



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

TO: Interested Parties / Applicant

DATE: August 18, 2005

RE: Shapiro Sales Company / 141-21540-00202

FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision – Approval

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to 326 IAC 2, this approval was effective immediately upon submittal of the application.

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days from the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FNPER-AM.dot 1/10/05



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Mitchell E. Daniels, Jr.
Governor

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Indianapolis, Indiana 46204
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August 18, 2005

Mr. Bruce Shapiro
Shapiro Sales Company
601 East Red Bud
St. Louis, MO 63147

Dear Mr. Shapiro:

Re: Exempt Construction and Operation Status,
141-21540-00202

The application from Shapiro Sales Company, received on July 29, 2005, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.1-1, it has been determined that the following operation located at 2920 West Sample Road, South Bend, Indiana, is classified as exempt from air pollution permit requirements:

- (a) Steelman 6929 BB-C heat-cleaning oven, identified as HC-1, with a maximum heat input capacity of 5.0 MMBtu/hr and a maximum scrap aluminum processing rate of 90,000 pounds per day, and exhausting to one (1) stack S-1.

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 4-2-1 (Incinerators), the heat-cleaning oven shall comply with the following requirements:
 - (a) The incinerator shall comply with the following requirements:
 - (1) Consist of primary and secondary chambers or the equivalent.

- (2) Be equipped with a primary burner unless burning only wood products.
 - (3) Comply with 326 IAC 5-1 and 326 IAC 2.
 - (4) Be maintained, operated, and burn waste in accordance with the manufacturer's specifications or an operation and maintenance plan as specified in 326 IAC 4-2-2 (c).
 - (5) Not emit particulate matter in excess of five-tenths (0.5) pound of particulate matter per one thousand (1,000) pounds of dry exhaust gas under standard conditions corrected to fifty percent (50%) excess air for incinerators with solid waste capacity less than two hundred (200) pounds per hour.
 - (6) If any of the requirements of 326 IAC 4-2-2 (a)(1) through (5) are not met, then the Permittee shall stop charging the incinerator until adjustments are made that address the underlying cause of the deviation.
- (b) The Permittee developing an operation and maintenance plan pursuant to 326 IAC 4-2-2 (a)(4) must comply with the following:
- (1) The operation and maintenance plan must be designed to meet the particulate matter emission limitation specified in 326 IAC 4-2-2 (a)(5) and include the following:
 - (A) Procedures for receiving, handling, and charging waste.
 - (B) Procedures for incinerator startup and shutdown.
 - (C) Procedures for responding to a malfunction.
 - (D) Procedures for maintaining proper combustion air supply levels.
 - (E) Procedures for operating the incinerator and associated air pollution control systems.
 - (F) Procedures for handling ash.
 - (G) A list of wastes that can be burned in the incinerator.
 - (2) Each incinerator operator shall review the plan before initial implementation of the operation and maintenance plan and annually thereafter.
 - (3) The operation and maintenance plan must be readily accessible to incinerator operators.
 - (4) The Permittee of the incinerator shall notify the department, in writing, thirty (30) days after the operation and maintenance plan is initially developed pursuant to this section.

- (c) The Permittee of the incinerator must make the manufacturer's specifications or the operation and maintenance plan available to the IDEM, OAQ upon request.
3. Pursuant to 326 IAC 2-1.1-11 (Compliance Requirements), the heat-cleaning oven shall comply with the following requirements:

- (a) The Permittee shall perform an initial VOC, PM and PM-10 testing on the one (1) heat-cleaning oven, identified as HC-1, utilizing methods as approved by the Commissioner. The testing shall be conducted to determine compliance with the following emission rates as specified in 326 IAC 2-1.1-3 (e)(1):

Pollutant	Hourly Allowable Emission Limit (lb/hr)
PM	1.14
PM ₁₀	1.14
VOC	2.28

In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance.

- (b) The Permittee shall determine the hourly average temperature for the heat-cleaning oven from the most recent valid stack test that demonstrates compliance with limits in condition 3. (a) above, as approved by IDEM. On and after the date the approved stack test results are available, the Permittee shall operate the oven at or above the hourly average temperature as observed during the compliant stack test. A continuous monitoring system shall be calibrated, maintained, and operated on the oven for measuring operating temperature.
- (c) The Permittee shall keep continuous temperature records (on an hourly average basis) for the oven and the hourly average temperature used to demonstrate compliance during the most recent compliant stack test.
- (d) Compliance testing on the heat-cleaning oven, identified as HC-1, shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.
- (e) A test protocol shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204

no later than thirty-five (35) days prior to the intended test date.
- (f) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual date.

- (g) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAQ, if the Permittee submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

This exemption is the first air approval issued to the source. The source shall operate in compliance with this approval.

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,

Original signed by

Kathy Moore, Section Chief
Office of Air Quality

GS/EVP

cc: File – St. Joseph County
St. Joseph County Health Department
Air Compliance Section Inspector – Rick Reynolds
Compliance Data Section
Administrative and Development
Technical Support and Modeling
IDEM Northern Regional Office

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name: Shapiro Sales Company
Source Location: 2920 West Sample Road, South Bend, IN 46619
County: St. Joseph
SIC Code: 3449
Operation Permit No.: 141-21540-00202
Permit Reviewer: GS/ EVP

The Office of Air Quality (OAQ) has reviewed an application from Shapiro Sales Company relating to the construction and operation of a Steelman 6929 BB-C heat-cleaning oven to remove combustible material from reclaimable metal parts.

New Emission Units and Pollution Control Equipment

The source consists of the following new emission units and pollution control devices during this review process:

- (a) Steelman 6929 BB-C heat-cleaning oven, identified as HC-1, with a maximum heat input capacity of 5.0 MMBtu/hr and a maximum scrap aluminum processing rate of 90,000 pounds per day, and exhausting to one (1) stack S-1.

Existing Approvals

The source has no existing approvals.

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.

An application for the purposes of this review was received on July 29, 2005 and additional information was received on August 10, 2005.

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	0.2
PM-10	0.2
SO ₂	0.02
VOC	0.2
CO	2.5
NO _x	2.9

HAPs	Potential To Emit (tons/year)
Total HAPs	negligible

- (a) The potential to emit as defined in 326 IAC 2-1.1-1 (16) of the regulated air pollutants are less than the emission rates specified in 326 IAC 2-1.1-3 (e)(1). Therefore, pursuant to 326 IAC 2-5.1-1(1), this source is exempt from the requirement to obtain a registration or permit. (Please refer Appendix A, Page 1 for emission calculations).

County Attainment Status

The source is located in St. Joseph County.

Pollutant	Status
PM2.5	Attainment
PM-10	Attainment
SO ₂	Attainment
NO ₂	Attainment
1-hr Ozone	Attainment
8-hr Ozone	Basic nonattainment
CO	Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to the ozone standards. St. Joseph County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Emissions Offset, 326 IAC 2-3 review.

- (b) St. Joseph County has been classified as unclassifiable or attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM 2.5 emissions. Therefore, until the U.S.EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions. See the State Rule Applicability for the source section.
- (c) St. Joseph County has been classified as attainment or unclassifiable in Indiana for all other pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.

Part 70 Permit Determination

This new 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 is the first air approval issued to this source.

Federal Rule Applicability

- (a) The requirements of New Source Performance Standard, 326 IAC 12, (40 CFR 60.50, Subpart E) are not included in the exemption for the heat-cleaning oven, identified as HC-1, because the charging rate for the oven is less than the applicability threshold of 50 tons/day.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) included in the exemption for this source.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

Pursuant to 326 IAC 2-6-1, this source is not subject to this rule because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake or Porter counties, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Visible Emissions 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 the permit:

- (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 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.

State Rule Applicability - Individual Facilities

326 IAC 4-2-1 (Incinerators)

The requirements of 326 IAC 4-2-1 apply to all incinerators which emit regulated pollutants. The heat-cleaning oven meets the criteria specified in 326 IAC 1-2-34.

- (a) The incinerator shall comply with the following requirements:
 - (1) Consist of primary and secondary chambers or the equivalent.
 - (2) Be equipped with a primary burner unless burning only wood products.
 - (3) Comply with 326 IAC 5-1 and 326 IAC 2.
 - (4) Be maintained, operated, and burn waste in accordance with the manufacturer's specifications or an operation and maintenance plan as specified in 326 IAC 4-2-2 (c).
 - (5) Not emit particulate matter in excess of five-tenths (0.5) pound of particulate matter per one thousand (1,000) pounds of dry exhaust gas under standard conditions corrected to fifty percent (50%) excess air for incinerators with solid waste capacity less than two hundred (200) pounds per hour.
 - (6) If any of the requirements of 326 IAC 4-2-2 (a)(1) through (5) are not met, then the Permittee shall stop charging the incinerator until adjustments are made that address the underlying cause of the deviation.
- (b) The Permittee developing an operation and maintenance plan pursuant to 326 IAC 4-2-2 (a)(4) must comply with the following:
 - (1) The operation and maintenance plan must be designed to meet the particulate matter emission limitation specified in 326 IAC 4-2-2 (a)(5) and include the following:
 - (A) Procedures for receiving, handling, and charging waste.
 - (B) Procedures for incinerator startup and shutdown.
 - (C) Procedures for responding to a malfunction.
 - (D) Procedures for maintaining proper combustion air supply levels.
 - (E) Procedures for operating the incinerator and associated air pollution control systems.
 - (F) Procedures for handling ash.
 - (G) A list of wastes that can be burned in the incinerator.
 - (2) Each incinerator operator shall review the plan before initial implementation of the operation and maintenance plan and annually thereafter.
 - (3) The operation and maintenance plan must be readily accessible to incinerator operators.
 - (4) The Permittee of the incinerator shall notify the department, in writing, thirty (30) days after the operation and maintenance plan is initially developed pursuant to this section.

- (c) The Permittee of the incinerator must make the manufacturer's specifications or the operation and maintenance plan available to the IDEM, OAQ upon request.

326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating)

Pursuant to 326 IAC 1-2-19, the combustion for indirect heating is defined as the combustion of fuel to produce usable heat that is to be transferred through a heat-conducting materials barrier or by a heat storage medium to a material to be heated so that the material being heated is not contacted by, and adds no substance to the products of combustion. The purpose of the heat-cleaning oven is to directly use the heat produced by fuel combustion for volatilization of plastic coating from scrap aluminum. There is no heat-conducting materials barrier or heat storage medium in the heat-cleaning oven. Therefore, heat-cleaning oven (HC-1) is not an indirect heating facility and the requirements of 326 IAC 6-2-4 are not included in the exemption.

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

This rule applies to facilities located anywhere in the State that were constructed on or after January 1, 1980, which have a potential to emit (PTE) VOC at 25 tons per year or more, and which are not otherwise regulated by another provision of Article 8. The heat-cleaning oven does not have a PTE VOC at 25 tons per year or more. Therefore, 326 IAC 8-1-6 does not apply.

Testing Requirements

- (a) This source shall perform an initial VOC, PM and PM-10 testing on the one (1) heat-cleaning oven, identified as HC-1, utilizing methods as approved by the Commissioner. The testing shall be conducted to determine compliance with the following emission rates as specified in 326 IAC 2-1.1-3 (e)(1):

Pollutant	Hourly Allowable Emission Limit (lb/hr)
PM	1.14
PM ₁₀	1.14
VOC	2.28

In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance.

- (b) The Permittee shall determine the hourly average temperature for the heat-cleaning oven from the most recent valid stack test that demonstrates compliance with limits in condition 3. (a) above, as approved by IDEM. On and after the date the approved stack test results are available, the Permittee shall operate the oven at or above the hourly average temperature as observed during the compliant stack test. A continuous monitoring system shall be calibrated, maintained, and operated on the oven for measuring operating temperature.

Conclusion

The construction and operation of the heat-cleaning oven shall be subject to the conditions of the attached proposed Exemption 141-21540-00202.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Heat Cleaning Oven

Company Name: Shapiro Sales Company
Address City IN Zip: 2920 West Sample Road, South Bend, IN 46619
Exemption: 141-21540-00202
Reviewer: GS/EVP
Date: 8/18/2005

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

5.0

58.3

	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100.0	5.5	84.0
				*see below		
Potential Emission in tons/yr	0.2	0.2	0.02	2.9	0.2	2.5

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

PM emission factors are condensable and filterable.

Potential Throughput (MMCF/yr) = (Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu) + Natural Gas Equivalent for the coating in MMCF/yr

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

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

See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations

Natural Gas Combustion Only

MM BTU/HR <100

Heat Cleaning Oven

HAP Emissions

Company Name: Shapiro Sales Company
Address City IN Zip: 2920 West Sample Road, South Bend, IN 46619
Exemption: 141-21540-00202
Reviewer: GS/EVP
Date: 8/18/2005

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	0.0001	0.0000	0.0022	0.0525	0.0001

HAPs - Metals (Heat-cleaning oven)

	Lead	Barium	Chromium	Vanadium	Nickel
Emission Factor in lb/MMcf	5.0E-04	4.4E-03	1.4E-03	2.3E-03	2.1E-03
Potential Emission in tons/yr	0.0000	0.0001	0.0000	0.0001	0.0001

Methodology is the same as Page 1

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Combustible analysis of coating for the heat cleaning oven

Weight of bale, W_{bale} (lb) = 2500 (Bale is used for measuring the mass of aluminum scrap sheets)
 Weight of sheet = 0.452 lb/ft²
 Area of bale, W_{bale}/W_{sheet} = 5530.97 ft²
 Coating thickness, $t_{coating}$ = 0.002 in
 Coating volume per bale, $v_{coating} = t_{coating} \cdot A_{bale}$ = 0.92 ft³
 Density of coating*, $D_{coating}$ = 60 lb/ft³
 Weight of coating per bale, $w_{coating} = D_{coating} \cdot v_{coating}$ = 55.31 lb
 Natural gas heating value, $HV_{nat.gas}$ = 18000 BTU/lb
 Heating value of coating/bale*, $HV_{coating} = w_{coating} \cdot 20000$ BTU/lb = 1106194.69 BTU
 Natural gas equivalent/bale, $NGE = HV_{coating}/HV_{nat.gas}$ = 61.46 lb
 1106.2 ft³

There are 12 bales per load and 3 loads per day.
 Natural gas equivalent per year = 14.54 MMCF

Methodology

Natural gas equivalent per year = (ft³/bale) X (# bales (12)/load) X (# loads (3)/24 hours) X (24 hours/day) X (365 days/year)

* Polyethylene characteristics derived from Incinerator Institute of America, Chapter 8, Page 8.6, Table 8.2.