



## 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: 082009-007 Project Number: 2009-05-052

Parent Company: TRI-Rinse Inc.

Parent Company Address: 1402 S. Second Street, St. Louis, MO 63104

Installation Name: TRI-Rinse Shredder

Installation Address: 1402 S. Second Street, St. Louis, MO 63104

Location Information: TBD

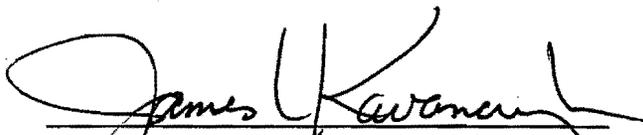
Application for Authority to Construct was made for:

The installation of a new mobile shredder that can operate throughout the entire State of Missouri. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

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

AUG 17 2009

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 departments' Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. 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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#### 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."*

#### TRI-Rinse Shredder PORT-0640

1. **Portable Equipment Identification Requirement**  
To assure that each component is properly identified as being a part of this portable shredder, PORT-0640, TRI-Rinse Shredder shall provide and maintain suitable, easily read permanent markings on each component of the plant. 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 shredder.
2. **Annual Emission Limit of Nitrogen Oxides (NO<sub>x</sub>)**
  - A. The operator(s) shall ensure that TRI-Rinse Shredder emit less than 40.0 tons of NO<sub>x</sub> into the atmosphere in any 12 month period from:
    - 1) Engine 001 (EP-01)
    - 2) Engine 002 (EP-02)
  - B. Attachment A or an equivalent form approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 2.A.
3. **Plant Location Record**
  - A. TRI-Rinse, Inc shall keep record of the duration and location of each project performed by TRI-Rinse Shredder within the State of Missouri
  - B. Attachment B or an equivalent form approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 3.A.
4. **Record Keeping Requirement**  
The operator(s) shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.

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**SPECIAL CONDITIONS:**

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

5. **Reporting Requirement**  
The operator(s) shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after any exceedances of the limitations imposed by this permit.
6. TRI-Rinse, Inc. shall contact the local agencies prior to moving into their jurisdiction to see if any additional requirements. The list of local agencies is below:
  - A. Springfield/Greene County (417) 864-1662
  - B. Kansas City Metro Area (816) 513-6314.
  - C. St. Louis City/St. Louis County (314) 615-5000
7. TRI-Rinse, Inc. shall contact the Missouri Department of Natural Resources regional office that is associated with the location of at PORT-0640 at least ten (10) days prior to locating at the desired location. A list of the regional offices are attached and also can be found on the internet at <http://www.dnr.mo.gov/regions/ro-map-color.pdf>
8. TRI-Rinse, Inc. shall only shred industrial and military equipment including plastic, rubber, fiberglass, canvas, obsolete small arms, aviation components, various metal items, and wood pallets.

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

Project Number: 2009-05-052  
Installation ID Number: PORT-0640  
Permit Number:

TRI-Rinse Shredder  
1402 S. Second Street  
St. Louis, MO 63104

Complete: June 23, 2009

Parent Company:  
TRI-Rinse Inc.  
1402 S. Second Street  
St. Louis, MO 63104

St. Louis City County

REVIEW SUMMARY

- TRI-Rinse Shredder has applied for authority to install a new mobile shredder for the entire State of Missouri.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment but emit less than the Screening Model Action Levels
- None of the New Source Performance Standards (NSPS) apply to the proposed equipment.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) or currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment.
- No air pollution control equipment is being used in association with the new equipment.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of NO<sub>x</sub> are limited to below de minimis levels.
- This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2].
- Ambient air quality modeling was not performed since potential emissions of the application are going to be limited to below de minimis levels.
- Emissions testing is not required for the equipment.

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

### INSTALLATION DESCRIPTION

TRI Rinse, Inc. is an environmental contractor, founded in 1981, that specializes in container disposal of all sizes, hazardous waste removal, scrap tire abatement projects, above and underground tank cleaning/removal, the recycling of plastic and steel containers, weapons demilitarization, and volume reduction. Their capabilities allow them to serve commercial, industrial, and agricultural markets nationwide.

No permits have been issued to TRI-Rinse Shredder from the Air Pollution Control Program.

### PROJECT DESCRIPTION

TRI-Rinse, Inc. has a portable shredding operation that travels all over the United States. The operation consists of two 350 Horsepower John Deere diesel engines that power a rotary shear shredder. The shredder is utilized for the shredding of industrial and military equipment including plastic, rubber, fiberglass, canvas, obsolete small arms, aviation components, various metal items and wood pallets. The Maximum Hourly Design Rate of the shredder is 8.5 tons of material processed per hour. There are no haul roads associated with the equipment. The shredded material is simply dumped into a bin and the client who has requested the shredding is responsible for disposal. There are no control devices associated with this equipment.

The TRI-Rinse Shredder will be considered a portable plant under the Installation ID Number of PORT-0640. Due to fact that the TRI-Rinse Shredder will only operate in Missouri one to two months out of the year and the average time at a typical site is only two to three weeks the Air Pollution Control Program determined that 21-Day Relocation requests will not be required for this installation. However monthly record keeping of NO<sub>x</sub> in Attachment A and plant location in Attachment B will be necessary to show compliance with this permit.

### EMISSIONS/CONTROLS EVALUATION

The emission factors and control efficiencies used in this analysis of the two diesel engines were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Chapter 3.3, *Gasoline and Diesel Industrial Engines*, October 1996. The emission factors for the shredding process were taken from a test run for the Institute of Scrap Recycling Industries. 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 1: Emissions Summary (tons per year)

Pollutant	Regulatory De Minimis Levels	Existing Potential Emissions	Existing Actual Emissions	Potential Emissions of the Application	*New Installation Conditioned Potential
PM <sub>10</sub>	15.0	N/A	N/A	7.33	3.96
SO <sub>x</sub>	40.0	N/A	N/A	4.87	2.63
NO <sub>x</sub>	40.0	N/A	N/A	74.1	<40.00
VOC	40.0	N/A	N/A	6.05	3.27
CO	100.0	N/A	N/A	15.96	8.62
HAPs	10.0/25.0	N/A	N/A	0.34	0.18

N/A = Not Applicable

\* New Installation Conditioned Potential is based on a voluntary limit. All other pollutants are proportionally reduced.

A test was run for the Institute of Scrap Recycling Industries by Versar, Inc. to calculate the emissions from automobile shredding. TRI-Rinse, Inc. is not shredding automobiles specifically but the emission factor that was calculated for Particulate Matter (PM) was considered the best representative emission factor available. The test was run with a cyclone control device. TRI-Rinse, Inc. does not have a cyclone attached to their operation. In order to implement the best possible emission factor a 90% control efficiency was assumed to be used during the test ran by Versar, Inc. The emission factor used for the TRI-Rinse Shredder did not include the 90% control. PM is not considered a criteria pollutant but Particulate Matter less than Ten Microns (PM<sub>10</sub>) is. Because there is no emission factor for PM<sub>10</sub> and shredding is a mechanical process (mechanical process ensures there is no PM<sub>10</sub> condensable) it was assumed the 100% of the PM will be PM<sub>10</sub>. There were metal HAPs associated with the shredding process but these were calculated to be below the Screening Model Action Levels.

#### PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of NO<sub>x</sub> are limited to below de minimis levels.

#### APPLICABLE REQUIREMENTS

TRI-Rinse Shredder 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*
- *Restriction of Emission of Sulfur Compounds, 10 CSR 10-6.260*
- *Maximum Allowable Emissions of Particulate Matter From Fuel Burning Equipment Used for Indirect Heating, 10 CSR 10-3.060*

## 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.

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Gerad Fox  
Environmental Engineer

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Date

## PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated date, received date, designating TRI-Rinse Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- St. Louis Regional Office Site Survey. Not received.





Mr. Cliff Metcalf  
Directors, EHS  
TRI-Rinse Shredder  
1402 S. Second Street  
St. Louis, MO 63104

RE: New Source Review Permit - Project Number: 2009-05-052

Dear Mr. Metcalf:

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 and your new source review permit application 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 Gerad Fox, at the Departments' 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

Kendall B. Hale  
New Source Review Unit Chief

KBH:gfl

Enclosures

c: St. Louis Regional Office  
PAMS File: 2009-05-052  
Permit Number: