.
- c. Propane shall be the only permitted fuel for the armature furnace.

7. This permit is issued based on negligible emissions of volatile organic material (VOM) from armature furnace and Coreco metal separator both ducted through the thermal afterburner. For this purpose emissions from each emission source shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/yr.

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