

Mr. William C. Lowes
National Railroad Passenger Corporation
202 Garstang Street
Beech Grove, Indiana, 46107

Re: 097-12068-00014
First Significant Revision to
FESOP 097-7948-00014

Dear Mr Lowes:

National Railroad Passenger Corporation was issued a permit on April 13th, 1998 for the operation of trim shop and rail car painting. A letter requesting changes to this permit was received on March 22nd, 2000. Pursuant to the provisions of 326 IAC 2-8-11.1 a significant permit revision to this permit is hereby approved as described in the attached Technical Support Document.

The modification consists of changes that increase the source-wide VOC potential emissions by 50.44 tons per year.

The following construction conditions are applicable to the proposed project:

1. General Construction Conditions
The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Management (OAM).
2. This approval 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.
3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.
4. Pursuant to 326 IAC 2-1.1-9 (Revocation), the Commissioner may revoke this approval 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. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

Pursuant to 326 IAC 2-8-11.1, this permit shall be revised by incorporating the significant permit revision into the permit. All other conditions of the permit shall remain unchanged and in effect.

Please attach a copy of this modification and the following revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Kevin Leone at 2700 South Belmont Avenue, Indianapolis, Indiana, 46221 or call (317) 327-2274.

Sincerely,

Mona A. Salem, Chief Operating Officer
Department of Public Works, City of Indianapolis

Attachments

KL

cc: Mindy Hahn, IDEM OAM

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)

OFFICE OF AIR MANAGEMENT and INDIANAPOLIS ENVIRONMENTAL RESOURCES MANAGEMENT DIVISION

**National Railroad Passenger Corporation
202 Garstang Street
Beech Grove, Indiana 46107**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 and 326 IAC 2-1-3.2 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15, IC 13-17 and the Code of Indianapolis and Marion County, Chapter 511.

Operation Permit No.: F097-7948-00014	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Management Robert F. Holm, PH.D, Administrator Environmental Resources Management Division	Issuance Date: April 13 st , 1998
First Significant Permit Revision: F097-12068-00014	Affected Pages: 4,26,36
Issued by: Mona A. Salem, Chief Operating Officer, Department of Public Works, City of Indianapolis	Issuance Date:

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) and the Indianapolis Environmental Resources Management Division (ERMD), and presented in the permit application.

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a stationary trim shop and rail car painting operation for reconditioned locomotives and passenger cars.

Responsible Official: Gary Jarboe
Source Address: 202 Garstang Street, Beech Grove, Indiana, 46107
Mailing Address: 202 Garstang Street, Beech Grove, Indiana, 46107
SIC Code: 4011
County Location: Marion
County Status: Attainment

Source Status: Federally Enforceable State Operating Permit (FESOP)
Minor Source under Prevention of Significant Deterioration (PSD)

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

- (a) Paint booth identified as 069, constructed before 1980, equipped with three (3) air atomization spray guns or airless sprayguns, using dry filters as control, and exhausting to stack S₀₆₉. This paint booth is located in the Diesel Shop Building; the primary function of this facility is trim work and repair painting.
- (b) Paint booth identified as 070, constructed before 1980, equipped with three (3) air atomization spray guns or airless sprayguns, using dry filters as control, and exhausting to stack S₀₇₀. This paint booth is located in the Trim Shop Building and is capable of painting whole rail cars.
- (c) Paint booth identified as 072, constructed in January of 1994, equipped with three (3) air atomization spray guns or airless sprayguns, using dry filters as control, and exhausting to stack S₀₇₂. This paint booth is located in the Truck and Forge Shop Building; the primary function of this facility is truck painting.
- (d) Paint booth identified as 071, constructed in May of 2000, equipped with three (3) air atomization spray guns or airless sprayguns, using dry filters as control, and exhausting to stack S₀₇₁. This paint booth is located in the Truck and Forge Shop Building; the primary function of this facility is truck painting.

A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities as defined in 326 IAC 2-7-1(21):

SECTION D.1 FACILITY OPERATION CONDITIONS

- (a) Paint booth identified as 069, constructed before 1980, equipped with three (3) air atomization spray guns or airless spray guns, using dry filters as control, and exhausting to stack S₀₆₉. This paint booth is located in the Diesel Shop Building; the primary function of this facility is trim work and repair painting.
- (b) Paint booth identified as 070, constructed before 1980, equipped with three (3) air atomization spray guns or airless spray guns, using dry filters as control, and exhausting to stack S₀₇₀. This paint booth is located in the Trim Shop Building and is capable of painting whole rail cars.
- (c) Paint booth identified as 072, constructed in January of 1994, equipped with three (3) air atomization spray guns or airless spray guns, using dry filters as control, and exhausting to stack S₀₇₂. This paint booth is located in the Truck and Forge Shop Building; the primary function of this facility is trim work and repair painting.
- (d) Paint booth identified as 071, constructed in May of 2000, equipped with three (3) air atomization spray guns or airless sprayguns, using dry filters as control, and exhausting to stack S₀₇₁. This paint booth is located in the Truck and Forge Shop Building; the primary function of this facility is truck painting.

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.1.1 Hazardous Air Pollutants [326 IAC 2-8-4]

Pursuant to 326 IAC 2-8-4, the Hazardous air pollutant emissions shall be limited as follows;

- (a) The amount of any single hazardous air pollutant (HAP) delivered to the applicator shall not exceed 9.45 tons per 12 consecutive month period rolled monthly.
- (b) Any combination of hazardous air pollutants (HAPs) delivered to the applicator shall not exceed 23.6 tons per 12 consecutive month period rolled monthly.

Therefore, the requirement of 326 IAC 2-7 does not apply.

D.1.2 Volatile Organic Compounds [326 IAC 2-8-4] [326 IAC 8-1-6]

- a) The Volatile Organic Compound emissions from emission unit 72 are limited to 25 tons per twelve consecutive month period rolled monthly such that the requirements of 326 IAC 8-1-6 shall not apply.
- b) The Volatile Organic Compound emissions from emission unit 71 are limited to less than 25 tons per twelve consecutive month period rolled monthly such that the requirements of 326 IAC 8-1-6 shall not apply.
- c) Pursuant to 326 IAC 2-8-4 the permittee shall limit the Volatile Organic Compound emission from emission units 69, 70, 71 and 72 combined to less than 85.5 tons per twelve consecutive month period rolled monthly such that the requirements of Part 70 Operating Permit program 326 IAC 2-7 shall not apply.

D.1.3 Particulate Matter (PM) [326 IAC 6-3-2(c)]

The PM from each of the three (4) paint booths (069, 070, 071, 072) shall not exceed the pound per

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR MANAGEMENT
 COMPLIANCE DATA SECTION
 and
 INDIANAPOLIS ENVIRONMENTAL RESOURCES MANAGEMENT DIVISION
 AIR QUALITY MANAGEMENT SECTION, COMPLIANCE DATA**

FESOP Quarterly Report

Source Name: National Railroad Passenger Corporation
 Source Address: 202 Garstang Street Beech Grove, IN 46017
 Mailing Address: 202 Garstang Street Beech Grove, IN 46017
 FESOP No.: F097-7948-00014
 Facility: Trim Shop and Rail Car Painting Operations
 Parameter: **Volatile Organic Compound Emissions**
 Limit: <25 tons emission of VOC per twelve consecutive month period, rolled monthly for each emission unit 072 and 071; 85.5 tons total emissions of VOC per twelve consecutive month period, rolled monthly for all emission units combined.

YEAR: _____

Emission Unit	Column 1	Column 2	Column 1 + Column 2
	Highest individual VOC this Month	Highest individual VOC previous 11 Months	12 Month Total
069			
070			
071			
072			
Total			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.

Deviation has been reported on: _____

Submitted by: _____
 Title / Position: _____
 Signature: _____
 Date: _____

**Indiana Department of Environmental Management
Office of Air Management
and
Indianapolis Environmental Resources Management Division**

Technical Support Document (TSD) for a Significant Permit Revision to a
FESOP

Source Background and Description

Source Name:	National Railroad Passenger Corporation
Source Location:	202 Garstang Street, Indianapolis, Indiana 46107
County:	Marion
SIC Code:	4011
Operation Permit No:	097-7948-00014
Operation Permit Issuance Date:	April 13th, 1998
Permit Modification No:	097-12068-00014
Permit Reviewer:	Kevin Leone

The Office of Air Management (OAM) has reviewed a significant permit revision application from National Railroad Passenger Corporation relating to the operation of trim shop and rail car painting.

History

On March 22nd, 2000, National Railroad Passenger Corporation submitted an application to the OAM requesting changes to their existing permit to add an additional paint booth (unit # 071). National Railroad Passenger Corporation was issued a Part 70 permit on April 13th, 1998.

Existing Approvals

The source was issued a FESOP Permit F097-7948-00014 on April 13th, 1998.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

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

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

An application for the purposes of this review was received on March 22nd, 2000.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA.” The PTE for unit 071 is:

Pollutant	Potential Emissions (tons/year)
PM	
PM-10	
SO ₂	
VOC	50.44
CO	
NO _x	

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

Emission estimates provided by National Railroad Passenger Corporation were used for emission calculations.

HAP	Potential Emissions (tons/year)
Individual HAP	3.91
Combination HAP	10.94

- (a) The potential emissions of VOC's are equal to or greater than 25 tons per year. Therefore, the source is subject to a significant permit modification.

Limited Potential to Emit

The table below summarizes the total potential to emit of the emission units effected by this permit modification.

Process/ facility	Limited Potential to Emit (tons/year)						
	PM	PM-10	SO ₂	VOC	CO	NO _x	HAPs
Significant activities 069,070,071, 072				85.5			9.45 tons/single HAP; 23.6 tons per combination HAP
Insignificant Activities Coach shop: Battery shop: Degreasing operations:				2.5 2.5 0.5			0.55 ton individual HAP/1.4 tons combination HAP for each insignificant activity

Significant and Insignificant Activities				91.0			10 tons/single HAP; 25 tons per combination HAP
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VOC emissions from paint booth 072 are limited to less than 25 tons per year such that 326 IAC 8-1-6 shall not apply.

County Attainment Status

The source is located in Marion County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	maintenance
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) is a precursor for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Marion County has been designated as attainment or unclassifiable for ozone.

Federal Rule Applicability

Federal rule applicability will not be affected by this significant permit modification.

State Rule Applicability - Entire Source

State rule applicability will not be affected by this significant permit modification. The requirements are being reiterated here for convenience.

326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)

Since this type of operation is not one of the twenty-eight (28) listed sources under 326 IAC 2-2 and the potential to emit is less than 250 tons, PSD does not apply. Since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions from unit 071 are not counted toward determination of PSD and Emission Offset applicability.

326 IAC 2-8 (FESOP)

Pursuant to this rule, the limited potential to emit from facilities identified as “significant” plus the limited potential to emit from facilities identified as “insignificant” cannot exceed 91 tons per a 12 month rolling period. In addition, the limited potential to emit from facilities identified as “significant” plus the limited potential to emit from facilities identified as “insignificant” cannot exceed 8.6 tons per a 12 month rolling sum for any individual HAP and 22 tons per 12 month rolling period for any combination of HAPs. Unit 071 is a significant activity.

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Visible Emissions Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), visible emissions shall meet the following, unless otherwise stated in this permit:

- (a) Visible emissions shall not exceed an average of thirty percent (30%) opacity in twenty-four (24) consecutive readings as determined by 326 IAC 5-1-4,
- (b) Visible emissions shall not exceed sixty percent (60%) opacity for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 8-2-9 (Miscellaneous Metal Coating)

Based on process descriptions and the SIC code 4011 submitted in GSD-01 of the FESOP application, 326 IAC 8-2-9 does not apply to unit 071. SIC code 4011, railroad transportation, is not one of the industrial categories applicable to 326 IAC 8-2-9.

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

The spray booth identified as 071 was installed after January 1st of 1980 and this spray booth has a potential VOC emission of greater than 25 tons per year; thus, IAC 8-1-6 would apply to this facility. In order to keep this facility out of IAC 8-1-6, the VOC emissions have been limited to 22 tons per twelve month period.

326 IAC 6-3-2 (Process Operations)

The particulate matter (PM) overspray from spray booth 071 will be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

Conclusion

The operation of this operation of trim shop and rail car painting shall be subject to the conditions of the attached proposed Significant Permit Modification 097-12068-00014.

As a result of this significant permit modification, the following changes have been made to the Part 70 operating permit (strikeout indicates deleted language, and new language is bolded);

The title page of the part 70 permit has an additional box added to identify the permit modification. It appears as follows:

First Significant Permit Revision: 097-12068-00014		Affected Pages: 4,26,35,36	
Issued by: Mona A. Salem, Chief Operating Officer Department of Public Works, City of Indianapolis		Issuance Date:	

- 1) The following significant emission unit was added to section A.2:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

- (a) Paint booth identified as 069, constructed before 1980, equipped with three (3) air atomization spray guns or airless sprayguns, using dry filters as control, and exhausting to stack S₀₆₉. This paint booth is located in the Diesel Shop Building; the primary function of this facility is trim work and repair painting.
- (b) Paint booth identified as 070, constructed before 1980, equipped with three (3) air atomization spray guns or airless sprayguns, using dry filters as control, and exhausting to stack S₀₇₀. This paint booth is located in the Trim Shop Building and is capable of painting whole rail cars.
- (c) Paint booth identified as 072, constructed in January of 1994, equipped with three (3) air atomization spray guns or airless sprayguns, using dry filters as control, and exhausting to stack S₀₇₂. This paint booth is located in the Truck and Forge Shop Building; the primary function of this facility is truck painting.
- (d) **Paint booth identified as 071, equipped with three (3) air atomization spray guns or airless sprayguns, using dry filters as control, and exhausting to stack S₀₇₁. This paint booth is located in the Truck and Forge Shop Building; the primary function of this facility is truck painting.**

2) The following significant emission unit was added to section D.1:

SECTION D.1 FACILITY OPERATION CONDITIONS

- | |
|---|
| <ul style="list-style-type: none">(a) Paint booth identified as 069, constructed before 1980, equipped with three (3) air atomization spray guns or airless spray guns, using dry filters as control, and exhausting to stack S₀₆₉. This paint booth is located in the Diesel Shop Building; the primary function of this facility is trim work and repair painting.(b) Paint booth identified as 070, constructed before 1980, equipped with three (3) air atomization spray guns or airless spray guns, using dry filters as control, and exhausting to stack S₀₇₀. This paint booth is located in the Trim Shop Building and is capable of painting whole rail cars.(c) Paint booth identified as 072, constructed in January of 1994, equipped with three (3) air atomization spray guns or airless spray guns, using dry filters as control, and exhausting to stack S₀₇₂. This paint booth is located in the Truck and Forge Shop Building; the primary function of this facility is trim work and repair painting.(d) Paint booth identified as 071, constructed in May of 2000, equipped with three (3) air atomization spray guns or airless sprayguns, using dry filters as control, and exhausting to stack S₀₇₁. This paint booth is located in the Truck and Forge Shop Building; the primary function of this facility is truck painting. |
|---|

3) The following significant emission unit was added to section D.1.2:

D.1.2 Volatile Organic Compounds [326 IAC 2-8-4] [326 IAC 8-1-6]

- a) The Volatile Organic Compound emissions from emission unit 72 are limited to 24 tons per twelve consecutive month period rolled monthly such that the requirements of 326 IAC 8-1-6 shall not apply.
- b) **The Volatile Organic Compound emissions from emission unit 71 are limited to less than 25 tons per twelve consecutive month period rolled monthly such that the requirements of 326 IAC 8-1-6 shall not apply.**

b) c) Pursuant to 326 IAC 2-8-4 the permittee shall limit the Volatile Organic Compound emission from emission units 69, 70, **71** and 72 combined to less than 85.5 tons per twelve consecutive month period rolled monthly such that the requirements of Part 70 Operating Permit program 326 IAC 2-7 shall not apply.

4) The following significant emission unit was added to section D.1.3:

D.1.3 Particulate Matter (PM) [326 IAC 6-3-2(c)]

The PM from each of the three ~~(3)~~ **(4)** paint booths (069, 070, **071**, 072) shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

5) The following was added to the FESOP Quarterly Report for VOC:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION
and
INDIANAPOLIS ENVIRONMENTAL RESOURCES MANAGEMENT DIVISION
AIR QUALITY MANAGEMENT SECTION, COMPLIANCE DATA**

FESOP Quarterly Report

Source Name: National Railroad Passenger Corporation
 Source Address: 202 Garstang Street Beech Grove, IN 46017
 Mailing Address: 202 Garstang Street Beech Grove, IN 46017
 FESOP No.: F097-7948-00014
 Facility: Trim Shop and Rail Car Painting Operations
 Parameter: Volatile Organic Compound Emissions
 Limit: Less than 25 tons emission of VOC per twelve consecutive month period, rolled monthly for each emission unit 072 **and 071**; 85.5 tons total emissions of VOC per twelve consecutive month period, rolled monthly for all emission units combined.

YEAR: _____

Emission Unit	Column 1	Column 2	Column 1 + Column 2
	Highest individual VOC this Month	Highest individual VOC previous 11 Months	12 Month Total
069			
070			
071			

072			
Total			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.

Deviation has been reported on: _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

**Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations**

**Company Name: National Railroad Passenger Corporation
Address City IN Zip: 202 E. Garstang Street, Indianapolis, Indiana 46107
Permit No.: T097-7948-00014
Vent ID: Emission Unit #071
Reviewer: K Leone
Date: April 2000**

SIC: 4011

Material	Density (Lb/Gal)	Weight % Volatile (H2O& Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (solids)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential ton/yr	lb VOC /gal solids	Transfer Efficiency
Hardener	8.56	100.0%	0.0%	100.0%	0.0%	8.0%	5.0000	0.05	8.56	8.56	2.14	51.36	9.37	0.00	107.00	75%
Enamel	7.50	48.0%	0.0%	56.0%	0.0%	25.2%	45.0000	0.05	5.03	4.20	9.45	226.80	41.39	9.61	16.67	75%
Reducer	6.76	99.0%	0.0%	56.0%	0.0%	25.2%	5.0000	0.05	5.03	3.79	0.95	22.71	4.15	0.02	15.02	75%
Kemacrylic	9.14	58.0%	0.0%	56.0%	0.0%	25.2%	45.0000	0.05	5.03	5.12	11.52	276.39	50.44	9.46	20.31	75%
Aluminum	7.68	55.0%	0.0%	56.0%	0.0%	25.2%	45.0000	0.05	5.03	4.30	9.68	232.24	42.38	8.51	17.07	75%
Enamel	7.93	62.0%	0.0%	56.0%	0.0%	25.2%	45.0000	0.05	5.03	4.44	9.99	239.80	43.76	7.42	17.62	75%
Lacquer	6.80	100.0%	0.0%	100.0%	0.0%	7.0%	10.0000	0.05	5.85	6.80	3.40	81.60	14.89	0.00	97.14	75%

State Potential Emissions based upon worst case coating, maximum units per hour and 8,760 hours/yr.

11.52 276.39 50.44 9.61

(1) Data from Mfr's sheet

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

Transfer efficiency was estimated at 75% for flat surface work and electrostatic air atomized, per "Air Pollution Engineering Manual" (AP-40), Table 2, page 362, 1992 edition.

surcoat.wk4 9/95

Appendix A: Emissions Calculations

HAP Emission Calculations

From Surface Coating Operations

Company Name: National Railroad Passenger Corporation
Address City IN Zip: 202 E. Garstang Street, Indianapolis, Indiana 46107
Permit No.: T097-7948-00014
Vent ID: Emission Unit #071
Reviewer: K Leone
Date: April 2000

Material	Density (Lb/Gal)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Weight % 2-Butoxyethanol (glycol ether)	Weight % Methyl Ethyl Ketone	Weight % Glycol Ethers	Weight % Toluene	Weight % Xylene	Weight % Methyl Isobutyl Ketone	Weight % Benzene	Weight % Ethylbenzene	2-Butoxyethonal (ton/yr) (glycol ether)	Methyl Ethyl Ketone (ton/yr)	Glycol Ethers (ton/yr)	Toluene (ton/yr)	Xylene (ton/yr)	Methyl Isobutyl Ketone (ton/yr)	Benzene (ton/yr)	Ethylbenzene (ton/yr)	Total Potential per coating (tons/yr)
Hardener	8.56	5.0000	0.05	0.0%	5.0%	0.0%	5.0%	5.0%	5.0%	0.0%	0.0%	0.00	0.47	0.00	0.47	0.47	0.47	0.00	0.00	1.87
Enamel	7.93	45.0000	0.05	0.0%	5.0%	0.0%	2.0%	2.0%	5.0%	0.0%	0.0%	0.00	3.91	0.00	1.56	1.56	3.91	0.00	0.00	10.94
Lacquer	6.8	10.0000	0.05	0.0%	0.0%	0.0%	2.0%	1.0%	0.0%	0.0%	0.0%	0.00	0.00	0.00	0.30	0.15	0.00	0.00	0.00	0.45

0.00 0.76 0.00 **0.47** **0.47** 0.08 0.00 0.00 **1.87**

* Determine Potential HAPs at Limited PTE: 249 tons VOC/yr x yr/292.31 tons VOC x 32.6 ton HAP = 27.77 tons HAP
 State Potential Emissions based upon worst case HAP loading and 8,760 hr/yr.

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs