

STATE OF MISSOURI PERMIT BOOK



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: **082012-013**

Project Number: 2012-05-077
Installation Number: 510-2560

Parent Company: GP Recycling LLC

Parent Company Address: 101 Ferry Street, St. Louis, MO 63147

Installation Name: GP Recycling LLC

Installation Address: 101 Ferry Street, St. Louis, MO 63147

Location Information: St. Louis City County, LG 10052

Application for Authority to Construct was made for:

The installation of an automotive scrap residue recycling facility that processes automotive scrap residue to remove metals present in the residue. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

AUG 29 2012

EFFECTIVE DATE

DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Department's Air Pollution Control Program of the anticipated date of startup of these air contaminant sources. The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual startup of these air contaminant sources.

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant sources(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

Page No.	3
Permit No.	
Project No.	2012-05-077

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

GP Recycling LLC
St. Louis City County, LG 10052

1. Particulate Matter Emission Limitation
 - A. GP Recycling LLC shall emit less than 15.0 tons of particulate matter less than 10 microns in diameter (PM₁₀) in any consecutive 12-month period from the entire installation as defined in Table 1 on pages, 3,4, & 5.
 - B. Attachment A or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 1.A.

Table 1: Installation PM Emission Points

Emission Point	Description
Screening Plant	
EP-S0	Front-End Loader to Batch Feeder 1
EP-S1	Batch Feeder 1 to Conveyor 2
EP-S2	Conveyor 2 to Oversize Trommel 4
EP-S4.1	Oversize Trommel 4
EP-S4.2	Oversize Trommel 4 to Picking Conveyor 5
EP-S4.3	Oversize Trommel 4 to Conveyor 6
EP-S5	Picking Conveyor 5 to Bunker 5
EP-S6	Conveyor 6 to Feeder Pan 7
EP-S7	Feeder Pan 7 to BBOX 8
EP-S8.1	BBOX 8 to Bunker 5
EP-S8.2	BBOX 8 to Fines Trommel 11
EP-S11.1	Fines Trommel 11
EP-S11.2	Fines Trommel 11 to Bunker 8
EP-S11.3	Fines Trommel 11 to Conveyor 12
EP-S12	Conveyor 12 to bivi-TEC 13

Page No.	4
Permit No.	
Project No.	2012-05-077

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

EP-S13.1	bivi-TEC Screen 13
EP-S13.2	bivi-TEC Screen 13 to Bunker 6
EP-S13.3	bivi-TEC Screen 13 to Bunker 7
EP-S14	Bunkers to Truck
EP-H1	Haul Road
Quad Plant	
EP-Q0	Front-End Loader to Batch Feeder 1
EP-Q1	Batch Feeder 1 to Conveyor 2
EP-Q2	Conveyor 2 to Feeder Pan 3
EP-Q3	Feeder Pan 3 to BBOX 96 4
EP-Q4.1	BBOX 4 to Bunker 5
EP-Q4.2	BBOX 4 to VSRP Magnet 7
EP-Q7.1	VSRP Magnet 7 to Conveyor 8
EP-Q8	Conveyor 8 to BBOX 9
EP-Q9.1	BBOX 9 to Bunker 5
EP-Q9.2	BBOX 9 to Oscillator 12
EP-Q12.1	Oscillator 12
EP-Q12.2	Oscillator 12 to Picking Conveyor 14
EP-Q14	Picking Conveyor 14 to Bunker 13
EP-Q7.2	VSRP Magnet 7 to Eddy Current System 15
EP-Q15	Eddy Current System 15 to Feeder Pans 16, 17
EP-Q16	Feeder Pan 16,17 to Quad Sensors 18,19
EP-Q17	
EP-Q18.1	Quad Sensor 18,19 to Conveyor 20
EP-Q19.1	
EP-Q20	Conveyor 20 to Picking Conveyor 21
EP-Q21	Picking Conveyor 21 to Bunker 11
EP-Q18.2	Quad Sensor 18,19 to Conveyor 22, 23
EP-Q19.2	
EP-Q22	Conveyor 22, 23 to Conveyor 24
EP-Q23	
EP-Q24	Conveyor 24 to Conveyor 25
EP-Q25	
EP-Q25	Conveyor 25 to BBOX 26
EP-Q26	BBOX 26 to Bunker 10
EP-Q27	Bunkers 5, 13, 11, 10 to Truck

Page No.	5
Permit No.	
Project No.	2012-05-077

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

Fines Plant	
EP-F0	Front-End Loader to Batch Feeder 1
EP-F1	Batch Feeder 1 to Conveyor 2
EP-F2	Conveyor 2 to Conveyor 3
EP-F3	Conveyor 3 to Feeder Pan 4
EP-F4.0	Feeder Pan 4 to BBOX 5
EP-F5.1	BBOX 5 to Bunker 5
EP-F5.2	BBOX 5 to Bin Feeder 8
EP-F8	Bin Feeder 8 to P10 Screen 9
EP-F9.1	P10 Screen 9
EP-F9.2	P10 Screen 9 to Bunker 4
EP-F9.3	P10 Screen 9 to Bunker 5
EP-F10	Bunkers 4, 5 to Truck

2. Record Keeping and Reporting Requirements
 - A. GP Recycling LLC shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.
 - B. GP Recycling LLC shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the end of the month during which any record required by this permit show an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2012-05-077
Installation ID Number: 510-2560
Permit Number:

GP Recycling LLC
101 Ferry Street
St. Louis, MO 63147

Complete: May 18th, 2012

Parent Company:
GP Recycling LLC
101 Ferry Street
St. Louis, MO 63147

St. Louis City County, LG 10052

REVIEW SUMMARY

- GP Recycling LLC has applied for authority to construct an automotive scrap residue recycling plant that processes automotive scrap residue to remove metals present in the residue.
- Hazardous Air Pollutant (HAP) emissions are not expected from the proposed equipment.
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to this installation. None of the currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment.
- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM₁₀ are conditioned below de minimis levels. Conditioned potential emissions of particulate matter (PM) are at minor source levels.
- This installation is located in St. Louis City County, a nonattainment area for the 8-hour ozone standard and the particulate matter less than 2.5 microns in diameter (PM_{2.5}) standard and an attainment area for all other criteria pollutants.
- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.
- Ambient air quality modeling was not performed since potential emissions of PM₁₀ for the application are conditioned below the de minimis level. Ambient air quality modeling was not performed for PM since there is not a standard.

- No Operating Permit is required for this installation.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

GP Recycling LLC is a new automotive scrap residue (ASR) recycling installation located at 101 Ferry Street in St. Louis, Missouri. No permits have been issued to GP Recycling LLC from the Air Pollution Control Program. The recycling facility is divided into three plants: the screening plant, the quad plant, and the fines plant. The screening plant removes large debris and classifies ASR into three sizes for further processing. The quad plant processes large (plus 25-mm) and medium (plus 15-mm) sized ASR from the screening plant in separate batches to remove metal from the ASR. The fines plant removes metal from the small (minus 15-mm) sized ASR from the screening plant and further classifies the ASR for shipment off-site. The plants' equipment only classifies and transfers ASR; none of the equipment physically reduces (e.g. shreds) the ASR.

Trucks deliver ASR to the recycling facility pre-shredded from automotive shredding facilities. After the plants process the ASR, the recovered metals and waste ASR are loaded onto trucks for shipment off-site for recycling and disposal, respectively.

All three plants employ Newell Recycling's proprietary BBOX technology. The BBOXs use a closed-loop cyclone system to remove lightweight material from the ASR. Lightweight materials flow to a bunker for disposal, while heavier materials drop out of the airstream for further processing. Air locks transfer material into and out of the circulating air stream, which does not exhaust. The following paragraphs provide a detailed description of the plants.

The screening plant classifies ASR into different sizes for further processing. Trucks deliver unclassified ASR to the facility, and the unclassified ASR is loaded into the screening plant's batch feeder. A drum magnet and oversized trammel remove some metal and large debris, which are stored in bunkers and shipped off-site for recycling and disposal, respectively. After the large trammel, a BBOX removes lightweight ASR, which is stored in a bunker and shipped off-site for disposal. Removing the lightweight ASR reduces the particulate matter generated from handling the ASR. After the BBOX, a series of screens divides the ASR into three streams, which are stored in separate bunkers for further processing in the quad and fines plants.

The quad plant processes the plus 25-mm ASR and the plus 15-mm ASR from the screening plant in separate batches. At the heart of the quad plant, two quad sensors use optical detectors and pulses of high-pressure air to separate wire from the ASR. Before the ASR reaches the quad sensors, a magnet removes ferrous metals, and an eddy current system removes zorba, which is a mixture of non-ferrous metals like aluminum and copper, using a specialized rotor. BBOXs before the magnet and after the quad sensors remove residual lightweight ASR from the streams. Bunkers store metals and non-metal ASR for shipment off-site and recycling and disposal, respectively.

The fines plant processes the minus 15-mm ASR from the screening plant, using a BBOX, screens, a magnet, and an eddy current system. The plant removes ferrous and non-ferrous metals from the ASR and classifies the remaining non-metal ASR into minus 6-mm ASR and plus 6-mm ASR. Bunkers store the fines plant's product streams for shipment off-site and recycling.

EMISSIONS/CONTROLS EVALUATION

The recycling plant's emission units will emit particulate matter. Particulate matter emissions were calculated for three particle size distributions: total PM, PM₁₀, and PM_{2.5}.

No emission factors were identified for calculating emissions from handling ASR, so surrogate emission factors were selected. Two sources from AP-42 *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition, Section 11.19.2, "Crushed Stone Processing and Pulverized Mineral Processing," August 2004 were selected. The units selected were: Conveyor Transfer Point (SCC 3-05-020-06) and Screening (SCC 3-05-020-02).

The uncontrolled PM, PM₁₀, and PM_{2.5} emission factors were found using the Source Classification Codes (SCC) in WebFIRE (FIRE). The uncontrolled factors were used to calculate emissions from the screening plant emission units, quad plant emission units, and fines plant emission units.

FIRE does not provide uncontrolled PM_{2.5} emission factors. The uncontrolled PM_{2.5} emission factors were derived by multiplying the controlled PM_{2.5} emission factors by the ratio of the uncontrolled and controlled PM₁₀ emission factors. This method essentially back calculates the PM_{2.5} uncontrolled emission factors using the control percentage of the PM₁₀ emission factors and the controlled PM_{2.5} emission factors.

Haul road emissions were calculated using the predictive equations found in AP-42 Section 13.2.1, "Paved Roads," January 2011. The average municipal solid waste landfill silt loading value from AP-42 Table 13.2.1-3 was used in the equation.

Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year). The following table provides an emissions summary for this project.

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM	25.0	N/A	N/A	47.70	45.72
PM ₁₀	15.0	N/A	N/A	15.65	<15.0
PM _{2.5}	10.0	N/A	N/A	2.59	2.48
SO _x	40.0	N/A	N/A	N/A	N/A
NO _x	40.0	N/A	N/A	N/A	N/A
VOC	40.0	N/A	N/A	N/A	N/A
CO	100.0	N/A	N/A	N/A	N/A
Combined HAPs	25.0	N/A	N/A	N/A	N/A

N/A = Not Applicable

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM₁₀ are conditioned below de minimis levels. Conditioned potential emissions of PM are at minor source levels.

APPLICABLE REQUIREMENTS

GP Recycling LLC shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-6.165

SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes, 10 CSR 10-6.400*

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Janelle Lewis
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated May 18th, 2012, received May 18th, 2012, designating GP Recycling LLC as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

Attachment A – PM₁₀ Compliance Worksheet

GP Recycling LLC
 St. Louis City County, LG 10052
 Project Number: 2012-05-077
 Installation ID Number: 510-2560
 Permit Number: _____

This sheet covers the period from _____ to _____. (Copy sheet as needed.)
(month, year) (month, year)

	(a)	(b)	(c)
Step Description	Amount Processed (tons)	Composite Emission Factor (lb/ton)	Monthly PM ₁₀ Emissions (lbs)
Screening Plant		0.0325	
Quad Plant		0.0126	
Fines Plant		0.0128	
(d) Total Monthly PM ₁₀ Emissions (lbs)			
(e) Total Monthly PM ₁₀ Emissions (tons)			
(f) 12-Month PM ₁₀ Emissions (h) from Previous Month's Attachment A (tons)			
(g) Total Monthly PM ₁₀ Emissions (e) from Previous Year's Attachment A (tons)			
(h) Current 12-Month PM ₁₀ Emissions (tons) (h) = [(e) + (f) - (g)]			

Instructions:

- (a) Record this month's throughput.
- (c) Multiply the Monthly Throughput (a) by the respective Composite Emission Factor (b).
- (d) Sum each individual Monthly PM₁₀ Emissions.
- (e) Divide the Total Monthly PM₁₀ Emissions (d) by 2,000.
- (f) Record the 12-Month PM₁₀ Emissions (h) from the Previous Month's Attachment A.
- (g) Record the Total Monthly PM₁₀ Emissions (e) from the Previous Year's Attachment A.
- (h) Calculate the Current 12-Month PM₁₀ Emissions. A total less than 15.0 tons indicates compliance.

Mr. Cap Grossman
President
GP Recycling LLC
5 North Market Street
St. Louis, MO 63102

RE: New Source Review Permit - Project Number: 2012-05-077

Dear Mr. Grossman:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your amended operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact Janelle Lewis, at the Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH:jll

Enclosures

c: St. Louis Regional Office
PAMS File: 2012-05-077

Permit Number: