



DATE: March 18, 2008
TO: Interested Parties / Applicant
RE: Magnode Corporation / R097-21771-00566
FROM: Timothy J. Method
Environmental Coordinator, DPW

CERTIFIED MAIL: 7005 0390 000 6271 7391

Notice of Decision: Approval - Registration

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 IC 4-21.5-3-4(d) this order is effective when it is served. When served by U.S. mail, the order is effective three (3) calendar days from the mailing of this notice pursuant to IC 4-21.5-3-2(e).

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 501, Indianapolis, IN 46204, **within eighteen (18) calendar days of 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 Indianapolis Office of Environmental Services, Air Permits at (317) 327-2234.

Enclosures



Air Quality Hotline: 317-327-4AIR | knozone.com

Department of Public Works
Office of Environmental Services

2700 Belmont Avenue
Indianapolis, IN 46221

317-327-2234
Fax 327-2274
TDD 327-5186
indygov.org/dpw



REGISTRATION

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY and INDIANAPOLIS OFFICE OF ENVIRONMENTAL SERVICES

**Magnode Corporation
4151 West Washington Street
Indianapolis, Indiana 46241**

Pursuant to 326 IAC 2-5.1 (Construction of New Sources: Registrations) and 326 IAC 2-5.5 (Registrations), (herein known as the Registrant) is hereby authorized to construct and operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this registration.

Registration No. R097-21771-00566	
Issued by: Timothy J. Method Environmental Coordinator	Issuance Date: March 18, 2008 Expiration Date: March 18, 2013



SECTION A

SOURCE SUMMARY

This registration is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ), and Indianapolis Office of Environmental Services (OES). The information describing the source contained in conditions A.1 and A.2 is descriptive information and does not constitute enforceable conditions. However, the Registrant should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Registrant to obtain additional permits pursuant to 326 IAC 2.

A.1 General Information

The Registrant owns and operates a stationary anodizing and aluminum finishing source.

Source Address:	4151 West Washington Street, Indianapolis, Indiana 46241
Mailing Address:	4151 West Washington Street, Indianapolis, Indiana 46241
General Source Phone Number:	317-243-3553
SIC Code:	3471
County Location:	Marion County
Source Location Status:	Nonattainment for PM 2.5 standard Attainment for all other criteria pollutants
Source Status:	Registration

A.2 Emission Units and Pollution Control Equipment Summary

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

- (a) Anodizing system consisting of 28 tanks, installed before 1960. Each tank contains one of the following solutions; soap, caustic, anodize, color, sealer, water or deionized water rinse, controlled by a scrubber unit, exhausting to stack identified as sus-09.
- (b) Natural gas fired combustion sources, identified as nine (9) tank heaters, with maximum heat input capacity equal to or less than ten (10) million Btu per hour. Combined plant tank heaters capacity is 1.6 million Btu per hour.
- (c) Three (3) furnaces, using Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour.
- (d) Four (4) Aluminum cutting saws, identified as Saw 400, all installed in 1995 with a maximum capacity of 293.28 pounds per hour of aluminum chips controlled by an integral baghouse and cyclone, exhausting to stack identified as DCS-01.
- (e) Four (4) CNC Aluminum cutting saws, identified as CNC 500, all installed in 1998 with a maximum capacity of 1497.6 pounds per hour of aluminum chips, controlled by an integral baghouse and cyclone, exhausting to stack identified as DCS-02.
- (f) Seven (7) Aluminum Buffing stations, identified as BUF 600, consisting of 11 buffing wheels all installed in 2002 with a maximum capacity of 11,000 pounds per hour, controlled by a dust collector exhausting to stack identified as DCS-03.
- (g) One (1) Washer Heater, identified as WHTR 110, installed in 2002 with a maximum heat input capacity of 5.9 MMBtu/hr, exhausting to stack identified as PHS-07.

SECTION B

GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-1.1-1]

Terms in this registration shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-1.1-1) shall prevail.

B.2 Effective Date of Registration [IC 13-15-5-3]

Pursuant to IC 13-15-5-3, this registration is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

B.3 Registration Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation), this registration to operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this registration.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this registration.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this registration shall not require revocation of this registration.
- (d) For any cause which establishes in the judgment of IDEM and OES, the fact that continuance of this registration is not consistent with purposes of this article.

B.4 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to Registration No. 097-21771-00566 and issued pursuant to permitting programs approved into the state implementation plan have been either:
 - (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deleted.
- (b) All previous registrations and permits are superseded by this registration.

B.5 Annual Notification [326 IAC 2-5.1-2(f)(3)] [326 IAC 2-5.5-4(a)(3)]

Pursuant to 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3):

- (a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this registration.
- (b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, IN 46204-2251

and

Indianapolis Office of Environmental Services
Air Compliance
2700 South Belmont Avenue
Indianapolis, IN 46221

- (c) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, and OES on or before the date it is due.

B.6 Source Modification Requirement [326 IAC 2-5.5-6(a)]

Pursuant to 326 IAC 2-5.5-6(a), an application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) and OES if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

B.7 Registrations [326 IAC 2-5.1-2(i)]

Pursuant to 326 IAC 2-5.1-2(i), this registration does not limit the source's potential to emit.

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]

C.1 Opacity [326 IAC 5-1]

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, unless otherwise stated in this registration:

- (a) Opacity shall not exceed an average of thirty percent (30%) 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.

C.2 Fugitive Dust Emissions [326 IAC 6-4]

The Registrant shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

SECTION D.1

OPERATION CONDITIONS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

- (a) Anodizing system consisting of 28 tanks, installed before 1960. Each tank contains one of the following solutions; soap, caustic, anodize, color, sealer, water or deionized water rinse, controlled by a scrubber unit, exhausting to stack identified as sus-09.
- (b) Natural gas fired combustion sources, identified as nine (9) tank heaters, with maximum heat input capacity equal to or less than ten (10) million Btu per hour. Combined plant tank heaters capacity is 1.6 million Btu per hour.
- (c) Three (3) furnaces, using Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour.
- (d) Four (4) Aluminum cutting saws, identified as Saw 400, all installed in 1995 with a maximum capacity of 293.28 pounds per hour of aluminum chips controlled by an integral baghouse and cyclone, exhausting to stack identified as DCS-01.
- (e) Four (4) CNC Aluminum cutting saws, identified as CNC 500, all installed in 1998 with a maximum capacity of 1497.6 pounds per hour of aluminum chips, controlled by an integral baghouse and cyclone, exhausting to stack identified as DCS-02.
- (f) Seven (7) Aluminum Buffing stations, identified as BUF 600, consisting of 11 buffing wheels all installed in 2002 with a maximum capacity of 11,000 pounds per hour, controlled by a dust collector exhausting to stack identified as DCS-03.
- (g) One (1) Washer Heater, identified as WHTR 110, installed in 2002 with a maximum heat input capacity of 5.9 MMBtu/hr, exhausting to stack identified as PHS-07.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.1.1 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes),

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the buffing operation shall not exceed 12.847pounds per hour when operating at a process weight rate 5.50 tons per hour.

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

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

Compliance Determination Requirements [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]

D.1.2 Particulate Control

- (a) In order to comply with condition D.1.1, the baghouse/cyclone for particulate control shall be in operation and control emission at all times when BUF 600 is in operation.
- (b) The respective integral baghouse/cyclones, shall be in operation and control emissions at all times when CNC 500 and Saw 400 are in operation.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH
and
INDIANAPOLIS OFFICE OF ENVIRONMENTAL SERVICES
AIR COMPLIANCE**

**REGISTRATION
ANNUAL NOTIFICATION**

Year: _____

This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3).

Company Name:	Magnode Corporation
Address:	4151 West Washington Street
City:	Indianapolis, Indiana 46241
Phone Number:	317-243-3553
Registration No.:	097-21771-00566

I hereby certify that Magnode Corporation is :

still in operation.

I hereby certify that Magnode Corporation is :

no longer in operation.

in compliance with the requirements
of Registration No. 097-21771-00566.

not in compliance with the requirements
of Registration No. 097-21771-00566.

Authorized Individual (typed):
Title:
Signature:
Phone Number:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

**Indiana Department of Environmental Management
Office of Air Quality
and
City of Indianapolis Office of Environmental Services**

Technical Support Document (TSD) for a Registration

Source Description and Location

Source Name: Magnode Corporation
Source Location: 4151 West Washington Street, Indianapolis, Indiana 46241
County: Marion
SIC Code: 3471
Registration No.: R097-21771-00566
Permit Reviewer: Warner Myron Waters

On March 5, 2005, the Office of Air Quality (OAQ) has received an application from the Magnode Corporation related to the operation of an existing stationary anodizing and aluminum finishing source.

Existing Approvals

The source has been operating under City of Indianapolis local operating permit No. 5225-0001, issued on November 27, 1996.

County Attainment Status

The source is located in Marion County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Attainment effective February 18, 2000, for the part of the city of Indianapolis bounded by 11 th Street on the north; Capitol Avenue on the west; Georgia Street on the south; and Delaware Street on the east. Unclassifiable or attainment effective November 15, 1990, for the remainder of Indianapolis and Marion County.
O ₃	Attainment effective October 19, 2007, for the 8-hour ozone standard. ¹
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Attainment effective July 10, 2000, for the part of Franklin Township bounded by Thompson Road on the south; Emerson Avenue on the west; Five Points Road on the east; and Troy Avenue on the north. Attainment effective July 10, 2000, for the part of Wayne Township bounded by Rockville Road on the north; Girls School Road on the east; Washington Street on the south; and Bridgeport Road on the west. The remainder of the county is not designated.
¹ Attainment effective October 18, 2000, for the 1-hour ozone standard for the Indianapolis area, including Marion County, and is a maintenance area for the 1-hour ozone National Ambient Air Quality Standards (NAAQS) for purposes of 40 CFR 51, Subpart X*. The 1-hour designation was revoked effective June 15, 2005. Basic Nonattainment effective April 5, 2005 for PM2.5.	

(a) Ozone Standards

- (1) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.
- (2) On September 6, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Allen, Clark, Elkhart, Floyd, LaPorte, St. Joseph as attainment for the 8-hour ozone standard.
- (3) On November 9, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Boone, Clark, Elkhart, Floyd, LaPorte, Hamilton, Hancock, Hendricks, Johnson, Madison, Marion, Morgan, Shelby, and St. Joseph as attainment for the 8-hour ozone standard.
- (4) Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) 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 NO_x emissions are considered when evaluating the rule applicability relating to ozone. Marion County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) PM_{2.5}

Marion County has been classified as nonattainment for PM_{2.5} in 70 FR 943 dated January 5, 2005. Until U.S. EPA adopts specific New Source Review rules for PM_{2.5} emissions, it has directed states to regulate PM₁₀ emissions as a surrogate for PM_{2.5} emissions pursuant to the requirements of Nonattainment New Source Review, 326 IAC 2-1.1-5.

(c) Other Criteria Pollutants

Marion County has been classified as attainment or unclassifiable in Indiana for PM₁₀, SO₂, NO_x, CO, and Lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

The fugitive emissions of criteria pollutants and hazardous air pollutants are counted toward the determination of 326 IAC 2-5.1.2 (Registrations) applicability.

Background and Description of Emission Units and Pollution Control Equipment

The Office of Air Quality (OAQ) and City of Indianapolis Office of Environmental Services (OES) has reviewed an application, submitted by the Magnode Corporation on March 5, 2005, relating to an existing stationary anodizing and surface coating source.

The source consists of the following permitted emission units:

- (a) Anodizing system consisting of 28 tanks, installed before 1960. Each tank contains one of the following solutions; soap, caustic, anodize, color, sealer, water or deionized water rinse, controlled by a scrubber unit, exhausting to stack identified as sus-09.
- (b) Natural gas fired combustion sources, identified as nine (9) tank heaters, with maximum heat input capacity equal to or less than ten (10) million Btu per hour. Combined plant tank heaters capacity is 1.6 million Btu per hour.
- (c) Three (3) furnaces, using Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour.

- (d) Four (4) Aluminum cutting saws, identified as Saw 400, all installed in 1995 with a maximum capacity of 293.28 pounds per hour of aluminum chips controlled by an integral baghouse and cyclone, exhausting to stack identified as DCS-01.
- (e) Four (4) CNC Aluminum cutting saws, identified as CNC 500, all installed in 1998 with a maximum capacity of 1497.6 pounds per hour of aluminum chips, controlled by an integral baghouse and cyclone, exhausting to stack identified as DCS-02.
- (f) Seven (7) Aluminum Buffing stations, identified as BUF 600, consisting of 11 buffing wheels all installed in 2002 with a maximum capacity of 11,000 pounds per hour, controlled by a dust collector exhausting to stack identified as DCS-03.
- (g) One (1) Washer Heater, identified as WHTR 110, installed in 2002 with a maximum heat input capacity of 5.9 MMBtu/hr, exhausting to stack identified as PHS-07.

“Integral Part of the Process” Determination (if applicable)

The Magnode Corporation has submitted the following information to justify why the baghouse /cyclone should be considered an integral part of the two (2) Aluminum cutting saws identified as Saw 400 and the four (4) CNC Aluminum cutting saws identified as CNC 500:

- (a) From an economic standpoint, the payback from the product recovered far exceeds the total cost of the control device and the operation of the control device. The sale of collected aluminum chips averages approximately \$292,838.00 per year. The replacement of bags; the cost of electricity, the labor cost along with the operation and maintenance of the baghouses cost approximately \$46,773.00 a difference of \$246,065.

IDEM, OAQ and OES have evaluated the information submitted and agree that the baghouse/cyclones should be considered an integral part of the four (4) Aluminum cutting saws identified as Saw 400 and the four (4) CNC Aluminum cutting saws identified as CNC 500. This determination is based on the fact that the control equipment has overwhelming positive net economic effect. Therefore, the permitting level will be determined using the potential to emit after the baghouse. Operating conditions in the proposed permit will specify that these baghouses shall operate at all times when the existing two (2) Aluminum cutting saws identified as Saw 400 and the four (4) CNC Aluminum cutting saws identified as CNC 500 are in operation. The baghouse and cyclones located at the source are considered as one control device.

Enforcement Issues

The Magnode Corporation was issued a permit under the City of Indianapolis local operating permit Permit No. 5225-0001 on November 27, 1996 for a stationary anodizing operation. IDEM and OES are aware that additional equipment has been constructed and operated prior to the receipt of the proper permit. When the seven (7) Aluminum Buffing stations, identified as BUF 600, consisting of 11 buffing wheels were added in 2002 the source became subject to the Construction of New Sources Registration rule 326 IAC 2-5.1-2. IDEM and OES are reviewing this matter and will take the appropriate action. This proposed approval is intended to satisfy the requirements of the operating permit rules.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – Registration

The following table reflects the unlimited potential to emit (PTE) of the entire source before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Process/Emission Unit	Potential To Emit of the Entire Source (tons/year)							
	PM	PM10*	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Combustion	0.062	0.25	0.02	3.285	0.181	2.759	negl.	negl.
Saws**	2.97	2.97	negl.	negl.	negl.	negl.	negl.	negl.
Buffing	7.7	7.7	negl.	negl.	negl.	negl.	negl.	negl.
Anodizing	negl.	negl.	negl.	1.889	negl.	negl.	negl.	negl.
Total PTE of Entire Source	10.732	10.92	0.02	5.174	0.181	2.759	negl.	negl.

negl. = negligible
 * Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.
 **The PTE from the sawing operation shown in this table is based on PTE calculations after the baghouse and cyclone which are considered to be integral.

- (a) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of PM and PM10 are within the ranges listed in 326 IAC 2-5.1-2(a)(1). The PTE of all other regulated criteria pollutants are less than the ranges listed in 326 IAC 2-5.1-2(a)(1). Therefore, the source is subject to the provisions of 326 IAC 2-5.1-2 (Registrations). A Registration will be issued.
- (b) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source. Steam generating units that have a maximum design heat input capacity of less than ten (10) million Btu per hour (10 mm Btu/hr) are not subject to 40 CFR Part 60 Subpart Dc. Therefore, this source is not subject to 40 CRF Part 60 Subpart Dc.
- (b) There are no other New Source Performance Standards (NSPS)(40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.

Compliance Assurance Monitoring (CAM)

- (d) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the unlimited potential to emit of the source is less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability Determination

- (a) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))
This source is not a major stationary source, under PSD (326 IAC 2-2), because the potential to emit of all attainment regulated pollutants are less than 250 tons per year, and this source is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1). Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.
- (b) 326 IAC 2-5.1-2 (Registrations)
Registration applicability is discussed under the Permit Level Determination – Registration section above.
- (c) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The potential to emit of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-4.1.
- (d) 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, Porter, or LaPorte County, 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.
- (e) 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:
 - (1) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (2) 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.
- (f) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes),
Each saw operation has the potential to emit particulate of less than 0.551 pounds per hour, therefore pursuant to 326 IAC 6-3-1 (Particulate Emission Limitations for Manufacturing Processes), 326 IAC 6-3-2 does not apply.

The integral baghouse/cyclone shall be in operation at all times when the sawing operations are in operation.

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the buffing operation shall not exceed 12.847 pounds per hour when operating at a process weight rate 5.5 tons per hour.

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

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

The dust collector shall be in operation at all times when the buffing operation is in operation, in order to comply with this limit.

- (g) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.
- (h) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
The source is not subject to the requirements of 326 IAC 6-5, because the source does not have potential fugitive particulate emissions greater than 25 tons per year. Therefore, 326 IAC 6-5 does not apply.
- (i) 326 IAC 6.5-1-2 (Particulate Matter Emission Limitations Except Lake County)
This rule does not apply to this source because the potential to emit of particulate is less than one hundred (100) tons per year, actual emissions are less than ten (10) tons per year and it is not a specifically listed source in 326 IAC 6.5-6-1.
- (j) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
Each of the emission units at this source is not subject to the requirements of 326 IAC 8-1-6, since the unlimited potential to emit of VOC from each emission unit is less than twenty-five (25) tons per year and the emission units at the source are not otherwise regulated by other provisions of this article.
- (k) 326 IAC 8-3-2 and 326 IAC 8-3-5 (Organic Degreasing Operations)
The cleaning operations at this facility do not use organic solvents. Therefore, 326 IAC 8-3-2 and 326 IAC 8-3-5 do not apply.

Conclusion and Recommendation

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 5, 2005.

The operation of this source shall be subject to the conditions of the attached proposed Registration No. R 097-21771-00566. The staff recommends to the Commissioner that this Registration be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Warner Myron Waters at the City of Indianapolis Office of Environmental Services, Air Permits, 2700 South Belmont Avenue, Indianapolis, Indiana 46221 or by telephone at (317) 327-2182 or email at wwaters@indygov.org
- (b) A copy of the findings is available on the Internet at: www.in.gov/idem/permits/air/pending.html.
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.in.gov/idem/permits/guide/.

Buffing Emissions

Company Name: Magnode Corporation
 Address City IN Zip 4151 West Washington Street Indianapolis IN 46241
 Permit Number: 097-21771-00566
 Reviewer: Warner Myron Waters
 Date: 1/15/2008

**Magnode Corporation
 Air Permit Application
 Additional Info**

Known

Hours per day	8	hrs	
Days per week	5	days	
Dust Collector Eff	95	%	
Emission Factor	0.1	lb/ton of material	Grinding emission factor from Table 12.5-1 of AP-42

	Max	Actual (ave)	
Max. # of pieces per hr	100	20	pcs/hr
Lbs per piece	10	2.77	lbs/piece
No of similar units	11	6	
Total lbs/hr (max)	11000	332.4	lbs/hr
Emission Factor	0.1	0.1	lbs/ton of material
Total PM emissions	0.5500	0.0166	lbs/hr
Total PM emissions	13.20	0.40	lbs/day
Annual PM emissions	4818.0	145.6	lbs/yr

Buffing Wheels			
14" wheels	4	2	usage/month
12" wheels	20	10	usage/month
12" initial wt	2.77	2.77	lb
12" final wt	1.975	1.975	lb
Mtl lost	0.795	0.795	lb
Total wt loss	19.1	9.5	lb/mo
Extrapolated to 24/7 ops	80.1	40.1	lb/mo
Number of like Buffers	11	6	
Dust generation/mo	881.5	240.4	lb/mo
Dust generation/year	10578	2885	lb/yr
Emissions	529	144	lb/yr

	1.76		lb/hr
Potential to Emit	15396	290	lb/yr
	7.70	0.14	tons/yr

Saw Emissions

Company Name: Magnode Corporation
 Address City IN Zip: 4151 West Washington Street Indianapolis IN 46241
 Permit Number: 097-21771-00566
 Reviewer: Warner Myron Waters
 Date: 1/15/2008

Known

Minutes/day (max)	1440	minutes
Cyclone efficiency (extrusion cut-off saws)	99.9	%
Cyclone efficiency (small part saws)	97.5	%
Baghouse w/ high efficiency filters (small part saws)	99.94	%
Baghouse w/ low efficiency filters (ext cut-off saws)	55	%
Number of Extrusion Saws	4	
(three units exhaust to one cyclone/baghouse unit and the fourth has its own cyclone/baghouse unit)		
Number of Small Part Saws	4	
(all three units exhaust to the same cyclone/baghouse unit)		

Aluminum Saw	Extrusion Cutoff Saws			Small Parts Saws	
	Part 1	Part 2	Part 3		
Width of saw blade:	0.2	0.2	0.2	0.2	inches
Maximum part width	5	8	8	4	inches
Maximum part height	24	24	24	4	inches
Volume of saw chips generated per cut	24	38.4	38.4	3.2	in ³
Maximum cuts per hour	108	100	78	235	cuts
Maximum saw speed	85	85	60	60	in/hr
Volume of saw chips generated per hour	2592	3840	2995.2	752	in ³ /hr
Mass of Aluminum per pound (density)	0.0975	0.0975	0.0975	0.0975	lb/in ³
Mass of chips generated per hr	252.72	374.4	292.032	73.32	lb/hr
Number of Similar Units		4		4	
Grand Total Mass of Chips Generated per Hr*		1497.6		293.28	
Emissions Unit ID		SAW-400		CNC-500	
Stack/Vent ID		DCS-01		DCS-02	

* worst case Part is Part 2

Maximum mass of particulate emitted from the following sources

Cyclone (before baghouse)	0.25272	1.4976	0.292032	7.332	lb/hr
PTE tons/year	1.1069136	6.559488	1.27910016	32.11416	
Baghouse (high efficiency filters)	0.000151632	0.00089856	0.000175219	0.0043992	lb/hr
Maximum PM emitted per year (high eff)				0.019	Tons/year
Chips collected from cyclone + high eff filters				642245	lbs/yr
Baghouse (low efficiency filters)	0.113724	0.67392	0.1314144		lb/hr
Maximum PM emitted per year (low eff)	0.50	2.95	0.58		Tons/year
Chips collected from cyclone + low eff filters	2212831	13113072	2557049		lbs/yr
Grand Total Emissions	0.50	2.95	0.58	0.02	
		↓			
Worst Case Facility-wide Saw Chip Emissions		2.97			Tons/year

Pounds of saw chips collected (actual, 2006)

472,320

lbs/yr

Percent Actual Prod / Max Prod

1%

%

Cost Justification

	\$ per Unit	Unit Size	# of Units	Total \$/yr
Sale of collected aluminum chips	\$ 0.62	\$/lb	472320	\$ 292,838.40
Replacement Bags	\$ 15.50	filter	144	\$ 2,232.00
Electricity	\$ 0.07	\$/kWh	611620	\$ 42,813.40
Labor	\$ 18.00	\$/hr	96	\$ 1,728.00
Total O&M Costs				\$ 46,773.40
Difference				\$ 246,065.00

0.25272

1.4976

0.292032

7.332

41.05966176 tons per year

Company Name: Magnode Corporation
Address City IN Zip: 4151 W. Washington St Indianapolis
Permit Number: R 097-21771-00566
Reviewer: Warner Myron Waters

ESTIMATION OF ACID LOSSES FROM NITRIC ACID TANKS							
Open Tanks #4							
INPUT DATA		RESULTS					
Item	Units	Quantity	Item	Units	Quantity	Quantity	Quantity
HF in acid	% w/v	0.000					
HNO3 in acid	% w/v	6.00	Surface loss	lb/h/sqft	0.000	HNO3	2.604
Temperature	deg F	140	Total loss	lb/h	0.000	0.034	71.56
Exhaust rate	cfm/sqft	800	Exhaust con	ppmv	0.000	0.092	
Total air	acfm	38000		% by vol			1.79
Tank width	ft	2.29		tons/yr	0.000	0.150	
Tank length	ft	12					
Calcs for open tank							
sg		1.0318	total				
%w/w HF		0.000					
%w/w HNO3		5.82					
vp HF		0					
vp HNO3/20		0.094447609					
vp HNO3/30		0.515476619					
vp HNO3/40		1.498827796					
vp HNO3 act		0.027461022					
temp K		333					
temp R		600					
vp water		148.8021564					
1-MR		0.947664276					
vp sol'n		141.0144878					
Air vel		13.3333333					
HF loss	0.000	per sq.ft					
HNO3 loss	0.001	per sq.ft					
water loss	2.603956	per sq.ft					

ESTIMATION OF ACID LOSSES FROM NITRIC ACID TANKS							
Open Tanks #7							
INPUT DATA		RESULTS					
Item	Units	Quantity	Item	Units	Quantity	Quantity	Quantity
HF in acid	% w/v	0.000					
HNO3 in acid	% w/v	3.50	Surface loss	lb/h/sqft	0.000	HNO3	35.906
Temperature	deg F	210	Total loss	lb/h	0.000	0.396	1077.17
Exhaust rate	cfm/sqft	800	Exhaust conc	ppmv	0.000	1.066	
Total air	acfm	38000		% by vol			2.74
Tank width	ft	2.5		tons/yr	0.000	1.733	
Tank length	ft	12					
Calcs for open tank							
sg		1.01855	total				
%w/w HF		0.000					
%w/w HNO3		3.44					
vp HF		0					
vp HNO3/20		1.696156191					
vp HNO3/30		5.554178887					
vp HNO3/40		14.41411895					
vp HNO3 act		0.291421465					
temp K		371.8888889					
temp R		670					
vp water		726.4564632					
1-MR		0.969073683					
vp sol'n		703.9898405					
Air vel		13.3333333					
HF loss	0.000	per sq.ft					
HNO3 loss	0.013	per sq.ft					
water loss	35.905547	per sq.ft					

ESTIMATION OF ACID LOSSES FROM NITRIC ACID TANKS							
Open Tanks #18a							
INPUT DATA		RESULTS					
Item	Units	Quantity	Item	Units	Quantity	Quantity	Quantity
HF in acid	% w/v	0.000					
HNO3 in acid	% w/v	5.00	Surface loss	lb/h/sqft	0.000	HNO3	0.231
Temperature	deg F	74	Total loss	lb/h	0.000	0.001	5.46
Exhaust rate	cfm/sqft	1500	Exhaust con	ppmv	0.000	0.004	
Total air	acfm	38000		% by vol			1.73
Tank width	ft	1.97		tons/yr	0.000	0.006	
Tank length	ft	12					
Calcs for open tank							
sg		1.0265	total				
%w/w HF		0.000					
%w/w HNO3		4.87					
vp HF		0					
vp HNO3/20		0.003100287					
vp HNO3/30		0.030965764					
vp HNO3/40		0.102999217					
vp HNO3 act		0.000755063					
temp K		296.3333333					
temp R		534					
vp water		21.41663836					
1-MR		0.956161715					
vp sol'n		20.47776965					
Air vel		25.0000000					
HF loss	0.000	per sq.ft					
HNO3 loss	0.000	per sq.ft					
water loss	0.230888	per sq.ft					

Total NOx
1.889

Assumptions for HNO3 and HF tanks-
Evaporation into air at 60-80 deg F, 70%RH
Essentially atmospheric pressure
Either general building or lateral exhaust.
Less than 15% HF and/or 35% nitric

Methodology

Calculation methodology by Esco Engineering, Kingsville, Ontario - March 1993
This spreadsheet cannot handle concentrations greater than 40% of nitric acid. Emissions from those tanks (F-10, E-24, E-25 and E-30) are calculated on Page 4 of 7.
For total emissions from OPEN tanks:
Based on either air flow per square foot of tank surface or the total rate and tank dimensions

For total emissions from CLOSED tanks:
Freeboard is the distance from the liquid surface to the underside of the cover.
The # of takeoffs is the number of points at which air is exhausted from the tank - assumed equally spaced.
For strip picklers with continuous side slots, # of takeoffs = tank length/tank width

CORRECTION FACTORS - Esco Engineering, Kingsville, Ontario - March 1993

The spreadsheet calculations give maximum values for emissions based on the assumptions, i.e.
- all air passes over the whole liquid surface
- air above the liquid contains no acid vapor
- air/acid vapor/water vapor are uniformly mixed

In practice, some air will short-circuit, and only pass over some of the surface, and the mixture will not be uniform.
Also, the evaporation into the air will reduce the rate of evaporation towards the outlet end of the air flow.
Calculations on the effect of the build-up of acid and water vapors in the air show that this introduces an error of less than 10% (high) in the estimate, for typical pickling conditions.

Comparison of estimated and measured values show that the estimates are fairly good for open tanks.
Uneven air flow, and incomplete mixing, in closed picklers, have quite a significant effect in reducing rates of evaporation.

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

Company Name: Magnode Corporation
Address City IN Zip: 4151 West Washington Street Indianapolis IN 46241
Permit Number: 097-21771-00566
Reviewer: Warner Waters
Date: 1/15/2008

Heat Input Capacity
MMBtu/hr

7.5

Potential Throughput
MMCF/yr

65.7

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.062	0.250	0.020	3.285	0.181	2.759

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

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

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

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

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

HAPs Emissions

	HAPs - Organics				
	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	6.899E-05	3.942E-05	2.464E-03	5.913E-02	1.117E-04

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	1.643E-05	3.614E-05	4.599E-05	1.248E-05	6.899E-05

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.

Appendix A: Emissions Calculations

Company Name: Magnode Corporation
Address City IN Zip: 4151 West Washington Street Indianapolis IN 46241
Permit Number: 097-21771-00566
Reviewer: Warner Myron Waters
Date: 09-26-2007

Units tons/year	PM*	PM10	SO2	NOx	VOC	CO
Combustion	0.062	0.25	0.02	3.285	0.181	2.759
Saws	2.97	2.97	0	0	0	0
Buffing	7.7	7.7	0	0	0	0
Anodizing	Negligible	Negligible	0.00	1.889	0	0
Total	10.732	10.92	0.02	5.174	0.181	2.759