

Michael R. Carney
Knox County Association for Retarded Citizens, Inc.
RR3 Box 263A
Vincennes, Indiana 47591

Re: Registered Construction and Operation Status,
083-12901-00029

Dear Mr. Carney:

The application from Knox County Association for Retarded Citizens, Inc. received on October 24, 2000, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following miscellaneous metal part surface coating operation, located at 7472 N. State Road 67, Bicknell, Indiana, is classified as registered:

- (a) one (1) surface coating line consisting of:
 - (1) four (4) surface coating booths (Paint Booths 1, 2, 3 and 4), each using an electrostatic air atomization spray application method, each with dry filters for particulate matter overspray control, and each exhausting through one (1) stack (S1, S2, S3 and S4). The surface coating line has a maximum capacity of coating 436 square feet of metal truck parts per hour;
- (b) one (1) glue line, using a maximum of 0.15 gallons of adhesive per hour, using a brush hand application system;
- (c) one (1) natural gas fired drying oven, rated at 3.0 million (MM) British thermal units (Btu) per hour, exhausting through one (1) vent (OV1); and
- (d) one (1) surface coating booth (Paint Booth 5), used only for storage. This booth does not contain any surface coating equipment and shall not be used for any surface coating operations.

The following conditions shall be applicable:

- 1. Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following:
 - (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.
- 2. 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).
- 3. Pursuant to 326 IAC 6-3-2, the PM from the four (4) paint spray booths (Paint Booths 1, 2, 3, and 4) shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation 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:

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

The dry filters shall be in operation at all times the four (4) paint spray booths are in operation, in order to comply with this limit.

Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters.

4. Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coating delivered to the applicator at each of the four (4) paint spray booths in the coating line shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for air dried coatings.

Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

5. Compliance with the VOC content limitation contained in Condition 4 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer.

This registration is a renewed registration issued to this source. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.5-4(a)(3). The annual notice shall be submitted to:

**Compliance Data Section
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015**

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,
Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

TE/EVP

cc: File - Knox County
Knox County Health Department
Air Compliance - Gene Kelso
IDEM Southwest Regional Office
Permit Tracking - Janet Mobley
Air Programs Section- Michelle Boner

Registration Annual Notification

This form should be used to comply with the notification requirements under 326 IAC 2-5.5-4(a)(3)

Company Name:	Knox County Association for Retarded Citizens, Inc.
Address:	7472 N. State Road 67
City:	Bicknell, Indiana 47512
Authorized individual:	Michael R. Carney
Phone #:	812-886-4380
Registration #:	083-12901-00029

I hereby certify that Knox County Association for Retarded Citizens, Inc. is still in operation and is in compliance with the requirements of Registration **083-12901-00029**.

Name (typed):
Title:
Signature:
Date:

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Registration

Source Background and Description

Source Name: Knox County Association for Retarded Citizens, Inc.
Source Location: 7472 N. State Road 67, Bicknell, Indiana 47512
County: Knox
SIC Code: 3479
Operation Permit No.: 083-12901-00029
Permit Reviewer: Trish Earls/EVP

The Office of Air Quality (OAQ) has reviewed an application from Knox County Association for Retarded Citizens, Inc. relating to the renewal of the existing registration (Registration No. 083-8334-00029) for the operation of a miscellaneous metal part surface coating operation.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- (a) one (1) surface coating line consisting of:
 - (1) four (4) surface coating booths (Paint Booths 1, 2, 3 and 4), each using an electrostatic air atomization spray application method, each with dry filters for particulate matter overspray control, and each exhausting through one (1) stack (S1, S2, S3 and S4). The surface coating line has a maximum capacity of coating 436 square feet of metal truck parts per hour;
- (b) one (1) glue line, using a maximum of 0.15 gallons of adhesive per hour, using a brush hand application system;
- (c) one (1) natural gas fired drying oven, rated at 3.0 million (MM) British thermal units (Btu) per hour, exhausting through one (1) vent (OV1); and
- (d) one (1) surface coating booth (Paint Booth 5), used only for storage. This booth does not contain any surface coating equipment and shall not be used for any surface coating operations.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

- (a) R083-3656-00029, issued on May 24, 1994; and
- (b) R083-8334-00029, issued on April 6, 1998.

All conditions from previous approvals were incorporated into this permit.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
S1	Paint Booth 1	24	3	11,800	ambient
S2	Paint Booth 2	24	3	11,800	ambient
S3	Paint Booth 3	24	3	11,800	ambient
S4	Paint Booth 4	24	3	11,800	ambient
OV1	Drying Oven	18	1.5	4,070	unknown

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the operation 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.

A complete application for the purposes of this review was received on October 24, 2000.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (3 pages).

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 or emissions unit 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 department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	8.87
PM-10	8.95
SO ₂	0.01
VOC	22.38
CO	1.10
NO _x	1.31

HAP's	Potential To Emit (tons/year)
Toluene	less than 10
Formaldehyde	less than 10
TDI	less than 10
MEK	less than 10
MIBK	less than 10
Glycol Ethers	less than 10
TOTAL	less than 25

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM and PM10 are less than 25

tons per year, but greater than 5 tons per year, and the potential to emit of VOC is less than 25 tons per year, but greater than 10 tons per year. Therefore, pursuant to 326 IAC 2-5.5-1, a registration is required.

- (b) **Fugitive Emissions**
 Since this type of operation is not one of the twenty-eight (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 particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Actual Emissions

No previous emission data has been received from the source.

County Attainment Status

The source is located in Knox County.

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

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Knox County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Knox 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, 40 CFR 52.21, or 326 IAC 2-3 and 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 are not counted toward determination of PSD and Emission Offset applicability.

Source Status

Existing Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	8.87
PM10	8.95
SO ₂	0.01
VOC	22.38
CO	1.10
NO _x	1.31

- (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) These emissions were based on the potential emission calculations in Appendix A.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This status is based on all the air approvals issued to the source. This status has been verified by the OAQ inspector assigned to the source.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) 40 CFR Part 60.390, Subpart MM (Standards of Performance for Automobile and Light Duty Truck Surface Coating Operations)
The provisions of 40 CFR Part 60.390, Subpart MM are not applicable to this source. This rule applies to affected facilities in an automobile or light-duty truck assembly plant. This source does not assemble automobiles or light-duty trucks, therefore, the requirements of 40 CFR Part 60.390, Subpart MM do not apply.
- (c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR art 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in Knox County and the potential to emit all criteria pollutants is less than 100 tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust Emissions)

This source is subject to 326 IAC 6-4 for fugitive dust emissions because it is a potential source of fugitive dust. 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).

State Rule Applicability - Individual Facilities

326 IAC 6-3-2 (Process Operations)

Pursuant to Registration No. 083-8334-00029, issued on April 6, 1998, the particulate matter (PM) from the four (4) paint spray booths shall be limited by the following:

Interpolation 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:

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

The dry filters shall be in operation at all times the four (4) paint spray booths are in operation, in order to comply with this limit.

326 IAC 8-2-2 (Automobile and Light Duty Truck Coating Operations)

The paint spray booths are not subject to 326 IAC 8-2-2. This rule applies to automobile or light duty truck surface coating operations at an automobile or light duty truck assembly plant. Since this source does not assemble automobiles or light duty trucks, the requirements of 326 IAC 8-2-2 do not apply.

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

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coating delivered to the applicator at each of the four (4) paint spray booths in the coating line shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for air dried coatings.

Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

Based on the MSDS submitted by the source and calculations made, the four (4) paint spray booths are in compliance with this requirement.

Conclusion

The operation of this miscellaneous metal part surface coating operation shall be subject to the conditions of the attached proposed **Registration No. 083-12901-00029**.

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

**Company Name: Knox County Association for Retarded Citizens, Inc.
Address City IN Zip: 7472 N. State Road 67, Bicknell, Indiana 47512
CP: 083-12901
Plt ID: 083-00029
Reviewer: Trish Earls/EVP
Date: October 24, 2000**

State Potential Emissions (uncontrolled):																		
Material (as applied)	Process	Density (Lb/Gal)	Weight % Volatile (H2O& Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (solids)	Gal of Mat (gal/unit)	Units per 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	
Black Conductive Primer	PB-1 - PB-4	9.43	36.63%	0.00%	36.63%	0.00%	54.00%	0.0019	436.000	3.5	3.45	2.86	68.68	12.53	4.34	8.00	80%	
Polane Plus Sealer	PB-1 - PB-4	11.65	29.60%	0.00%	29.60%	0.00%	49.62%	0.0019	432.000	3.4	3.45	2.83	67.93	12.40	8.85	9.93	70%	
Taupe 1K Primer	PB-1 - PB-4	10.69	25.60%	0.00%	25.60%	0.00%	63.60%	0.0019	432.000	2.7	2.74	2.25	53.91	9.84	8.58	6.15	70%	
Adhesive Red Wipe	Glue Line	10.98	98.00%	0.00%	98.00%	0.00%	2.00%	0.1500	1.000	10.8	10.76	1.61	38.74	7.07	0.00	538.02	100%	
Adhesive Bond	Glue Line	10.54	0.00%	0.00%	0.00%	0.00%	100.00%	0.0570	1.000	0.0	0.00	0.00	0.00	0.00	0.00	0.00	100%	
Isopropyl Alcohol	Clean-up	6.56	100.00%	50.00%	50.00%	0.00%	0.00%	0.0250	1.000	3.3	3.28	0.08	1.97	0.36	0.00	N/A	80%	
Methyl Ethyl Ketone	Clean-up	6.70	100.00%	0.00%	100.00%	0.00%	0.00%	0.0800	1.000	6.7	6.70	0.54	12.86	2.35	0.00	N/A	100%	
Total State Potential Emissions:												5.09	122.24	22.31	8.85			
Federal Potential Emissions (controlled):																		
										Control Efficiency:		Limited VOC lbs per Hour	Limited VOC lbs per Day	Limited VOC tons per Year	Controlled PM tons/yr			
										VOC	PM							
Total Federal Potential Emissions:										0.00%	95.00%	5.09	122.24	22.31	0.44			

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) * Transfer Efficiency
- Total = Worst Case Coating + Worst Case Adhesive + Sum of all clean-up solvents used
- Controlled emission rate = uncontrolled emission rate * (1 - control efficiency)
- Limited emission rate = uncontrolled emission rate * material usage limitation

Appendix A: Emission Calculations
HAP Emission Calculations

Company Name: Knox County Association for Retarded Citizens, Inc.
Address City IN Zip: 7472 N. State Road 67, Bicknell, Indiana 47512
CP: 083-12901
Plt ID: 083-00029
Reviewer: Trish Earls/EVP
Date: October 24, 2000

Material	Process	Density (lb/gal)	Gal of Mat (gal/hr)	Weight % Toluene	Weight % Formaldehyde	Weight % TDI	Weight % MEK	Weight % MIBK	Weight % Glycol Ethers
				(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)
Black Conductive Primer	All Spray Booths	9.43	0.830	0.83% 0.29	0.00% 0.00	0.00% 0.00	0.00% 0.00	0.00% 0.00	15.00% 5.14
Polane Plus Sealer	All Spray Booths	11.65	0.821	4.00% 1.68	0.00% 0.00	0.13% 0.05	0.00% 0.00	0.00% 0.00	0.00% 0.00
Taupe 1K Primer	All Spray Booths	10.68	0.821	0.00% 0.00	0.89% 0.34	0.00% 0.00	4.40% 1.69	1.87% 0.72	0.00% 0.00
Adhesive Red Wipe	Glue Line	10.98	0.150	0.00% 0.00	0.00% 0.00	0.00% 0.00	0.00% 0.00	0.00% 0.00	0.00% 0.00
Adhesive Bond	Glue Line	10.54	0.057	0.00% 0.00	0.00% 0.00	0.00% 0.00	0.00% 0.00	0.00% 0.00	0.00% 0.00
Isopropyl Alcohol	Clean-up	6.56	0.025	0.00% 0.00	0.00% 0.00	0.00% 0.00	0.00% 0.00	0.00% 0.00	0.00% 0.00
Methyl Ethyl Ketone	Clean-up	6.70	0.080	0.00% 0.00	0.00% 0.00	0.00% 0.00	100.00% 2.35	0.00% 0.00	0.00% 0.00
				1.68	0.34	0.05	4.04	0.72	5.14

11.97

Methodology:

HAPs emission rate (tons/yr) = density (lb/gal) * (gal/hour) * weight % HAP * (8,760 hrs/yr) * (1 ton/2,000 lb) * Material Usage Limitation (%)

**Appendix A: Emission Calculations
Natural Gas Combustion
MM BTU/HR <100**

**Company Name: Knox County Association for Retarded Citizens, Inc.
Address City IN Zip: 7472 N. State Road 67, Bicknell, Indiana 47512
CP: 083-12901
Pit ID: 083-00029
Reviewer: Trish Earls/EVP
Date: October 24, 2000**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
3.0	26.3

Heat Input Capacity includes:
One (1) drying oven rated at 3.0 MMBtu/hr.

	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0	5.5	84.0
Potential Emission in tons/yr	0.02	0.10	0.01	1.31	0.07	1.10

Methodology:

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors for NOx: uncontrolled = 100, Low Nox Burner = 50, Flue gas recirculation = 32

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 and 1.4-2, SCC #1-03-006-03

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