

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: 052010-004 Project Number: 2010-03-056

Parent Company: Aggrecon Crushing & Recycling

Parent Company Address: 8686 Wehmeier Drive, Washington, MO 63090

Installation Name: Aggrecon Crushing & Recycling

Installation ID: PORT-0662

Installation Address: 6868 Wehmeier Drive, Washington, MO 63090

Location Information: Franklin County, S17, T43N, R1W

Application for Authority to Construct was made for: Terex Pegson XR400 portable crusher. This review was conducted in accordance with Section (5), 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.

MAY 5 2010

EFFECTIVE DATE

Kyra L. Moor
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 start up of this (these) air contaminant source(s). 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 start up of this (these) air contaminant source(s).

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 source(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.

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Project No.	2010-03-056

GENERAL 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."

PORT ID Number: PORT-0662

Installation ID Number: 071-0231

Installation Address: 6868 Wehmeier Drive Washington, MO 63090

Installation County: Franklin S17, T43N, R1W

1. Equipment Identification Requirement
Aggrecon Crushing & Recycling shall maintain easily read permanent markings on each component of the plant (PORT-0662). These markings shall be the equipment's serial number or a company assigned identification number that uniquely identifies the individual component. These identification numbers must be submitted to the Air Pollution Control Program no later than 15 days after start-up of the portable crushing plant.
2. Relocation of Portable Crushing Plant
 - A. Aggrecon Crushing & Recycling PORT-0662 shall not be operated at any location longer than 24 consecutive months.
 - B. Aggrecon Crushing & Recycling shall notify the regional office respective to the county of the location site, in writing, seven (7) days before relocating PORT-0662 to any solitary or same owner site. A list of counties and regional offices titled, *Missouri Department of Natural Resources, Regional and Satellite Offices* is attached to this permit.
3. Minimum Distance to Boundary Requirement - Solitary Operation
 - A. Aggrecon Crushing & Recycling PORT-0662 shall be located at least 150 feet from the nearest property boundary when operating at a site without any other plants (solitary operation), OR
 - B. Aggrecon Crushing & Recycling PORT-0662 shall be located at least 150 feet from the nearest residence or to where the public could reasonably expected to be found (e.g. a business) for solitary operation under a MODOT job.
4. Minimum Distance to Boundary Requirement - Same Owner Operation
 - A. Aggrecon Crushing & Recycling PORT-0662 shall be located at least 300 feet from the nearest property boundary when operating at a site with one other plant owned by Aggrecon Crushing & Recycling (same owner operation), OR

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GENERAL SPECIAL CONDITIONS:

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

- B. Aggrecon Crushing & Recycling PORT-0662 shall be located at least 300 feet from the nearest residence or to where the public could reasonably expected to be found (e.g. a business) for same owner operation under a MODOT job.
- 5. Separate Owner Operation Restriction
Aggrecon Crushing & Recycling is prohibited from operating whenever plants not owned by Aggrecon Crushing & Recycling (separate owner) are permitted for the site, without including the particulate matter less than ten microns in aerodynamic diameter (PM₁₀) ambient impact as background in the other plants' construction permit(s) for the site. The ambient impact factor for PORT-0662 is 0.01166 µg/m³ * ton.
- 6. Best Management Practices Requirement
Aggrecon Crushing & Recycling shall control fugitive emissions from all of the haul roads and vehicular activity areas at all sites by performing Best Management Practices as defined in Attachment AA.
- 7. Wet Suppression Control System Requirement
 - A. Aggrecon Crushing & Recycling shall install and operate wet spray devices on the plant, before and after the jaw crusher (EU-03) and at the discharge conveyor (EU-04).
 - B. Watering may be suspended during periods of freezing condition, when use of the wet spray devices may damage the equipment. During these conditions, Aggrecon Crushing & Recycling shall adjust the production rate to control emissions from these units. Aggrecon Crushing & Recycling shall record a brief description of such events.
- 8. NSPS Subpart "OOO" Testing Conditions
A completed Proposed Test Plan form (enclosed) must be submitted to and approved by the Air Pollution Control Program 30 days prior to conducting the required emission testing (as required in 40 CFR Part 60, Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants).
- 9. Record Keeping Requirement
Aggrecon Crushing & Recycling shall maintain all records required by this permit for not less than five years and shall make them available to any Missouri Department of Natural Resources' personnel upon request.
- 10. Reporting Requirement
Aggrecon Crushing & Recycling shall report to the Air Pollution Control Program Enforcement Section P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedances of the limitations imposed by this permit.

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

Project Number: 2010-03-056

Installation ID Number: PORT-0662

Permit Number:

Aggrecon Crushing & Recycling
6868 Wehmeier Drive
Washington, MO 63090

Complete: March 18, 2010

Parent Company:
Aggrecon Crushing & Recycling
8686 Wehmeier Drive
Washington, MO 63090

Franklin County, S17, T43N, R1W

PROJECT DESCRIPTION

Aggrecon Crushing & Recycling, herein referred to as Aggrecon, has applied for a construction permit for a Terex Pegson XR400 portable crusher. The plant has a maximum hourly design rate of 400 tons per hour of crushed aggregate or construction demolition debris (concrete or asphalt). Process equipment includes a hopper, grizzly feeder, jaw crusher, discharge conveyor, and diesel engine. The engine is a Caterpillar C9 capable of 300 horsepower and 15.77 gallons of fuel consumption per hour. The engine serial number is MBD00711, and it is Tier III rated. The plant is equipped with water spray devices before and after the crusher and at the discharge conveyor. Aggrecon is using one of the methods described in Attachment AA, "Best Management Practices," to control emissions from haul roads and vehicular activity areas.

No permits have been issued to Aggrecon Crushing & Recycling from the Air Pollution Control Program. Two no construction permit required letters have been issued to Aggrecon under projects 2009-05-058 and 2009-05-060 for similar equipment, however those projects were not evaluated according to current policies. A notice of violation #3250SE was issued to Aggrecon on March 31, 2009 for the operation of a crushing unit without controlling dust from the unit.

TABLES

Table 1 summarizes the emissions of this project. The uncontrolled potential emissions of the process equipment exclude emissions from haul roads and storage piles and exclude reductions in PM₁₀ emissions from wet spray devices. Due to direction from EPA Region VII, as of July 1, 2009, the potential emissions of the project must be calculated without considering controls to determine permit applicability. This is a new installation; therefore there are no existing actual emissions. The controlled potential emissions of the application represent the emissions of all equipment and activities assuming continuous operation (8,760 hours per year), including emission reductions from control devices and BMPs.

Table 1: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level	Uncontrolled Potential Emissions of the Process Equipment	Controlled Potential Emissions of the Application	Conditioned Potential Emissions
PM ₁₀	15.0	19.94	5.39	N/A
SO _x	40.0	0.14	0.14	N/A
NO _x	40.0	8.69	8.69	N/A
VOC	40.0	3.41	3.41	N/A
CO	100.0	7.53	7.53	N/A
POM	¹ 0.01	1.59E-03	1.59E-03	N/A
Total HAPs	25.0	0.04	0.04	N/A

¹Screening Model Action Level (SMAL)

Table 2: Ambient Air Quality Impact Analysis

Pollutant	¹ NAAQS (µg/m ³)	Averaging Time	² Maximum Modeled Impact (µg/m ³)	Background (µg/m ³)	³ Ambient Impact Factor (µg/m ³ * ton)	⁴ Daily Production (tons)
PM ₁₀	150.0	24-hour	111.96	20.0	0.01166	9,600

¹National Ambient Air Quality Standards (NAAQS)

²Modeled impact at maximum capacity with controls

³The PM₁₀ ambient impact factor is to be used when operating concurrently with another installation, per Special Condition 4

⁴Indirect production limit based on compliance with NAAQS

EMISSIONS CALCULATIONS

Emissions for the project were calculated using emission factors found in the United States Environmental Protection Agency (EPA) document AP-42 *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition (AP-42). Emissions from the crushing equipment were calculated using emission factors from AP-42 Section 11.19.2 “Crushed Stone Processing and Pulverized Mineral Processing,” August 2004. The uncontrolled emission factors were used because the inherent moisture content of the crushed material is unknown and by default 0.7% weight. Control efficiencies are applied towards the crusher and conveyor for the use of water spray devices.

Emissions from the diesel engine were calculated using emission factors from AP-42 Section 3.3 Gasoline and Diesel Industrial Engines,” October 1996. The engine is Tier III emissions rated, therefore for pollutants that have Tier III standards, the respective standards were used to calculate the emissions. NO_x emissions were calculated using the Tier emission standard for NMHC + NO_x, conservatively assuming all of the NMHC + NO_x simply as NO_x.

Emissions from haul roads and vehicular activity areas were calculated using the predictive equation from AP-42 Section 13.2.2 “Unpaved Roads,” November 2006. A 90% control efficiency is applied to the emission calculations for the use of BMPs. Emissions from load-in and load-out of storage piles were calculated using the predictive equation from AP-42 Section 13.2.4 “Aggregate Handling and Storage Piles”. Emissions from wind erosion of storage piles were calculated using an equation found in the Air Pollution Control Program’s Emissions Inventory Questionnaire Form 2.8 “Storage Pile Worksheet.”

AMBIENT AIR QUALITY IMPACT ANALYSIS

An ambient air quality impact analysis (AAQIA) was performed to determine the impact of PM₁₀. The Air Pollution Control Program requires an AAQIA of PM₁₀ for all asphalt, concrete and crushing plants regardless of the level of PM₁₀ emissions if a permit is required. The AAQIA was performed using the Air Pollution Control Program's generic nomographs. For each pollutant that was modeled, the maximum concentration that occurs at or beyond the site boundary was compared to the National Ambient Air Quality Standard (NAAQS). If during continuous operation the modeled concentration of a pollutant is greater than the applicable NAAQS, the plant's production is limited to ensure compliance with the standard. During continuous operation the modeled concentration of PM₁₀ is less than the NAAQS, therefore this plant's production is not limited to ensure compliance with the standard. In cases where the plant is providing material for a highway project, the ambient impact is evaluated in accordance with a memorandum issued by the Air Pollution Control Program titled "Permitting Asphalt/Concrete Plants for Temporary Highway Projects," dated April 10, 2000. This memorandum states that air quality should be analyzed at the nearest residence or location where the public could reasonably expected to be found instead of all ambient air. This practice generally allows for a less restrictive daily production level while protecting the public.

This plant uses BMPs to control emissions from haul roads and vehicular activity areas, so emissions from these sources were not included in the AAQIA. Instead they were addressed as a background concentration of 20 µg/m³ of PM₁₀ in accordance with the Air Pollution Control Program's BMPs interim policy.

OPERATING SCENARIOS

The plant is permitted to operate with other plants located at any site as long as the NAAQS is not exceeded. The following scenarios explain how Aggrecon Crushing & Recycling shall demonstrate compliance with the NAAQS.

- When this plant is located at a site, without any other plants, which is referred to as solitary operation, the maximum modeled impact is below the NAAQS. No tracking is required to demonstrate compliance with the NAAQS.
- When plants not owned by Aggrecon Crushing & Recycling, which are referred to as separate owner plants, are located at the site, the separate owner must account for the impact of Aggrecon Crushing & Recycling as a background concentration and add it to the total impact of all plants operating at the site. This total is limited not to exceed the NAAQS.
- When collocated with other plants owned by Aggrecon Crushing & Recycling, in a scenario such as a primary and secondary crusher, which are referred to as same owner plants, the maximum modeled impact is below the NAAQS. No tracking is required to demonstrate compliance with the NAAQS.

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Uncontrolled potential emissions of PM₁₀ are above the de minimis level, but controlled potential emissions are below the de minimis level.

APPLICABLE REQUIREMENTS

Aggrecon Crushing & Recycling 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. The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required June 1 for the previous year's emissions.
- *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 10-3.090

SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400 applies only to the plant's engine. The rule does not apply to the plant's other portable process equipment as their particulate matter emissions are fugitive.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPS) or National Emission Standards for Hazardous Air Pollutants for Source Categories (MACTS) apply to the proposed equipment.
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260
- New Source Performance Standards (NSPS) Subpart OOO "Standards of Performance for Nonmetallic Mineral Processing Plants" applies to this plant. A proposed test plan is attached to this permit. NSPS Subpart IIII "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines" does not apply to the engine, as the engine is mobile and nonroad.

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

David Little
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated March 18, 2010, received March 18, 2010, designating Aggrecon Crushing & Recycling as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

Attachment AA: Best Management Practices

Haul roads and vehicular activity areas shall be maintained in accordance with at least one of the following options when the portable plant is operating.

1. Pavement
 - A. The operator shall pave the area with materials such as asphalt, concrete or other materials approved by the Air Pollution Control Program. The pavement will be applied in accordance with industry standards to achieve control of fugitive emissions¹ while the plant is operating.
 - B. Maintenance and repair of the road surface will be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating.
 - C. The operator shall periodically wash or otherwise clean all of the paved portions of the haul roads as necessary to achieve control of fugitive emissions from these areas while the plant is operating.

2. Application of Chemical Dust Suppressants
 - A. The operator shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to unpaved areas.
 - B. The quantities of the chemical dust suppressant shall be applied and maintained in accordance with the manufacturer's recommendation (if available) and in sufficient quantities to achieve control of fugitive emissions from these areas while the plant is operating.
 - C. The operator shall record the time, date and the amount of material applied for each application of the chemical dust suppressant agent on the above areas. The operator shall keep these records with the plant for not less than five (5) years and make these records available to Department of Natural Resources personnel upon request.

3. Application of Water-Documented Daily
 - A. The operator shall apply water to unpaved areas. Water shall be applied at a rate of 100 gallons per day per 1,000 square feet of unpaved or untreated surface area while the plant is operating.
 - B. Precipitation may be substituted for watering if the precipitation is greater than one quarter of one inch and is sufficient to control fugitive emissions.
 - C. Watering may also be suspended when the ground is frozen, during periods of freezing conditions when watering would be inadvisable for traffic safety reasons, or when there will be no traffic on the roads.
 - D. The operator shall record the date, volume of water application and total surface area of active haul roads or the amount of precipitation that day. The operators shall also record the rationale for not watering (e.g. freezing conditions or not operating).
 - E. The operator shall keep these records with the plant for not less than five (5) years, and the operator shall make these records available to Department of Natural Resources personnel upon request

¹For purposes of this document, Control of Fugitive Emissions means to control particulate matter that is not collected by a capture system and visible emissions to the extent necessary to prevent violations of the air pollution law or regulation. (Note: control of visible emission is not the only factor to consider in protection of ambient air quality.)

Attachment BB: Controlled Potential Emission Calculations of the Application
 Aggrecon Crushing & Recycling
 PORT-0662, Project 2010-03-056

Unit ID	Description	¹ MHDR	MHDR Units	² PM ₁₀ EF	EF Units	Control Eff. %	Emissions (lb/hr)	³ Modeling Rate (lb/hr)
EU-01	hopper filling	400.0000	Tons	0.000016	lb/ton	0.00	0.0064	0.0064
EU-02	grizzly feeder	400.0000	Tons	0.000016	lb/ton	0.00	0.0064	0.0064
EU-03	jaw crusher	400.0000	Tons	0.002400	lb/ton	75.00	0.2400	0.24
EU-04	discharge conveyor	400.0000	Tons	0.001100	lb/ton	95.80	0.0185	0.01848
EU-05	CAT C9 Engine, Tier 3, 300hp	300.0000	hp	0.000330	lb/hp	0.00	0.0990	0.099
EU-06	storage pile wind	0.0500	Acres	0.089166	lb/acre	90.00	0.0004	0.000445831
EU-06	storage pile vehicle activity	400.0000	Tons	0.006537	lb/ton	90.00	0.2615	0.261473447
EU-06	storage pile load out	400.0000	Tons	0.011991	lb/ton	90.00	0.4796	0.479647015
EU-07	haul road	0.6061	VMT	1.972873	lb/VMT	90.00	0.1196	0.119568046

¹Maximum Hourly Design Rate (MHDR)

²Emission Factor (EF)

³The Modeling Rate is the emission rate scaled to the daily hours of operation at the MHDR allowed by the permit.