

Mr. Peter P. von Stein
Rea Magnet Wire Company
2800 Concord Road
Lafayette, Indiana 47905

Re: 157-10590
First Minor Permit Modification to
Part 70 No.: T 157-6960-00032

Dear Mr. von Stein:

Rea Magnet Wire Company was issued a permit on February 18, 1999 for a magnet wire coating operation. A letter requesting changes to this permit was received on February 2, 1999. Pursuant to the provisions of 326 IAC 2-7-12 a minor permit modification to this permit is hereby approved as described in the attached Technical Support Document.

The modification consists of additional eight (8) SICME model SML electric wire enameling ovens with integral internal thermal oxidizers, unit numbers, 751, 752, 753, 754, 755, 756, 757, and 758 with a maximum rating of 41 acfm each. Emissions shall be exhausted at stacks/vents ID# 215, 216, 217, 218, 219, 220, 221 and 222.

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 Kimberly Titzer, OAM, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call at (800) 451-6027, press 0 and ask for Kimberly Titzer or extension (3-8396), or dial (317) 233-8396.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

Attachments

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cc: File - Tippecanoe County
U.S. EPA, Region V
Tippecanoe County Health Department
Air Compliance Section Inspector - Eric Courtright
Compliance Data Section - Mindy Jones
Administrative and Development - Janet Mobley
Technical Support and Modeling - Nancy Landau

PART 70 OPERATING PERMIT OFFICE OF AIR MANAGEMENT

**Rea Magnet Wire Company
2800 Concord Road
Lafayette, Indiana 47905**

(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 and IC 13-17.

Operation Permit No.: T157-6960-00032	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Management	Issuance Date: February 18, 1999

First Minor Permit Modification Permit No.: T157-10590-00032	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Management	Issuance Date:

- (q) Eight (8) SICME model SML electric wire enameling ovens with integral internal thermal oxidizers, unit numbers, 751, 752, 753, 754, 755, 756, 757, and 758 with a maximum rating of 41 acfm each. Emissions shall be exhausted at stacks/vents ID# 215, 216, 217, 218, 219, 220, 221 and 222.

A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-8-3(c)(3)(I)] [326 IAC 2-7-5(15)]

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

The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipments, cutting torches, soldering equipment, welding equipment.

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22).
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

D.16a FACILITY OPERATION CONDITIONS - Ovens 751, 752, 753, 754, 755, 756, 757, and 758

Facility Description [326 IAC 2-7-5(15)]

Eight (8) SICME model SML electric wire enameling ovens with integral internal thermal oxidizers, unit numbers, 751, 752, 753, 754, 755, 756, 757, and 758 with a maximum rating of 41 acfm each. Emissions shall be exhausted at stacks/vents ID# 215, 216, 217, 218, 219, 220, 221 and 222.

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.16a.1 Volatile Organic Compounds

- (a) Potential emissions from emission units 751, 752, 753, 754, 755, 756, 757, and 758 are less than 15 pounds per day. Therefore, 326 IAC 8-2-8 will not apply. Any change or modification which may increase the potential emissions to 15 pounds per day or more of volatile organic compounds must be approved by the Office of Air Management before any such change may occur.
- (b) This limit includes the evaporation of thinners being added to coatings to adjust viscosity, therefore, it is necessary to keep coating and solvent containers covered at all times to prevent solvent evaporation.

D.16a.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and any control devices.

Compliance Determination Requirements

D.16a.3 Volatile Organic Compounds (VOC)

- (a) The integral internal thermal oxidizer associated with each oven shall operate with an overall efficiency of not less than 99% at all times when the wire enameling oven is in operation.
- (b) The 99% overall efficiency for each oven is necessary to ensure that 326 IAC 8-2-8, 326 IAC 2-2 and 40 CFR 52.21 do not apply.
- (c) The integral internal thermal oxidizers shall be operated at or above 1202°F or the temperature determined during compliance tests to maintain a minimum 99% overall efficiency.

D.16a.4 Volatile Organic Compounds (VOC)

Compliance with the VOC content limitations contained in Conditions D.16a.1 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. IDEM, OAM reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.16a.5 Testing Requirements [326 IAC 2-7-6(1), (6)]

- (a) Within 26 months after issuance of this permit, the Permittee shall perform VOC testing utilizing Methods 25 (40 CFR 60, Appendix A) for VOC, or other methods as approved by the Commissioner.
- (b) One oven shall be tested from the list of ovens in the following group. The group consists of the following ovens: 751, 752, 753, 754, 755, 756, 757, and 758.
- (c) Additionally, if the temperature falls below the 1202°F required minimum temperature it will be considered a violation unless the Permittee performs VOC testing utilizing Methods 25 (40 CFR 60, Appendix A) for VOC, or other methods as approved by the Commissioner to ensure compliance with the 99% overall efficiency at the lower temperature.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.16a.6 Monitoring

- (a) Compliance with the 1202°F minimum temperature will be monitored by computer collected data generated continuously.
- (b) Eight-hour average temperatures will be made available to IDEM upon request and one-hour temperature records will be made available within five business days from request.
- (c) The temperatures will be reported based on an eight-hour average.
- (d) The ovens shall operate with a five (5) degree buffer such that if the eight-hour average temperature falls within five (5) degrees of the minimum required temperature, corrective action shall be performed and one-hour temperatures shall be investigated to determine if any temperature fell below the actual minimum temperature.

- (e) If during specific hours the temperature is less than the established minimum temperature, this will be considered noncompliance.

Record Keeping and Reporting [326 IAC 2-7-5(3)][326 IAC 2-7-19]

D.16a.7 Record Keeping Requirements

- (a) To document compliance with Condition D.16a.1, the Permittee shall maintain records of material safety data sheets (MSDS) to verify the VOC content of each coating material and solvent used.
- (b) To document compliance with Condition D.16a.6, the Permittee shall maintain records of the computer collected data.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

Indiana Department of Environmental Management Office of Air Management

Technical Support Document (TSD) for a for a Permit Modification to a Part 70 Operating Permit

Source Background and Description

Source Name:	Rea Magnet Wire Company
Source Location:	2800 Concord Road, Lafayette, Indiana 47905
County:	Tippecanoe
SIC Code:	3357
Operation Permit No.:	T157-6960-00032
Operation Permit Issuance Date:	February 18, 1999
Permit Revision No.:	157-10590-00032
Permit Reviewer:	Kimberly Titzer

The Office of Air Management (OAM) has reviewed an exemption application from Rea Magnet Wire Company relating to the operation of a magnet wire coating process.

History

On February 2, 1999, Rea Magnet Wire Company submitted an application to the OAM requesting to add additional equipment to their existing plant. Rea Magnet Wire Company was issued a Part 70 permit on February 18, 1999.

Emission Units and Pollution Control Equipment

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

- (1) Eight (8) SICME model SML electric wire enameling ovens with integral internal thermal oxidizers, unit numbers, 751, 752, 753, 754, 755, 756, 757, and 758 with a maximum rating of 41 acfm each. Emissions shall be exhausted at Stack/Vents ID# 215, 216, 217, 218, 219, 220, 221 and 222.

Air Pollution Control Justification as an Integral Part of the Process

The company has submitted the following justification such that the thermal oxidizers be considered as an integral part of the wire magnet wire coating process:

- (1) The thermal oxidizers shall use only heat supplied by the curing ovens.

IDEM, OAM has evaluated the justifications and agreed that the thermal oxidizers will be considered as an integral part of the magnet wire coating process. Therefore, the permitting level will be determined using the potential emissions after the thermal oxidizers. Operating conditions in the proposed permit will specify that these thermal oxidizers shall operate at all times when the wire magnet wire coating process is in operation.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the Exemption 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 February 2, 1999.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (page 5).

Potential To Emit

The new equipment has the potential to emit the following:

Pollutant	Potential To Emit (tons/year)
PM	0
PM-10	0
SO ₂	0
VOC	2.08
CO	0
NO _x	0
HAPs- combined	0.168

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

Based on VOC emissions from the unit, which are less than ten (10) tons per year, and HAP emissions, which are less than 2.5 tons per year combined, an exemption will be issued to this source.

County Attainment Status

The source is located in Tippecanoe 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 (NO_x) 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. Tippecanoe County has been designated as attainment or unclassifiable for ozone.

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) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Individual Activities

326 IAC 2-2 (Prevention of Significant Deterioration)

Pursuant to 326 IAC 2-2 (Prevention of Significant Deterioration), this source will emit levels of emissions less than those that constitute a major source.

326 IAC 8-2-8 (Magnet Wire Coating Operations)

Pursuant to 326 IAC 8-2-1 (Surface Coating Emissions Limitations), any facilities, construction of which commences after July 1, 1990, of the types listed in 326 IAC 8-2-8 (Magnet Wire Coating Operations), located in any county and which have actual emissions of greater than fifteen (15) pounds of VOC per day before add-on controls, shall be subject to this rule.

Based on the emissions from the enameling ovens, the units are not subject to this rule.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

- (1) The eight SICME model SML electric wire enameling ovens have applicable compliance monitoring conditions as specified below:
 - (A) Monitoring
 - (a) Compliance with the 1202°F minimum temperature will be monitored by computer collected data generated continuously.
 - (b) Eight-hour average temperatures will be made available to IDEM upon request and one-hour temperature records will be made available within five business days from request.

- (c) The temperatures will be reported based on an eight-hour average.
- (d) The ovens shall operate with a five (5) degree buffer such that if the eight-hour average temperature falls within five (5) degrees of the minimum required temperature, corrective action shall be performed and one-hour temperatures shall be investigated to determine if any temperature fell below the actual minimum temperature.
- (e) If during specific hours the temperature is less than the established minimum temperature, this will be considered noncompliance.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) 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) Part 70 Application Form GSD-08.

- (a) This source will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Clean Air Act Amendments. The calculations submitted by the applicant have been verified and found to be accurate and correct.(see attachment following page 5)

Conclusion

The construction and operation of these eight (8) SICME model SML electric wire enameling ovens shall be subject to the conditions of the attached proposed Exemption 157-10590-00032.

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

Company Name: Rea Magnet Wire Company
Address: 2800 Concord Rd., Lafayette, IN 47905
City IN Zip: T157-10590-00032
CP: 157-00032
Pit ID: Kimberly Titzer
Reviewer: February 1999
Date:

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
11022A-35ase coat	8.8	64.00%	0.0%	64.0%	0.0%	30.20%	0.00868	83.690	5.60	0.00	0.00	0.00	0.00	0.00	18.54	100%
876 Nylon top coat	8.3	84.90%	0.0%	84.9%	0.0%	13.00%	0.00316	83.690	7.07	7.07	1.87	44.89	8.19	0.00	54.40	100%

State Potential Emissions Add worst case coating to all solvents **1.87 44.89 8.19 0.00**

METHODOLOGY Allowable limit based on thermal oxidizers @ 99% **0.02 0.45 0.08**

- 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 hrs/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