

**CONSTRUCTION PERMIT
OFFICE OF AIR MANAGEMENT**

**BTR Antivibration System, Inc.
U. S. Highway 31 and County Road 100 North
Peru, Indiana 46970**

is hereby authorized to construct

a modification to the automobile vibration isolation components manufacturing plant, consisting of the following equipment:

- (a) thirty-eight (38) transfer-type rubber molding presses, each capable of processing 60 pounds per hour of uncured rubber;
- (b) six (6) 300 ton injection molding presses, each capable of processing 53 pounds per hour of uncured rubber;
- (c) one (1) cryogenic deflasher capable of treating 2,200 pounds per hour of rubber parts;
- (d) one (1) mill room which includes: one (1) carbon black handling system, one (1) mix oil handling system and one (1) Shaw mixer, capable of handling 3,500 pounds per hour of materials (carbon black and mixing oil); and
- (e) six (6) natural gas fired air make-up units, each rated at 5 million British thermal units per hour.

This permit is issued to the above mentioned company (herein known as the Permittee) under the provisions of 326 IAC 2-1 and 40 CFR 52.780, with conditions listed on the attached pages.

| | |
|---|----------------|
| Construction Permit No.: CP-103-8682-00021 | |
| Issued by: Paul Dubenetzky, Branch Chief Office of Air Management | Issuance Date: |

Construction Conditions

General Construction Conditions

1. That the data and information supplied with the application shall be considered part of this permit. Prior to any proposed change in construction which may affect allowable emissions, the change must be approved by the Office of Air Management (OAM).
2. That this permit to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

Effective Date of the Permit

3. That pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.
4. That pursuant to 326 IAC 2-1-9(b)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.
5. That notwithstanding Construction Condition No. 6, all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

First Time Operation Permit

6. That this document shall also become a first-time operation permit pursuant to 326 IAC 2-1-4 (Operating Permits) when, prior to start of operation, the following requirements are met:
 - (a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the facilities were constructed as proposed in the application. The facilities covered in the Construction Permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.
 - (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
 - (c) Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.
 - (d) The operation permit will be subject to annual operating permit fees pursuant to 26 IAC 2-7-19 (Fees)
 - (e) The Permittee has submitted their Part 70 application (T-103-7638-00021) on December 13, 1996 for the existing source. The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.
7. That when the facility is constructed and placed into operation the following operation conditions

shall be met:

Operation Conditions

General Operation Conditions

1. That the data and information supplied in the application shall be considered part of this permit. Prior to any change in the operation which may result in an increase in allowable emissions exceeding those specified in 326 IAC 2-1-1 (Construction and Operating Permit Requirements), the change must be approved by the Office of Air Management (OAM).
2. That the permittee shall comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder.

Preventive Maintenance Plan

3. That pursuant to 326 IAC 1-6-3 (Preventive Maintenance Plans), the Permittee shall prepare and maintain a preventive maintenance plan, including the following information:
 - (a) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices.
 - (b) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions.
 - (c) Identification of the replacement parts which will be maintained in inventory for quick replacement.

The preventive maintenance plan shall be submitted to IDEM, OAM upon request and shall be subject to review and approval.

Transfer of Permit

4. That pursuant to 326 IAC 2-1-6 (Transfer of Permits):
 - (a) In the event that ownership of this automobile vibration isolation components manufacturing plant is changed, the Permittee shall notify OAM, Permit Branch, within thirty (30) days of the change. Notification shall include the date or proposed date of said change.
 - (b) The written notification shall be sufficient to transfer the permit from the current owner to the new owner.
 - (c) The OAM shall reserve the right to issue a new permit.

Permit Revocation

5. That pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:
 - (a) Violation of any conditions of this permit.
 - (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.

- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of 326 IAC 2-1 (Permit Review Rules).

Availability of Permit

6. That pursuant to 326 IAC 2-1-3(l), the Permittee shall maintain the applicable permit on the premises of this source and shall make this permit available for inspection by the IDEM or other public official having jurisdiction.

Annual Emission Reporting

7. That pursuant to 326 IAC 2-6 (Emission Reporting), the Permittee must annually submit an emission statement for the source. This statement must be received by July 1 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. The annual statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The annual emission statement covers the twelve (12) consecutive month time period starting January 1 and ending December 31.

Opacity Limitations

8. That pursuant to 326 IAC 5-1-2 (Visible Emission Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), the visible emissions shall meet the following:
- (a) visible emissions shall not exceed an average of 40% opacity in 24 consecutive readings.
 - (b) visible emissions shall not exceed 60% opacity for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period.

Particulate Matter Limitation

9. That pursuant to 326 IAC 6-3 (Process Operations), the particulate matter emissions from the cryogenic deflashing operation, carbon black handling and Shaw mixer shall not exceed the allowable emission rate of 4.37, 5.97 and 5.97 pounds per hour, respectively. These limitations shall render the requirements of 326 IAC 2-2 and 40 CFR 52.21, Prevention of Significant Deterioration (PSD), not applicable.

Fugitive Dust Emissions

10. That pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), the permittee shall be in violation of 326 IAC 6-4 (Fugitive Dust Emissions) if any of the criteria specified in 326 IAC 6-4-2(1) through (4) are violated. Observations of visible emissions crossing the property line of the source at or near ground level must be made by a qualified representative of IDEM. [326 IAC 6-4-5(c)].

Record Keeping

11. That pursuant to 326 IAC 2-1-3(i)(8), records of uncured rubber processed for each molding press and carbon black handled in the Shaw mixer shall be maintained for a minimum period of 36 months and made available upon request of the Office of Air Management (OAM). Any change or modification which may increase potential VOC emissions to 25 tons per year from any of the rubber molding presses or Shaw mixer covered in this permit must meet the requirements of 326 IAC 8-1-6 before such change may occur. These limitations shall also render the PSD requirements, 326 IAC 2-2 and 40 CFR 52.21, not applicable.

Open Burning

12. That the permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6.

Emergency Reduction Plans

13. Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):
- (a) The Permittee prepared and submitted written emergency reduction plans (ERPs) consistent with safe operating procedures on June 11, 1997.
 - (b) If the ERP is disapproved by IDEM, OAM, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP. If after this time, the Permittee does not submit an approvable ERP, IDEM, OAM shall supply such a plan.
 - (c) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.
 - (d) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.
 - (e) Upon direct notification by IDEM, OAM, that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate level. [326 IAC 1-5-3]

Indiana Department of Environmental Management Office of Air Management

Technical Support Document (TSD) for New Construction and Operation

Source Background and Description

Source Name: BTR Antivibration Systems, Inc.

Source Location: U.S. Highway 31 and County Road 100 North, Peru, IN 46970
County: Miami
Construction Permit No.: CP-103-8682-00021
SIC Code: 3069
Permit Reviewer: Scott Pan/EVP

The Office of Air Management (OAM) has reviewed an application from BTR Antivibration System, Inc. relating to the construction and operation of a modification to the automobile vibration isolation components manufacturing plant, consisting of the following equipment:

- (a) thirty-eight (38) transfer-type rubber molding presses, each capable of processing 60 pounds per hour of uncured rubber;
- (b) six (6) 300 ton injection molding presses, each capable of processing 53 pounds per hour of uncured rubber;
- (c) one (1) cryogenic deflasher capable of treating 2,200 pounds per hour of rubber parts;
- (d) one (1) mill room which includes: one (1) carbon black handling system, one (1) mix oil handling system and one (1) Shaw mixer, capable of handling 3,500 pounds per hour of materials (carbon black and mixing oil); and
- (e) six (6) natural gas fired air make-up units, each rated at 5 million British thermal units per hour.

Stack Summary

There are no exterior stacks involved in the proposed modification. All emissions escape through building ventilation.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Information, unless otherwise stated, used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on June 11, 1997.

An interim construction petition for the equipment was submitted on June 24, 1997.

Emissions Calculations

See Appendix A (Emissions Calculation Spreadsheets) for detailed calculations (5 pages).

Total Potential and Allowable Emissions

Indiana Permit Allowable Emissions Definition (after compliance with applicable rules, based on 8,760 hours of operation per year at rated capacity):

| Pollutant | Allowable Emissions (tons/year) | Potential Emissions (tons/year) |
|--------------------------------------|---------------------------------|---------------------------------|
| Particulate Matter (PM) | 72.9 | 27.6 |
| Particulate Matter (PM10) | 72.9 | 27.6 |
| Sulfur Dioxide (SO ₂) | --- | 0.1 |
| Volatile Organic Compounds (VOC) | 249.0 | 26.6 |
| Carbon Monoxide (CO) | --- | 2.8 |
| Nitrogen Oxides (NO _x) | --- | 13.1 |
| Single Hazardous Air Pollutant (HAP) | --- | 5.0 |
| Combination of HAPs | --- | 6.3 |

- (a) Allowable emissions are determined from the applicability of rule 326 IAC 6-3 for PM and 326 IAC 2-2 for VOC. See attached spreadsheets for detailed calculations.
- (b) The potential emissions are less than the allowable emissions, therefore, the potential emissions before control are used for the permitting determination.
- (c) Allowable emissions (as defined in the Indiana Rule) of PM and VOC are greater than 25 tons per year. Therefore, pursuant to 326 IAC 2-1, Sections 1 and 3, a construction permit is required.
- (d) Pursuant to the IDEM's Policy on Air Toxic Rules, dated December 13, 1995, IDEM will not enforce the provisions of 326 IAC 2-1-1(b)(1)(H), as adopted by the Air Board on March 10, 1994. This means that modification of a major source of HAPs which will increase the allowable emissions of any one (1) HAP by 4 tons per year or any combination of HAPs by 10 tons per year will not be required to obtain a construction permit. The Policy is in effect immediately and will continue to be in effect until the effective date of amendments to Indiana's rule for new and modified sources of HAPs. This Policy may be extended or modified at IDEM's discretion.

However, this construction permit is required because of the requirements of 326 IAC 2-1, Sections 1 and 3.

County Attainment Status

- (a) Volatile organic compounds (VOC) and oxides of nitrogen are precursors for the formation of ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. Miami County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

- (b) Miami County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (c) Fugitive Emissions
 Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive PM emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

Existing Source PSD Definition (emissions after controls, based on existing permits, CP 103-1960-00021 issued on September 27, 1991 and CP 103-3016-00021 issued on January 14, 1994, and Registered Letter CP 103-2979-00021):

| Pollutant | Emissions (ton/yr) |
|-----------------|--------------------|
| PM | 0.2 |
| PM10 | 0.0 |
| SO ₂ | 0.0 |
| VOC | 93.6 |
| CO | 0.0 |
| NO _x | 0.0 |

- (a) This existing source is **not** a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.
- (b) This existing source is **not** a major stationary source because no nonattainment regulated pollutant is emitted at a rate of 100 tons per year, and it is not in one of the 28 listed source categories.

Proposed Modification

PTE from the proposed modification (based on 8,760 hours of operation per year at rated capacity):

| Pollutant | PM (ton/yr) | PM10 (ton/yr) | SO ₂ (ton/yr) | VOC (ton/yr) | CO (ton/yr) | NO _x (ton/yr) |
|-----------------------|-------------|---------------|--------------------------|--------------|-------------|--------------------------|
| Proposed Modification | 27.6 | 27.6 | 0.1 | 26.6 | 2.8 | 13.1 |
| PSD Threshold Level | 250 | 250 | 250 | 250 | 250 | 250 |

This modification to an existing minor stationary source is not major because the emission increases are less than the PSD significant levels for attainment pollutants. Therefore, pursuant to 326 IAC 2-2 and 40 CFR 52.21, the PSD requirements do not apply.

BTR Antivibration Systems, Inc.
Peru, Indiana
Permit Reviewer: SCP/EVP

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ID-103-00021

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source has submitted their Part 70 (T-103-7638-00021) application on December 13, 1996. The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.

Federal Rule Applicability

There are no New Source Performance Standards (326 IAC 12) and 40 CFR Part 63 applicable to this facility.

State Rule Applicability

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it emits more than 100 tons/yr of VOC. Pursuant to this rule, the owner/operator of this source must annually submit an emission statement. The annual statement must be received by July 1 of each year and must contain the minimum requirements as specified in 326 IAC 2-6-4.

326 IAC 5-1-2 (Visible Emission Limitations)

This rule establishes visible emission limitations, excluding water vapor, emitted by a source or facility. Pursuant to the requirements of 326 IAC 5-1-2 (Visible Emission Limitations), visible emissions from a source or facility located in attainment areas for particulate matter shall not exceed 40% opacity averaged over 24 consecutive readings and shall not exceed 60% opacity for more than 15 minutes in any six-hour period.

326 IAC 6-3 (Process Operations)

This modification to the automobile vibration isolation components manufacturing plant is subject to 326 IAC 6-3-2 (Particulate Emission Limitations). Pursuant to this rule, the allowable particulate matter emissions for the automobile vibration isolation components manufacturing operation are calculated as follows:

$$\begin{aligned} E &= 4.10 * P^{0.67} = 4.10 * (1.1)^{0.67} = 4.37 \text{ lb/hr} && \text{(for deflashing operation)} \\ \text{or} &= 4.10 * (1.75)^{0.67} = 5.97 \text{ lb/hr} && \text{(for each of carbon black handling and Shaw mixer)} \end{aligned}$$

where: E is allowable emission in lb/hr

P is process weight rate in ton/hr (1.1 ton/hr for the deflashing operation; 1.75 ton/hr for each of carbon black handling system and Shaw mixer)

The source will comply with the requirements under 326 IAC 6-3-2, because the potential particulate matter emissions for the deflashing operation, carbon black handling and Shaw mixer are 1.71 lb/hr, 3.22 lb/hr and 3.22 lb/hr, respectively (see Appendix A for detailed calculations). These limits will also render 326 IAC 2-2 (PSD) not applicable.

326 IAC 6-4 (Fugitive Dust Emissions)

This source is subject to 326 IAC 6-4 for fugitive dust emissions. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), fugitive dust shall not be visible crossing the boundary or property line of a source. Observances of visible emissions crossing property lines may be refuted by factual data expressed in 326 IAC 6-4-2(1), (2) or (3).

326 IAC 8-1-6 (New Facilities, General Reduction Requirements)

The equipment covered in this modification is not subject to 326 IAC 8-1-6 (New Facilities, General Reduction Requirements) which mandates that a Best Available Control Technology (BACT) analysis be performed for new facilities commencing operations after January 1, 1980 which have potential VOC emissions of 25 tons or more and are not regulated by other provisions of Article 8. VOC emissions from each of the 38 Transfer presses (0.44 ton/yr), each of the six (6) Rubber Injection Molding presses (0.39 ton/yr) and Shaw mixer (6.75 ton/yr) are less than 24 tons/yr (see TSD Appendix A pages 2 and 3 of 5). Therefore the requirements of 326 IAC 8-1-6 do not apply.

No other article 8 rules apply.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 189 hazardous air pollutants set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

- (a) This modification will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Amendments to Clean Air Act.
- (b) See attached spreadsheets for detailed air toxic calculations.

Conclusion

The modification of this automobile vibration isolation components manufacturing plant will be subject to the conditions of the attached proposed **Construction Permit No. CP-103-8682-00021**.

**Appendix A: Emission Calculations
Natural Gas Combustion
MM Btu/hr 0.3 - < 10**

**Company Name: BTR Antivibration Systems, Inc.
Address City IN Zip: U. S. Highway 31 and County Road 100 North, Peru, IN 46970
CP: 103-8682
Plt ID: 103-00021
Reviewer: Scott Pan/EVP
Date: June 26, 1997**

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

30.0

262.8

Heat Input Capacity includes:
Six (6) 5.0 mmBtu/hr Air Make-up units

| | Pollutant | | | | | |
|-------------------------------|-----------|------|------|-------|------|------|
| | PM | PM10 | SO2 | NOx | VOC | CO |
| Emission Factor in lb/MMCF | 12.0 | 12.0 | 0.6 | 100.0 | 5.3 | 21.0 |
| Potential Emission in tons/yr | 1.58 | 1.58 | 0.08 | 13.14 | 0.70 | 2.76 |

Methodology:

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors for NOx: uncontrolled = 100, Low Nox Burner = 17, Flue gas recirculation = 36

Emission Factors for CO: uncontrolled = 21, Low NOx Burner = 27, Flue gas recirculation = ND

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-03-006-03

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Appendix A: Emission Calculations

Company Name: BTR Antivibration Systems, Inc.
Address City IN Zip: U. S. Highway 31 and County Road 100 North, Peru, IN 46970
CP: 103-8682
Plt ID: 103-00021
Reviewer: Scott Pan/EVP
Date: June 26, 1997

I. Emission from 38 Transfer Presses (each with a capacity of processing 60 pounds of rubber per hour)

For this operation, only pollutant emitted is VOC.

Based on a study by Rubber Manufacturers Association (RMA), VOC emission factor for the transfer process is 0.00168 lb VOC/ lb rubber.

Therefore, uncontrolled VOC emissions from each press =

$0.00168 \text{ lb/lb rubber} * 60 \text{ lb rubber/hr} = 0.101 \text{ lb/hr} = 0.441 \text{ ton/yr}$
 Uncontrolled VOC missions from all injection molding presses are : $0.441 * 38 = 16.8 \text{ ton/yr}$

II. Emission from six Rubber Injection Molding Presses (each with a capacity of processing 53 pounds of rubber per hour)

For this operation, only pollutant emitted is VOC.

Based on a study by Rubber Manufacturers Association (RMA), VOC emission factor for the transfer process is 0.00168 lb VOC/ lb rubber.

Therefore, uncontrolled VOC emissions =

$0.00168 \text{ lb/lb rubber} * 53 \text{ lb rubber/hr} = 0.089 \text{ lb/hr} = 0.39 \text{ ton/yr}$
 Uncontrolled VOC missions from all injection molding presses are : $0.39 * 6 = 2.34 \text{ ton/yr}$

III. Emission from Cryogenic Deflashing Operation

For this operation, only pollutants emitted are PM and PM10.

In this operation, the resilient and shatter resistant polycarbonate media is used to blast on the cooled rubber molding. "Flash" or extraneous material on the cooled rubber molding is embrittled by the cooling process and removed in the process. Most of the "flash" falls off as larger than 100 microns flake and only a small amount becomes particulate matter.

The emission factor for this type of operation can be represented by the sandblasting operation listed in Table 2.23-1 (1.55 lb/ton of product) of Ohio EPA's study "Reasonably Available Control Measures for Fugitive Dust Sources", August, 1983,

Therefore, uncontrolled PM emissions =

$1.55 \text{ lb/ton} * (2200 \text{ lb/hr}) * (1/2000) \text{ ton/lb} = 1.71 \text{ lb/hr} = 7.47 \text{ ton/yr}$

Compliance with 326 IAC 6-3-2:

Pursuant to 326 IAC 6-3-2, PM emissions from deflashing operation are limited as follows:

$$E = 4.10 P^{0.67} = 4.10 (1.10)^{0.67} = 4.37 \text{ lb/hr} = 19.1 \text{ ton/yr} > 7.47 \text{ ton/yr} \quad \text{(will comply)}$$

where: E is PM emission limit in lb/hr

P is process weight rate in ton/hr (for deflashing operation at this source $P = 2200/2000 = 1.10 \text{ ton/hr}$)

IV. Mill Room (including a carbon black handling system, a mixing oil handling system and a shaw mixer)

- A. The carbon black system can handle a maximum of 3500 lb/hr or 1.75 ton/hr. Based on Table 6.1-4 of U S EPA's AP-42, fifth edition, uncontrolled carbon black system is 0.58 lb/ton handled. Therefore, uncontrolled PM emissions due to carbon black handling are:

$$1.75 \text{ ton/hr} * 0.58 \text{ lb/ton} = 1.02 \text{ lb/hr} = 4.45 \text{ ton/yr}$$

Compliance with 326 IAC 6-3-2:

$$E = 4.10 P^{0.67} = 4.10 (1.75)^{0.67} = 5.97 \text{ lb/hr} = 26.1 \text{ ton/yr} > 4.45 \text{ ton/yr} \quad \text{(will comply)}$$

- B. VOC emissions from mixing oil handling are estimated using U S EPA's TANKS 3.0 program. Using the program, VOC emissions are estimated to be 0.01 ton/yr.

- C. Based on the stack testing conducted by the Rubber Manufacturers Association (RMA), PM and VOC emissions factors for Shaw mixer are 0.00092 and 0.00044 lb/lb mixed, respectively.

$$\text{PM emissions} = 0.00092 \text{ lb/lb} * 3500 \text{ lb/hr} = 3.22 \text{ lb/hr} = 14.1 \text{ ton/yr}$$

$$\text{VOC emissions} = 0.00044 \text{ lb/lb} * 3500 \text{ lb/hr} = 1.54 \text{ lb/hr} = 6.75 \text{ ton/yr}$$

Compliance with 326 IAC 6-3-2:

$$E = 4.10 P^{0.67} = 4.10 (1.75)^{0.67} = 5.97 \text{ lb/hr} = 26.1 \text{ ton/yr} > 14.1 \text{ ton/yr} \quad \text{(will comply)}$$

Appendix A: HAP Emission Calculations

Company Name: BTR Antivibration Systems, Inc.
Address City IN Zip: U. S. Highway 31 and County Road 100 North, Peru, IN 46970
CP: 103-8682
Pit ID: 103-00021
Reviewer: Scott Pan/EVP
Date: June 26, 1997

| HAP | Emission Factor (lb/lb) | Emissions (ton/yr) | | |
|-----------------------------|----------------------------|--------------------|---------------------------|-------------|
| | | Transfer Presses | Injection Molding Presses | Total |
| 1,1,1 Trichloroethane | 4.29E-06 | 0.04 | 0.01 | 0.05 |
| 1,2,4 Trichlorobenzene | 2.0E-07 | 0.00 | 0.00 | 0.00 |
| 1,3 Butadiene | 7.5E-06 | 0.07 | 0.01 | 0.09 |
| 1,4 Dichlorobenzene | 9.2E-06 | 0.09 | 0.01 | 0.10 |
| MEK | 3.0E-06 | 0.03 | 0.00 | 0.03 |
| 2,4 Toluene Diamine | 2.3E-07 | 0.00 | 0.00 | 0.00 |
| MIBK | 3.1E-06 | 0.03 | 0.00 | 0.04 |
| Acetaldehyde | 7.6E-06 | 0.08 | 0.01 | 0.09 |
| Acetonitrile | 6.1E-06 | 0.06 | 0.01 | 0.07 |
| Acetophenone | 4.4E-04 | 4.39 | 0.61 | 5.01 |
| Acrylonitrile | 6.1E-06 | 0.06 | 0.01 | 0.07 |
| Aniline | 1.5E-07 | 0.00 | 0.00 | 0.00 |
| Benzene | 1.2E-06 | 0.01 | 0.00 | 0.01 |
| Benzidene | 8.0E-07 | 0.01 | 0.00 | 0.01 |
| Biphenyl | 9.0E-07 | 0.01 | 0.00 | 0.01 |
| Bis (2-ethylhexl) Phthalate | 2.6E-06 | 0.03 | 0.00 | 0.03 |
| Carbon Disulfide | 4.2E-06 | 0.04 | 0.01 | 0.05 |
| Carbonyl Sulfide | 3.8E-06 | 0.04 | 0.01 | 0.04 |
| Chloroethane | 3.1E-06 | 0.03 | 0.00 | 0.04 |
| Cumene | 2.8E-06 | 0.03 | 0.00 | 0.03 |
| Debenzofuran | 9.0E-07 | 0.01 | 0.00 | 0.01 |
| Dimethyl Phthalate | 7.0E-07 | 0.01 | 0.00 | 0.01 |
| Dibutylphthalate | 7.2E-06 | 0.07 | 0.01 | 0.08 |
| Ethylbenzene | 1.1E-06 | 0.01 | 0.00 | 0.01 |
| Hexachlorobutadiene | 3.9E-07 | 0.00 | 0.00 | 0.00 |
| Dichloromethane | 5.0E-08 | 0.00 | 0.00 | 0.00 |
| Xylene | 1.6E-06 | 0.02 | 0.00 | 0.02 |
| Naphthalene | 4.0E-06 | 0.04 | 0.01 | 0.05 |
| Hexane | 1.64E-05 | 0.16 | 0.02 | 0.19 |
| o-Toluidine | 1.5E-07 | 0.00 | 0.00 | 0.00 |
| o-Xylene | 1.7E-06 | 0.02 | 0.00 | 0.02 |
| Phenol | 1.3E-06 | 0.01 | 0.00 | 0.01 |
| Propylene Oxide | 6.1E-06 | 0.06 | 0.01 | 0.07 |
| Tetrachloroethylene | 3.1E-06 | 0.03 | 0.00 | 0.04 |
| Toluene | 2.7E-06 | 0.03 | 0.00 | 0.03 |
| Total | | 5.54 | 0.77 | 6.31 |

Note:

- (1) Emission factors were obtained from the Rubber Manufacturers Association (RMA) study.
- (2) Emissions in ton/yr = # of units * max. thruput (lb/hr) * emission factor (lb/lb) * (1/2000) (ton/lb) * 8760 (hr/yr)
 (for Transfer molding, unit # = 38 and max. thruput = 60 lb/hr; for Injection molding unit # = 6 and max. thruput = 53 lb/hr)

Appendix A: Emission Calculations

Company Name: BTR Antivibration Systems, Inc.
Address City IN Zip: U. S. Highway 31 and County Road 100 North, Peru, IN 46970
CP: 103-8682
Plt ID: 103-00021
Reviewer: Scott Pan/EVP
Date: June 26, 1997

Potential Emissions (tons/year)

| Emissions Generating Activity | | | | | |
|-------------------------------|----------------|-------------------------|-----------|------------|-------|
| Pollutant | Rubber Molding | Cryogenic Deflashing | Mill Room | Combustion | Total |
| PM | 0.00 | 7.47 | 18.55 | 1.58 | 27.6 |
| SO ₂ | 0.00 | 0.00 | 0.00 | 0.08 | 0.1 |
| NO _x | 0.00 | 0.00 | 0.00 | 13.14 | 13.1 |
| VOC | 19.14 | 0.00 | 6.76 | 0.70 | 26.6 |
| CO | 0.00 | 0.00 | 0.00 | 2.76 | 2.8 |

Total emissions based on rated capacity at 8,760 hours/year.

Allowable Emissions (tons/year)

| Emissions Generating Activity | | | | | |
|-------------------------------|----------------|-------------------------|-----------|------------|-------|
| Pollutant | Rubber Molding | Cryogenic Deflashing | Mill Room | Combustion | Total |
| PM | 0.00 | 19.10 | 52.20 | 1.58 | 72.9 |
| VOC | 248.30 | 0.00 | 0.00 | 0.70 | 249.0 |

Total emissions based on rated capacity at 8,760 hours/year.

Allowable particulate matter emissions are per 326 IAC 6-3-2. Allowable VOC emissions are per 326 IAC 2-2.

New Source PSD Definition (tons/year)

| Emissions Generating Activity | | | | | |
|-------------------------------|----------------|-------------------------|-----------|------------|-------|
| Pollutant | Rubber Molding | Cryogenic Deflashing | Mill Room | Combustion | Total |
| PM | 0.00 | 7.47 | 18.55 | 1.58 | 27.6 |
| SO ₂ | 0.00 | 0.00 | 0.00 | 0.08 | 0.1 |
| NO _x | 0.00 | 0.00 | 0.00 | 13.14 | 13.1 |
| VOC | 19.14 | 0.00 | 6.76 | 0.70 | 26.6 |
| CO | 0.00 | 0.00 | 0.00 | 2.76 | 2.8 |

Total emissions based on rated capacity at 8,760 hours/year, after control.