



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: March 8, 2006
RE: Quadrant Engineering / 003-22544-00165
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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100 North Senate Avenue
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Mr. David Didier, Plant Environmental Coordinator
2710 American Way
Fort Wayne, Indiana 46809

March 8, 2006

Dear Mr. Didier:

Re: Exempt Construction and Operation Status,
003-22544-00165

The application from Quadrant Engineering Plastic Products, received on January 20, 2006, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following plastics resin mixing operations, controlled by a dust collector, and boilers, located at 2710 American Way, Fort Wayne, Indiana 46809, are classified as exempt from air pollution permit requirements:

- (a) Two (2) plastics resin mixing operations, constructed in 1995, identified as Mix-1 and Mix-2, with particulate emissions controlled by a dust collector, identified as DC-1, with particulate emissions exhausting through stack DC-1.
- (b) One (1) snowmobile ski manufacturing operation consisting of one (1) 1.052 MMBtu/hr natural gas fired boiler, identified as boiler # 91612 and one (1) 1.2 MMBtu/hr natural gas fired boiler, identified as boiler #THZ-0304

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 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate from the plastics resin mixing operations (Mix-1 and Mix-2) shall be limited to 1.58 pounds per hour when operating at a throughput rate of 480 pounds per hour.

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:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

This exemption is the third air approval issued to this source.

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.

Pursuant to Contract No. A305-5-65, IDEM, OAQ has assigned the processing of this application to Eastern Research Group, Inc., (ERG). Therefore, questions should be directed to Stephen Treimel, ERG, 1600 Perimeter Park Drive, Morrisville, North Carolina 27560, or call (919) 468-7902 to speak directly to Mr. Treimel. Questions may also be directed to Duane Van Laningham at IDEM, OAQ, 100 North Senate Avenue, Indianapolis, Indiana, 46204-2251 or call (800) 451-6027, ask for Duane Van Laningham, or extension 3-6878, or dial (317) 233-6878.

Sincerely,

Original signed by
Nysa James, Section Chief
Permits Branch
Office of Air Quality

ERG/ST

cc: File - AllenCounty
Allen County Health Department
Air Compliance – Patrick Burton
Permit Tracking
Compliance Data Section
Program Planning and Policy – Scott Delaney

**Indiana Department of Environmental Management
Office of Air Quality**

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name:	Quadrant Engineering Plastic Products
Source Location:	2710 American Way, Fort Wayne, Indiana 46809
County:	Allen
SIC Code:	3802
Exemption No.:	003-19710-00165
Operation Permit Issuance Date:	August 19, 2004
Exemption Revision No.:	003-22544-00165
Permit Reviewer:	ERG/ST

The Office of Air Quality (OAQ) has reviewed an application from Quadrant Engineering Plastic Products relating to the operation of a stationary plastics molding plant.

History and Background

The source, formerly known as Poly Hi Solidur, Inc., changed its name to Quadrant Engineering Plastic Products in 2005. On January 20, 2006, IDEM OAQ received a letter from the source requesting that two existing unpermitted plastics resin mixing operations be added to the list of emission units onsite at this Exemption level source.

Emission Units and Pollution Control Equipment

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

- (a) Two (2) plastics resin mixing operations, constructed in 1995, identified as Mix-1 and Mix-2, with particulate emissions controlled by a dust collector, identified as DC-1, with particulate emissions exhausting through stack DC-1.
- (b) One (1) snowmobile ski manufacturing operation consisting of one (1) 1.052 MMBtu/hr natural gas fired boiler, identified as boiler # 91612 and one (1) 1.2 MMBtu/hr natural gas fired boiler, identified as boiler #THZ-0304

Existing Approvals

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

- (a) Exemption 003-16274-00165, issued on January 7, 2003; and
- (b) Exemption 003-19710-00165, issued on August 19, 2004.

All conditions from previous approvals were incorporated into this permit.

Justification for the Revision

The Exemption for this source is being modified and issued pursuant to 326 IAC 2-1.1-3.

Enforcement Issue

There are no enforcement actions pending. Pursuant to 326 IAC 2-1.1-2, this source is exempt from permitting requirements.

Stack Summary

Stack ID	Operation	Flow Rate (acfm)	Temperature (°F)
DC-1	Mix-1, Mix-2	4,900	Ambient

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 January 20, 2006.

Emission Calculations

See Appendix A of this document for detailed emission calculations (Appendix A, page 1 and 2).

Potential to Emit of the Source Before Controls

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	1.69
PM10	1.69
PM2.5	1.69
SO ₂	0.01
VOC	0.05
CO	0.83
NO _x	0.99
HAPs	0.02

- (a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of all criteria pollutants are less than the levels listed in 326 IAC 2-1.1-3(e)(1). Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3. An exemption will be issued.

County Attainment Status

The source is located in Allen County.

Pollutant	Status
PM10	Attainment
PM 2.5	Attainment
SO ₂	Attainment
NO ₂	Attainment
1-hour Ozone	Attainment
8-hour Ozone	Nonattainment
CO	Attainment
Lead	Attainment

- (a) Allen 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 PM2.5 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 – Entire Source section.
- (b) 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 the ozone standards. Allen County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for nonattainment new source review.
- (c) Allen County has been classified as attainment or unclassifiable in Indiana for all other criteria 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 - Entire Source section.
- (d) Fugitive Emissions
 Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 or 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, Part 70, or FESOP Definition (emissions after controls, based on 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	1.69
PM10	1.69
PM2.5	1.69
SO ₂	0.01
VOC	0.05
CO	0.83
NO _x	0.99
Single HAP	0.02
Combination HAPs	0.02

- (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 greater, no non-attainment regulated pollutant is emitted at a rate of 100 tons per year or greater, and it is not in one of the 28 listed source categories.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit 003-22544-00165, is still 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 per 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) included in this exemption.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) included in this exemption.

State Rule Applicability – Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-3 (Emission Offset)

This source is not in 1 of the 28 source categories and there are no applicable New Source Performance Standards that were in effect on August 7, 1980, therefore, fugitive emissions of VOC and PM are not counted towards applicability of PSD.

This source was constructed in 1995. At the time of construction, the PTE for PM, PM10, VOC, SO₂, NO_x and CO was less than 250 tons per year. This source was a minor source under PSD at the time of construction.

In 2002, the source added a 1.052 MMBtu natural gas fired boiler. The addition of this boiler did not trigger PSD review because the potential to emit of PM, PM10, VOC, SO₂, NO_x and CO from this boiler was less than 250 tons per year. After the addition of this boiler, the potential to emit of PM, PM10, VOC, SO₂, NO_x and CO from the entire source was less than 250 tons per year. The source remained a minor source under PSD after this modification.

This source is located in Allen County. Allen County was designated as a nonattainment area for the 8-hour ozone standard on June 15, 2004. The potential to emit of VOC of this source, after limits, is less than 100 tons per year. Therefore, this source is a minor source under Emission Offset.

On August 19, 2004, the source was issued Exemption 003-19710-00165, allowing it to construct and operate a 1.2 MMBtu boiler. The addition of this boiler did not trigger PSD review because the potential to emit of PM, PM10, SO₂, NO_x and CO from this boiler was less than 250 tons per year. The addition of this boiler did not trigger Emission Offset review because the potential to emit of VOC from this boiler was less than 100 tons per year. After the addition of this boiler, the potential to emit of PM, PM10, VOC, SO₂, NO_x and CO from the entire source was less than 100 tons per year. The source remained a minor source under PSD and Emission Offset after this modification.

326 IAC 2-6 (Emission Reporting)

This source is located in Allen County and the potential to emit of all regulated pollutants is less than one hundred (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 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 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

Pursuant to 326 IAC 6-3-2, the particulate from the mixing operations (Mix-1 and Mix-2) shall be limited to 1.58 pounds per hour when operating at a throughput rate of 480 pounds per hour.

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:

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

Conclusion

The operation of this stationary plastics molding plant shall be subject to the conditions of this Exemption No.: 003-22544-00165.

Appendix A: Emission Calculations
Particulate Emissions - Plastic Resin Mixing Operations

Company Name: Quadrant Engineering Plastic Products
Address: 2710 American Way, Fort Wayne, Indiana 46809
Exemption: 003-22544-00165
Reviewer: ERG/ST
Date: February 20, 2006

Emissions Unit	Process Weight Rate (lbs/hour)	Amount of Dust Collected in DC-1* (lbs/year)	Control Efficiency (%)	Dust Collected* (lbs/hour)	PTE for Particulate Before Controls (tons/year)	PTE for Particulate After Controls (tons/year)	PTE for Particulate Before Controls (lbs/hour)	PTE for Particulate After Controls (lbs/hour)
Dust Collector DC-1	480	3,200	99%	0.37	1.62	0.016	0.37	0.004

*Based on reported amount of dust collected from one year of operations

Methodology

Dust Collected (lbs/hour) = Dust Collected (lbs/year) / 8760 (hours/year)

PTE Before Controls (tons/year) = Dust Collected (lbs/hour) / (Control Efficiency %) x 8760 (hours/year) * 1 ton/2,000 lbs

PTE After Controls (tons/year) = Dust Collected (lbs/hour) x (1 - Control Efficiency %) x 8760 (hours/year) * 1 ton/2,000 lbs

PTE Before Controls (lbs/hour) = Dust Collected (lbs/hour) / (Control Efficiency %)

PTE After Controls (lbs/hour) = Dust Collected (lbs/hour) x (1 - Control Efficiency %)

Compliance with 326 IAC 6-3-2(e) - Particulate Matter Emissions Limitations

$$\text{Maximum Allowable Emissions} = E = 4.10 * P^{0.67}$$

Where: P = Process Rate in tons per hour
 E = Rate of Emissions in pounds per hour

Maximum Allowable Emissions = **1.58 lbs/hour**

Calculated Emissions (lbs/hr)		
Dust Collector DC-1	0.004	lbs/hour

Calculated Emissions (lbs/hour) = Dust Collected (lbs/hour) x (1 - Control Efficiency (%))

Based on calculations, the process is in compliance with the requirements of 326 IAC 6-3-2 before use of the control device.

Appendix A: Emission Calculations
Combustion Emissions for Natural Gas Fired Boilers

Company Name: Quadrant Engineering Plastic Products
Address: 2710 American Way, Fort Wayne, Indiana 46809
Exemption: 003-22544-00165
Reviewer: ERG/ST
Date: February 20, 2006

Emission Unit Description	Emission Unit ID	Heat Input Capacity (MMBtu/hr)	Maximum Potential Throughput (MMCF/yr)
Natural Gas-Fired Boiler	91612	1.05	9.22
Natural Gas-Fired Boiler	THZ-0304	1.20	10.5

Pollutant Emission Factors (lbs/MMCF)						
PM*	PM10*	SO ₂	NO _x **	CO	VOC	HAPs
7.6	7.6	0.6	100	84.0	5.5	1.89

Potential To Emit (tons/yr)							
Emission Unit ID	PM	PM10	SO ₂	NO _x	CO	VOC	HAPs
91612	0.04	0.04	0.00	0.46	0.39	0.03	0.01
THZ-0304	0.04	0.04	0.00	0.53	0.44	0.03	0.01
TOTALS	0.07	0.07	0.01	0.99	0.83	0.05	0.02

* PM and PM10 emission factor are for condensable and filterable PM and PM10 combined.

**Emission factors for NO_x: Uncontrolled = 100 lb/MMCF

Emission factors are from AP-42, Chapter 1.4 - Natural Gas Combustion, Tables 1.4-1, 1.4-2, 1.4-3 and 1.4-4. SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03. (AP-42 Supplement D 7/98)

1 MMBtu = 1,000,000 Btu

1 MMCF = 1,000,000 cubic feet of gas

All emission factors are based on normal firing.

Methodology

Max. Potential Throughput (MMCF/year) = Heat Input Capacity (MMBtu/hour) x 8,760 (hours/year) x 1 MMCF/1,000 MMBtu

PTE (tons/year) = Max. Potential Throughput (MMCF/year) x Emission Factor (lbs/MMCF) x 1 ton/2,000 lbs