INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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*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: July 11, 2005

RE: Monaco Coach Corporation / 039-19543-00017

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

# Notice of Decision: Approval - Effective Immediately

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 13-15-5-3, this permit 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.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require 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 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 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.dot 1/10/05

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July 11, 2005

Mr. Kurt W. Anderson
Monaco Coach Corporation
606 Nelson's Parkway, P.O. Box 465
Wakarusa, Indiana 46573

Re: 039-19543-00017
First Significant Source Modification to
Part 70 Permit No.: T039-7559-00017

Dear Mr. Anderson:

Monaco Coach Corporation was issued a Part 70 Operating Permit T039-7559-00017 on June 21, 2004 for a multiple-plant complex that assembles and paints high quality luxury motor homes that vary in floor plan and length. An application to modify the source was received on August 31, 2004. Pursuant to the provisions of 326 IAC 2-7-10.5, the following emission units are approved for construction at the source:

1. Addition of two (2) coating booths (identified as SV2-35 and SV2-36), one (1) bake oven (identified as SV2-37), and two (2) air make-up units to an existing Partial Paint Line A at plant 2, with an aggregate maximum capacity of 1,400 full paint units (motor homes) per year or 2,500 Partial Paint Units (motor homes) per year from the entire Partial Paint Line A. Coating booth SV2-36 uses reciprocator technology for coating application and the remainder of the coating booths use HVLP spray equipment or its equivalent, with emissions controlled by dry filters. The bake oven SV2-37 and two (2) air make-up units burn natural gas and each have a maximum heat input capacity of 4.0 MMBtu per hour.

2. Addition of one (1) closed molding operation at an existing fiberglass fabrication plant 36, an alternative method to open molding operation, used when closed molding operation is viable.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).

2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

This significant source modification authorizes construction of the new emission units. Operating conditions shall be incorporated into the Part 70 operating permit as a significant permit modification in accordance with 326 IAC 2-7-10.5(l)(2) and 326 IAC 2-7-12. Operation is not approved until the significant permit modification has been issued.

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 Sanober Durrani, ERG, Morrisville, North Carolina 27560, or call (919) 468-7810 to speak directly to Ms. Durrani. Questions may also be directed to Duane Van Laningham at IDEM, OAQ, 100 North Senate Avenue, Indianapolis, Indiana, 46204, or call (800) 451-6027, and ask for Duane Van Laningham, or extension 3-6878, or dial (317) 233-6878.

Sincerely,
Original signed by

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments

ERG/SD

cc: File - Elkhart County
Elkhart County Health Department
Northern Regional Office
Air Compliance Section Inspector - Paul Karkiewicz
Compliance Data Section
Administrative and Development
Technical Support and Modeling - Michele Boner

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# PART 70 OPERATING PERMIT
# OFFICE OF AIR QUALITY

## Monaco Coach Corporation
## 606 Nelson's Parkway
## Wakarusa, IN 46573

(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.

**The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.**

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 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. **This permit also addresses certain New Source Review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-2 and 326 IAC 2-7-10.5, applicable to those conditions.**

| | |
|---|---|
| Operation Permit No.: T039-7559-00017 | |
| Issued by:<br>Janet G. McCabe, Assistant Commissioner<br>Office of Air Quality | Issuance Date: June 21, 2004<br><br>Expiration Date: June 21, 2009 |
| First Significant Permit Modification No.: 039-15279-00017, issued April 12, 2005 | |
| Second Significant Source Modification No.:<br>039-19543-00017 | Pages Affected: 3, 6, 10, 12-15, 17, 26-35 |
| Original signed by:<br>Paul Dubenetzky, Chief<br>Permits Branch<br>Office of Air Quality | Issuance Date: July 11, 2005 |

*Mitchell E. Daniels, Jr.*
Governor

*Thomas W Easterly*
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**SECTION A SOURCE SUMMARY**

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in Conditions A.1, A.3, and A.4 is descriptive information and does not constitute enforceable conditions. However, the Permittee 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 Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)] [326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary source that is a multiple-plant complex that assembles and paints high-quality, luxury motor homes that vary in floor plan and length.

| | |
|---|---|
| Responsible Official: | Chief Administrative Officer/ Senior Vice President |
| Source Address: | 606 Nelson's Parkway, Wakarusa, IN 46573 |
| Mailing Address: | 606 Nelson's Parkway, Wakarusa, IN 46573 |
| Source Phone Number: | (260) 862-7347 |
| SIC Code: | 3716 |
| County Location: | Elkhart |
| Source Location Status: | Nonattainment for ozone under the 8-hour standard;<br>Attainment for ozone under the 1-hour standard and for all other criteria pollutants |
| Source Status: | Part 70 Permit Program<br>Major Source, under PSD and Nonattainment NSR<br>Major Source, Section 112 of the Clean Air Act<br>Not 1 of 28 Source Categories |

A.2 Part 70 Source Definition [326 IAC 2-7-1(22)]

Pursuant to CP 039-8662-00017, issued January 9, 1998, Monaco Coach Corporation's Nelson's Parkway Complex consists of the following plants:

(a) Plant 1 (formerly Plant 30): Motorized recreational vehicle assembly

(b) Plant 2: Final Paint

(c) Plant 20: Welding and adhesive application

(d) Plant 22: Metal shop

(e) Plants 23 & 24: Normal maintenance operations

(f) Plant 25: Warehouse and Tile Floor Set

(g) Plant 26: White glove inspection (formerly called Undercoating)

(h) Plant 27: Storage

(i) Plant 28: Formtec/Thermoforming

(j) Plant 29: Towable service center (formerly called Molds research & development)

(k) Plant 31: Sewing, warehouse, white glove and cap assembly (formerly a paint area)

(l) Plant 32: R&D shop and warehouse

(m) Plant 33: Compressor building
(n) Plant 34: Fire pump

(o) Plant 36: Fiberglass fabrication

(p) Plant 37: Fiberglass molding

(q) Plant 38: R&D machine shop and print shop

(r) Plant 39: Training Center and Overflow Service Center

(s) Plant 46: Dispatch

Since these twenty (20) plants are located on contiguous or adjacent properties, belong to the same industrial grouping, and under common control of the same entity, they are considered one (1) source.

A.3 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

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

(a) Plant 1 (formerly Plant 30): A motorized recreational vehicle assembly plant, consisting of:

(1) One (1) dip tank coating operation, identified as SV1-5, constructed in 1991 and reconstructed in 1997, a maximum capacity of 3.5 units per hour, with emissions uncontrolled, and exhausting to stack SV1-5;

(2) Two (2) surface coating booths for chassis painting, identified as SV1-3 and SV1-4, each constructed in 1991 and reconstructed in 1997, each with a maximum capacity of 3.5 units per hour, using air-atomized spray equipment, with emissions controlled by dry filters, and exhausting to stacks SV1-3 and SV1-4, respectively;

(3) One (1) woodworking millroom, identified as D1-01, constructed in 1997, a maximum capacity of 2000 pounds of wood per hour, with emissions controlled by a baghouse, and exhausting to stack DV1-01;

(4) One (1) sidewall adhesive application process, identified as SV1-6, constructed in 1997, a maximum capacity of 1.5 units per hour, with emissions uncontrolled, and exhausting to stack SV1-6;

(5) Three (3) manual assembly lines, using caulks, sealants, cleaners, and various hand tools, identified as D1-04, each line constructed in 1997, a total maximum capacity of 3.5 units per hour, with emissions uncontrolled, and exhausting to general ventilation vent GV1-01;

(6) Eighty-four (84) welding stations, constructed in 1998, with a maximum capacity of 3.0 pounds of wire per station per hour, with emissions uncontrolled, exhausting to general ventilation vent GV1-02;

(b) Plant 2: A final paint plant, consisting of:

(1) One (1) Partial Paint Line A, constructed in 1997 and reconstructed in 2003, consisting of one (1) primer/basecoat booth, one (1) clearcoat booth, and one (1) clearcoat/bake booth, identified as SV2-27, SV2-28, and SV2-29, respectively, an aggregate maximum capacity of 1,400 full paint units (motor homes) per year or 2,500 partial paint units (motor homes) per year, using HVLP spray equipment or its equivalent, with emissions controlled by dry filters, exhausting to stacks SV2-27, SV2-28, and SV2-29, respectively and consisting of:

(A) Two (2) coating booths, identified as SV2-35 and SV2-36, applying basecoat and clear RTS, with booth SV2-35 using HVLP equipment or its equivalent, and booth SV2-36 using reciprocator technology to apply coating material, and controlled by dry filters;

(B) One (1) natural gas-fired bake oven, identified as SV2-37, with a maximum heat input capacity of 4.0 MMBtu per hour; and

(C) Two (2) natural gas-fired air make-up units, each with a maximum heat input capacity of 4.0 MMBtu per hour.

(2) One Full Paint Line B, constructed in 1997 and reconstructed in 2003, consisting of:

(A) One (1) slideout paint and clear booth, one (1) seal and base booth, and one (1) paint stripe booth, identified as SV2-20, SV2-21, and SV2-22, respectively, an aggregate maximum capacity of 5 units (motor homes) per day, using HVLP spray equipment or its equivalent, with emissions controlled by dry filters, exhausting to stacks SV2-20, SV2-21, and SV-22, respectively;

(B) One (1) prep and repair booth, one (1) clear and bake booth, one (1) sand and repair station, and one (1) reclear and bake booth, identified as SV2-23, SV2-24, SV2-25, and SV2-26, respectively, an aggregate maximum capacity of 5 units (motor homes) per day, using HVLP spray equipment or its equivalent, with emissions controlled by dry filters, exhausting to stacks SV2-23A, SV2-23B, SV2-24A, SV2-24B, SV2-25A, SV2-25B, SV2-26A, and SV2-26B, respectively;

(3) One Full Paint Line C, constructed in 1997 and reconstructed in 2003, consisting of:

(A) One (1) slideout paint and clear booth, one (1) seal and base booth, and one (1) paint stripe booth, identified as SV2-13, SV2-14, and SV2-15, respectively, an aggregate maximum capacity of 5 units (motor homes) per day, using HVLP spray equipment or its equivalent, with emissions controlled by dry filters, exhausting to stacks SV2-13, SV2-14, and SV2-15 respectively;

(B) One (1) prep and repair booth, one (1) clear and bake booth, one (1) sand and repair station, and one (1) reclear and bake booth, identified as

SV2-16, SV2-17, SV2-18, and SV2-19, respectively, an aggregate maximum capacity of 5 units (motor homes) per day, using HVLP spray equipment or its equivalent, with emissions controlled by dry filters, exhausting to stacks SV2-16A, SV2-16B, SV2-17A, SV2-17B, SV2-18A, SV2-18B, SV2-19A, and SV2-19B, respectively;

(4) One Full Paint Line D, constructed in 2003, consisting of:

(A) One (1) primer/basecoat booth and one (1) repair and stripe booth, identified as SV2-7 and SV2-8 respectively, a maximum capacity of 5 units (motor homes) per day, using HVLP spray equipment or its equivalent, with emissions controlled by dry filters, exhausting to stacks SV2-7 and SV2-8, respectively;

(B) One (1) slideout booth, one (1) repair and clear booth, one (1) sand and repair station, and one (1) reclear booth, identified as SV2-9, SV2-10, SV2-11, and SV2-12, respectively, an aggregate maximum capacity of 5 units (motor homes) per day, using HVLP spray equipment or its equivalent, with emissions controlled by dry filters, exhausting to stacks SV2-9A, SV2-9B, SV2-10A, SV2-10B, SV2-11A, SV2-11B, SV2-12A, and SV2-12B, respectively;

(5) One Full Paint Line E, constructed in 2003, consisting of:

(A) One (1) primer/basecoat booth and one (1) repair and stripe booth, identified as SV2-1 and SV2-2 respectively, a maximum capacity of 5 units (motor homes) per day, using HVLP spray equipment or its equivalent, with emissions controlled by dry filters, exhausting to stacks SV2-1 and SV2-2, respectively;

(B) One (1) slideout booth, one (1) repair and clear booth, one (1) sand and repair station, and one (1) reclear booth, identified as SV2-3, SV2-4, SV2-5, and SV2-6, respectively, an aggregate maximum capacity of 5 units (motor homes) per day, using HVLP spray equipment or its equivalent, with emissions controlled by dry filters, exhausting to stacks SV2-3A, SV2-3B, SV2-4A, SV2-4B, SV2-5A, SV2-5B, SV2-6A, and SV2-6B, respectively;

(6) One (1) repair area, consisting of:

(A) One (1) paint repair booth, identified as SV2-30, constructed in 1998, a maximum capacity of 3.5 units per hour, using air-atomized spray equipment, with emissions controlled by dry filters, exhausting to stack SV2-30;

(B) One (1) paint repair booth, identified as SV2-31, constructed in 1998, a maximum capacity of 3.5 units per hour, using air-atomized spray equipment, with emissions controlled by dry filters, exhausting to stack SV2-31;

(C) One (1) paint repair booth, identified as SV2-32, constructed in 1998, a maximum capacity of 3.5 units per hour, using air-atomized spray equipment, with emissions controlled by dry filters, exhausting to stack SV2-32;

(D) One (1) paint repair booth, identified as SV2-33, constructed in 2003, a maximum capacity of 3.5 units per hour, using air-atomized spray equipment, with emissions controlled by dry filters, exhausting to stack SV2-33; and

(E) One (1) paint repair booth, identified as SV2-34, constructed in 2003, a maximum capacity of 3.5 units per hour, using air-atomized spray equipment, with emissions controlled by dry filters, exhausting to stack SV2-34.

(7) One (1) undercoating operation, constructed in 1998, a maximum capacity of 3.5 units per hour, using air-atomized spray equipment, with emissions controlled by dry filters, exhausting to stacks SV2-UC1 and SV2-UC2; and

(c) Plant 20: A welding and adhesive application plant, consisting of:

(1) One (1) adhesive application process, identified as EU-20A, constructed in the 1960s, a maximum capacity of 3.5 units per hour, with emissions uncontrolled, exhausting to general ventilation stacks GV20-6 through GV20-10; and

(2) One (1) sidewall welding operation, identified as EU-20B, constructed prior to 1981, consisting of twenty-four (24) welding stations, with a maximum capacity of 3.0 pounds of wire per station per hour, with emissions uncontrolled, and exhausting to general ventilation stacks GV20-2 through GV20-5.

(d) Plant 22: A metal shop, consisting of:
One (1) dash component production area which includes one (1) surface coating spray room, identified as GV22-3/GV22-4, constructed in the 1970s, a maximum capacity of 3.5 units per hour, using air-atomized spray application, with emissions controlled by dry filters, exhausting to stacks GV22-3 and GV22-4.

(e) Plant 28: A Formtec (Thermoforming) plant, consisting of:

(1) One (1) plastic dash component vinyl wrapping operation, identified as EU-28, constructed prior to 1985, a maximum capacity of 7000 units per year, with emissions uncontrolled, and exhausting to stack GV28-4; and

(2) One (1) tank cover chemical welding operation, identified as SV28-01, constructed prior to 1985, a maximum capacity of 3.5 units per hour, with emissions uncontrolled, exhausting to stack SV28-01.

(f) Plant 36: A fiberglass fabrication plant, consisting of:

(1) Two (2) gelcoat booths, identified as GC36-1 and GC36-2, each constructed in 1986, each with a maximum capacity of 3.5 units per hour, gel applied using air-atomized spray equipment, with emissions controlled by dry filters, exhausting to stack SV36-7;

(2) One (1) barrier coat spray station, identified as BC36-1, constructed in 2001, a maximum capacity of 4.0 units per hour, unfilled production resins applied using non-atomized spray application, with emissions controlled by dry filters and exhausting to stack SV36-14;

(3) Three (3) fiberglass chop booths, identified as SV36-1&2, SV36-3&4, and SV36-5&6, each constructed prior to 1985, each with a maximum capacity of 3.5 units

per hour, with emissions controlled by dry filters, exhausting to stacks SV36-1, through SV36-6;

(4) Five (5) grinding stations, identified as GB36-1, GB36-2, GB36-3, GB36-4, and GB36-5, each constructed in 1994, each with a maximum capacity of 3.5 units per hour, with emissions controlled by dry filters, and each with a 100% recirculated air exhaust air steam;

(5) One (1) gelcoat booth, identified as GC36-3, constructed in 1994, a maximum capacity of 3.5 units per hour, with emissions controlled by dry filters, exhausting to stack SV36-12 and SV36-13;

(6) Two (2) fiberglass chop booths, identified as CS36-4 and CS36-5, constructed in 1994, each with a maximum capacity of 3.5 units per hour, with emissions controlled by dry filters, exhausting to stacks SV36-8 and SV36-9;

(7) One (1) closed molding operation, an alternative method to open molding operation, used when closed molding operation is viable.

(g) Plant 37: A fiberglass molding plant, consisting of:

(1) One (1) fiberglass fabricating area, identified as CS37-1, constructed prior to 1985, a maximum capacity of 1.0 unit per hour, using air-atomized spray equipment, with emissions controlled by dry filters, and exhausting through general ventilation to stacks GV37-1 and GV37-2;

(2) One (1) gel coat booth, identified as GC37-1, constructed prior to 1985, a maximum capacity of 1.0 unit per hour, with emissions controlled by dry filters, and exhausting through general ventilation to stacks GV37-1 and GV37-2;

(h) Plant 39: Training Center and Overflow Service Center:
One (1) R&D paint booth, identified as PB39-1, constructed in 1989, used for training and repair, with emissions controlled by dry filters, and exhausting to stack SV39-1.

A.4 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [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):

(a) Plant 1: (formerly Plant 30) Motorized recreational vehicle assembly plant, consisting of:

(1) Water-based adhesives that are less than or equal to 5% by volume of VOCs excluding HAPs. [326 IAC 2-2] [40 CFR 52.21]

(2) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring, buffing, polishing, abrasive blasting, pneumatic conveying, and woodworking operations:

One (1) metal working area, identified as D1-02, constructed in 1997, a maximum capacity of 250 pounds per hour, with emissions controlled by a baghouse, exhausting through general ventilation to stacks GV1-1 and GV1-2; [326 IAC 6-3-2]

(b) Plant 2: Final Paint
Activities with emissions equal to or less than the following thresholds: 5 lb/hr or 25 lb/day PM; 5 lb/hr or 25 lb/day $SO_2$; 5 lb/hr or 25 lb/day $NO_x$; 3 lb/hr or 15 lb/day VOC; 0.6 tons per year Pb; 1.0 ton/yr of a single HAP, or 2.5 ton/yr of any combination of HAPs:

(1) Two (2) paint prep areas, utilizing solvents, cleaners, composites, and hand-sanding equipment, constructed in 1997 and reconstructed in 2003, a total maximum capacity of 4.5 units per hour, with emissions controlled by filtered exhaust identified as D2-1, exhausting through general ventilation stacks GV2-3 through GV2-7; [326 IAC 2-2] [40 CFR 52.21] [326 IAC 2-4.1]

(2) A paint storage and mixing area, exhausting to vents SV2-15 and SV2-16. [326 IAC 2-2] [40 CFR 52.21] [326 IAC 2-4.1] [40 CFR Part 63, Subpart MMMM] [40 CFR Part 63, Subpart PPPP]

(3) One (1) final inspection area utilizing hand-applied solvents, cleaners, sealants, adhesives, and paint, constructed in 1998, a maximum capacity of 3.5 units per hour, with emissions uncontrolled, exhausting through general ventilation to stacks GV2-1 and GV2-2. [326 IAC 2-2] [40 CFR 52.21] [326 IAC 2-4.1] [40 CFR Part 63, Subpart MMMM] [40 CFR Part 63, Subpart PPPP]

(c) Plant 22: A metal shop
Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and/or electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring, buffing, polishing, abrasive blasting, pneumatic conveying, and woodworking operations:

One (1) baggage door assembly area and metal cutting operation, identified as EU-22, constructed prior to 1989, a maximum capacity of 0.42 tons per hour, with emissions controlled by a cyclone, exhausting through general ventilation to stacks GV22-1 and GV22-2; [326 IAC 6-3-2]

(d) Plant 26: A White glove inspection area
Activities with emissions equal to or less than the following thresholds: 5 lb/hr or 25 lb/day PM; 5 lb/hr or 25 lb/day $SO_2$; 5 lb/hr or 25 lb/day $NO_x$; 3 lb/hr or 15 lb/day VOC; 0.6 tons per year Pb; 1.0 ton/yr of a single HAP, or 2.5 ton/yr of any combination of HAPs:

Four (4) inspection bays, used to perform final vehicle inspection, constructed prior to 1981, a maximum capacity of 3.5 units per hour, using manually-applied cleaners and touch-up paint, with emissions exhausting through general ventilation to stacks GV26-1 through GV26-4; [40 CFR 52.21][326 IAC 2-2][40 CFR Part 63, Subpart MMMM][40 CFR Part 63, Subpart PPPP]

(e) Plant 28: Formtec/Thermoforming
Activities with emissions equal to or less than the following thresholds: 5 lb/hr or 25 lb/day PM; 5 lb/hr or 25 lb/day $SO_2$; 5 lb/hr or 25 lb/day $NO_x$; 3 lb/hr or 15 lb/day VOC; 0.6 tons per year Pb; 1.0 ton/yr of a single HAP, or 2.5 ton/yr of any combination of HAPs:

Four (4) plastic sheet component assembly (thermal forming) operations, identified as GV28-1, GV28-2, GV28-3, and GV28-8, constructed in 1979, 1980, 1983, and 1983, respectively, each with a maximum capacity of 7000 units per year, with emissions uncontrolled, and exhausting to stacks GV28-1, GV28-2, GV28-3, and GV28-8, respectively. Note that GV28-2 was converted to a rotary station unit in 2003; [40 CFR 52.21] [326 IAC 2-2]

(f) Plant 29: Towable service center and bay count
Activities with emissions equal to or less than the following thresholds: 5 lb/hr or 25 lb/day PM; 5 lb/hr or 25 lb/day $SO_2$; 5 lb/hr or 25 lb/day $NO_x$; 3 lb/hr or 15 lb/day VOC; 0.6 tons per year Pb; 1.0 ton/yr of a single HAP, or 2.5 ton/yr of any combination of HAPs:

Thirteen (13) service bays used to perform manual vehicle inspection and repairs on customer owned units, constructed prior to 1989 and expanded in 2000, using some general cleaners and touch-up paint, with emissions exhausting through general ventilation to stacks GV29-1 through GV29-4. [40 CFR 52.21] [326 IAC 2-2][40 CFR Part 63, Subpart MMMM][40 CFR Part 63, Subpart PPPP]

(g) Plant 31: Sewing, warehouse, white glove and cap assembly
Activities with emissions equal to or less than the following thresholds: 5 lb/hr or 25 lb/day PM; 5 lb/hr or 25 lb/day $SO_2$; 5 lb/hr or 25 lb/day $NO_x$; 3 lb/hr or 15 lb/day VOC; 0.6 tons per year Pb; 1.0 ton/yr of a single HAP, or 2.5 ton/yr of any combination of HAPs:

(1) Fiberglass cap windshield set operations and repairs using adhesives and paints; [40 CFR 52.21][326 IAC 2-2] [40 CFR Part 63, Subpart MMMM] [40 CFR Part 63, Subpart PPPP]

(2) Sewing operations using some adhesives and cleaners; [40 CFR 52.21][326 IAC 2-2] [40 CFR Part 63, Subpart MMMM] [40 CFR Part 63, Subpart PPPP]

(3) White glove inspections using some cleaners, caulks and touch-up paint; [40 CFR 52.21][326 IAC 2-2][40 CFR Part 63, Subpart MMMM][40 CFR Part 63, Subpart PPPP] and

(4) One (1) natural gas-fired boiler with a heat input capacity of 12.0 MMBtu/hr. [326 IAC 6-2-3]

(h) Plant 32: R&D (Research & Development) shop and warehouse
Activities with emissions equal to or less than the following thresholds: 5 lb/hr or 25 lb/day PM; 5 lb/hr or 25 lb/day $SO_2$; 5 lb/hr or 25 lb/day $NO_x$; 3 lb/hr or 15 lb/day VOC; 0.6 tons per year Pb; 1.0 ton/yr of a single HAP, or 2.5 ton/yr of any combination of HAPs:

(1) one (1) R&D CNC router [326 IAC 6-3-2]

(2) one (1) R&D fiberglass spray booth, identified as SV32-1, with emissions controlled by dry filters [40 CFR 52.21][326 IAC 2-2][40 CFR 52 Subpart P] [326 IAC 6-3-2(d)] [326 IAC 20-25]

(i) Plant 38: R&D machine shop and print shop
Activities with emissions equal to or less than the following thresholds: 5 lb/hr or 25 lb/day PM; 5 lb/hr or 25 lb/day $SO_2$; 5 lb/hr or 25 lb/day $NO_x$; 3 lb/hr or 15 lb/day VOC; 0.6 tons per year Pb; 1.0 ton/yr of a single HAP, or 2.5 ton/yr of any combination of HAPs:

Three (3) printing presses (moved from Plant 45) which use low-VOC soy-based inks. [40 CFR 52.21] [326 IAC 2-2]

(j) Plant 25: Warehouse and Tile Floor Set:
Activities with emissions equal to or less than the following thresholds: 5 lb/hr or 25 lb/day PM; 5 lb/hr or 25 lb/day $SO_2$; 5 lb/hr or 25 lb/day $NO_x$; 3 lb/hr or 15 lb/day VOC; 0.6 tons per year Pb; 1.0 ton/yr of a single HAP, or 2.5 ton/yr of any combination of HAPs:

One (1) tile cutting operation; [326 IAC 6-3-2]

A.5 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).

**SECTION D.2 FACILITY OPERATION CONDITIONS**

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

(b) Plant 2: A final paint plant, consisting of:

(1) One (1) Partial Paint Line A, constructed in 1997 and reconstructed in 2003, consisting of one (1) primer/basecoat booth, one (1) clearcoat booth, and one (1) clearcoat/bake booth, identified as SV2-27, SV2-28, and SV2-29, respectively, an aggregate maximum capacity of 1,400 full paint units (motor homes) per year or 2,500 partial paint units (motor homes) per year, using HVLP spray equipment or its equivalent, with emissions controlled by dry filters, exhausting to stacks SV2-27, SV2-28, and SV2-29, respectively and consisting of:

(A) Two (2) coating booths, identified as SV2-35 and SV2-36, applying basecoat and clear RTS, with booth SV2-35 using HVLP equipment or its equivalent, and booth SV2-36 using reciprocator technology to apply coating material, and controlled by dry filters;

(B) One (1) natural gas-fired bake oven, identified as SV2-37, with a maximum heat input capacity of 4.0 MMBtu per hour; and

(C) Two (2) natural gas-fired air make-up units, each with a maximum heat input capacity of 4.0 MMBtu per hour.

(2) One Full Paint Line B, constructed in 1997 and reconstructed in 2003, consisting of:

(A) One (1) slideout paint and clear booth, one (1) seal and base booth, and one (1) paint stripe booth, identified as SV2-20, SV2-21, and SV2-22, respectively, an aggregate maximum capacity of 5 units (motor homes) per day, using HVLP spray equipment or its equivalent, with emissions controlled by dry filters, exhausting to stacks SV2-20, SV2-21, and SV-22, respectively;

(B) One (1) prep and repair booth, one (1) clear and bake booth, one (1) sand and repair station, and one (1) reclear and bake booth, identified as SV2-23, SV2-24, SV2-25, and SV2-26, respectively, an aggregate maximum capacity of 5 units (motor homes) per day, using HVLP spray equipment or its equivalent, with emissions controlled by dry filters, exhausting to stacks SV2-23A, SV2-23B, SV2-24A, SV2-24B, SV2-25A, SV2-25B, SV2-26A, and SV2-26B, respectively;

(3) One Full Paint Line C, constructed in 1997 and reconstructed in 2003, consisting of:

(A) One (1) slideout paint and clear booth, one (1) seal and base booth, and one (1) paint stripe booth, identified as SV2-13, SV2-14, and SV2-15, respectively, an aggregate maximum capacity of 5 units (motor homes) per day, using HVLP spray equipment or its equivalent, with emissions controlled by dry filters, exhausting to stacks SV2-13, SV2-14, and SV2-15 respectively;

(B) One (1) prep and repair booth, one (1) clear and bake booth, one (1) sand and repair station, and one (1) reclear and bake booth, identified as SV2-16, SV2-17, SV2-18, and SV2-19, respectively, an aggregate maximum capacity of 5 units (motor homes) per day, using HVLP spray equipment or its equivalent, with emissions controlled by dry filters, exhausting to stacks SV2-16A, SV2-16B, SV2-17A, SV2-17B, SV2-18A, SV2-18B, SV2-19A, and SV2-19B, respectively;

(The information describing the process contained in this facility description box is descriptive

information and does not constitute enforceable conditions.)

**Facility Description [326 IAC 2-7-5(15)]: Plant 2 (continued)**

(4) One Full Paint Line D, constructed in 2003, consisting of:

(A) One (1) primer/basecoat booth and one (1) repair and stripe booth, identified as SV2-7 and SV2-8 respectively, a maximum capacity of 5 units (motor homes) per day, using HVLP spray equipment or its equivalent, with emissions controlled by dry filters, exhausting to stacks SV2-7 and SV2-8, respectively;

(B) One (1) slideout booth, one (1) repair and clear booth, one (1) sand and repair station, and one (1) reclear booth, identified as SV2-9, SV2-10, SV2-11, and SV2-12, respectively, an aggregate maximum capacity of 5 units (motor homes) per day, using HVLP spray equipment or its equivalent, with emissions controlled by dry filters, exhausting to stacks SV2-9A, SV2-9B, SV2-10A, SV2-10B, SV2-11A, SV2-11B, SV2-12A, and SV2-12B, respectively;

(5) One Full Paint Line E, constructed in 2003, consisting of:

(A) One (1) primer/basecoat booth and one (1) repair and stripe booth, identified as SV2-1 and SV2-2 respectively, a maximum capacity of 5 units (motor homes) per day, using HVLP spray equipment or its equivalent, with emissions controlled by dry filters, exhausting to stacks SV2-1 and SV2-2, respectively;

(B) One (1) slideout booth, one (1) repair and clear booth, one (1) sand and repair station, and one (1) reclear booth, identified as SV2-3, SV2-4, SV2-5, and SV2-6, respectively, an aggregate maximum capacity of 5 units (motor homes) per day, using HVLP spray equipment or its equivalent, with emissions controlled by dry filters, exhausting to stacks SV2-3A, SV2-3B, SV2-4A, SV2-4B, SV2-5A, SV2-5B, SV2-6A, and SV2-6B, respectively;

(6) One (1) repair area, consisting of:

(A) One (1) paint repair booth, identified as SV2-30, constructed in 1998, a maximum capacity of 3.5 units per hour, using air-atomized spray equipment, with emissions controlled by dry filters, exhausting to stack SV2-30;

(B) One (1) paint repair booth, identified as SV2-31, constructed in 1998, a maximum capacity of 3.5 units per hour, using air-atomized spray equipment, with emissions controlled by dry filters, exhausting to stack SV2-31;

(C) One (1) paint repair booth, identified as SV2-32, constructed in 1998, a maximum capacity of 3.5 units per hour, using air-atomized spray equipment, with emissions controlled by dry filters, exhausting to stack SV2-32;

(D) One (1) paint repair booth, identified as SV2-33, constructed in 2003, a maximum capacity of 3.5 units per hour, using air-atomized spray equipment, with emissions controlled by dry filters, exhausting to stack SV2-33; and

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

**Facility Description [326 IAC 2-7-5(15)]: Plant 2 (continued)**

(E) One (1) paint repair booth, identified as SV2-34, constructed in 2003, a maximum capacity of 3.5 units per hour, using air-atomized spray equipment, with emissions controlled by dry filters, exhausting to stack SV2-34.

(7) One (1) undercoating operation, constructed in 1998, a maximum capacity of 3.5 units per hour, using air-atomized spray equipment, with emissions controlled by dry filters, exhausting to stacks SV2-UC1 and SV2-UC2; and

(specifically regulated insignificant activities:)

(b) Plant 2: Final Paint
Activities with emissions equal to or less than the following thresholds: 5 lb/hr or 25 lb/day PM; 5 lb/hr or 25 lb/day $SO_2$; 5 lb/hr or 25 lb/day $NO_x$; 3 lb/hr or 15 lb/day VOC; 0.6 tons per year Pb; 1.0 ton/yr of a single HAP, or 2.5 ton/yr of any combination of HAPs:

(1) Two (2) paint prep areas, utilizing solvents, cleaners, composites, and hand-sanding equipment, constructed in 1997 and reconstructed in 2003, a total maximum capacity of 4.5 units per hour, with emissions controlled by filtered exhaust identified as D2-1, exhausting through general ventilation stacks GV2-3 through GV2-7; [326 IAC 2-2] [40 CFR 52.21][326 IAC 2-4.1]

(2) A paint storage and mixing area, exhausting to vents SV2-15 and SV2-16. [326 IAC 2-2] [40 CFR 52.21][326 IAC 2-4.1][40 CFR Part 63, Subpart MMMM][40 CFR Part 63, Subpart PPPP]

(3) One (1) final inspection area utilizing hand-applied solvents, cleaners, sealants, adhesives, and paint, constructed in 1998, a maximum capacity of 3.5 units per hour, with emissions uncontrolled, exhausting through general ventilation to stacks GV2-1 and GV2-2. [326 IAC 2-2][40 CFR 52.21][326 IAC 2-4.1][40 CFR Part 63, Subpart MMMM][40 CFR Part 63, Subpart PPPP]

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

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

D.2.1 Best Available Control Technology (BACT) and Maximum Control Technology (MACT) [326 IAC 2-2] [40 CFR 52.21][326 IAC 2-4.1] [326 IAC 8-1-6]

Pursuant to PSD SSM 039-15620-00017, issued December 11, 2002, 326 IAC 2-4.1, 40 CFR 52.21 and 326 IAC 2-2:

(a) All facilities located at Plant 2 (Partial Paint Line A, Full Paint Lines B through E, prep area, repair area, undercoating operation, and final inspection area) must comply with the following requirements:

(1) Lacquer thinners and preparation cleaners and solvents used on motor home exteriors will be hand-wiped and contain a maximum 6.5 pounds VOC per gallon of coating as applied.

(2) Except as provided in (6) and (8) below, primers will be applied using high volume-low pressure (HVLP) spray equipment, or the equivalent, and contain a maximum of 3.5 pounds VOC per gallon of coating as applied.

(3) Except as provided in (6) and (8) below, base coats will be applied using HVLP spray equipment, or the equivalent, and contain a maximum VOC content of 6.5 pounds VOC per gallon of coating as applied.

(4) Except as provided in (6) and (8) below, clear coats will be applied using HVLP spray equipment, or the equivalent, and contain a maximum VOC content of 3.5 pounds VOC per gallon of coating as applied.

(5) Except as provided in (6) and (8) below, sealers will be applied using HVLP spray equipment, or the equivalent, and contain a maximum VOC content of 3.5 pounds VOC per gallon of coating as applied.

(6) As an alternative to complying with the individual VOC content limitations for base coats and clear coats, compliance may be determined by averaging the emissions from base coat and clear coat operations across affected lines. The average VOC content for the base coat/clear coat system shall be limited to less than or equal to 4.5 pounds VOC per gallon of coating as applied. This limitation is based on a ratio of two parts clear coat to one part base coat. Compliance will be demonstrated monthly based on the actual VOC content as applied of each coating and actual usage of base coats and clear coats during the month.

(7) Good housekeeping practices will be employed to minimize leaks, spills, and evaporative losses. These include: sealing lids on all containers not in use or in storage, the purging of guns and lines into approved containers, maintaining an organized spill response and clean-up operation, performing routine maintenance on spray equipment and pumps to prevent drips and seal leaks, the use of solvent recovery systems to recover reusable solvents for on-site or off-site recycling, and using aqueous, exempt solvents or citric cleaners where effective and practical.

(8) All coating materials, including primers, base coats, and clear coats, used in the repair booths will be applied with air-atomized spray equipment, or the equivalent.

(9) When necessary, motor home exteriors will be hand-wiped with cleaning solvent prior to painting.

(10) Collected solvents will be recycled on-site and/or off-site to recover reusable solvents and minimize waste.

(11) Motor homes will be undercoated with a waterborne-low VOC coating.

(b) The surface coating operations in Partial Paint Line A and Full Paint Lines B through E shall use, in aggregate, less than 539 tons of VOC, including coatings, dilution solvents, and cleaning solvents, per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these requirements and the VOC emissions from insignificant natural gas combustion is equivalent to VOC emissions (from Partial Paint Line A and Full Paint Lines B through E) of less than or equal to 540.4 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these requirements will satisfy the requirements of 326 IAC 2-4.1 (MACT), 40 CFR 52.21, and 326 IAC 2-2 (Prevention of Significant Deterioration).

D.2.2 Particulate Matter (PM) [40 CFR Part 52 Subpart P]

Pursuant to 40 CFR Part 52 Subpart P, the particulate matter (PM) from the surface coating operations shall not exceed the pound per hour emission rate established as E in the following formula:

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

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

D.2.3 Volatile Organic Compounds [326 IAC 8-2-9]

When coating metal parts, any change or modification which may increase the maximum capacity of any paint line (partial paint line A and full paint lines B through E) to greater than 35 vehicles (motor homes) per day must be approved by the OAQ before any such change may occur.

D.2.4 Particulate [326 IAC 6-3-2(d)]

Pursuant to 326 IAC 6-3-2(d), particulate from the surface coating operations shall be controlled by a dry particulate filter and the Permittee shall operate the control device in accordance with manufacturer's specifications.

D.2.5 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.2.6 Volatile Organic Compounds (VOC) [326 IAC 8-1-2][326 IAC 8-1-4]

Compliance with the VOC content and usage limitations contained in Condition D.2.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing, or obtaining from the manufacturer, copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

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

D.2.7 Operator Training Program

The Permittee shall implement an operator training program.

(a) All operators that perform surface coating operations using spray equipment or booth maintenance shall be trained in the proper set-up and operation of the particulate control system. All existing operators shall be trained upon permit issuance if training was not completed in the last twelve months. All new operators shall be trained within thirty (30) days of hiring or transfer.

(b) Training shall include proper filter alignment, filter inspection and maintenance, and trouble shooting practices. The training program shall be written and retained on site. The training program shall include a description of the methods to be used at the completion of initial and refresher training to demonstrate and document successful completion. Copies of the training program, the list of trained operators and training records shall be maintained on site or available within 1 hour for inspection by IDEM.

(c) All operators shall be given refresher training annually.

Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

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

D.2.8 Record Keeping Requirements

(a) To document compliance with Condition D.2.1, the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC content and usage limits established in Condition D.2.1. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.

(1) The VOC content of each coating material and solvent used less water.

(2) The amount of coating material and solvent used on monthly basis.

(A) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.

(B) Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(3) The total VOC usage for each month.

(b) To document compliance with Condition D.2.3, the Permittee shall maintain daily records of the number of vehicles painted on each paint line in that day.

(c) To document compliance with Condition D.2.7, the Permittee shall maintain copies of the training program, and the list of trained operators. Training records shall be maintained on site or available within 1 hour for inspection by IDEM.

(d) To document compliance with Condition D.2.5, the Permittee shall maintain of records of any additional inspections prescribed by the Preventive Maintenance Plan.

(e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.2.9 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.2.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

## SECTION D.8 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]: Plant 31 and Plant 32**

(specifically regulated insignificant activities)

(f) Plant 31: Sewing, warehouse, white glove and cap assembly
Activities with emissions equal to or less than the following thresholds: 5 lb/hr or 25 lb/day PM; 5 lb/hr or 25 lb/day $SO_2$; 5 lb/hr or 25 lb/day $NO_x$; 3 lb/hr or 15 lb/day VOC; 0.6 tons per year Pb; 1.0 ton/yr of a single HAP, or 2.5 ton/yr of any combination of HAPs:

(1) Fiberglass cap windshield set operations and repairs using adhesives and paints; [40 CFR 52.21][326 IAC 2-2][40 CFR Part 63, Subpart MMMM][40 CFR Part 63, Subpart PPPP]

(2) Sewing operations using some adhesives and cleaners; [40 CFR 52.21][326 IAC 2-2][40 CFR Part 63, Subpart MMMM][40 CFR Part 63, Subpart PPPP]

(3) White glove inspections using some cleaners, caulks and touch-up paint; [40 CFR 52.21][326 IAC 2-2][40 CFR Part 63, Subpart MMMM][40 CFR Part 63, Subpart PPPP] and

(4) One (1) natural gas-fired boiler with a heat input capacity of 12.0 MMBtu/hr. [326 IAC 6-2-3]

(g) Plant 32: R&D (Research & Development) shop and warehouse
Activities with emissions equal to or less than the following thresholds: 5 lb/hr or 25 lb/day PM; 5 lb/hr or 25 lb/day $SO_2$; 5 lb/hr or 25 lb/day $NO_x$; 3 lb/hr or 15 lb/day VOC; 0.6 tons per year Pb; 1.0 ton/yr of a single HAP, or 2.5 ton/yr of any combination of HAPs:

(1) one (1) R&D CNC router [326 IAC 6-3-2]

(2) one (1) R&D fiberglass spray booth, identified as SV32-1, with emissions controlled by dry filters [40 CFR 52.21] [326 IAC 2-2][40 CFR 52 Subpart P][326 IAC 6-3-2(d)][326 IAC 20-25]

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

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

D.8.1 Prevention of Significant Deterioration (PSD) [40 CFR 52.21] [326 IAC 2-2]

Pursuant to CP 039-7335-00017, issued July 24, 1997, SSM 039-12758-00017, issued May 15, 2001, and as revised by this Part 70 permit, the combined input of volatile organic compounds (VOC) to Plants 1, 20, 22, 26, 28, 29, 31, 32, 36, 37, 38, and 39 shall not exceed 249 tons per twelve consecutive month period with compliance determined at the end of each month.

Compliance with this limit (which is identical to Conditions D.1.3, D.3.1, D.4.1, D.5.1, D.6.1, D.7.1, D.9.3, D.10.1 and D.11.1) is equivalent to VOC emissions of less than 250 tons per year and will render the requirements of 40 CFR 52.21 and 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

D.8.2 Particulate Matter [326 IAC 6-2-3]

Pursuant to 326 IAC 6-2-3(e), the particulate matter (PM) emissions from the boiler shall not exceed 0.6 pounds per MMBtu heat input.

D.8.3 Particulate Matter (PM) [40 CFR 52 Subpart P]

Pursuant to CP 039-7335-00017, issued on July 24, 1997, and 40 CFR Part 52 Subpart P, the particulate matter (PM) from SV32-1 shall be limited by the following:

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

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

D.8.4 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the insignificant R&D CNC router shall be limited by the following equation:

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

D.8.5 Particulate [326 IAC 6-3-2(d)]

Pursuant to CP 039-7335-00017, issued on July 24, 1997 and 326 IAC 6-3-2(d), particulate from SV32-1 shall be controlled by a dry particulate filter, and the Permittee shall operate the control device in accordance with manufacturer's specifications.

D.8.6 Volatile Organic Compounds [326 IAC 8-1-6]

Any change or modification which may increase the potential VOC emissions from SV32-1 to greater than 25 tons per year must be approved by the OAQ before any such change may occur.

D.8.7 Emissions Standards for Reinforced Plastics Composites Fabricating [326 IAC 20-25-3]

Pursuant to 326 IAC 20-25-3, the owner or operator shall, for units SV32-1, GC36-1, GC36-2, BC36-1, SV36-1&2, SV36-3&4, SV36-5&6, GB36-1, GC36-3, CS36-4, CS36-5, CS37-1, and GC37-1, comply with the following provisions:

(a) The total HAP monomer content of the following materials shall be limited based on the application method used and the products produced as specified in the following table:

| | HAP Monomer Content, Weight Percent |
|---|---|
| Resin, Manual or Mechanical Application | |
| Production-Specialty Products | 48* |
| Production-Noncorrosion Resistant Unfilled | 35* |
| Production-Noncorrosion Resistant Filled (≥35% by weight) | 38 |
| Production, Noncorrosion Resistant, Applied to Thermoformed Thermoplastic Sheet | 42 |
| Production, Class I, Flame and Smoke | 60* |

| | HAP Monomer Content, Weight Percent |
|---|---|
| Shrinkage Controlled | 52 |
| Tooling | 43 |
| Gel Coat Application | |
| Production-Pigmented | 37 |
| Clear Production | 44 |
| Tooling | 45 |
| Production-Pigmented, subject to ANSI[a] standards | 45 |
| Production-Clear, subject to ANSI[a] standards | 50 |

[a] American National Standards Institute.
* Categories that must use mechanical nonatomized application technology or manual application as stated in subsection (b).

Compliance with these HAP monomer content limits shall be demonstrated on a monthly basis. If all of the resins and gel coats used during a month meet the specified HAP monomer content limits, then maintaining records of content and usage as specified under Condition 8.13 is sufficient for demonstrating compliance with the HAP monomer content limits.

In lieu of meeting the HAP monomer content limits specified in this condition, the owner or operator may use monthly emission averaging across each resin and/or gel coat application category listed in subsection (a), provided that:

(1) the actual HAP emissions of all the listed FRP production units are less than the sum of the allowable emissions as identified in the across category averaging equation listed below, and

(2) the owner or operator uses any one (1) or a combination of the following emission reduction techniques:

(A) Resins or gel coats with HAP monomer contents lower than specified in subsection (a).

(B) Vapor suppressed resins.

(C) Vacuum bagging or other similar technique. This item does not include resin transfer molding or compression molding.

(D) Air pollution control equipment where the emissions are estimated based on parametric measurements or stack monitoring.

(E) Controlled spray used in combination with automated actuators or robots.

(F) Controlled spray that includes the following:

(i) Mold flanges.
(ii) Spray technique.
(iii) Spray gun pressure.
(iv) Means of verifying continuous use of the controlled spray technique, such as mass balance of materials and products (surface area and thickness of product), as approved by the commissioner prior to implementation.

(G) Non-atomized application technology including flow coaters, flow choppers, pressure fed rollers, fluid impingement, or other non-spray application methods or equipment approved by IDEM, OAQ.

(H) Other approved enforceable alternative emission reduction techniques that are at least equally protective of the environment as the emission standards listed in subsections (a) through (c) of this condition.

For averaging across categories:

$$\Sigma E_{mA} < \Sigma (M_R * E_{Ra}) + \Sigma (M_G * E_{Ga})$$

Where:

$M_R$ = Total monthly mass of resins within each resin category
$M_G$ = Total monthly mass of gel coats within each gel coats category
$E_{Ra}$ = Emission factor for each resin based on allowable monomer content and allowable application method for each resin category.
$E_{Ga}$ = Emission factor for each gel coat based on allowable monomer content for each gel coat category
$E_{mA}$ = Actual monthly emissions from all resins and gel coats based on material specific emission factors, emission reduction techniques and emission controls

Units: mass = tons
emission factor = lbs of monomer per ton of resin or gel coat
emissions = lbs of monomer

Note: Fillers may not be included when averaging.

(b) The following categories of materials in subsection (a) shall be applied using mechanical nonatomized application technology or manual application:

(1) Production noncorrosion resistant, unfilled resins from all sources.

(2) Production, specialty product resins from all sources.

(3) Tooling resins used in the manufacture of watercraft.

(4) Production resin used for Class I flame and smoke products.

Nonatomized application equipment means the devices where resin or gel coat material does any of the following:

(1) Flows from the applicator, in a steady state in a observable coherent flow, without droplets, for a minimum distance of three (3) inches from the applicator orifices such as flow coaters, flow choppers, and fluid impingement equipment.

(2) Is mechanically dispensed within or on to a paint roller applicator such as pressure fed rollers.

(3) Is deposited on fiber reinforcement moving through a resin or gel coat bath such as resin impregnators.

Nonatomized spray application technology includes flow coaters, flow choppers, pressure-fed rollers, fluid impingement, or other non-spray applications of a design and specifications approved by IDEM, OAQ.

Filled resins are resins containing greater than or equal to thirty-five percent (35%) by weight inert filler material, such as silica micro-spheres or micro-balloons, added to alter the density or other physical properties of the resin. The term “inert filler” does not include pigments.

(c) Unless specified in subsection (b), gel coat application and mechanical application of resins shall be by any of the following spray technologies:

(1) Nonatomized application technology.

(2) Air-assisted airless.

(3) Airless.

(4) High volume, low pressure (HVLP).

(5) Equivalent emission reduction technologies to subdivisions (2) through (4).

(d) The following cleaning operation standards for resin and gel coat application equipment shall apply:

(1) For routine flushing of resin and gel coat application equipment such as spray guns, flow coaters, brushes, rollers, and squeegees, a cleaning solvent shall contain no HAPs. This emission standard does not apply to solvents used for removing cured resin or gel coat from application equipment.

(2) A source must store HAP containing solvents used for removing cured resin or gel coat in containers with covers. The covers must have no visible gaps and must be in place at all times, except when equipment is placed in or removed from the container.

(3) Recycled cleaning solvents that contain less than or equal to five percent (5%) HAP by weight are considered to contain no HAP for the purposes of this subsection.

D.8.8 Work Practice Standards for Reinforced Plastic Composites Fabrication [326 IAC 20-25-4]

Pursuant to 326 IAC 20-25-4, the following work practice standards shall be implemented:

(a) Non-atomizing spray equipment shall not be operated at pressures that atomize the material during the application process.

(b) Except for mixing containers as described in item (g), HAP containing materials shall be kept in a closed container when not in use.

(c) Solvents sprayed during cleanup and resin changes shall be directed into solvent collection containers.

(d) Solvent collection containers shall be kept closed when not in use.

(e) Clean-up rags with solvent shall be stored in closed containers.

(f) Closed containers shall be used for the storage of the following:

(1) All production and tooling resins that contain HAPs.

(2) All production and tooling gel coats that contain HAPs.

(3) Waste resins and gel coats that contain HAPs.

(4) Cleaning materials, including waste cleaning materials.

(5) Other materials that contain HAPs.

(g) All resin and gel coat mixing containers with a capacity equal to or greater than fifty-five (55) gallons must have a cover with no visible gaps in place at all times except when material is being added to or removed from a container, or when mixing or pumping equipment is being placed in or removed from a container.

D.8.9 Operator Training for Reinforced Plastic Composites Fabrication [326 IAC 20-25-8]

Pursuant to 326 IAC 20-25-8, all new and existing personnel, including contract personnel, who are involved in resin and gel coat spraying and spray-like applications (for example, those applications that could result in excess emissions if performed improperly) shall be trained according to the following schedule:

(a) All personnel hired after March 7, 2001 shall be trained within fifteen (15) days of hiring.

(b) All personnel hired before March 7, 2001 shall be trained or evaluated by a supervisor within thirty (30) days of the start of operation.

(c) To ensure training goals listed in subsection (b) are maintained, all personnel shall be given refresher training annually.

(d) Personnel who have been trained by another owner or operator subject to 326 IAC 20-25 are exempt from subdivision (a) if written documentation that the employee's training is current is provided to the new employer.

(e) If the result of an evaluation shows that training is needed, such training shall occur within fifteen (15) days of the evaluation.

(f) The lesson plans shall cover, for the initial and refresher training, at a minimum, all of the following topics:

(1) Appropriate application techniques.

(2) Appropriate equipment cleaning procedures.

(3) Appropriate equipment setup and adjustment to minimize material usage and overspray.

(g) The owner or operator shall maintain the following training records on site and available for inspection and review:

(1) A copy of the current training program.

(2) A list of all current personnel, by name, that are required to be trained and the dates they were trained and the date of the most recent refresher training. Records of prior training programs and former personnel are not required to be maintained.

D.8.10 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 SV32-1 and the dry filters.

**Compliance Determination Requirements**

D.8.11 Hazardous Air Pollutants (HAP) and Volatile Organic Compounds (VOC)
Compliance with the HAP monomer content limitations in Condition D.8.7 shall be determined by one of the following:

(a) The manufacturer's certified product data sheet.

(b) The manufacturer's material safety data sheet.

(c) Sampling and analysis, using any of the following test methods, as applicable:

(1) 40 CFR 60, Method 24, Appendix A (July 1, 1998), shall be used to measure the total volatile HAP and volatile organic compound (VOC) content of resins and gel coats. Method 24 may be modified for measuring the volatile HAP content of resins or gel coats to require that the procedure be performed on uncatalyzed resin or gel coat samples.

(2) 40 CFR 63, Method 311, Appendix A (July 1, 1998), shall be used to measure HAP content in resins and gel coats by direct injection into a gas chromatograph.

(d) An alternate method approved by IDEM, OAQ.

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

D.8.12 Operator Training Program
The Permittee shall implement an operator training program.

(a) All operators that perform surface coating operations using spray equipment or booth maintenance shall be trained in the proper set-up and operation of the particulate control system. All existing operators shall be trained upon permit issuance if training was not completed in the last twelve months. All new operators shall be trained within thirty (30) days of hiring or transfer.

(b) Training shall include proper filter alignment, filter inspection and maintenance, and trouble shooting practices. The training program shall be written and retained on site. The training program shall include a description of the methods to be used at the completion of initial and refresher training to demonstrate and document successful completion. Copies of the training program, the list of trained operators and training records shall be maintained on site or available within 1 hour for inspection by IDEM.

(c) All operators shall be given refresher training annually.

Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

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

D.8.13 Record Keeping Requirements

(a) To document compliance with Condition D.8.1, the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC usage limit established in Condition D.8.1. Records necessary to demonstrate compliance shall be available within 30 days if the end of each compliance period.

(1) The VOC content of each coating material and solvent used less water.

(2) The amount of coating material and solvent used on monthly basis. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.

(3) The total VOC usage for each month.

(b) To document compliance with Condition D.8.7, the Permittee shall maintain records that are complete and sufficient to establish compliance with the HAP monomer content limits. Records maintained shall be taken monthly. Examples of such records include but are not limited to:

(1) The usage by weight and monomer content of each resin and gel coat used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS), manufacturer's certified product data sheets, and calculations necessary to verify the type, amount used, and HAP content of each resin or gel coat;

(2) Method of application and other emission reduction techniques for each resin and gel coat used;

(3) Monthly calculations demonstrating compliance on an equivalent emissions mass basis if non-compliant resins or gel coats are used during that month.

(c) To document compliance with Condition D.8.9, the Permittee shall maintain the following training records:

(1) A copy of the current training program.

(2) A list of all current personnel, by name, that are required to be trained and the dates they were trained and the date of the most recent refresher training. Records of prior training programs and former personnel are not required to be maintained.

(d) To document compliance with Condition D.8.12, the Permittee shall maintain copies of the training program and the list of trained operators. Training records shall be maintained on site or available within 1 hour for inspection by IDEM.

(e) In order to document compliance with Condition D.8.6, the Permittee shall keeps records of the total VOC input to facility SV32-1 using the information required by (a) above.

(f) To document compliance with Condition D.8.10, the Permittee shall maintain of records of any additional inspections prescribed by the Preventive Maintenance Plan.

(g) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.8.15 Reporting Requirements

(a) A quarterly summary of the information to document compliance with Condition D.8.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) On or after January 1, 2002, sources using monthly emissions averaging pursuant to 326 IAC 20-25-3(h)(2) and Condition D.8.7 shall submit a quarterly summary report and supporting calculations pursuant to 326 IAC 20-25-7(c). The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

## SECTION D.9 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]: Plants 36 and 37**

(f) Plant 36: A fiberglass fabrication plant, consisting of:

(1) Two (2) gelcoat booths, identified as GC36-1 and GC36-2, each constructed in 1986, each with a maximum capacity of 3.5 units per hour, gel applied using air-atomized spray equipment, with emissions controlled by dry filters, exhausting to stack SV36-7;

(2) One (1) barrier coat spray station, identified as BC36-1, constructed in 2001, a maximum capacity of 4.0 units per hour, unfilled production resins applied using non-atomized spray application, with emissions controlled by dry filters and exhausting to stack SV36-14;

(3) Three (3) fiberglass chop booths, identified as SV36-1&2, SV36-3&4, and SV36-5&6, each constructed prior to 1985, each with a maximum capacity of 3.5 units per hour, with emissions controlled by dry filters, exhausting to stacks SV36-1, through SV36-6;

(4) Five (5) grinding stations, identified as GB36-1, GB36-2, GB36-3, GB36-4, and GB36-5, each constructed in 1994, each with a maximum capacity of 3.5 units per hour, with emissions controlled by dry filters, and each with a 100% recirculated air exhaust air steam;

(5) One (1) gelcoat booth, identified as GC36-3, constructed in 1994, a maximum capacity of 3.5 units per hour, with emissions controlled by dry filters, exhausting to stack SV36-12 and SV36-13;

(6) Two (2) fiberglass chop booths, identified as CS36-4 and CS36-5, constructed in 1994, each with a maximum capacity of 3.5 units per hour, with emissions controlled by dry filters, exhausting to stacks SV36-8 and SV36-9;

(7) One (1) closed molding operation, an alternative method to open molding operation, used when closed molding operation is viable.

(g) Plant 37: A fiberglass molding plant, consisting of:

(1) One (1) fiberglass fabricating area, identified as CS37-1, constructed prior to 1985, a maximum capacity of 1.0 unit per hour, using air-atomized spray equipment, with emissions controlled by dry filters, and exhausting through general ventilation to stacks GV37-1 and GV37-2;

(2) One (1) gel coat booth, identified as GC37-1, constructed prior to 1985, a maximum capacity of 1.0 unit per hour, with emissions controlled by dry filters, and exhausting through general ventilation to stacks GV37-1 and GV37-2;

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

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

D.9.1 General Provisions Relating to NESHAP [326 IAC 20-1][40 CFR Part 63, Subpart A]

(a) The provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 20-1-1, apply to the affected source except when otherwise specified in 40 CFR Part 63, Subpart WWWW. The Permittee must comply with these requirements on and after April 21, 2003.

(b) Since the applicable requirements associated with the compliance options are not included and specifically identified in this permit, the permit shield authorized by the B section of this permit in the condition titled Permit Shield, and set out in 326 IAC 2-7-15 does not apply to paragraph (a) of this condition.

D.9.2 National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production [40 CFR Part 63, Subpart WWWW][40 CFR 63.5805]

(a) The reinforced plastic composites production affected source is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Reinforced Plastic Composites Production, (40 CFR 63, Subpart WWWW), effective April 21, 2003. Pursuant to this rule, the Permittee must comply with Subpart WWWW by April 21, 2006, or accept and meet an enforceable HAP emissions limit below the major source threshold prior to April 21, 2006. Since the applicable requirements associated with the compliance options are not included and specifically identified in this permit, the permit shield authorized by the B section of this permit in the condition titled Permit Shield, and set out in 326 IAC 2-7-15 does not apply to paragraph (a) of this condition.

(b) The following emissions units comprise the affected source that is subject to 40 CFR Part 63, Subpart WWWW:

(1) Gelcoat booths GC36-1, GC36-2, GC36-3, GC37-1;

(2) Barrier coat spray station BC36-1;

(3) Fiberglass chop booths SV36-1&2, SV36-3&4, SV36-5&6, CS36-4, and CS36-5; and

(4) Fiberglass fabricating area CS37-1.

(5) Closed molding operation.

(c) The definitions of 40 CFR 63, Subpart WWWW at 40 CFR 63.5935 are incorporated by reference.

D.9.3 Prevention of Significant Deterioration (PSD) [40 CFR 52.21] [326 IAC 2-2]

Pursuant to CP 039-7335-00017, issued July 24, 1997, SSM 039-12758-00017, issued May 15, 2001, and as revised by this Part 70 permit, the combined input of volatile organic compounds (VOC) to Plants 1, 20, 22, 26, 28, 29, 31, 32, 36, 37, 38, and 39 shall not exceed 249 tons per twelve consecutive month period with compliance determined at the end of each month.

Compliance with this limit (which is identical to Conditions D.1.3, D.3.1, D.4.1, D.5.1, D.6.1, D.7.1, D.8.1, D.10.1 and D.11.1) is equivalent to VOC emissions of less than 250 tons per year and will render the requirements of 40 CFR 52.21 and 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

D.9.4 Particulate Matter (PM) [40 CFR 52 Subpart P]

Pursuant to CP 039-7335-00017, issued on July 24, 1997, and 40 CFR Part 52 Subpart P, the particulate matter (PM) from facilities GC36-1, GC36-2, BC36-1, SV36-1&2, SV36-3&4, SV36-5&6, GC36-3, CS36-4, CS36-5, CS37-1, and GC37-1 shall be limited by the following:

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

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

D.9.5 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to CP 039-7335-00017, issued July 24, 1997 and 326 IAC 6-3-2, the allowable particulate emission rate from the grinding stations (GB36-1, GB36-2, GB36-3, GB36-4, and GB36-5) shall not exceed 2.29 pounds per hour each when operating at a maximum process weight rate of 0.42 tons per hour each.

The pounds per hour limitations were calculated with the following equation:

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

D.9.6 Particulate [326 IAC 6-3-2(d)]

Pursuant to CP 039-7335-00017, issued on July 24, 1997 and 326 IAC 6-3-2(d), particulate from GC36-1, GC36-2, BC36-1, SV36-1&2, SV36-3&4, SV36-5&6, GC36-3, CS36-4, CS36-5, CS37-1, and GC37-1 shall be controlled by a dry particulate filter, and the Permittee shall operate the control device in accordance with manufacturer's specifications.

D.9.7 Volatile Organic Compounds - Best Available Control Technology (BACT) [326 IAC 8-1-6]

Pursuant to CP 039-7335-00017, issued July 24, 1997, SSM 039-12758-00017, issued May 15, 2001, and 326 IAC 8-1-6, BACT for GC36-1, GC36-2, BC36-1, SV36-1&2, SV36-3&4, SV36-5&6, GB36-1, GC36-3, CS36-4, CS36-5, one (1) closed molding operation, CS37-1, and GC37-1 has been determined to be the following:

(a) Use of resins and gel coats that contain styrene shall be limited such that the volatile organic HAP emissions from use of such resins and gel coats only shall be less than 249 tons per twelve (12) consecutive month period. For facilities other than the one (1) closed molding operation, compliance with this limit shall be determined based upon the following criteria:

(1) Monthly usage by weight, weight percent content of monomer that is HAP, method of application, and other emission reduction techniques used for each gel coat and resin shall be recorded. Volatile organic HAP emissions shall be

calculated by multiplying the usage of each gel coat and resin by the emission factor that is appropriate for the HAP monomer content, method of application, and other emission reduction techniques used for each gel coat and resin, and summing the emissions for all gel coats and resins. The emission factors used shall be approved by IDEM, OAQ.

(2) The emission factors approved for use by IDEM, OAQ shall be taken from the following reference: "Unified Emission Factors for Open Molding of Composites," Composites Fabricators Association, April 1999, with the exception of the emission factors for controlled spray application. This reference is included with this permit. For HAP-emitting operations not addressed by this reference, emission factors shall be taken from U.S. EPA's AP-42 document. For the purposes of these emission calculations, HAP monomer in resins and gel coats that is not styrene or methyl methacrylate shall be considered as styrene on an equivalent weight basis.

(b) Compliance with the requirements of Condition D.9.8.

D.9.8 Emissions Standards for Reinforced Plastics Composites Fabricating [326 IAC 20-25-3]
Pursuant to 326 IAC 20-25-3, the owner or operator shall, for units SV32-1, GC36-1, GC36-2, BC36-1, SV36-1&2, SV36-3&4, SV36-5&6, GB36-1, GC36-3, CS36-4, CS36-5, CS37-1, and GC37-1, comply with the following provisions:

(a) The total HAP monomer content of the following materials shall be limited based on the application method used and the products produced as specified in the following table:

| | HAP Monomer Content, Weight Percent |
|---|---|
| Resin, Manual or Mechanical Application | |
| Production-Specialty Products | 48* |
| Production-Noncorrosion Resistant Unfilled | 35* |
| Production-Noncorrosion Resistant Filled (≥35% by weight) | 38 |
| Production, Noncorrosion Resistant, Applied to Thermoformed Thermoplastic Sheet | 42 |
| Production, Class I, Flame and Smoke | 60* |
| Shrinkage Controlled | 52 |
| Tooling | 43 |
| Gel Coat Application | |
| Production-Pigmented | 37 |
| Clear Production | 44 |
| Tooling | 45 |
| Production-Pigmented, subject to ANSI[a] standards | 45 |
| Production-Clear, subject to ANSI[a] standards | 50 |

[a] American National Standards Institute.
* Categories that must use mechanical nonatomized application technology or manual application as stated in subsection (b).

Compliance with these HAP monomer content limits shall be demonstrated on a monthly basis. If all of the resins and gel coats used during a month meet the specified HAP monomer content limits, then maintaining records of content and usage as specified under Condition 9.15 is sufficient for demonstrating compliance with the HAP monomer content limits.

In lieu of meeting the HAP monomer content limits specified in this condition, the owner or operator may use monthly emission averaging across each resin and/or gel coat application category listed in subsection(a), provided that:

(1) the actual HAP emissions of all the listed FRP production units are less than the sum of the allowable emissions as identified in the across category averaging equation listed below, and

(2) the owner or operator uses any one (1) or a combination of the following emission reduction techniques:

(A) Resins or gel coats with HAP monomer contents lower than specified in subsection (a).

(B) Vapor suppressed resins.

(C) Vacuum bagging or other similar technique. This item does not include resin transfer molding or compression molding.

(D) Air pollution control equipment where the emissions are estimated based on parametric measurements or stack monitoring.

(E) Controlled spray used in combination with automated actuators or robots.

(F) Controlled spray that includes the following:

(1) Mold flanges.

(2) Spray technique.

(3) Spray gun pressure.

(4) Means of verifying continuous use of the controlled spray technique, such as mass balance of materials and products (surface area and thickness of product), as approved by the commissioner prior to implementation.

(G) Non-atomized application technology including flow coaters, flow choppers, pressure fed rollers, fluid impingement, or other non-spray application methods or equipment approved by IDEM, OAQ.

(H) Other approved enforceable alternative emission reduction techniques that are at least equally protective of the environment as the emission standards listed in subsections (a) through (c) of this condition.

For averaging across categories:

$$\Sigma E_{mA} < \Sigma (M_R * E_{Ra}) + \Sigma (M_G * E_{Ga})$$

Where:

$M_R$ = Total monthly mass of resins within each resin category
$M_G$ = Total monthly mass of gel coats within each gel coats category
$E_{Ra}$ = Emission factor for each resin based on allowable monomer content and allowable application method for each resin category.
$E_{Ga}$ = Emission factor for each gel coat based on allowable monomer content for each gel coat category

| | | |
|---|---|---|
| $E_{mA}$ | = | Actual monthly emissions from all resins and gel coats based on material specific emission factors, emission reduction techniques and emission controls<br><br>Units: mass = tons<br>emission factor = lbs of monomer per ton of resin or gel coat<br>emissions = lbs of monomer |

Note: Fillers may not be included when averaging.

(b) The following categories of materials in subsection (a) shall be applied using mechanical nonatomized application technology or manual application:

(1) Production noncorrosion resistant, unfilled resins from all sources.

(2) Production, specialty product resins from all sources.

(3) Tooling resins used in the manufacture of watercraft.

(4) Production resin used for Class I flame and smoke products.

Nonatomized application equipment means the devices where resin or gel coat material does any of the following:

(1) Flows from the applicator, in a steady state in a observable coherent flow, without droplets, for a minimum distance of three (3) inches from the applicator orifices such as flow coaters, flow choppers, and fluid impingement equipment.

(2) Is mechanically dispensed within or on to a paint roller applicator such as pressure fed rollers.

(3) Is deposited on fiber reinforcement moving through a resin or gel coat bath such as resin impregnators.

Nonatomized spray application technology includes flow coaters, flow choppers, pressure-fed rollers, fluid impingement, or other non-spray applications of a design and specifications approved by IDEM, OAQ.

Filled resins are resins containing greater than or equal to thirty-five percent (35%) by weight inert filler material, such as silica micro-spheres or micro-balloons, added to alter the density or other physical properties of the resin. The term “inert filler” does not include pigments.

(c) Unless specified in subsection (b), gel coat application and mechanical application of resins shall be by any of the following spray technologies:

(1) Nonatomized application technology.

(2) Air-assisted airless.

(3) Airless.

(4) High volume, low pressure (HVLP).

(5) Equivalent emission reduction technologies to subdivisions (2) through (4).

(d) The following cleaning operation standards for resin and gel coat application equipment shall apply:

(1) For routine flushing of resin and gel coat application equipment such as spray guns, flow coaters, brushes, rollers, and squeegees, a cleaning solvent shall contain no HAPs. This emission standard does not apply to solvents used for removing cured resin or gel coat from application equipment.

(2) A source must store HAP containing solvents used for removing cured resin or gel coat in containers with covers. The covers must have no visible gaps and must be in place at all times, except when equipment is placed in or removed from the container.

(3) Recycled cleaning solvents that contain less than or equal to five percent (5%) HAP by weight are considered to contain no HAP for the purposes of this subsection.

D.9.9 Work Practice Standards for Reinforced Plastic Composites Fabrication [326 IAC 20-25-4]
Pursuant to 326 IAC 20-25-4, the following work practice standards shall be implemented for all fiberglass operations:

(a) Non-atomizing spray equipment shall not be operated at pressures that atomize the material during the application process.

(b) Except for mixing containers as described in item (g), HAP containing materials shall be kept in a closed container when not in use.

(c) Solvents sprayed during cleanup and resin changes shall be directed into solvent collection containers.

(d) Solvent collection containers shall be kept closed when not in use.

(e) Clean-up rags with solvent shall be stored in closed containers.

(f) Closed containers shall be used for the storage of the following:

(1) All production and tooling resins that contain HAPs.

(2) All production and tooling gel coats that contain HAPs.

(3) Waste resins and gel coats that contain HAPs.

(4) Cleaning materials, including waste cleaning materials.

(5) Other materials that contain HAPs.

(g) All resin and gel coat mixing containers with a capacity equal to or greater than fifty-five (55) gallons must have a cover with no visible gaps in place at all times except when material is being added to or removed from a container, or when mixing or pumping equipment is being placed in or removed from a container.

D.9.10 Operator Training for Reinforced Plastic Composites Fabrication [326 IAC 20-25-8]
Pursuant to 326 IAC 20-25-8, all new and existing personnel, including contract personnel, who are involved in resin and gel coat spraying and spray-like applications (for

example, those applications that could result in excess emissions if performed improperly) shall be trained according to the following schedule:

(a) All personnel hired after March 7, 2001 shall be trained within fifteen (15) days of hiring.

(b) All personnel hired before March 7, 2001 shall be trained or evaluated by a supervisor within thirty (30) days of the start of operation.

(c) To ensure training goals listed in subsection (b) are maintained, all personnel shall be given refresher training annually.

(d) Personnel who have been trained by another owner or operator subject to 326 IAC 20-25 are exempt from subdivision (a) if written documentation that the employee's training is current is provided to the new employer.

(e) If the result of an evaluation shows that training is needed, such training shall occur within fifteen (15) days of the evaluation.

(f) The lesson plans shall cover, for the initial and refresher training, at a minimum, all of the following topics:

(1) Appropriate application techniques.

(2) Appropriate equipment cleaning procedures.

(3) Appropriate equipment setup and adjustment to minimize material usage and overspray.

(g) The owner or operator shall maintain the following training records on site and available for inspection and review:

(1) A copy of the current training program.

(2) A list of all current personnel, by name, that are required to be trained and the dates they were trained and the date of the most recent refresher training. Records of prior training programs and former personnel are not required to be maintained.

D.9.11 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 these facilities and their control devices.

**Compliance Determination Requirements**

D.9.12 Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAP)

Compliance with the HAP monomer content limitations in condition D.9.8(a) shall be determined by one of the following:

(a) The manufacturer's certified product data sheets.

(b) The manufacturer's material safety data sheets.

(c) Sampling and analysis, using any of the following test methods, as applicable:

(1) 40 CFR 60, Method 24, Appendix A (July 1, 1998), shall be used to measure the total volatile HAP and volatile organic compound (VOC) content of resins and gel coats. Method 24 may be modified for measuring the volatile HAP content of resins or gel coats to require that the procedure be performed on uncatalyzed resin or gel coat samples.

(2) 40 CFR 63, Method 311, Appendix A (July 1, 1998), shall be used to measure HAP content in resins and gel coats by direct injection into a gas chromatograph.

(d) An alternate method approved by IDEM, OAQ.

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

D.9.13 Operator Training Program

The Permittee shall implement an operator training program.

(a) All operators that perform surface coating operations using spray equipment or booth maintenance shall be trained in the proper set-up and operation of the particulate control system. All existing operators shall be trained upon permit issuance if training was not completed in the last twelve months. All new operators shall be trained within thirty (30) days of hiring or transfer.

(b) Training shall include proper filter alignment, filter inspection and maintenance, and trouble shooting practices. The training program shall be written and retained on site. The training program shall include a description of the methods to be used at the completion of initial and refresher training to demonstrate and document successful completion. Copies of the training program, the list of trained operators and training records shall be maintained on site or available within 1 hour for inspection by IDEM.

(c) All operators shall be given refresher training annually.

Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

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

D.9.14 National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production- Notifications [40 CFR Part 63, Subpart WWWW][40 CFR 63.5905]

(a) Pursuant to 40 CFR 63.5905, the Permittee shall submit all of the notifications in Table 13 of 40 CFR Part 63, Subpart WWWW that apply to the affected source and chosen compliance method by the dates specified. These notifications include, but are not limited to, the following:

(1) If complying with organic HAP emissions limit averaging provisions, the Permittee shall submit a Notification of Compliance Status, containing the information specified in 40 CFR 63.9(h).

(2) If complying with organic HAP content limits, application equipment requirements, or organic HAP emissions limit other than organic HAP emissions limit averaging, the Permittee shall submit a Notification of Compliance Status, containing the information specified in 40 CFR 63.9(h).

(3) If complying by using an add-on control device, the Permittee shall submit:

(A) A notification of intent to conduct a performance test as specified in 40 CFR 63.9(e), at least 60 calendar days before the performance test is scheduled to begin.

(B) A notification of the date for the CMS performance evaluation, if required, as specified in 40 CFR 63.9(g), by the date of submission of the notification of intent to conduct a performance test.

(C) A Notification of Compliance Status as specified in 40 CFR 63.9(h), no later than 60 calendar days after the completion of the add-on control device performance test and CMS performance evaluation.

(b) All notifications, required by (a) above, must be submitted to:

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

and

United States Environmental Protection Agency, Region V
Director, Air and Radiation Division
77 Jackson Boulevard
Chicago, Illinois 60604-3590

D.9.15 Record Keeping Requirements

(a) To document compliance with Condition D.9.3, the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC usage limit established in Condition D.9.3. Records necessary to demonstrate compliance shall be available within 30 days if the end of each compliance period.

(1) The VOC content of each coating material and solvent used less water.

(2) The amount of coating material and solvent used on monthly basis. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.

(3) The total VOC usage for each month.

(b) To document compliance with Condition D.9.8(a), the Permittee shall maintain records that are complete and sufficient to establish compliance with the HAP monomer content limits. Records maintained shall be taken monthly. Examples of such records include but are not limited to:

(1) The usage by weight and monomer content of each resin and gel coat used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS), manufacturer's certified product data sheets, and calculations necessary to verify the type, amount used, and HAP content of each resin or gel coat;

(2) Method of application and other emission reduction techniques for each resin and gel coat used;

(3) Monthly calculations demonstrating compliance on an equivalent emissions mass basis if non-compliant resins or gel coats are used during that month.

(c) To document compliance with Condition D.9.10, the Permittee shall maintain the following training records:

(1) A copy of the current training program.

(2) A list of all current personnel, by name, that are required to be trained and the dates they were trained and the date of the most recent refresher training. Records of prior training programs and former personnel are not required to be maintained.

(d) To document compliance with Condition D.9.13, the Permittee shall maintain copies of the training programs and the lists of trained operators. Training records shall be maintained on site or available within 1 hour for inspection by IDEM.

(e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.9.16 Reporting Requirements

(a) A quarterly summary of the information to document compliance with Condition D.9.3 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(b) Pursuant to 326 IAC 20-25-7(c), a quarterly summary of the information to document compliance with Condition D.9.8 along with supporting calculations shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting form located at the end of this permit, or its equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee requires certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

D.9.17 Requirement to Submit a Significant Permit Modification Application [326 IAC 2-7-12][326 IAC 2-7-5]

The Permittee shall submit an application for a significant permit modification to IDEM, OAQ to include information from the Notification Of Compliance Status (NOCS) in the Title V permit.

(a) The significant permit modification application shall be consistent with 326 IAC 2-7-12, including information sufficient for IDEM, OAQ to incorporate into the Title V permit the applicable requirements of 40 CFR 63, Subpart WWWW a description of the affected source and activities subject to the standard, and a description of how the Permittee will meet the applicable requirements of the standard.

(b) The significant permit modification application shall be submitted no later than July 21, 2005 and shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
# Compliance Data Section

## Part 70 Quarterly Report

Source Name: Monaco Coach Corporation
Source Address: 400 Indiana Avenue, Wakarusa, IN 46573
Mailing Address: 400 Indiana Avenue, Wakarusa, IN 46573
Part 70 Permit No.: T039-7559-00017
Facilities: Units SV32-1, GC36-1, GC36-2, BC36-1, SV36-1&2, SV36-3&4, SV36-5&6, GV36-1, GC36-3, CS36-4, CS36-5, CS37-1, and GC37-1
Parameter: Actual and allowable HAP emissions from the FRP units
BACT Limit: Actual HAP emissions from the FRP less than the allowable HAP emissions

YEAR:

| Month | VOC usage | VOC usage | VOC usage |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| Month 1 | | | |
| Month 2 | | | |
| Month 3 | | | |

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by:
Title / Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
# Compliance Data Section

## Part 70 Quarterly Report

Source Name: Monaco Coach Corporation
Source Address: 400 Indiana Avenue, Wakarusa, IN 46573
Mailing Address: 400 Indiana Avenue, Wakarusa, IN 46573
Part 70 Permit No.: T039-7559-00017
Facilities: Units SV32-1, GC36-1, GC36-2, BC36-1, SV36-1&2, SV36-3&4, SV36-5&6, GB36-1, GC36-3, CS36-4, CS36-5, CS37-1, and GC37-1
Parameter: Actual and allowable HAP emissions from the FRP units
BACT Limit: Actual HAP emissions from the FRP less than the allowable HAP emissions

YEAR:

| Month | Actual HAP Emissions (tons/month) | Actual HAP Emissions (tons/month) |
|---|---|---|
| Month 1 | | |
| Month 2 | | |
| Month 3 | | |

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by:
Title / Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.

# Indiana Department of Environmental Management
# Office of Air Quality

## Addendum to the Technical Support Document for a Part 70 Significant Source Modification and a Part 70 Significant Permit Modification

**Source Background and Description**

| | |
|---|---|
| Source Name: | Monaco Coach Corporation |
| Source Location: | 400 Indiana Avenue, Wakarusa, IN 46573 |
| County: | Elkhart |
| SIC Code: | 3716, 3792, 3083, 3081, and 2752 |
| Operation Permit No.: | T 039-7559-00017 |
| Significant Source Modification No.: | 039-19543-00017 |
| Significant Permit Modification No.: | 039-20873-00017 |
| Permit Reviewer: | ERG/SD |

On April 25, 2005, the Office of Air Quality (OAQ) had a notice published in Elkhart Truth, Elkhart, Indiana, stating that Monaco Coach Corporation had applied for a Part 70 Significant Source Modification and Significant Permit Modification relating to modifications to existing partial paint line A at plant 2 (final paint plant) and plant 36 (fiberglass fabrication plant), which included the addition of two coating booths, one natural gas-fired bake oven and two air make-up units, and one closed molding operation. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On May 12, 2005, Monaco Coach Corporation submitted comments on the proposed Significant Source Modification. The summary of the comments and responses are shown below. Deleted text will be shown as strikeout and new text will be shown as bold.

**Comment 1:**

The Permittee states “Monaco incorporates by reference herein the comments contained in the appeal of Title V Permit No. T039-7559-00017 (Cause No. 04-A-J-3387) as follows: “

1. Condition D.2.9(a) requires records to be available within thirty (30) days of the end of each quarter. However, this deadline is not specified in the regulations and may be an insufficient amount of time for Monaco. Therefore, Condition D.2.9(a) should be revised as follows:

   (a) To document compliance with Conditions D.2.1 and D.2.3, the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC usage limit established in Condition D.8.1. Records necessary to demonstrate compliance shall be available within ~~30~~ **60** days ~~if~~ **of** the end of each compliance period.

   ...

2. Condition D.2.6 requires the preparation of Preventive Maintenance Plans (PMPs) for facilities even though the underlying regulation only applies to control equipment. Therefore, Condition D.2.6 exceeds the scope of the underlying regulation and should be deleted in its entirety.

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

**Response to Comment 1:**

The above listed comments pertain to existing conditions that did not require revision due to the modifications covered by this permit, and are included in Monaco's appeal (draft) no. 039-19409-00017 of their Title V permit. Therefore, these comments will not be addressed at this time and shall be evaluated as part of the appeal process.

**Comment 2:**

The facility description (326 IAC 2-7-15) for Plant 2 under Section D.2 (b)(1) must be revised to correspond with the facility description in Section A.3 (b).

**Response to Comment 2:**

The facility description has been revised to match Section A.3 (B) as shown below:

**SECTION D.2 FACILITY OPERATION CONDITIONS**

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

(b) Plant 2: A final paint plant, consisting of:

(1) One (1) Partial Paint Line A, constructed in 1997 and reconstructed in 2003, consisting of one (1) primer/basecoat booth, one (1) clearcoat booth, and one (1) clearcoat/bake booth, identified as SV2-27, SV2-28, and SV2-29, respectively, an aggregate maximum capacity of 1,400 full paint units (motor homes) per year or 2,500 partial paint units (motor homes) per year, using HVLP spray equipment or its equivalent, with emissions controlled by dry filters, exhausting to stacks SV2-27, SV2-28, and SV2-29, respectively **and consisting of**:

**. . .**

**Comment 3:**

The Permittee has claimed that "based on the comments received from IDEM, OAQ during the draft permit review, the permit sent out for Public Comment was different than the draft sent to the applicant for review. These comments resulted in additional monitoring and record keeping requirements that Monaco feels are overly burdensome with no commensurate environmental benefit. The additional monitoring creates significant hardship in that usage monitoring is changed from a facility wide basis to a line by line basis; effectively quadrupling the amount of records. All of this is being required to accommodate one new lower primer VOC limit. A primer limit that was based on incorrect definitions and represents an annual usage of about 500 gallons on this line, an estimated 700 lbs of additional emissions per year or less than 0.1 percent of permitted emissions."

Furthermore, the Permittee has claimed that " the permit sent out for Public Comment contained incorrect process descriptions. It was communicated to Monaco that IDEM, OAQ believed a more stringent primer limit found in Monaco's permit for their Coburg Oregon facility, should be included in the new BACT condition for the proposed modification. The subject of this lower VOC limit is a primer surfacer product used primarily for repair work and an insignificant consideration for the current permit modification."

The modification adds three (3) new booths to the existing line A: a basecoat booth (SV2-35), the reciprocator booth to apply clearcoat (SV2-36), and a cure booth (SV2-37). None of these new booths are expected to be used for primer application. One of the existing booths on line A (Booth SV2-27) is used to apply primer. Since this booth is performing the same process as performed prior to the line modification, it should not be subject to the new BACT.

The Permittee further adds that "in addition, the definitions used in the Coburg permit were taken from SCAQMD Rule 1152 and differed significantly from the terms and definitions provided in our BACT analysis; our definitions were an artifact from previous practices and definitions and not consistent with the SCAQMD definitions. The definitions used in the proposed permit are not consistent with the source cited for the proposed lower VOC limit and are not attainable as written. Because Monaco does not believe the existing booths are subject to the new BACT and because of the incorrect definitions used, Condition D.2.3(a)(2) should be deleted in its entirety."

Furthermore, Monaco believes "..Conditions D.2.3(a)(1) and D.2.3(b) are the same as Condition D.2.1(a) and Monaco sees no reason for its inclusion. Condition D.2.3(c) describes two (2) repair booths on Partial Paint Line A. There are no repair booths on Line A. Some incidental repairs may be made in any of the booths during normal production but these are all production booths. Not knowing the intent of this condition, Monaco requests that it be deleted in its entirety."

**Response to Comment 3:**

It was communicated to IDEM, OAQ on June 7, 2005 that there is no surfacer primer application in Line A except for the repair booths. Therefore, Condition D.2.3(a)(2) requiring the 2.1 pounds per gallon BACT limit for surfacer primer for the Partial Paint Line A was deleted from the permit because the surfacer primer is used for repairs in the repair booths, which are not part of the Partial Paint Line A. They are not part of the BACT review and the 2.1 pounds per gallon BACT limit does not apply. Monaco utilizes a primer, which accounts for 90 percent of the primer usage, in the Partial Paint Line A and is currently limited to 3.5 pounds per gallon pursuant to 326 IAC 8-1-6 (Condition D.2.1). Since Conditions D.2.3(a)(1) and D.2.3(b) are the same as Condition D.2.1(a), Condition D.2.3 was deleted as requested by the Permittee and subsequent conditions re-numbered as appropriate.

~~D.2.3 Volatile Organic Compounds [326 IAC 8-1-6 (BACT)]~~

~~Pursuant to 326 IAC 8-1-6(BACT), the Partial Paint Line A shall be subject to Condition D.2.1 and the following:~~

~~(a) Cleaning and Prepping Motor-home Exteriors Prior to Painting, Primer Application, and Base Coat Application~~

~~(1) Motor-home exteriors shall be hand-wiped with a cleaning solvent prior to the application of the first surface coating; and cleaning solvents shall contain a maximum of 6.5 pounds per gallon VOC for lacquer thinners and prep cleaners.~~

~~(2) Primer shall be applied using high volume-low pressure spray equipment. A sealer primer with a maximum VOC content of 3.5 pounds per gallon shall be used on bare aluminum surfaces.~~

~~(b) Base Coat and Clear Coat Application~~

~~(1) Base coats and clear coats shall be applied using high volume-low pressure spray equipment, or equivalent;~~

~~(2) Base coat/clear coat system shall be used on motor-homes coated at this facility;~~

~~(3) Clear coats shall be applied at a maximum VOC content of 3.5 pounds per gallon;~~

~~(4) Base coats shall be applied at a maximum VOC content of 6.5 pounds per gallon;~~

~~(5) Average VOC content for the base coat clear coat system shall not exceed 4.5 pounds per gallon; and~~

~~(6) Compliance demonstration formula shall be based on 2 parts clear coat and one part base coat.~~

~~(c) Production Line Paint Repairs~~

~~Air atomizing spray equipment shall be used for primer, base coat, and clear coat in the two (2) repair booths at the Partial Paint Line A. The VOC contents of the coatings shall be the same as specified in paragraph (a) and (b).~~

**Comment 4:**

The Permittee has claimed that "Condition D.2.4 (Volatile Organic Compounds (326 IAC 8-2-9)) contains generic RACT requirements that are supplanted by the BACT determination supplied as part of Monaco's Title V permit application and the BACT analysis contained in this permit. Therefore, Condition D.2.4 is unnecessary and should be deleted in its entirety. Also, Condition D.2.9(b) which requires record keeping to demonstrate compliance with Condition D.2.4 should be deleted in its entirety."

**Response to Comment 4:**

The provisions of 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations) are triggered based on the capacity of a unit to coat metal parts, and are not supplanted by BACT requirements under 326 IAC 8-1-6 (BACT). Therefore, compliance with provisions of 326 IAC 8-1-6 (BACT) does not make the requirements of 326 IAC 8-2-9 not applicable.

**Comment 5:**

The Permittee has claimed that Condition D.2.10 requires the submission of quarterly reports which is not based on any regulation. In addition, the condition imposes a deadline of thirty (30) days by which those reports must be submitted that is not specified in the regulations and maybe an insufficient time for Monaco. Therefore, Condition D.2.10 should be revised as follows:

(a) A ~~quarterly~~ **semi-annual** summary of the information to document compliance with Condition D.8.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within ~~thirty (30)~~ **sixty (60)** days after the end of the ~~quarter~~ **semi-annual period** being reported. The report submitted by the Permittee requires the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
...

**Response to Comment 5:**

326 IAC 2-7-5(3) requires that all Title V permits contain monitoring and related record keeping and reporting requirements which assure that all reasonable information is provided to evaluate continuous compliance with applicable requirements. IDEM, OAQ believes that a period of time longer than every quarter will not provide sufficient reporting of continuous compliance. Therefore, no changes will be made to the quarterly report.

**Comment 6:**

Condition D.2.9(a)(2) including subparagraphs (A) and (B) identifies specific types of documents as part of the required records even though each of those specifically identified documents may not be necessary to demonstrate compliance. Because it could require Monaco to maintain unnecessary records, Condition D.2.9(a)(2) should be revised as follows:

...
(2) The amount of coating material and solvent used on monthly basis.

(A) Records shall **be sufficient to demonstrate compliance and may** include purchase orders, invoices, and**/or** material safety data sheets (MSDS**s**) **as** necessary to verify the type and amount **of material** used.

...

**Response to Comment 6:**

The current draft language specified in Condition D.2.9(a)(2) accurately reflects the record keeping requirements associated with 326 IAC 2-2 (BACT) and 326 IAC 2-4.1(MACT), clearly stating that the records need to be complete and sufficient. The language, as written does not require the Permittee to maintain any records that are not necessary. Therefore, no changes to Condition D.2.9(a)(2) are necessary.

**Comment 7:**

Monaco Coach Corporation was issued first Significant Permit Modification (SPM) No.:039-15279-00017 on April 12, 2005 to add new conditions and revise some of existing conditions in Section 8 and Section 9 of existing T039-7559-0001700. The revised conditions of 1st SPM were not included in the draft permit for the 2nd SPM that was public noticed, and should be included as such.

**Response to Comment 7:**

The revisions are included as shown below. Since these changes have already been through the public notification process, IDEM, OAQ have determined that re-public notification is not necessary. Conditions in Section D.8 and D.9 and the Table of Contents have been renumbered and updated as necessary.

D.8.7 Emissions Standards for Reinforced Plastics Composites Fabricating [326 IAC 20-25-3]

~~Pursuant to 326 IAC 20-25-3, the owners or operators of SV32-1 shall comply with the provisions of 326 IAC 20-25 on or after January 1, 2002, including:~~

~~(a) The total HAP monomer content of the following materials shall be limited based on the application method used and the products produced as specified in the following table:~~

| ~~*Fiber Reinforced Plastics Composites Products Except Watercraft*~~ | ~~HAP Monomer Content, Weight Percent~~ |
|---|---|
| ~~Resin, Manual or Mechanical Application~~ | |
| ~~Production-Specialty Products~~ | ~~48*~~ |
| ~~Production-Noncorrosion Resistant Unfilled~~ | ~~35*~~ |
| ~~Production-Noncorrosion Resistant Filled (≥35% by weight)~~ | ~~38~~ |
| ~~Production, Noncorrosion Resistant, Applied to Thermoformed Thermoplastic Sheet~~ | ~~42~~ |
| ~~Production, Class I, Flame and Smoke~~ | ~~60*~~ |
| ~~Shrinkage Controlled~~ | ~~52~~ |
| ~~Tooling~~ | ~~43~~ |
| ~~Gel Coat Application~~ | |
| ~~Production-Pigmented~~ | ~~37~~ |
| ~~Clear Production~~ | ~~44~~ |
| ~~Tooling~~ | ~~45~~ |
| ~~Production-Pigmented, subject to ANSI[a] standards~~ | ~~45~~ |
| ~~Production-Clear, subject to ANSI[a] standards~~ | ~~50~~ |

~~[a] American National Standards Institute.~~
~~* Categories that must use mechanical nonatomized application technology or manual application as stated in subsection (c).~~

~~Compliance with these HAP monomer content limits shall be demonstrated on a monthly basis. If all of the resins and gel coats used during a month meet the specified HAP monomer content limits, then~~

~~maintaining records of content and usage as specified under Condition D.8.17 is sufficient for demonstrating compliance with the HAP monomer content limits.~~

~~Compliance with the limitations contained in this condition may be demonstrated using monthly emission averaging within each resin or gel coat application category listed in subsection(b) by the use of resins or gel coats with HAP monomer contents lower than the limits specified, and/or additional emission reduction techniques approved by IDEM, OAQ.~~

~~Examples of emission reduction techniques include, but are not limited to, using nonatomized application to apply resins or gelcoats within a category that does not require nonatomized application, lower monomer content resins and gel coats, vapor suppression, vacuum bagging, controlled spray (if approved by IDEM, OAQ) or installing a control device. This is allowed to meet the HAP monomer content limits for resins and gel coats within each category, and shall be calculated on an equivalent emissions mass basis monthly to demonstrate compliance as shown below:~~

~~For Averaging within a category:~~

$\Sigma Em_A \leq \Sigma (M_R * E_a)$

~~Where:~~

$M_R$ = ~~Total monthly mass of material within each category~~
$E_a$ = ~~Emission factor for each material based on allowable monomer content and allowable application method for each category.~~
$Em_A$ = ~~Actual monthly emissions from all materials used within a category based on material specific emission factors, emission reduction techniques and emission controls~~

~~*Units: mass = tons*~~
~~*emission factor = lbs of monomer per ton of resin or gel coat*~~
~~*emissions = lbs of monomer*~~
~~Note: Fillers may not be included when averaging.~~

~~(b) The following categories of materials in subsection (a) shall be applied using mechanical nonatomized application technology or manual application:~~

~~(1) Production noncorrosion resistant, unfilled resins from all sources.~~
~~(2) Production, specialty product resins from all sources.~~
~~(3) Tooling resins used in the manufacture of watercraft.~~
~~(4) Production resin used for Class I flame and smoke products.~~

~~Nonatomized application equipment means the devices where resin or gel coat material does any of the following:~~

~~(1) Flows from the applicator, in a steady state in a observable coherent flow, without droplets, for a minimum distance of three (3) inches from the applicator orifices such as flow coaters, flow choppers, and fluid impingement equipment.~~

~~(2) Is mechanically dispensed within or on to a paint roller applicator such as pressure fed rollers.~~

~~(3) Is deposited on fiber reinforcement moving through a resin or gel coat bath such as resin impregnators.~~

~~Nonatomized spray application technology includes flow coaters, flow choppers, pressure-fed rollers, fluid impingement, or other non-spray applications of a design and specifications approved by IDEM, OAQ.~~

~~Filled resins are resins containing greater than or equal to thirty-five percent (35%) by weight inert filler material, such as silica micro-spheres or micro-balloons, added to alter~~

~~the density or other physical properties of the resin. The term "inert filler" does not include pigments.~~

~~(c) Unless specified in subsection (b), gel coat application and mechanical application of resins shall be by any of the following spray technologies:~~

~~(1) Nonatomized application technology.~~
~~(2) Air-assisted airless.~~
~~(3) Airless.~~
~~(4) High volume, low pressure (HVLP).~~
~~(5) Equivalent emission reduction technologies to subdivisions (2) through (4).~~

~~(d) The following cleaning operation standards for resin and gel coat application equipment shall apply:~~

~~(1) For routine flushing of resin and gel coat application equipment such as spray guns, flow coaters, brushes, rollers, and squeegees, a cleaning solvent shall contain no HAPs. This emission standard does not apply to solvents used for removing cured resin or gel coat from application equipment.~~

~~(2) A source must store HAP containing solvents used for removing cured resin or gel coat in containers with covers. The covers must have no visible gaps and must be in place at all times, except when equipment is placed in or removed from the container.~~

~~(3) Recycled cleaning solvents that contain less than or equal to five percent (5%) HAP by weight are considered to contain no HAP for the purposes of this subsection.~~

**Pursuant to 326 IAC 20-25-3, the owner or operator shall, for units SV32-1, GC36-1, GC36-2, BC36-1, SV36-1&2, SV36-3&4, SV36-5&6, GB36-1, GC36-3, CS36-4, CS36-5, CS37-1, and GC37-1, comply with the following provisions:**

**(a) The total HAP monomer content of the following materials shall be limited based on the application method used and the products produced as specified in the following table:**

| | HAP Monomer Content, Weight Percent |
|---|---|
| **Resin, Manual or Mechanical Application** | |
| **Production-Specialty Products** | **48*** |
| **Production-Noncorrosion Resistant Unfilled** | **35*** |
| **Production-Noncorrosion Resistant Filled (≥35% by weight)** | **38** |
| **Production, Noncorrosion Resistant, Applied to Thermoformed Thermoplastic Sheet** | **42** |
| **Production, Class I, Flame and Smoke** | **60*** |
| **Shrinkage Controlled** | **52** |
| **Tooling** | **43** |
| **Gel Coat Application** | |
| **Production-Pigmented** | **37** |
| **Clear Production** | **44** |
| **Tooling** | **45** |
| **Production-Pigmented, subject to ANSI[a] standards** | **45** |
| **Production-Clear, subject to ANSI[a] standards** | **50** |

[a] **American National Standards Institute.**
* **Categories that must use mechanical nonatomized application technology or manual application as stated in subsection (b).**

**Compliance with these HAP monomer content limits shall be demonstrated on a monthly basis. If all of the resins and gel coats used during a month meet the specified HAP monomer content limits, then maintaining records of content and usage as specified under Condition 8.13 is sufficient for demonstrating compliance with the HAP monomer content limits.**

**In lieu of meeting the HAP monomer content limits specified in this condition, the owner or operator may use monthly emission averaging across each resin and/or gel coat application category listed in subsection (a), provided that:**

**(1) the actual HAP emissions of all the listed FRP production units are less than the sum of the allowable emissions as identified in the across category averaging equation listed below, and**

**(2) the owner or operator uses any one (1) or a combination of the following emission reduction techniques:**

**(A) Resins or gel coats with HAP monomer contents lower than specified in subsection (a).**

**(B) Vapor suppressed resins.**

**(C) Vacuum bagging or other similar technique. This item does not include resin transfer molding or compression molding.**

**(D) Air pollution control equipment where the emissions are estimated based on parametric measurements or stack monitoring.**

**(E) Controlled spray used in combination with automated actuators or robots.**

**(F) Controlled spray that includes the following:**

**(i) Mold flanges.**
**(ii) Spray technique.**
**(iii) Spray gun pressure.**
**(iv) Means of verifying continuous use of the controlled spray technique, such as mass balance of materials and products (surface area and thickness of product), as approved by the commissioner prior to implementation.**

**(G) Non-atomized application technology including flow coaters, flow choppers, pressure fed rollers, fluid impingement, or other non-spray application methods or equipment approved by IDEM, OAQ.**

**(H) Other approved enforceable alternative emission reduction techniques that are at least equally protective of the environment as the emission standards listed in subsections (a) through (c) of this condition.**

**For averaging across categories:**

$$\Sigma E_{mA} < \Sigma (M_R * E_{Ra}) + \Sigma (M_G * E_{Ga})$$

**Where:**

**$M_R$ = Total monthly mass of resins within each resin category**
**$M_G$ = Total monthly mass of gel coats within each gel coats category**
**$E_{Ra}$ = Emission factor for each resin based on allowable monomer content and allowable application method for each resin category.**
**$E_{Ga}$ = Emission factor for each gel coat based on allowable monomer content for each gel coat category**
**$E_{mA}$ = Actual monthly emissions from all resins and gel coats based on material specific emission factors, emission reduction techniques and emission controls**

**Units: mass = tons**
**emission factor = lbs of monomer per ton of resin or gel coat**
**emissions = lbs of monomer**

**Note: Fillers may not be included when averaging.**

**(b) The following categories of materials in subsection (a) shall be applied using mechanical nonatomized application technology or manual application:**

**(1) Production noncorrosion resistant, unfilled resins from all sources.**

**(2) Production, specialty product resins from all sources.**

**(3) Tooling resins used in the manufacture of watercraft.**

**(4) Production resin used for Class I flame and smoke products.**

**Nonatomized application equipment means the devices where resin or gel coat material does any of the following:**

**(1) Flows from the applicator, in a steady state in a observable coherent flow, without droplets, for a minimum distance of three (3) inches from the applicator orifices such as flow coaters, flow choppers, and fluid impingement equipment.**

**(2) Is mechanically dispensed within or on to a paint roller applicator such as pressure fed rollers.**

**(3) Is deposited on fiber reinforcement moving through a resin or gel coat bath such as resin impregnators.**

**Nonatomized spray application technology includes flow coaters, flow choppers, pressure-fed rollers, fluid impingement, or other non-spray applications of a design and specifications approved by IDEM, OAQ.**

**Filled resins are resins containing greater than or equal to thirty-five percent (35%) by weight inert filler material, such as silica micro-spheres or micro-balloons, added to alter the density or other physical properties of the resin. The term "inert filler" does not include pigments.**

**(c) Unless specified in subsection (b), gel coat application and mechanical application of resins shall be by any of the following spray technologies:**

**(1) Nonatomized application technology.**

**(2) Air-assisted airless.**

**(3) Airless.**

**(4) High volume, low pressure (HVLP).**

**(5) Equivalent emission reduction technologies to subdivisions (2) through (4).**

**(d) The following cleaning operation standards for resin and gel coat application equipment shall apply:**

**(1) For routine flushing of resin and gel coat application equipment such as spray guns, flow coaters, brushes, rollers, and squeegees, a cleaning solvent shall contain no HAPs. This emission standard does not apply to solvents used for removing cured resin or gel coat from application equipment.**

**(2) A source must store HAP containing solvents used for removing cured resin or gel coat in containers with covers. The covers must have no visible gaps and must be in place at all times, except when equipment is placed in or removed from the container.**

**(3) Recycled cleaning solvents that contain less than or equal to five percent (5%) HAP by weight are considered to contain no HAP for the purposes of this subsection.**

~~D.8.11 Volatile Organic Compounds (VOC) [326 IAC 8-1-2][326 IAC 8-1-4]~~

~~Compliance with the VOC usage limitation contained in Condition D.8.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing, or obtaining from the manufacturer, copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.~~

D.8.~~14~~**13** Record Keeping Requirements

...

(b) To document compliance with Condition D.8.7, the Permittee shall maintain records that are complete and sufficient to establish compliance with the HAP monomer content limits. Records maintained shall be taken monthly. Examples of such records include but are not limited to:

(1) The usage by weight and monomer content of each resin and gel coat used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS), manufacturer's certified product data sheets, and calculations necessary to verify the type, amount used, and HAP content of each resin or gel coat;

~~(2) A log of the dates of use;~~

(~~3~~**2**) Method of application and other emission reduction techniques for each resin and gel coat used;

(~~4~~**3**) Monthly calculations demonstrating compliance on an equivalent emissions mass basis if non-compliant resins or gel coats are used during that month.

...

(d) To document compliance with Condition D.8.~~13~~ **12,** the Permittee shall maintain copies of the training program and the list of trained operators. Training records shall be maintained on site or available within 1 hours for inspection by IDEM.

...

D.9.7 Volatile Organic Compounds - Best Available Control Technology (BACT) [326 IAC 8-1-6]

Pursuant to CP 039-7335-00017, issued July 24, 1997, SSM 039-12758-00017, issued May 15, 2001, and 326 IAC 8-1-6, BACT for GC36-1, GC36-2, BC36-1, SV36-1&2, SV36-3&4, SV36-5&6, GB36-1, GC36-3, CS36-4, CS36-5, CS37-1, and GC37-1 has been determined to be the following:

...

(b) **Compliance with the requirements of Condition D.9.8.**~~The HAP monomer content of resins and gel coats used shall be limited to the following or their equivalent on an emissions mass basis:~~

| ~~Type of Gel Coat or Resin~~ | ~~HAP Monomer Content, % by weight~~ |
|---|---|
| ~~Production[1] Gel Coat~~ | ~~37~~ |
| ~~Tooling[2] Gel Coat~~ | ~~45~~ |
| ~~Production Resin, Manual or Mechanical Application, -- Non corrosion Resistant Filled (≥ 35% by weight)~~ | ~~38~~ |
| ~~Production Resin~~ | ~~35~~ |
| ~~Tooling Resin~~ | ~~43~~ |

~~[1] Production refers to the manufacture of parts.~~
~~[2] Tooling refers to the manufacture of the molds from which parts are manufactured~~.

~~HAP monomer contents shall be calculated on a neat basis, which means excluding any filler. Compliance with these HAP monomer content limits shall be demonstrated on a monthly basis.~~

~~Gel coats or resins with HAP monomer contents lower than those specified in this subsection or additional emission reduction techniques approved by IDEM, OAM may be used to offset the use of gel coats or resins with HAP monomer contents higher than those specified in the table in this subsection. This is allowed to meet the HAP monomer content limits for resins and gel coats and shall be calculated on an equivalent emissions mass basis as shown below:~~

$$\Sigma Em_A \leq \Sigma (M_R * E_{Ra}) + \Sigma (M_G * E_{Ga})$$

~~Where:~~

~~$M_R$ = Total monthly mass of resins within each resin category~~
~~$M_G$ = Total monthly mass of gel coats within each gel coats category~~
~~$E_{Ra}$ = Emission factor for each resin based on allowable monomer content and allowable application method for each resin category.~~
~~$E_{Ga}$ = Emission factor for each gel coat based on allowable monomer content for each gel coat category~~
~~$Em_A$ = Actual monthly emissions from all resins and gelcoats based on material specific emission factors, emission reduction techniques and emission controls~~
~~*Units: mass = tons*~~
~~*emission factor = lbs of monomer per ton of resin or gel coat*~~
~~*emissions = lbs of monomer*~~

~~(c) Non-atomized spray application technology shall be used to apply unfilled production resins. Non-atomized spray application technology includes flow coaters, fluid impingement technology (FIT), resin impregnators, flow choppers, pressure fed rollers, or other non-spray applications of a design and specifications approved by IDEM, OAQ. IDEM, OAQ approval of non-atomized spray application technologies is not required if the Permittee uses one or more of the non-atomized spray technologies identified above.~~

~~If it is not possible to apply a portion of unfilled resins with non-atomized spray application technology, equivalent emissions reductions must be obtained via use of other emission reduction techniques. Examples of other emission reduction techniques include, but are not limited to, lower HAP monomer content resins and gel coats, closed molding, vapor suppression, vacuum bagging/bonding, or installing a control device. Use of a certified controlled spray program or other emission reduction techniques not yet identified must be approved by IDEM, OAQ prior to use.~~

~~(d) Optimized spray techniques according to a manner approved by IDEM, OAQ shall be used for gel coats and filled resins (where fillers are required for corrosion or fire retardant purposes) at all times. Optimized spray techniques include, but are not limited to, the use of airless, air-assisted airless, high volume low pressure (HVLP), or other spray applicators demonstrated to the satisfaction of IDEM, OAQ, to be equivalent to the spray applicators listed above.~~

~~HVLP spray is the technology used to apply material to substrate by means of application equipment that operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.~~

~~(e) The listed work practices shall be followed:~~

~~(1) To the extent possible, a non-VOC, non-HAP material shall be used for cleanup solvent.~~
~~(2) For VOC- and/or HAP-containing materials:~~

~~(i ) Cleanup solvent containers shall be used to transport solvent from drums to work.~~
~~(ii) Cleanup stations shall be closed containers having soft-gasketed, spring-loaded closures and shall be kept completely closed when not in use.~~
~~(iii) Cleanup rags saturated with solvent shall be stored, transported, and disposed of in containers that are closed tightly.~~
~~(iv) The spray guns used shall be the type that can be cleaned without the need for spraying the solvent into the air.~~
~~(v) All solvent sprayed during cleanup or resin changes shall be directed into containers. Such containers shall be closed as soon as solvent spraying is complete and the waste solvent shall be disposed of in such a manner that evaporation is minimized.~~

~~(3) All VOC- and/or HAP-containing material storage containers shall be kept covered when not in use.~~

**D.9.8 Emissions Standards for Reinforced Plastics Composites Fabricating [326 IAC 20-25-3]**
**Pursuant to 326 IAC 20-25-3, the owner or operator shall, for units SV32-1, GC36-1, GC36-2, BC36-1, SV36-1&2, SV36-3&4, SV36-5&6, GB36-1, GC36-3, CS36-4, CS36-5, CS37-1, and GC37-1, comply with the following provisions:**

**(a) The total HAP monomer content of the following materials shall be limited based on the application method used and the products produced as specified in the following table:**

| | HAP Monomer Content, Weight Percent |
|---|---|
| **Resin, Manual or Mechanical Application** | |
| **Production-Specialty Products** | **48*** |
| **Production-Noncorrosion Resistant Unfilled** | **35*** |
| **Production-Noncorrosion Resistant Filled (≥35% by weight)** | **38** |
| **Production, Noncorrosion Resistant, Applied to Thermoformed Thermoplastic Sheet** | **42** |
| **Production, Class I, Flame and Smoke** | **60*** |
| **Shrinkage Controlled** | **52** |
| **Tooling** | **43** |
| **Gel Coat Application** | |
| **Production-Pigmented** | **37** |
| **Clear Production** | **44** |
| **Tooling** | **45** |
| **Production-Pigmented, subject to ANSI[a] standards** | **45** |
| **Production-Clear, subject to ANSI[a] standards** | **50** |

**[a] American National Standards Institute.**
*** Categories that must use mechanical nonatomized application technology or manual application as stated in subsection (b).**

**Compliance with these HAP monomer content limits shall be demonstrated on a monthly basis. If all of the resins and gel coats used during a month meet the specified HAP monomer content limits, then maintaining records of content and usage as specified under Condition 9.15 is sufficient for demonstrating compliance with the HAP monomer content limits.**

**In lieu of meeting the HAP monomer content limits specified in this condition, the owner or operator may use monthly emission averaging across each resin and/or gel coat application category listed in subsection(a), provided that:**

**(1) the actual HAP emissions of all the listed FRP production units are less than the sum of the allowable emissions as identified in the across category averaging equation listed below, and**

**(2) the owner or operator uses any one (1) or a combination of the following emission reduction techniques:**

**(A) Resins or gel coats with HAP monomer contents lower than specified in subsection (a).**

**(B) Vapor suppressed resins.**

**(C) Vacuum bagging or other similar technique. This item does not include resin transfer molding or compression molding.**

**(D) Air pollution control equipment where the emissions are estimated based on parametric measurements or stack monitoring.**

**(E) Controlled spray used in combination with automated actuators or robots.**

**(F) Controlled spray that includes the following:**
**(1) Mold flanges.**

**(2) Spray technique.**

**(3) Spray gun pressure.**

**(4) Means of verifying continuous use of the controlled spray technique, such as mass balance of materials and products (surface area and thickness of product), as approved by the commissioner prior to implementation.**

**(G) Non-atomized application technology including flow coaters, flow choppers, pressure fed rollers, fluid impingement, or other non-spray application methods or equipment approved by IDEM, OAQ.**

(H) Other approved enforceable alternative emission reduction techniques that are at least equally protective of the environment as the emission standards listed in subsections (a) through (c) of this condition.

For averaging across categories:

$\Sigma E_{mA} < \Sigma (M_R * E_{Ra}) + \Sigma (M_G * E_{Ga})$

Where:

$M_R$ = Total monthly mass of resins within each resin category
$M_G$ = Total monthly mass of gel coats within each gel coats category
$E_{Ra}$ = Emission factor for each resin based on allowable monomer content and allowable application method for each resin category.
$E_{Ga}$ = Emission factor for each gel coat based on allowable monomer content for each gel coat category
$E_{mA}$ = Actual monthly emissions from all resins and gel coats based on material specific emission factors, emission reduction techniques and emission controls

Units: mass = tons
emission factor = lbs of monomer per ton of resin or gel coat
emissions = lbs of monomer

Note: Fillers may not be included when averaging.

(b) The following categories of materials in subsection (a) shall be applied using mechanical nonatomized application technology or manual application:

(1) Production noncorrosion resistant, unfilled resins from all sources.

(2) Production, specialty product resins from all sources.

(3) Tooling resins used in the manufacture of watercraft.

(4) Production resin used for Class I flame and smoke products.

Nonatomized application equipment means the devices where resin or gel coat material does any of the following:

(1) Flows from the applicator, in a steady state in a observable coherent flow, without droplets, for a minimum distance of three (3) inches from the applicator orifices such as flow coaters, flow choppers, and fluid impingement equipment.

(2) Is mechanically dispensed within or on to a paint roller applicator such as pressure fed rollers.

(3) Is deposited on fiber reinforcement moving through a resin or gel coat bath such as resin impregnators.

Nonatomized spray application technology includes flow coaters, flow choppers, pressure-fed rollers, fluid impingement, or other non-spray applications of a design and specifications approved by IDEM, OAQ.

Filled resins are resins containing greater than or equal to thirty-five percent (35%) by weight inert filler material, such as silica micro-spheres or micro-balloons, added to alter the density or other physical properties of the resin. The term “inert filler” does not include pigments.

(c) Unless specified in subsection (b), gel coat application and mechanical application of resins shall be by any of the following spray technologies:

(1) Nonatomized application technology.

(2) Air-assisted airless.

(3) Airless.

(4) High volume, low pressure (HVLP).

(5) Equivalent emission reduction technologies to subdivisions (2) through (4).

(d) The following cleaning operation standards for resin and gel coat application equipment shall apply:

(1) For routine flushing of resin and gel coat application equipment such as spray guns, flow coaters, brushes, rollers, and squeegees, a cleaning solvent shall contain no HAPs. This emission standard does not apply to solvents used for removing cured resin or gel coat from application equipment.

(2) A source must store HAP containing solvents used for removing cured resin or gel coat in containers with covers. The covers must have no visible gaps and must be in place at all times, except when equipment is placed in or removed from the container.

(3) Recycled cleaning solvents that contain less than or equal to five percent (5%) HAP by weight are considered to contain no HAP for the purposes of this subsection.

**D.9.9 Work Practice Standards for Reinforced Plastic Composites Fabrication [326 IAC 20-25-4]**

**Pursuant to 326 IAC 20-25-4, the following work practice standards shall be implemented for all fiberglass operations:**

**(a) Non-atomizing spray equipment shall not be operated at pressures that atomize the material during the application process.**

**(b) Except for mixing containers as described in item (g), HAP containing materials shall be kept in a closed container when not in use.**

**(c) Solvents sprayed during cleanup and resin changes shall be directed into solvent collection containers.**

**(d) Solvent collection containers shall be kept closed when not in use.**

**(e) Clean-up rags with solvent shall be stored in closed containers.**

**(f) Closed containers shall be used for the storage of the following:**

**(1) All production and tooling resins that contain HAPs.**

**(2) All production and tooling gel coats that contain HAPs.**

**(3) Waste resins and gel coats that contain HAPs.**

**(4) Cleaning materials, including waste cleaning materials.**

**(5) Other materials that contain HAPs.**

**(g) All resin and gel coat mixing containers with a capacity equal to or greater than fifty-five (55) gallons must have a cover with no visible gaps in place at all times except when material is being added to or removed from a container, or when mixing or pumping equipment is being placed in or removed from a container.**

~~D.9.10 Volatile Organic Compounds (VOC) [326 IAC 8-1-2][326 IAC 8-1-4]~~

~~Compliance with the VOC and HAP content limitations contained in Conditions D.9.3 and D.9.4 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing, or obtaining from the manufacturer, copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.~~

**D.9.12 Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAP)**

**Compliance with the HAP monomer content limitations in condition D.9.8(a) shall be determined by one of the following:**

**(a) The manufacturer's certified product data sheets.**

**(b) The manufacturer's material safety data sheets.**

**(c) Sampling and analysis, using any of the following test methods, as applicable:**

**(1) 40 CFR 60, Method 24, Appendix A (July 1, 1998), shall be used to measure the total volatile HAP and volatile organic compound (VOC) content of resins and gel coats. Method 24 may be modified for measuring the volatile HAP content of resins or gel coats to require that the procedure be performed on uncatalyzed resin or gel coat samples.**

**(2) 40 CFR 63, Method 311, Appendix A (July 1, 1998), shall be used to measure HAP content in resins and gel coats by direct injection into a gas chromatograph.**

**(d) An alternate method approved by IDEM, OAQ.**

D.9.1~~3~~**5** Record Keeping Requirements

(a) To document compliance with Condition~~s~~ D.9.3 ~~and D.9.4~~, the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC usage ~~and HAP content~~ limit~~s~~ established in Condition~~s~~ D.9.3 ~~and D.9.4~~. Records necessary to demonstrate compliance shall be available within 30 days if the end of each compliance period.

(1) The VOC ~~and HAP~~ content of each coating material and solvent used less water.

(2) The amount of coating material and solvent used on monthly basis. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.

(3) The total VOC ~~and HAP~~ usage for each month.

**(b) To document compliance with Condition D.9.8(a), the Permittee shall maintain records that are complete and sufficient to establish compliance with the HAP monomer content limits. Records maintained shall be taken monthly. Examples of such records include but are not limited to:**

**(1) The usage by weight and monomer content of each resin and gel coat used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS), manufacturer's certified product data sheets, and calculations necessary to verify the type, amount used, and HAP content of each resin or gel coat;**

**(2) Method of application and other emission reduction techniques for each resin and gel coat used;**

**(3) Monthly calculations demonstrating compliance on an equivalent emissions mass basis if non-compliant resins or gel coats are used during that month.**

**(c) To document compliance with Condition D.9.10, the Permittee shall maintain the following training records:**

**(1) A copy of the current training program.**

**(2) A list of all current personnel, by name, that are required to be trained and the dates they were trained and the date of the most recent refresher training. Records of prior training programs and former personnel are not required to be maintained.**

(~~b~~**d**) To document compliance with Conditions ~~D.9.5 and~~ D.9.1~~1~~**3**, the Permittee shall maintain copies of the training programs and the lists of trained operators. Training records shall be maintained on site or available within 1 hour for inspection by IDEM.

**(e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.**

D.9.1~~4~~**6** Reporting Requirements

**(a)** A quarterly summary of the information to document compliance with Condition~~s~~ D.9.3 ~~and D.9.4~~ shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

**(b) Pursuant to 326 IAC 20-25-7(c), a quarterly summary of the information to document compliance with Condition D.9.8 along with supporting calculations shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting form located at the end of this permit, or its equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee requires certification by the "responsible official" as defined by 326 IAC 2-7-1(34).**

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
# Compliance Data Section

# Part 70 Quarterly Report

**Source Name:** **Monaco Coach Corporation**
**Source Address:** **400 Indiana Avenue, Wakarusa, IN 46573**
**Mailing Address:** **400 Indiana Avenue, Wakarusa, IN 46573**
**Part 70 Permit No.:** **T039-7559-00017**
**Facilities:** **Units SV32-1, GC36-1, GC36-2, BC36-1, SV36-1&2, SV36-3&4, SV36-5&6, GB36-1, GC36-3, CS36-4, CS36-5, CS37-1, and GC37-1**
**Parameter:** **Actual and allowable HAP emissions from the FRP units**
**BACT Limit:** **Actual HAP emissions from the FRP less than the allowable HAP emissions**

**YEAR:**

| Month | Actual HAP Emissions (tons/month) | Actual HAP Emissions (tons/month) |
|---|---|---|
| **Month 1** | | |
| **Month 2** | | |
| **Month 3** | | |

☐ **No deviation occurred in this quarter.**

☐ **Deviation/s occurred in this quarter.**
**Deviation has been reported on:**

**Submitted by:**
**Title / Position:**
**Signature:**
**Date:**
**Phone:**

**Attach a signed certification to complete this report.**

1. In addition, upon further review, IDEM, OAQ has changed the address throughout the permit as follows:

Indiana Department of Environmental Management
Office of Air Quality
100 North Senate Avenue, ~~P.O. Box 6015~~
Indianapolis, Indiana ~~46206-6015~~ **46204**

# Indiana Department of Environmental Management
# Office of Air Quality

## Technical Support Document (TSD) for a Part 70 Significant Source Modification and a Part 70 Significant Permit Modification

### Source Background and Description

| | |
|---|---|
| Source Name: | Monaco Coach Corporation |
| Source Location: | 606 Nelson's Parkway, Wakarusa, Indiana 46573 |
| County: | Elkhart |
| SIC Code: | 3716 |
| Operation Permit No.: | T039-7559-00017 |
| Operation Permit Issuance Date: | June 21, 2004 |
| Significant Source Modification No.: | T039-19543-00017 |
| Significant Permit Modification No.: | T039-20873-00017 |
| Permit Reviewer: | ERG/SD |

The Office of Air Quality (OAQ) has reviewed a modification application from Monaco Coach Corporation relating to the construction and operation of the following emission units:

Plant 2: A Final Paint Plant

(A) Two (2) coating booths, identified as SV2-35 and SV2-36, applying basecoat and clear RTS, with booth SV2-35 using HVLP equipment or its equivalent, and booth SV2-36 using reciprocator technology to apply coating material, and controlled by dry filters;

(B) One (1) natural gas-fired bake oven, identified as SV2-37, with a maximum heat input capacity of 4.0 MMBtu per hour; and

(C) Two (2) natural gas-fired air make-up units, each with a maximum heat input capacity of 4.0 MMBtu per hour.

Plant 36: A Fiberglass Fabrication Plant

(7) One (1) closed molding operation, an alternative method to open molding operation, used when closed molding operation is viable.

**Note: The facility descriptions are written as they appear in Sections A and D of the permit.**

### History

Monaco Coach Corporation is an existing multi-plant complex that assembles and paints high-quality luxury motor homes that vary in floor plan and length. A Part 70 permit (T039-7559-00017) was issued to this source on June 21, 2004. On August 31, 2004, the Permittee submitted an application to the IDEM, OAQ requesting the following modifications to existing partial paint line A at plant 2 (final paint plant) and plant 36 (fiberglass fabrication plant):

Plant 2: Partial Paint Line A

(A) Addition of two (2) coating booths, identified as SV2-35 and SV2-36, applying basecoat and clear RTS, with booth SV2-35 using HVLP equipment or its equivalent, and booth SV2-36 using reciprocator technology to apply coating material, and controlled by dry filters;

(B) Addition of one (1) natural gas-fired bake oven, identified as SV2-37, with a maximum heat input capacity of 4.0 MMBtu per hour; and

(C) Two (2) natural gas-fired air make-up units, each with a maximum heat input capacity of 4.0 MMBtu per hour.

Plant 36: Fiberglass Fabrication Plant

(7) Addition of one (1) closed molding operation, an alternative method to open molding operation, used when closed molding operation is viable.

**Enforcement Issue**

There are no enforcement actions pending.

**Stack Summary**

| Stack ID | Operation | Height (feet) | Diameter (feet) | Flow Rate (acfm) | Temperature ($^0$F) |
|---|---|---|---|---|---|
| SV2-35 and 36 | Paint Booths | 25 | 48" | 35,000 | Ambient |
| SV2-37 | Bake Ovens | 25 | 48" | 35,000 | Ambient |

**Recommendation**

The staff recommends to the Commissioner that the Part 70 Significant Source Modification and the Part 70 Significant Permit Modification 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 August 31, 2004. Additional information was received on November 4, 2004, January 10, 2005 and February 18, 2005.

**Emission Calculations**

See Appendix A of this document for detailed emissions calculations (Appendix A, pages 1 through 4).

**Potential To Emit of Modification**

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source 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.”

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

| Pollutant | *Potential To Emit (tons/year) |
|---|---|
| PM | 4.53 |
| PM10 | 4.53 |
| $SO_2$ | 0.03 |
| VOC | 48.9 |
| CO | 4.42 |
| $NO_x$ | 5.26 |

**Potential to Emit of Modification after Issuance reflecting Major PSD or Emission Offset Applicability**

The Permittee has provided information as part of the application for this approval that based on an Actual to Projected Actual test in 326 IAC 2-3-2 and 326 IAC 2-2-2, this modification at a major stationary source will not be major for Prevention of Significant Deterioration under 326 IAC 2-2-1 or Emission Offset under 326 IAC 2-3-1. IDEM, OAQ has not reviewed this information and will not be making any determination in this regard as part of this approval. The applicant will be required to keep records and report in accordance with source obligation requirements in 326 IAC 2-2-8 and Applicability in 326 IAC 2-3-2.

**Justification for Modification**

The Part 70 Operating permit is being modified through a Part 70 Significant Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5(f)(4) because the potential to emit of VOC is greater than 25 tons per year. The Part 70 operating permit is being modified through a Part 70 Significant Permit modification pursuant to 326 IAC 2-7-12(d) because the modification involves a significant change to existing monitoring, reporting, or record keeping requirements in the permit.

**County Attainment Status**

The source is located in Elkhart County.

| Pollutant | Status |
|---|---|
| PM10 | Attainment |
| $SO_2$ | Attainment |
| $NO_2$ | Attainment |
| 1- hour Ozone | Attainment |
| 8- hour 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. Elkhart County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.

(b) Elkhart 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.

(c) Fugitive Emissions
Since this type of operation is not in one of the 28 listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive PM emissions are not counted toward determination of PSD applicability.

**Source Status**

Existing Source PSD Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

| Pollutant | Emissions (tons/year) |
|---|---|
| PM | <100 |
| PM-10 | <100 |
| $SO_2$ | 0.04 |
| VOC | >250 |
| CO | 53.4 |
| NOx | 63.6 |

(a) This existing source is a major stationary source because an attainment regulated pollutant (VOC) is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.

(b) These emissions are based upon the Techical Support Document (TSD) for Part 70 Permit No.: 039-7559-00017, issued June 21, 2004.

**Federal Rule Applicability**

(a) This significant modification does not involve a pollutant-specific emissions unit as defined in 40 CFR 64.1 for (pollutant(s)):

(1) with the potential to emit before controls equal to or greater than one hundred (100) tons per year; and

(2) that is subject to an emission limit and has a control device that is necessary to meet that limit.

Therefore, the requirements of 40 CFR Part 64, Compliance Assurance Monitoring are not applicable.

(b) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) included in this proposed modification.

(c) Pursuant to T039-7559-00017, issued June 21, 2004 the surface coating operations in Plant 2 are subject to the requirements of 40 CFR Part 63, Subpart PPPP (National Emission Standards for Hazardous Air Pollutants - Surface Coating of Plastic Parts and Products) because the operations are located at a source which is a major source of HAPs and are used for the surface coating of plastic parts and products.

The two (2) new paint booths to the partial paint line A at Plant 2 will be subject to the requirements of 40 CFR 63, Subpart PPPP. The NESHAP requirements are not included in the Part 70 Permit at present. However, the Part 70 Permit requires the source to submit an application for a Significant Permit Modification to specify the compliance options. At that time, the Part 70 permit will be revised to include the applicable requirements of the NESHAP.

(d) Pursuant to T039-7559-00017, issued June 21, 2004, the fiberglass fabrication plant 36 is subject to the requirements of 40 CFR Part 63, Subpart WWWW (National Emission Standards for Hazardous Air Pollutants - Reinforced Plastic Composites Production) because the operations are located at a source which is a major source of HAPs and are used for the production of reinforced plastic composites.

The one (1) closed molding operation at the fiberglass fabrication plant 36 will also be subject to the requirements of 40 CFR 63, Subpart WWWW. The resins used and any emission reductions gained from this operation shall not be used for averaging or weighted average emission limit calculations for the existing open molding operations.

The requirements of 40 CFR Part 63, Subpart WWWW are not included in the Part 70 Permit at present. However, the Part 70 Permit requires the source to submit an application for a Significant Permit Modification to specify the compliance options. At that time, the Part 70 permit will be revised to include the applicable requirements of the NESHAP.

**State Rule Applicability - Entire Source**

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

Monaco Coach Corporation is not in one (1) of the twenty-eight (28) source categories and is located in Elkhart county which has been designated as nonattainment for ozone under the 8-hour standard. The source has a potential to emit each of the criteria pollutants above Part 70 major source levels and currently is operating under a Part 70 permit No. T039-7559-00017, issued June 21, 2004. On August 31, 2004 the Permittee submitted an application requesting the following:

(a) Addition of one (1) closed molding operation at their existing fiberglass fabrication plant 36 to be used when closed molding operation is viable. The Permittee did not provide any emission calculations for the closed molding operation and emissions are expected to be minimal.

(b) Construction and operation of two (2) new coating booths (SV2-35 and SV2-36), one (1) natural gas-fired Bake Oven (SV2-37) and two (2) natural gas-fired air make-up units, each having a maximum heat input capacities of 4.00 MMBtu per hour, to be used in conjunction with their Partial Paint Line A at their existing Plant 2 - Surface Coating Operations. One of the new booths (SV2-36) will employ reciprocator technology for coating application, which is intended to improve transfer efficiencies and paint quality, i.e. reduce repairs on motor homes. The source analysis predicts a twenty-five percent (25%) reduction in paint usage using this technology. The potential to emit of VOC from this modification is equal to 48.9 tons per year, which exceeds significant levels.

However, the Permittee has made a claim in their permit application that based on Actual to Projected Actual test in 326 IAC 2-3-2 and 326 IAC 2-2-2, this modification at a major stationary source will not be major for Emission Offset under 326 IAC 2-3-1 and Prevention of Significant Deterioration under 326 IAC 2-2-1. IDEM, OAQ has not reviewed this information and will not be making any determination in this regard as part of this approval. The Permittee will be required to keep records and report in accordance with source obligation requirements in 326 IAC 2-2-8 and Applicability in 326 IAC 2-3-2. Morever, the Permittee shall continue to comply with the PSD requirements as listed in Section D.2 of their Part 70 Permit.

326 IAC 2-4.1 (Hazardous Air Pollutants)

Pursuant to SSM 039-15620-00017, issued December 11, 2002 and T039-7559-00017, issued June 21, 2004, the Partial Paint Line A is subject to the requirements of 326 IAC 2-4.1.
Since the proposed modification includes the addition of coating booths to existing Partial Paint Line A, this modification shall comply with the requirements of 326 IAC 2-4.1 as described in the Part 70 Permit No. 039-7559-00017, Condition D.2.1 (See revised permit).

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 non-overlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 20-25 (Emissions From Reinforced Plastics Composites Fabricating Emission Units):

Pursuant to T039-7559-00017, issued June 21, 2004, the facilities specified under Plant 36 (Fiberglass Fabrication Plant) are not subject to the requirements of 326 IAC 20-25 because pursuant to 326 IAC 20-25-1(b) and 326 IAC 20-25-3(e), these facilities obtained a revised BACT determination after June 28, 1998 and before January 1, 2002 (SSM 039-12758-00017, issued May 15, 2001).

The Permittee has requested to include one (1) closed molding operation under the existing Plant 36 (Fiberglass Fabrication Plant) to be used for some small parts at their facility, when closed molding operation is viable. The Permittee did not provide any emission calculations for the closed molding operation and emissions are expected to be minimal. Morever, none of the existing facilities are being modified. Therefore, the one (1) closed molding operation is not subject to the requirements of 326 IAC 20-25.

**State Rule Applicability - Two (2) New Coating Booths (SV2-35 and Sv2-36)**

326 IAC 6-3-2 (Process Operations)

On June 12, 2002, revisions to 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes) became effective; this rule was previously referred to as 326 IAC 6-3 (Process Operations). As of the date this permit is being issued these revisions have not been approved by EPA into the Indiana State Implementation Plan (SIP); therefore, the following requirements from the previous version of 326 IAC 6-3 (Process Operations) which has been approved into the SIP will remain applicable requirements until the revisions to 326 IAC 6-3 are approved into the SIP and the condition is modified in a subsequent permit action.

Pursuant to T039-7559-00017, issued June 21, 2004 and 40 CFR Subpart P, the particulate matter (PM) from the surface coating operations (booths SV2-35 and SV2-36) shall be limited by the following:

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

$E = 4.10\ P0.67$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Under the rule revision, particulate from the surface coating operations (booths SV2-35 and SV2-36) shall be controlled by dry filters, and the Permittee shall operate the control device in accordance with manufacturer's specifications.

326 IAC 8-1-6 (New Facilities: General Emission Reductions)

The potential VOC emissions from the addition of two (2) new coating booths (identified as SV2-35 and SV2-36) are greater than twenty-five (25) tons per year each. Based on the submitted BACT analysis (see Appendix C), IDEM, OAQ has determined BACT to be equivalent to current Part 70 Permit BACT conditions (D.2.1 - PSD BACT) and the following requirements:

(a) Cleaning and Prepping Motor-home Exteriors Prior to Painting, Primer Application, and Base Coat Application

(1) Motor-home exteriors shall be hand-wiped with a cleaning solvent prior to the application of the first surface coating; and cleaning solvents shall contain a maximum of 6.5 pounds per gallon VOC for lacquer thinners and prep cleaners.

(2) Primer shall be applied using high volume-low pressure spray equipment. A sealer (adhesion) primer with a maximum VOC content of 3.5 pounds per gallon shall be used on bare aluminum surfaces, while other surfaces shall be primed with a primer surface with a maximum VOC content of 2.1 pounds per gallon.

(b) Base Coat and Clear Coat Application

(1) Base coats and clear coats shall be applied using high volume-low pressure spray equipment, or equivalent;

(2) Base coat/clear coat system shall be used on motor-homes coated at this facility;

(3) Clear coats shall be applied at a maximum VOC content of 3.5 pounds per gallon;

(4) Base coats shall be applied at a maximum VOC content of 6.5 pounds per gallon;

(5) Average VOC content for the base coat clear coat system shall not exceed 4.5 pounds per gallon; and

(6) Compliance demonstration formula shall be based on 2 parts clear coat and one part base coat.

(c) Production Line Paint Repairs

Air atomizing spray equipment shall be used for primer, base coat, and clear coat in the two (2) repair booths at the Partial Paint Line A. The VOC contents of the coatings shall be the same as specified in paragraph (a) and (b).

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

Pursuant to PSD SSM 039-15620-00017, issued December 11, 2002 and T039-7559-00017, issued June 21,2004, when coating metal parts any change or modification which may increase the maximum capacity of the Partial Paint Line A to greater than 35 vehicles per day must be approved by the IDEM, OAQ before any such change may occur.

**State Rule Applicability - Closed Molding Operation**

326 IAC 6-3-2 (Process Operations)

On June 12, 2002, revisions to 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes) became effective; this rule was previously referred to as 326 IAC 6-3 (Process Operations). As of the date this permit is being issued these revisions have not been approved by EPA into the Indiana State Implementation Plan (SIP); therefore, the following requirement from the previous version of 326 IAC 6-3 (Process Operations) which has been approved into the SIP will remain as the applicable requirement until the revisions to 326 IAC 6-3 are approved into the SIP and the condition is modified in a subsequent permit action.

The one (1) closed molding operation is not subject to the requirements of 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) because it does not result in any particulate emissions.

326 IAC 8-1-6 (New Facilities: General Emission Reductions)

The Permittee has not provided any supporting calculations for the addition of one (1) closed molding operation. Emissions are expected to be minimal. However, the one (1) closed molding operation shall comply with existing VOC BACT requirements pursuant to 326 IAC 8-1-6 (as given in Part 70 Permit No. 039-7559-00017, issued June 21, 2004, Condition D.9.7) that limits Plant 36 - Fiberglass Fabrication Plant and Plant 37 to less than 249 tons per twelve (12) consecutive month period and shall be subject to the existing work practice standards (Condition D.9.7(e)).

**State Rule Applicability - Bake Oven and Two (2) Air Make-up Units Burning Natural Gas**

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

The natural gas-fired bake oven and two (2) air make-up units are not subject to the requirements of 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) because the particulate emissions from these units are from combustion only.

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

The natural gas-fired combustion units (bake oven and air make-up units) are not subject to the provisions of 326 IAC 6-2 (Emission Limitations for Sources of Indirect Heating) because these units are not boilers or process heaters.

**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, OAQ, 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 modification are as described in Section D.2 and Section D.9 of Part 70 Permit No.: 039-7559-00017, issued June 21, 2004.

**Proposed Changes**

Bold language has been added, language with a line through it has been deleted.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)] [326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary source that is a multiple-plant complex that assembles and paints high-quality, luxury motor homes that vary in floor plan and length.

| | |
|---|---|
| Responsible Official: | Chief Administrative Officer/ Senior Vice President |
| Source Address: | 606 Nelson's Parkway, Wakarusa, IN 46573 |
| Mailing Address: | 606 Nelson's Parkway, Wakarusa, IN 46573 |
| Source Phone Number: | (260) 862-7347 |
| SIC Code: | 3716 |
| County Location: | Elkhart |

Source Location Status: Nonattainment for all ozone under the 8-hour standard;
Attainment for **ozone under the 1-hour standard and for** all other criteria pollutants

Source Status: Part 70 Permit Program
Major Source, under PSD and Nonattainment NSR
Major Source, Section 112 of the Clean Air Act
Not 1 of 28 Source Categories

A.3 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

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

. . . .

(b) Plant 2: A final paint plant, consisting of:

(1) One (1) Partial Paint Line A, constructed in 1997 and reconstructed in 2003, consisting of one (1) primer/basecoat booth, one (1) clearcoat booth, and one (1) clearcoat/bake booth, identified as SV2-27, SV2-28, and SV2-29, respectively, an aggregate maximum capacity of ~~10~~ **1,400 full paint** units (motor homes) per **year of 2,500 partial paint units (motor homes) per year** ~~day~~, using HVLP spray equipment or its equivalent, with emissions controlled by dry filters, exhausting to stacks SV2-27, SV2-28, and SV2-29, respectively **and consisting of:**~~;~~

**(A) Two (2) coating booths, identified as SV2-35 and SV2-36, applying basecoat and clear RTS, with booth SV2-35 using HVLP equipment or its equivalent, and booth SV2-36 using reciprocator technology to apply coating material, and controlled by dry filters;**

**(B) One (1) natural gas-fired bake oven, identified as SV2-37, with a maximum heat input capacity of 4.0 MMBtu per hour; and**

**(C) Two (2) natural gas-fired air make-up units, each with a maximum heat input capacity of 4.0 MMBtu per hour.**

. . . .

(f) Plant 36: A fiberglass fabrication plant, consisting of:

. . . .

**(7) One (1) closed molding operation, an alternative method to open molding operation, used when closed molding operations is viable.**

**SECTION D.2 FACILITY OPERATION CONDITIONS**

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

(b) Plant 2: A final paint plant, consisting of:

(1) One (1) Partial Paint Line A, constructed in 1997 and reconstructed in 2003, consisting of one (1) primer/basecoat booth, one (1) clearcoat booth, and one (1) clearcoat/bake booth, identified as SV2-27, SV2-28, and SV2-29, respectively, an aggregate maximum capacity of ~~10~~ **1,400 full paint** units (motor homes) per **year or 2,500 partial paint units (motor homes) per year** ~~day~~, using HVLP spray equipment or its equivalent, with emissions controlled by dry filters, exhausting to stacks SV2-27, SV2-28, and SV2-29, respectively **and consisting of:**~~;~~

**(A) Two (2) coating booths, identified as SV2-35 and SV2-36, applying basecoat and clear RTS, with booth SV2-35 using HVLP equipment or its equivalent, and booth SV2-36 using reciprocator technology to apply coating material, and controlled by dry filters;**

**(B) One (1) natural gas-fired bake oven, identified as SV2-37, with a maximum heat input capacity of 4.0 MMBtu per hour; and**

**(C) Two (2) natural gas-fired air make-up units, each with a maximum heat input capacity of 4.0 MMBtu per hour.**

. . . .

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

**D.2.3 Volatile Organic Compounds [326 IAC 8-1-6(BACT)]**

**Pursuant to 326 IAC 8-1-6(BACT), Partial Paint Line A shall be subject to Condition D.2.1 and the following:**

**(a) Cleaning and Prepping Motor-home Exteriors Prior to Painting, Primer Application, and Base Coat Application**

**(1) Motor-home exteriors shall be hand-wiped with a cleaning solvent prior to the application of the first surface coating; and cleaning solvents shall contain a maximum of 6.5 pounds per gallon VOC for lacquer thinners and prep cleaners.**

**(2) Primer shall be applied using high volume-low pressure spray equipment. A sealer (adhesion) primer with a maximum VOC content of 3.5 pounds per gallon shall be used on bare aluminum surfaces, while other surfaces shall be primed with a primer surface with a maximum VOC content of 2.1 pounds per gallon.**

**(b) Base Coat and Clear Coat Application**

**(1) Base coats and clear coats shall be applied using high volume-low pressure spray equipment, or equivalent;**

**(2) Base coat/clear coat system shall be used on motor-homes coated at this facility;**

**(3) Clear coats shall be applied at a maximum VOC content of 3.5 pounds per gallon;**

**(4) Base coats shall be applied at a maximum VOC content of 6.5 pounds per gallon;**

**(5) Average VOC content for the base coat clear coat system shall not exceed 4.5 pounds per gallon; and**

**(6) Compliance demonstration formula shall be based on 2 parts clear coat and one part base coat.**

**(c) Production Line Paint Repairs**

**Air atomizing spray equipment shall be used for primer, base coat, and clear coat in the two (2) repair booths at the Partial Paint Line A. The VOC contents of the coatings shall be the same as specified in paragraph (a) and (b).**

D.2.~~3~~**4** Volatile Organic Compounds [326 IAC 8-2-9]

**When coating metal parts, a**~~A~~ny change or modification which may increase the maximum capacity of any paint line (partial paint line A and full paint lines B through E) to greater than 35 vehicles (motor homes) per day must be approved by the OAQ before any such change may occur.

D.2.~~4~~**5** Particulate [326 IAC 6-3-2(d)]

D.2.~~5~~**6** Preventive Maintenance Plan [326 IAC 2-7-5(13)]

D.2.~~6~~**7** Volatile Organic Compounds (VOC) [326 IAC 8-1-2][326 IAC 8-1-4]

Compliance with the VOC content and usage limitations contained in Condition**s** D.2.~~3~~**1 and D.2.3** shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing, or obtaining from the manufacturer, copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.2.~~7~~**8** Operator Training Program

D.2.~~8~~**9** Record Keeping Requirements

(a) To document compliance with Condition**s** D.2.1 **and D.2.3**, the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC content and usage limits established in Condition**s** D.2.1 **and D.2.3**. Records necessary to demonstrate compliance shall be available within 30 days if the end of each compliance period.

. . . .

(b) To document compliance with Condition D.2.~~3~~**4**, the Permittee shall maintain daily records of the number of vehicles painted on each paint line in that day.

(c) To document compliance with Condition D.2.~~7~~**8**, the Permittee shall maintain copies of the training program, and the list of trained operators. Training records shall be maintained on site or available within 1 hour for inspection by IDEM.

(d) To document compliance with Condition D.2.~~5~~**6**, the Permittee shall maintain of records of any additional inspections prescribed by the Preventive Maintenance Plan.

. . . .

D.2.~~9~~**10** Reporting Requirements

**SECTION D.9 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]: Plants 36 and 37**

(f) Plant 36: A fiberglass fabrication plant, consisting of:

. . . .

**(7) One (1) closed molding operation, an alternative method to open molding**

**operation, used when closed molding operation is viable.**

. . . .

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

D.9.2 National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production [40 CFR Part 63, Subpart WWWW][40 CFR 63.5805]

. . . .

(b) The following emissions units comprise the affected source that is subject to 40 CFR Part 63, Subpart WWWW:

. . . .

**(5) Closed molding operation.**

D.9.7 Volatile Organic Compounds - Best Available Control Technology (BACT) [326 IAC 8-1-6]

Pursuant to CP 039-7335-00017, issued July 24, 1997, SSM 039-12758-00017, issued May 15, 2001, and 326 IAC 8-1-6, BACT for GC36-1, GC36-2, BC36-1, SV36-1&2, SV36-3&4, SV36-5&6, GB36-1, GC36-3, CS36-4, CS36-5, **one (1) closed molding operation,** CS37-1, and GC37-1 has been determined to be the following:

(a) Use of resins and gel coats that contain styrene shall be limited such that the volatile organic HAP emissions from use of such resins and gel coats only shall be less than 249 tons per twelve (12) consecutive month period. **For facilities other than the one (1) closed molding operation,** compliance with this limit shall be determined based upon the following criteria:

. . . .

**(f) Compliance with VOC limit specified in subsection (a) for the one (1) closed molding operation shall be determined by following the requirements specified in subsection (e) of this condition.**

Upon further review, IDEM, OAQ has made the following changes to the permit:

(a) In accordance with the credible evidence rule (62 Fed. Reg. 8314, Feb 24, 1997); Section 113(a) of the Clean Air Act, 42 U.S. C. § 7413 (a); and a letter from the United States Environmental Protection Agency (USEPA) to IDEM, OAQ dated May 18, 2004, all permits must address the use of credible evidence; otherwise, U.S. EPA will object to the permits. An updated version of Condition - B.24 Credible Evidence has been incorporated in the revised permit.

(b) The mailing address of IDEM, OAQ has been changed as follows:

100 North Senate Avenue
Indianapolis, Indiana 46204

This change has been made throughout the whole permit.

**Conclusion**

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 039-19543-00017 and Part 70 Significant Permit Modification 039-20873-00017.

**Appendix A: Emission Calculations**
**Natural Gas Combustion Only**
**Two (2) Air Make-Up Units and One (1) Bake Oven each rated at 4.00 MMBtu per Hour**

**Company Name:** Monaco Coach Corporation
**Address:** 606 Nelson's Parkway, Wakarusa, Indiana 46573
**SSM to TV:** 039-19543
**SPM to TV:** 039-20873
**Plt ID:** 039-00017
**Reviewer:** ERG/SD
**Date:** March 2, 2005

| Heat Input Capacity (MMBtu/hour) | | Potential Throughput (MMCF/year) |
|---|---|---|
| 12.00 | (3 units total) | 105.1 |

**Pollutant**

| | * PM | * PM10 | $SO_2$ | ** $NO_x$ | VOC | CO |
|---|---|---|---|---|---|---|
| Emission Factor (lb/MMCF) | 7.6 | 7.6 | 0.6 | 100 | 5.5 | 84 |
| Potential To Emit (tons/year) | 0.40 | 0.40 | 0.03 | 5.26 | 0.29 | 4.42 |

*PM and PM10 emission factors are filterable and condensable PM and PM10 combined.
**Emission factor for NOx (Uncontrolled) = 100 lb/MMCF.

**METHODOLOGY**
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (July, 1998).

Potential Throughput (MMCF/year) = Heat Input Capacity (MMBtu/hour) * 8760 hours/year * 1 MMCF/1000 MMBtu
Potential To Emit (tons/year) = Potential Throughput (MMCF/year) * Emission Factor (lb/MMCF) * 1 ton/2000 lbs

See next page for HAPs emissions calculations.

**Appendix A: Emission Calculations**
**Natural Gas Combustion Only**
**Two (2) Air Make-Up Units and One (1) Bake Oven each rated at 4.00 MMBtu per Hour**

**Company Name:** Monaco Coach Corporation
**Address:** 606 Nelson's Parkway, Wakarusa, Indiana 46573
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**SPM to TV:** 039-20873
**Plt ID:** 039-00017
**Reviewer:** ERG/SD
**Date:** March 2, 2005

**HAPs - Organics**

| | Benzene | Dichlorobenzene | Formaldehyde | Hexane | Toluene |
|---|---|---|---|---|---|
| Emission Factor (lb/MMCF) | 2.1E-03 | 1.2E-03 | 7.5E-02 | 1.8E+00 | 3.4E-03 |
| Potential To Emit (tons/year) | 1.10E-04 | 6.31E-05 | 3.94E-03 | 9.46E-02 | 1.79E-04 |

**HAPs - Metals**

| | Lead | Cadmuim | Chromium | Manganese | Nickel |
|---|---|---|---|---|---|
| Emission Factor (lb/MMCF) | 5.0E-04 | 1.1E-03 | 1.4E-03 | 3.8E-04 | 2.1E-03 |
| Potential To Emit (tons/year) | 2.63E-05 | 5.78E-05 | 7.36E-05 | 2.00E-05 | 1.10E-04 |

**TOTAL HAPs (tons/year) = 9.92E-02**

Methodology is the same as previous page.

The five highest organic and metal HAPs emission factors as provided above are from AP-42, Chapter 1.4, Table 1-4.2, 1.4-3 and 1.4-4 (July, 1998).
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emissions Calculations**
**VOC and Particulate Emissions**
**From Modified Partial Paint Line A (Addition of Two (2) New Coating Booths)**

**Company Name:** Monaco Coach Corporation
**Address:** 606 Nelson's Parkway, Wakarusa, Indiana 46573
**SSM to TV:** 039-19543
**SPM to TV:** 039-20873
**Plt ID:** 039-00017
**Reviewer:** ERG/SD
**Date:** March 2, 2005

| New Emission Units | Material | Density (lb/gal) | Weight % Volatile (H20 & Organics) | Weight % Water | Weight % Organics | Volume % Water | Volume % Non-Volatiles (solids) | Material Usage (gal/unit) | Max. Throughput (units/year) | Pounds VOC per gallon of coating | PTE of VOC (tons/year) | PTE of PM/PM10 (ton/year) Uncontrolled | * Transfer Efficiency |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SV2-35 New Booth | Basecoat | 7.60 | 81.0% | 0.10% | 80.9% | 0.0% | 28.0% | 4.20 | 1400 | 6.15 | 18.1 | 1.06 | 75% |
| SV2-36 New Reciprocator | Clear RTS | 8.40 | 60.0% | 0.10% | 59.9% | 0.0% | 40.0% | 8.70 | 1400 | 5.03 | 30.6 | 3.07 | 85% |
| **TOTAL** | | | | | | | | | | PTE from new booths (tons/year) = | **48.7** | **4.13** | |

| Emission Unit | ** Control Efficiency | PTE of PM/PM10 (tons/year) After Control |
|---|---|---|
| SV2-35 New Booth | 98% | 0.02 |
| SV2-36 New Reciprocator | 98% | 0.06 |
| PTE from new booths (tons/year) = | | **0.08** |

* Material applied in booth SV2-36 with a paint reciprocator having 85 % efficiency. Other booth utilizes HVLP gun.
** Controls = Dry filters

**METHODOLOGY**
Pounds of VOC per gallon coating = Density (lb/gal) * Weight % Organics
PTE of VOC (lb/hour) = Pounds of VOC per Gallon Coating (lb/gal) * Material Usage (gal/unit) * Max. Thoughput (units/hour)
PTE of VOC (tons/year) = Pounds of VOC per Gallon Coating (lb/gal) * Material Usage (gal/unit) * Max.Throughput (units/hour) * 8760 hours/year * 1 ton/2000 lbs
PTE of PM/PM10 (tons/year) Uncontrolled = Density (lb/gal) * Gal of Material (gal/unit) * Max. Throughput (units/hour) * (1- Weight % Volatile) * (1-Transfer Efficiency %) * 8760 hours/year * 1ton/2000 lbs
PTE of PM/PM10 (tons/year) Uncontrolled = Density (lb/gal) * Gal of Material (gal/unit) * Max. Throughput (units/hour) * (1- Weight % Volatile) * (1-Transfer Efficiency %) * 8760 hours/year * 1ton/2000 lbs * (1- Control Efficiency %)

**Appendix A: Emissions Calculations**
**Summary**

**Company Name:** Monaco Coach Corporation
**Address:** 606 Nelson's Parkway, Wakarusa, Indiana 46573
**SSM to TV:** 039-19543
**SPM to TV:** 039-20873
**Plt ID:** 039-00017
**Reviewer:** ERG/SD
**Date:** March 2, 2005

**Uncontrolled Potential to Emit (tons/year)**

| | PM | PM10 | $SO_2$ | NOx | VOC | CO |
|---|---|---|---|---|---|---|
| Future PTE (Modified Line A) | 4.13 | 4.13 | 0.00 | 0.00 | 48.7 | 0.00 |
| New Combustion Units | 0.40 | 0.40 | 0.03 | 5.26 | 0.29 | 4.42 |
| | **4.53** | **4.53** | **0.03** | **5.26** | **49.0** | **4.42** |

# Appendix B
# Best Available Control Technology (BACT) Determinations

**Source Background and Description**

| | |
|---|---|
| Source Name: | Monaco Coach Corporation |
| Source Location: | 606 Nelson's Parkway, Wakarusa, Indiana 46573 |
| County: | Elkhart |
| SIC Code: | 3716 |
| SSM No.: | 039-19543-00017 |
| SPM No.: | 039-20873-00017 |
| Permit Reviewer: | ERG/SD |

The Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) has performed the following Best Available Control Technology (BACT) review for the modification to the Partial Paint Line A at Final Paint Plant 2 at an existing luxury motor homes assembly and coating plant owned and operated by Monaco Coach Corporation located at 606 Nelson's Parkway, Wakarusa, Indiana 46573. The modification consists of adding three (3) booths (identified as SV2-35 – seal & base, SV2-36 – reciprocator booth, and SV2-37 – bake oven booth).

Pursuant to 326 IAC 8-1-6 (New Facilities; General Reduction Requirements), BACT is required for all facilities constructed after January 1, 1980 that have potential VOC emissions of equal to or greater than twenty-five (25) tons per year and are not regulated by other rules in 326 IAC 8. Based on the calculations (see Appendix A) and the analysis of applicable state regulations (see State Rule Applicability section of TSD), the modification at this source is subject to the requirements of 326 IAC 8-1-6.

IDEM, OAQ conducts BACT analyses in accordance with the *"Top-Down" Best Available Control Technology* process, which outlines the steps for conducting a top-down BACT analysis. Those steps are listed below:

(a) Identify all potentially available control options;

(b) Eliminate technically infeasible control options;

(c) Rank remaining control technologies by control effectiveness;

(d) Evaluate the most effective controls and document the results as necessary; and

(e) Select BACT.

In accordance with EPA guidance, the BACT analysis should take into account the energy, environmental, and economic impacts. Emission reductions may be achieved through the application of available control techniques, changes in process design, and/or operational limitations. These BACT determinations are based on the following information:

(a) The BACT analysis information submitted by Monaco Coach Corporation on January 13, 2005;

(b) Information from vendors/suppliers;

(c) The EPA RACT/BACT/LAER (RBLC) Clearinghouse; and

(d) State and local air quality permits.

**VOC BACT**

Monaco Coach Corporation will construct and operate three (3) new booths at their existing Partial Paint Line at Final Paint Plant 2. One of the new booths (SV2-36) will be equipped with a paint reciprocator technology for coating application. These changes will allow the existing line to function as both a partial and final paint line. The potential VOC emissions from this modification (booths SV2-35 and SV2-36) are greater than twenty-five (25) tons per year each. Since this process is not regulated by any other rule in 326 IAC 8, the Permittee is required to control VOC emissions from the new booths pursuant to the provisions of 326 IAC 8-1-6 (BACT).

The primary purpose of the proposed modification is to install a reciprocator, a new spray coating technology, that improves transfer efficiencies and paint finish quality thereby reducing the volume of coating materials needed to paint the coach and repair paint imperfections. The Permittee expects a twenty percent (20 %) reduction in clear coat usage on the modified Partial Paint Line A. *In addition the partial paint line will be able to handle full paint jobs, thereby affecting the paint line capacities from all booths.*

**Step 1 – Regulatory Database Review**

The following databases were reviewed to identify and evaluate the various BACT requirements currently in place to control VOC emissions from the luxury motor homes assembly and coating operations:

(a) IDEM, OAQ and the source searched EPA's RACT/BACT/LAER Clearinghouse (RBLC) for SIC code 3716. The search identified two (2) surface coating facilities for recreational vehicle manufacturers; Monaco Coach 2002 and CDI (Winnebago) for 2004. CDI has a BACT determination of 80 tons of VOC emissions on three (3) booths, while Monaco's BACT is included in the table below.

(b) Indiana Permit Files: IDEM, OAQ has issued number of Title V and construction permits for recreational vehicle manufacturing facilities in the recent past. A review of the permits is listed below.

| Company | PBLD ID or Permit # | Date Issued and State | BACT Requirements |
|---|---|---|---|
| Fleetwood # 44 | SSM | 10/19/2001 (IN) | Daily usage limit (111.5 lbs/unit)<br>Low VOC coatings (not specified)<br>Air atomized spray<br>P2 work practices |
| Dynamax | SSM | 07/07/2000 | Basecoat 6.2 lbs/gal<br>Clearcoat 4.4 lbs/gal<br>HVLP spray equipment<br>P2 work practices |
| Newmar | Construction | Not dated | HVLP spray equipment<br>P2 work practices<br>Annual VOC limit of 70 tons |
| Gulfstream | Construction | Not dated | HVLP spray equipment<br>P2 work practices<br>Annual VOC limit of 129 tons<br>Primer / Sealer 5.64 lbs/gal<br>Basecoat 6.29 lbs/gal<br>Topcoat (Clearcoat) 4.45 lbs/gal |
| Monaco Coach | SSM | 2002 | HVLP spray equipment<br>P2 work practices<br>Annual VOC limit of 539 tons<br>Primer / Sealer 3.5 lbs/gal<br>Basecoat 6.5 lbs/gal<br>Topcoat (Clearcoat) 3.5 lbs/gal<br>Basecoat (Clearcoat) 4.5 lbs/gal<br>Lacquer thinners & cleaners 6.5 lbs/gal |

(c) Oregon Permit Files: Oregon represents one of the leading areas in the country that manufacture recreational motor homes. A review of recently issued permits in Oregon shows one permit issued to paint facilities for motor homes. The facility and associated operating limits are listed below:

| Company | PBLD ID or Permit # | Date Issued and State | BACT Requirements |
|---|---|---|---|
| Monaco | SSM | 10/19/2001 (OR) | HVLP spray equipment<br>P2 work practices<br>Pretreatment 6.5 lbs/gal<br>Primer/ Surfacer 2.1 lbs/gal<br>Primer/ Sealer 3.5 lbs/gal<br>Basecoat / Clearcoat 4.5 (lbc + 2cc/3)<br>Topcoat 3.5 lbs/gal<br>Specialty coating 7.0 lbs/gal |

(d) California BACT Clearinghouse: A review performed for CA BACT Clearinghouse identified one (1) surface coating facility for recreational vehicle manufacturers; Fleetwood for 2003 which has thermal oxidizers at 98% as BACT (<5.1 tons of VOC per year). No other recreational vehicle manufacturers were found in the California BACT Clearinghouse database.

(e) EPA's RV MACT Database: A review performed of the EPA's recreational vehicle database (RVIA Database) showed every company listed as a floor setter in the database and is included in the BACT facility review.

**Step 2 – Identify Control Options**

The following available technologies were identified and evaluated to control VOC emissions from the luxury motor homes assembly and coating operations:

(a) Solvent/Material Substitution

(1) Waterborne Coatings are used to reduce VOC emissions from surface coatings operations. Paints and other products can be reformulated using water to replace some of the volatile organic compounds; certain formulations of coating are not amenable to water formulation because of a reactive role of the solvent or of the solvent's ability to carry other paint components. In waterborne coatings, the water becomes a carrier solvent in the process, and is evaporated during the drying process. The drying time of waterborne coatings is dependent upon temperature and humidity, with higher humidity necessitating longer drying times. Even with the addition of a drying oven to shorten the drying time, the product cannot be handled as soon as with solvent-based coating systems. Also, current waterborne coating formulations have experienced loss of gloss and color over time compared with conventional paint systems. Monaco's motor homes are painted after the unit is assembled. At that point, the coaches contain components made of wood, fiberglass reinforced plastics (FRP), other plastics, tires, rubber tubing, and various other rubber parts. FRP is a "heat sensitive material" as that term is defined by USEPA in the above-referenced emission guidance document. The guidance document specifically points out that "ovens cannot be used" in the transportation industry "because these assembled products include heat sensitive materials (i.e. tires, rubber tubing, plastic parts, electrical components, etc.)"1. In August 1998, EPA issued guidance on the surface coating of plastic parts where it specifically acknowledged that "the nature of some plastic substrates combined with the desired finish characteristics, currently appear to require high VOC content coatings." Because of the longer drying time, the inability to use drying ovens, and lack of gloss retention, the use of waterborne coatings for coating of the exterior of the motor coaches at this facility is not considered a viable option.

There are some operations at this facility where waterborne coatings are acceptable. These operations including some adhesives, some caulks and sealants, and some prep

cleaners. Waterborne coatings and products will be used for those operations where it is compatible with the process and effective. Monaco will continue to evaluate waterborne products for replacement of other solvent-based products in a continuing effort to reduce VOC and HAP emissions from all areas.

(2) Non-photochemically reactive solvents were considered as substitutes in Monaco's paint products:

(A) Methane

(B) Ethane

(C) 1,1,1-Trichloroethane,

(D) Methylene chloride

(E) Trichlorotrifluoroethane (Freon 113),

(F) Trichlorofluoromethane (CFC-11),

(G) Dichlorodifluoromethane (CFC-12),

(H) Chlorodifluoromethane (FC-22),

(I) Trifluoromethane (FC-23),

(J) Dichlorotetrafluoroethane (CFC-114),

(K) Chloropentafluoroethane (CFC-115),

(L) Dichlorotrifluoroethane (HCFC-123),

(M) Tetrafluoroethane (HFC-134a)

(N) Dichlorofluoroethane (HCFC-141b),

(O) Chlorodifluoroethane (HCFC-142b),

(P) Acetone; and

(Q) Parachlorobenzotrifloride (PCBF)

Most of these solvents have been associated with environmental problems, such as stratospheric ozone depletion, hazardous air pollutants (HAP) emissions, or severe health hazards. With the exception of acetone and PCBF, the other solvents on the above list are not commonly used in paint formulations. Monaco is working with current paint, and solvent suppliers to utilize acetone and PCBF as a replacement diluent and solvent where feasible. Monaco will continue to evaluate the use of non-photo chemically reactive solvents where impacts to employee health, employee safety and the environmental are acceptable.

(b) High Solids Coating Systems

Monaco Coach Corporation proposes the use the BASF DiamontTM coating system on motor homes painted the Partial Paint Line 2. This system consists of a high solids clear coat, a base coat, and appropriate primers. The base coat proposed is as high in solids as is currently available in the industry. A primer will be used on bare aluminum surfaces (storage door frames, etc.) to obtain the required adhesion prior to applying the base coat. Other surfaces will be primed as needed with a surfacer to fill in imperfections in the surface or a sealer to assure good paint adhesion and consistent subsurface. All primers and clear coats will have a maximum VOC content of 3.5 lbs/gal and all base coats will have a maximum VOC content of 6.5 lbs/gal; achieving a multi-stage coating limits of 4.5 lbs VOC per gallon or less based on a formula of 2 parts clearcoat to 1 basecoat: (2 CC+1 BC)/3.

Coatings with higher solids content than the systems proposed are not compatible with their processes and not utilized in the industry. Motor homes are painted after being fully assembled, include numerous heat sensitive electronic components, and contain components made of wood, fiberglass reinforced plastics (FRP), other plastics, tires, rubbing tubing, and various other rubber parts. These components are heat sensitive, thereby eliminating the practicality of higher temperature drying ovens to accelerate the drying time and maintain the “mirror-like” finish required. The Permittee proposes the addition of low temperature drying ovens (less than 150 degrees Fahrenheit) that are compatible with the components and coating technology being used.

(c) Transfer Efficiency

The primary purpose of the proposed modification is the installation of new spray coating technology known as the reciprocators. These automated paint reciprocators will improve transfer efficiencies and paint finish quality thus reducing the volume of coating materials need to paint the coach and repair paint imperfections. Monaco is expecting a 20% reduction in clearcoat usage on the modified line. Elsewhere, the source will use High Volume-Low Pressure (HVLP) spray equipment with an effective transfer efficiency of 60%, or equivalent, to apply finish coatings at this paint facility; HVLP technology is over 20 years old and a number of newer technologies have been demonstrated to achieve 60% transfer efficiency or better without some of the drawbacks associated with HVLP. High transfer efficiency spray equipment has been shown to significantly reduce paint usage over conventional spray equipment. High Volume-Low Pressure (HVLP) spray equipment, or an equivalent, will be used in all production operations. Because of special requirements for some pin striping work and minor repair operations, conventional spray equipment will be used for pin stripe and repair touch-up operations.

Some materials used in the paint areas are applied from pump-aerosol containers and/or hand-wiped onto the surface being treated. These items include various sealants, cleaning compounds, lubricants, touch-up adhesives, and other touch-up materials. In some cases, this material is applied directly to a cleaning cloth. The cloth is then used to apply the material to the surface being treated or cleaned. Caulks are applied from tubes, while plumbing cements are applied with brush applicators. Motor home exteriors are hand-wiped with a cleaning solvent prior to painting.

(d) Housekeeping

The source places high emphasis on housekeeping and hazardous material management. The source has a written a spill response plan and pollution prevention plan. Housekeeping practices currently implemented at Monaco to reduce VOC losses include:

(1) Sealed lids on all containers not in use or in storage;

(2) Gun and line purging into approved containers;

(3) Organized spill response and clean-up;

(4) Routine maintenance on spray equipment and pump to prevent drips and seal leaks;

(5) Solvent recovery system to recover reusable solvents for on-site or off-site recycling; and

(6) Using aqueous, exempt solvent or citric cleaners where effective and practical.

(e) Monaco Coach Corporation also evaluated a variety of control technologies, including the following:

(1) Carbon adsorption,

(2) Chemical scrubber;

(3) Condensation;

(4) Biofiltration;

(5) Catalytic and Thermal Incineration,

(6) Rotary Concentrator with Regenerative Thermal Oxidation;

(7) Rotary Zeolite Absorption with Catalytic Incineration;

**Step 3 – Eliminate Technically Infeasible Control Options**

Based on the results from the RBLC database search, vendor review, and an evaluation of the control technologies, IDEM, OAQ has determined that the use of a carbon adsorption, chemical scrubber, condensation, and biofiltration are not technically feasible options for this source for the following reasons:

(a) The use of carbon adsorption system is infeasible because the presence of multiple solvents (such as Ketones) within the waste streams generated at the source decrease the control efficiency of the system. The ketone compounds in the solvents/coatings impair the use of carbon adsorption because of fire and explosion hazards associated with the presence of such compounds. Ketones, such as methyl ethyl ketone and acetone, have been cited by EPA as a cause of concern for such systems.

(b) The use of a chemical scrubber is technically infeasible because the waste streams generated at Monaco contain various components and thus may require a different solvent (where the waste stream is dissolved) for each target chemical. The scrubber solvent must be then treated to remove captured solvents.

(c) The use of condensation is infeasible because it requires extremely low temperatures (on the order of negative 160 degree F or lower to achieve 90 percent efficiency) to achieve a significant reduction in VOC emissions. A low temperature would be required because the exhaust streams at Monaco contain very low concentrations of solvents.

(d) The use of biofiltration, relatively a new technology, is infeasible because they are usually associated with low air volumes. The air volumes from the modified paint line would exceed 1,000,000 cubic feet per minute which is significantly above those used by biofiltration systems currently in place.

**Step 4 – Rank Remaining Control Technologies by Control Effectiveness**

The remaining technically feasible approaches for controlling VOC emissions from the two (2) paint booths (SV2-35 and SV2-36) are as follows:

| Control Technology | Control Efficiency (%) |
|---|---|
| Catalytic Oxidation | Less than 95 |
| Zeolite Adsorption with Catalytic Oxidation | Less than or equal to 90 |
| Regenerative Thermal Oxidizer | Less than or equal to 95 |
| Rotary Concentrator with Regenerative Thermal Oxidizer | Less than or equal to 90 |

(a) Although catalytic incinerators can be used for the destruction of most solvents present in complex mixtures, they are not suitable for treatment of waste streams containing halogenated organics (PCFB) such as at Monaco Coach. Thermal incineration VOC reduction efficiency is least affected by waste stream characteristics. A properly designed thermal incinerator can handle almost all solvent mixtures (except for fluorinated or chlorinated solvents), concentrations, and variations thereof and meet all regulatory standards. While the combustion of halogenated organics will result in HCl and HF emissions which must be removed by a caustic scrubber, the

principal technical deficiency is the high fuel consumption required due to the intermittent nature of the operations and the very low heating value of the waste streams. In addition to the energy penalty, $NO_x$ from the incinerator will also prove to be a significant negative environmental impact, estimated at 13 lbs of NOx per every lb of VOC controlled (source: Non-Economic Impacts on the Reinforced Plastic Composite Industry of Emission Control by Oxidizer Systems; David Lipiro, Environmental Compliance & Risk Management, Inc., April 2000) and as shown in Appendix A.

(b) Rotary concentrators allow high volume/low contaminant waste streams to be concentrated into lower volume/high concentrate waste streams. Rotary concentrators utilize carbon or other absorbent material to concentrate contaminants to improve thermal characteristics and reduce airflows. Typically, airflows are reduced by 90% and BTU values of the waste streams are increased proportionately. Fuel values from the concentrated air streams are usually sufficient to meet system oxidation requirements for continually operating systems with steady waste stream profiles. Other advantages to a rotary concentrator are significant reductions in system pressures and horsepower requirements, estimated at 75% or 10 inches. The same limitations with the absorption and incineration technologies as discussed above, also apply to the rotary concentrator with regenerative thermal oxidation (RTO). In addition, factors of variable production rates and limited production hours, would significantly impact the estimated costs of operation at Monaco.

(c) Similar to carbon absorption, zeolite material, in zeolite absorption system, is used to absorb VOC compounds entrained in the exhaust air stream. Hot air is then used to purge the absorbed material, which is then sent to a catalytic incinerator. Zeolite absorption allows high volume/low contaminant waste streams to be concentrated into lower volume/high concentrate waste streams, thus reducing the size and cost of the incinerator. Disadvantages in the system include thermal requirements to purge the zeolite, high-pressure drops across the system and the susceptibility of the catalyst to contamination or fouling.

**Step 5 – Evaluate the Most Effective Controls and Document Results**

Monaco Coach Corporation provided IDEM, OAQ with a thorough economic analysis of the technically feasible control options. The analysis estimated the cost of the VOC control equipment, including the initial capital cost of the various components intrinsic to the complete system, and the estimated annual operating costs. The estimated total capital cost was calculated with the use of a factoring method of determining direct and indirect installation costs. The basic equipment costs were obtained from vendor's quoted prices. Annualized costs were developed based on information from the vendors and a literature review. The analysis assumed an interest rate of 7% and an equipment life of 10 years. The basis of cost effectiveness, used to evaluate the control options, is the ratio of the annualized cost to the amount of VOC (tons) removed per year. Note that the cost effectiveness of each option accounts for VOC removal at 95% for incineration technologies (i.e. add-on controls). Baseline costs were developed for each technology for waste streams with flow rate of 100,000 CFM for the proposed two (2) new booths. Costs were then developed for the different control options. These options were then compared to a final option, the operation of the plant without add-on controls, to arrive at a determination of BACT for VOC emissions from the proposed modification. The options considered were as follows:

(a) Regenerative Thermal Oxidizer

(b) Rotary Concentrator with Regenerative Thermal Oxidizer

(c) Rotary Zeolite Absorption with Catalytic Incineration/Oxidation

(d) Operation of the proposed facility without add-on controls

A complete breakdown of the costs associated with regenerative thermal oxidizer, rotary concentrator with Regenerative Thermal Oxidizer (RTO)**,** and zeolite adsorption with catalytic oxidizer is

included in Appendix C. A summary of the cost figures determined in the analysis is provided in the table below:

| Control Option | * Efficiency (%) | Equipment Cost ($) | Total Operating Cost ($/yr) | Total Annualized Costs ($/yr) | Potential VOC Uncontrolled (tons/year) | Potential VOC removal (tons/year) | Cost Effectiveness ($/ton VOC removed) |
|---|---|---|---|---|---|---|---|
| RTO | 95% | $2,181,902 | $140,240 | $450,899 | 48.7 | 46.3 | 9,746 |
| Rotary Concentrator with RTO | 95% | $2,980,740 | $164,205 | $588,603 | 48.7 | 46.3 | 12,722 |
| Rotary Zeolite Absorption with Catalytic Incineration/ Oxidation | 90% | $1,339,974 | $128,911 | $319,697 | 48.7 | 46.3 | 7,294 |
| Low-VOC Coatings | NA | NA | Not Estimated | Not Estimated | | NA | NA |

* Removal values for other control options are based on emission capture from paint operations and the corresponding destruction efficiency of the control equipment.

**Step 6 – Select BACT**

On basis of cost effectiveness, as determined by the ratio of the annualized coast to the tons of VOC removed per year, the rotary zeolite absorption with catalytic oxidation would appear to represent the technology of choice. However, IDEM, OAQ has determined that the installation of this control option along with thermal oxidizers and catalytic oxidizers are economically infeasible for Monaco Coach. This determination is based on the following information: a) low VOC/high solids coatings with high transfer efficiency application methods were established as BACT for similar sources; and b) the cost effectiveness (in $ per ton VOC removed) of add-on controls for Monaco was in the same range as determined for the sources listed in Step 1, which had annual VOC limits and pollution prevention work practice standards established as BACT, with no requirements for add-on controls.

In addition, Monaco has been actively pursuing VOC reduction through the use of transfer efficiency enhancement techniques and product reformulation and the primary purpose of the proposed modification is the installation of new automated spray coating technology (reciprocators), which will improve transfer efficiencies and paint finish quality thus reducing the volume of coating materials needed to paint the coach and repair paint imperfections. Therefore, IDEM, OAQ has determined the BACT for the proposed modification to the Partial Paint Line 2 is equivalent to current permit conditions as given in Section D.2 (VOC usage limit, in conjunction with the usage of low VOC/high solids coatings and high transfer application methods) and as described in the following paragraphs.

1. Cleaning and Prepping Motor home Exteriors Prior to Painting, Primer Application, and Base Coat Application
Motor home exteriors shall be hand-wiped with a cleaning solvent prior to the application of the first surface coating. Cleaning solvents shall contain a maximum of 6.5 lbs per gallon VOC for lacquer thinners and prep cleaners. Primer shall be applied using high volume-low pressure spray equipment. A sealer (adhesion) primer with a maximum VOC content of 3.5 lbs per gallon shall be used on bare aluminum surfaces. Other surfaces shall be primed with a primer surfacer with a maximum VOC content of 2.1 lbs per gallon.

2. Base Coat and Clear Coat Application
Base coats and clear coats shall be applied using high volume-low pressure spray equipment, or equivalent. The base coat/clear coat system shall be used on motor homes coated at this facility. Clear coats will be applied at a maximum VOC content of 3.5 lbs per gallon and base coats shall be applied at a maximum VOC content of 6.5 lbs per gallon; average VOC content for the base coat/clearcoat system shall not exceed 4.5 lbs per gallon; compliance demonstration formula shall be based on two (2) parts clearcoat and one (1) part basecoat.

3. Production Line Paint Repairs
To obtain acceptable finishes, air atomizing spray equipment shall used for primer, base coat, and clearcoat in the two (2) repair booths. The VOC contents of the coatings will be the same as specified in paragraph 1 and 2 above.

**Appendix C: Cost Analysis for Control Devices**
**Regenerative Thermal Oxidizer (RTO)**

**Company Name:** Monaco Coach Corporation
**Address:** 606 Nelson's Parkway, Wakarusa, Indiana 46573
**SSM to TV:** 039-19543
**SPM to TV:** 039-20873
**Plt ID:** 039-00017
**Reviewer:** ERG/SD
**Date:** April 11, 2005

**Regenerative Thermal Oxidizer (RTO)**

| | | | |
|---|---|---|---|
| Design Air Flow Rate (scfm): | | 100,000 | (provided by source) |
| **I. Capital Cost** | | | |
| | (formula)* | | |
| **1. Purchased Equipment:** | | | |
| Basic Equipment & Auxiliaries (A) | | $1,204,140 | (provided by source) |
| Instruments & controls | 0.10 A | $120,414 | (separate from the price quote) |
| Taxes | 0.05 A | $60,207 | (Indiana Tax Code) |
| Freight | 0.05 A | $60,207 | |
| **Total Purchase Cost (B)** | | **$1,444,968** | |
| **2. Direct Installation Costs:** | | | |
| Support Installation | 0.08 B | $115,597 | |
| Erection & Handling | 0.14 B | $202,296 | |
| Electrical | 0.04 B | $57,799 | |
| Enclosure | | NA | |
| Piping | 0.02 B | $28,899 | |
| Insulation | 0.01 B | $14,450 | |
| Painting | 0.01 B | $14,450 | |
| Site Preparation (As required) | | $0 | |
| Facilities and buildings (As required) | | $0 | |
| **Total Direct Installation Cost (C)** | | **$433,490** | |
| **Total Direct Capital Cost (TDC)** | **(B+C)** | **$1,878,458** | |
| **3. Indirect Costs:** | | | |
| Engineering | 0.10 B | $144,497 | |
| Loss of Production Cost | | $0 | |
| Construction & Field Expenses | 0.05 B | $72,248 | |
| Start Up | 0.02 B | $28,899 | |
| Performance Tests | 0.01 B | $14,450 | |
| Contingencies | 0.03 B | $43,349 | |
| **Total Indirect Cost (D)** | | **$303,443** | |
| **Total Install Capital Cost** | **(B+C+D)** | **$2,181,902** | |
| *Capital Recovery Factor (7%, 10 year)* | | 0.1424 | |
| **Capital Recovery Cost (E)** | | **$310,659** | |

**Appendix C: Cost Analysis for Control Devices**
**Regenerative Thermal Oxidizer (RTO)**

**Company Name:** Monaco Coach Corporation
**Address:** 606 Nelson's Parkway, Wakarusa, Indiana 46573
**SSM to TV:** 039-19543
**SPM to TV:** 039-20873
**Plt ID:** 039-00017
**Reviewer:** ERG/SD
**Date:** April 11, 2005

**II. ANNUALIZED COSTS**

| | | | | |
|---|---|---|---|---|
| ***1. Direct Operating Costs:*** | | | | |
| Operating Labor (F) | | | $5,000 | |
| *a. Number of Employees* | | | *1.00* | |
| *b. Cost/Employee/Hour* | | | *$20.0* | (provided by source) |
| *c. Operating Hours/Year* | | | *250* | |
| Supervisory Labor (F1) | 0.15 | F | $750 | |
| Maintenance Labor (F2) | | | $5,000 | |
| *a. Number of Employees* | | | *1.00* | |
| *b. Cost/Employee/Hour* | | | *$20.0* | (provided by source) |
| *c. Operating Hours/Year* | | | *250* | |
| Maintenance Material (F3) | 1 | F2 | $5,000 | |
| Utilities | | | | |
| a. Natural Gas | | | $52,539 | |
| *MMBTU/HR Input* | | | *0.84* | |
| *Operating Hours/Year* | | | *8,760* | (provided by source) |
| *Cost/MMBTU* | | | *$7.14* | (rate in Indiana) |
| b. Electricity | | | $19,754 | |
| *KW Requirements/Hr* | | | *41.0* | |
| *KWH/YR* | | | *8,760* | (provided by source) |
| *Cost/KWH* | | | *$0.055* | (national ave.) |
| Water | | | $0 | |
| Air | | | $0 | |
| Replacement Parts | | | $0 | |
| **Total Direct Operating Cost (G)** | | | **$88,043** | |
| ***2. Indirect Operating Costs:*** | | | | |
| Overhead | 0.6 | **(F+F1+F2+F3)** | $9,450 | |
| Insurance, and Administrative Costs | 0.03 | **(B+C+D)** | $65,457 | |
| **Total Indirect Operating Cost (H)** | | | **$74,907** | |
| **3. Heat Recovery Credits (I):** | | | **$22,710** | |
| *MMBTU/HR Input* | | | *0.84* | |
| *Operating Hours/Year* | | | *8,760* | |
| *Unit Heat Efficiency* | | | *95%* | |
| *Heat Exchange Efficiency* | | | *65%* | |
| *Percent Heat Recovery* | | | *70%* | |
| *Cost/MMBTU* | | | *$7.14* | (rate in Indiana) |
| **Total Annual Operating Cost** | | **(G+H-I)** | **$140,240** | |

| | | | |
|---|---|---|---|
| **Total Annualized Cost** | | **(E+G+H-I)** | **$450,899** |
| **Uncontrolled PTE (tons/yr)** | **48.7** | (as calculated in Appendix A) | |
| **Overall Control Efficiency** | | | **95.0%** |
| **Pollution Removed (tons/yr)** | | | **46.3** |
| **Cost Effectiveness ($ /ton VOC removed)** | | | **$9,746** |

**Appendix C: Cost Analysis for Control Devices**
**Rotary Concentrator with Regenerative Thermal Oxidizer**

**Company Name:** Monaco Coach Corporation
**Address:** 606 Nelson's Parkway, Wakarusa, Indiana 46573
**SSM to TV:** 039-19543
**Plt ID:** 039-00017
**Reviewer:** ERG/SD
**Date:** March 2, 2005

| | | | **Rotary Concentrator with RTO** | |
|---|---|---|---|---|
| Vendor: | | | | |
| Design Air Flow Rate (scfm): | | | 100,000 | (provided by source) |
| **I. Capital Cost** | | | | |
| | (formula)* | | | |
| **1. Purchased Equipment:** | | | | |
| Basic Equipment & Auxiliaries (A) | | | $1,645,000 | (provided by source) |
| Instruments & controls | 0.10 | A | $164,500 | |
| Taxes | 0.05 | A | $82,250 | (Indiana Tax Code) |
| Freight | 0.05 | A | $82,250 | |
| **Total Purchase Cost (B)** | | | **$1,974,000** | |
| **2. Direct Installation Costs:** | | | | |
| Support Installation | 0.08 | B | $157,920 | |
| Erection & Handling | 0.14 | B | $276,360 | |
| Electrical | 0.04 | B | $78,960 | |
| Enclosure | | | NA | |
| Piping | 0.02 | B | $39,480 | |
| Insulation | 0.01 | B | $19,740 | |
| Painting | 0.01 | B | $19,740 | |
| Site Preparation (As Required) | | | $0 | |
| Facilities and buildings (As required) | | | $0 | |
| **Total Direct Installation Cost (C)** | | | **$592,200** | |
| **Total Direct Capital Cost (TDC)** | | **(B+C)** | **$2,566,200** | |
| **3. Indirect Costs:** | | | | |
| Engineering | 0.10 | B | $197,400 | |
| Loss of Production Cost | | | $0 | |
| Construction & Field Expenses | 0.05 | B | $98,700 | |
| Start Up | 0.02 | B | $39,480 | |
| Performance Tests | | | $41,266 | (provided by source) |
| Contingencies | 0.05 | B | $98,700 | |
| **Total Indirect Cost (D)** | | | **$475,546** | |
| **Total Install Capital Cost** | | **(B+C+D)** | **$3,041,746** | |
| *Capital Recovery Factor (10%, 10 year)* | | | 0.163 | |
| **Capital Recovery Cost (E)** | | | **$495,805** | |
| **II. ANNUALIZED COSTS** | | | | |
| ***1. Direct Operating Costs:*** | | | | |
| Operating Labor (F) | | | $16,425 | |
| *a. Number of Employees* | | | *1.00* | |
| *b. Cost/Employee/Hour ***** | | | *$30.0* | (provided by source) |
| *c. Operating Hours/Year* | | | *548* | |
| Supervisory Labor (F1) | 0.15 | F | $2,464 | |
| Maintenance Labor (F2) | | | $27,375 | |
| *a. Number of Employees* | | | *1.00* | |
| *b. Cost/Employee/Hour* | | | *$50.0* | (provided by source) |
| *c. Operating Hours/Year* | | | *548* | |
| Maintenance Material (F3) | 1 | F2 | $27,375 | |
| Utilities | | | | |
| a. Natural Gas | | | $95,000 | (provided by source) |
| b. Electricity | | | $32,813 | (provided by source) |
| Water | | | $0 | |
| Air | | | $0 | |
| Replacement Parts | 0.05 | A | $82,250 | (provided by source) |
| **Total Direct Operating Cost (G)** | | | **$283,702** | |
| ***2. Indirect Operating Costs:*** | | | | |
| Overhead | 0.6 | **(F+F1+F2+F3)** | $44,183 | |
| Insurance, and Administrative Costs | 0.03 | **(B+C+D)** | $91,252 | |
| **Total Indirect Operating Cost (H)** | | | **$135,436** | |
| **Total Annual Operating Cost** | | **(G+H)** | **$419,137** | |
| **Total Annual Cost** | | **(E+G+H)** | **$914,942** | |
| **Uncontrolled PTE (tons/yr)** | **48.7** | (as calculated in Appendix A) | | |
| **Overall Control Efficiency **** | | | **95.0%** | |
| **Pollution Removed (tons/yr)** | | | **46.3** | |
| **Cost Effectiveness ($ /ton VOC removed)** | | | **$19,776** | |

* The cost analysis formula is from EPA Air Pollution Control Cost Manual, Sixth Edition (01/02).
** This is provided by the manufacturer, including capture efficiency and destruction efficiency.

**Appendix C: Cost Analysis for Control Devices**
**Rotary Concentrator with Regenerative Thermal Oxidizer**

**Company Name:** Monaco Coach Corporation
**Address:** 606 Nelson's Parkway, Wakarusa, Indiana 46573
**SSM to TV:** 039-19543
**SPM to TV:** 039-20873
**Plt ID:** 039-00017
**Reviewer:** ERG/SD
**Date:** April 11, 2005

**Concentrator with Regenerative Thermal Oxidizer**

| | | | |
|---|---|---|---|
| Design Air Flow Rate (scfm): | | 100,000 | (provided by source) |
| **I. Capital Cost** | | | |
| | (formula)* | | |
| **1. Purchased Equipment:** | | | |
| Basic Equipment & Auxiliaries (A) | | $1,645,000 | (provided by source) |
| Instruments & controls | 0.10 A | $164,500 | (separate from the price quote) |
| Taxes | 0.05 A | $82,250 | (Indiana Tax Code) |
| Freight | 0.05 A | $82,250 | |
| **Total Purchase Cost (B)** | | **$1,974,000** | |
| **2. Direct Installation Costs:** | | | |
| Support Installation | 0.08 B | $157,920 | |
| Erection & Handling | 0.14 B | $276,360 | |
| Electrical | 0.04 B | $78,960 | |
| Enclosure | | NA | |
| Piping | 0.02 B | $39,480 | |
| Insulation | 0.01 B | $19,740 | |
| Painting | 0.01 B | $19,740 | |
| Site Preparation (As required) | | $0 | |
| Facilities and buildings (As required) | | $0 | |
| **Total Direct Installation Cost (C)** | | **$592,200** | |
| **Total Direct Capital Cost (TDC)** | **(B+C)** | **$2,566,200** | |
| **3. Indirect Costs:** | | | |
| Engineering | 0.10 B | $197,400 | |
| Loss of Production Cost | | $0 | |
| Construction & Field Expenses | 0.05 B | $98,700 | |
| Start Up | 0.02 B | $39,480 | |
| Performance Tests | 0.01 B | $19,740 | |
| Contingencies | 0.03 B | $59,220 | |
| **Total Indirect Cost (D)** | | **$414,540** | |
| **Total Install Capital Cost** | **(B+C+D)** | **$2,980,740** | |
| *Capital Recovery Factor (7%, 10 year)* | | 0.1424 | |
| **Capital Recovery Cost (E)** | | **$424,398** | |

**Appendix C: Cost Analysis for Control Devices**
**Rotary Concentrator with Regenerative Thermal Oxidizer**

**Company Name:** Monaco Coach Corporation
**Address:** 606 Nelson's Parkway, Wakarusa, Indiana 46573
**SSM to TV:** 039-19543
**SPM to TV:** 039-20873
**Plt ID:** 039-00017
**Reviewer:** ERG/SD
**Date:** April 11, 2005

**II. ANNUALIZED COSTS**

| | | | | |
|---|---|---|---|---|
| ***1. Direct Operating Costs:*** | | | | |
| Operating Labor (F) | | | $5,000 | |
| *a. Number of Employees* | | | *1.00* | |
| *b. Cost/Employee/Hour* | | | *$20.0* | (provided by source) |
| *c. Operating Hours/Year* | | | *250* | |
| Supervisory Labor (F1) | 0.15 | F | $750 | |
| Maintenance Labor (F2) | | | $5,000 | |
| *a. Number of Employees* | | | *1.00* | |
| *b. Cost/Employee/Hour* | | | *$20.0* | (provided by source) |
| *c. Operating Hours/Year* | | | *250* | |
| Maintenance Material (F3) | 1 | F2 | $5,000 | |
| Utilities | | | | |
| a. Natural Gas | | | $52,539 | |
| *MMBTU/HR Input* | | | *0.84* | |
| *Operating Hours/Year* | | | *8,760* | (provided by source) |
| *Cost/MMBTU* | | | *$7.14* | (rate in Indiana) |
| b. Electricity | | | $19,754 | |
| *KW Requirements/Hr* | | | *41.0* | |
| *KWH/YR* | | | *8,760* | (provided by source) |
| *Cost/KWH* | | | *$0.055* | (national ave.) |
| Water | | | $0 | |
| Air | | | $0 | |
| Replacement Parts | 0.05 | A | $0 | |
| **Total Direct Operating Cost (G)** | | | **$88,043** | |
| ***2. Indirect Operating Costs:*** | | | | |
| Overhead | 0.6 | **(F+F1+F2+F3)** | $9,450 | |
| Insurance, and Administrative Costs | 0.03 | **(B+C+D)** | $89,422 | |
| **Total Indirect Operating Cost (H)** | | | **$98,872** | |
| **3. Heat Recovery Credits (I):** | | | **$22,710** | |
| *MMBTU/HR Input* | | | *0.84* | |
| *Operating Hours/Year* | | | *8,760* | |
| *Unit Heat Efficiency* | | | *95%* | |
| *Heat Exchange Efficiency* | | | *65%* | |
| *Percent Heat Recovery* | | | *70%* | |
| *Cost/MMBTU* | | | *$7.14* | (rate in Indiana) |
| **Total Annual Operating Cost** | | **(G+H-I)** | **$164,205** | |
| **Total Annualized Cost** | | **(E+G+H-I)** | **$588,603** | |
| **Uncontrolled PTE (tons/yr)** | **48.7** | (as calculated in Appendix A) | | |
| **Overall Control Efficiency** | | | **95.0%** | |
| **Pollution Removed (tons/yr)** | | | **46.3** | |
| **Cost Effectiveness ($ /ton VOC removed)** | | | **$12,722** | |

**Appendix C: Cost Analysis for Control Devices**
**Rotary Zeolite Absorption with Catalytic Oxidizer**

**Company Name:** Monaco Coach Corporation
**Address:** 606 Nelson's Parkway, Wakarusa, Indiana 46573
**SSM to TV:** 039-19543
**Plt ID:** 039-00017
**Reviewer:** ERG/SD
**Date:** March 2, 2005

| | | | **Rotary Zeolite Absorption with Catalytic Oxidizer** | |
|---|---|---|---|---|
| Vendor: | | | | |
| Design Air Flow Rate (scfm): | | | 100,000 | (provided by source) |
| **I. Capital Cost** | | | | |
| | (formula)* | | | |
| **1. Purchased Equipment:** | | | | |
| Basic Equipment & Auxiliaries (A) | | | $739,500 | (provided by source) |
| Instruments & controls | 0.10 | A | $73,950 | |
| Taxes | 0.05 | A | $36,975 | (Indiana Tax Code) |
| Freight | 0.05 | A | $36,975 | |
| **Total Purchase Cost (B)** | | | **$887,400** | |
| **2. Direct Installation Costs:** | | | | |
| Support Installation | 0.08 | B | $70,992 | |
| Erection & Handling | 0.14 | B | $124,236 | |
| Electrical | 0.04 | B | $35,496 | |
| Enclosure | | | NA | |
| Piping | 0.02 | B | $17,748 | |
| Insulation | 0.01 | B | $8,874 | |
| Painting | 0.01 | B | $8,874 | |
| Site Preparation (As Required) | | | $0 | |
| Facilities and buildings (As required) | | | $0 | |
| **Total Direct Installation Cost (C)** | | | **$266,220** | |
| **Total Direct Capital Cost (TDC)** | | **(B+C)** | **$1,153,620** | |
| **3. Indirect Costs:** | | | | |
| Engineering | 0.10 | B | $88,740 | |
| Loss of Production Cost | | | $0 | |
| Construction & Field Expenses | 0.05 | B | $44,370 | |
| Start Up | 0.02 | B | $17,748 | |
| Performance Tests | | | $41,266 | (provided by source) |
| Contingencies | 0.05 | B | $44,370 | |
| **Total Indirect Cost (D)** | | | **$236,494** | |
| **Total Install Capital Cost** | | **(B+C+D)** | **$1,390,114** | |
| *Capital Recovery Factor (10%, 10 year)* | | | 0.163 | |
| **Capital Recovery Cost (E)** | | | **$226,589** | |
| **II. ANNUALIZED COSTS** | | | | |
| ***1. Direct Operating Costs:*** | | | | |
| Operating Labor (F) | | | $16,425 | |
| *a. Number of Employees* | | | *1.00* | |
| *b. Cost/Employee/Hour* | | | *$30.0* | (provided by source) |
| *c. Operating Hours/Year* | | | *548* | |
| Supervisory Labor (F1) | 0.15 | F | $2,464 | |
| Maintenance Labor (F2) | | | $27,375 | |
| *a. Number of Employees* | | | *1.00* | |
| *b. Cost/Employee/Hour* | | | *$50.0* | |
| *c. Operating Hours/Year* | | | *548* | |
| Maintenance Material (F3) | 1 | F2 | $27,375 | |
| Utilities | | | | |
| a. Natural Gas | | | $95,000 | (provided by source) |
| b. Electricity | | | $32,813 | (provided by source) |
| Water | | | $0 | |
| Air | | | $0 | |
| Replacement Parts | 0.05 | A | $36,975 | (provided by source) |
| **Total Direct Operating Cost (G)** | | | **$238,427** | |
| ***2. Indirect Operating Costs:*** | | | | |
| Overhead | 0.6 | **(F+F1+F2+F3)** | $44,183 | |
| Insurance, and Administrative Costs | 0.03 | **(B+C+D)** | $41,703 | |
| **Total Indirect Operating Cost (H)** | | | **$85,887** | |
| **Total Annual Operating Cost** | | **(G+H)** | **$324,313** | |
| **Total Annual Cost** | | **(E+G+H)** | **$550,902** | |
| **Uncontrolled PTE (tons/yr)** | **48.7** | (as calculated in Appendix A) | | |
| **Overall Control Efficiency **** | | | **95.0%** | |
| **Pollution Removed (tons/yr)** | | | **46.3** | |
| **Cost Effectiveness ($ /ton VOC removed)** | | | **$11,908** | |

* The cost analysis formula is from EPA Air Pollution Control Cost Manual, Sixth Edition (01/02).
** This is provided by the manufacturer, including capture efficiency and destruction efficiency.

**Appendix C: Cost Analysis for Control Devices**
**Rotary Zeolite Absorption with Catalytic Oxidizer**

**Company Name:** Monaco Coach Corporation
**Address:** 606 Nelson's Parkway, Wakarusa, Indiana 46573
**SSM to TV:** 039-19543
**SPM to TV:** 039-20873
**Plt ID:** 039-00017
**Reviewer:** ERG/SD
**Date:** April 11, 2005

**Rotary Zeolite Absorption with Catalytic Oxidizer**

| | | | |
|---|---|---|---|
| Design Air Flow Rate (scfm): | | 50,000 | (provided by source) |
| **I. Capital Cost** | | | |
| | (formula)* | | |
| **1. Purchased Equipment:** | | | |
| Basic Equipment & Auxiliaries (A) | | $739,500 | (provided by source) |
| Instruments & controls | 0.10 A | $73,950 | (separate from the price quote) |
| Taxes | 0.05 A | $36,975 | (Indiana Tax Code) |
| Freight | 0.05 A | $36,975 | |
| **Total Purchase Cost (B)** | | **$887,400** | |
| **2. Direct Installation Costs:** | | | |
| Support Installation | 0.08 B | $70,992 | |
| Erection & Handling | 0.14 B | $124,236 | |
| Electrical | 0.04 B | $35,496 | |
| Enclosure | | NA | |
| Piping | 0.02 B | $17,748 | |
| Insulation | 0.01 B | $8,874 | |
| Painting | 0.01 B | $8,874 | |
| Site Preparation (As required) | | $0 | |
| Facilities and buildings (As required) | | $0 | |
| **Total Direct Installation Cost (C)** | | **$266,220** | |
| **Total Direct Capital Cost (TDC)** | **(B+C)** | **$1,153,620** | |
| **3. Indirect Costs:** | | | |
| Engineering | 0.10 B | $88,740 | |
| Loss of Production Cost | | $0 | |
| Construction & Field Expenses | 0.05 B | $44,370 | |
| Start Up | 0.02 B | $17,748 | |
| Performance Tests | 0.01 B | $8,874 | |
| Contingencies | 0.03 B | $26,622 | |
| **Total Indirect Cost (D)** | | **$186,354** | |
| **Total Install Capital Cost** | **(B+C+D)** | **$1,339,974** | |
| *Capital Recovery Factor (7%, 10 year)* | | 0.1424 | |
| **Capital Recovery Cost (E)** | | **$190,785** | |

**Appendix C: Cost Analysis for Control Devices**
**Rotary Zeolite Absorption with Catalytic Oxidizer**

**Company Name:** Monaco Coach Corporation
**Address:** 606 Nelson's Parkway, Wakarusa, Indiana 46573
**SSM to TV:** 039-19543
**SPM to TV:** 039-20873
**Plt ID:** 039-00017
**Reviewer:** ERG/SD
**Date:** April 11, 2005

**II. ANNUALIZED COSTS**

| | | | |
|---|---|---|---|
| ***1. Direct Operating Costs:*** | | | |
| Operating Labor (F) | | $5,000 | |
| *a. Number of Employees* | | *1.00* | |
| *b. Cost/Employee/Hour* | | *$20.0* | (provided by source) |
| *c. Operating Hours/Year* | | *250* | |
| Supervisory Labor (F1) | 0.15 F | $750 | |
| Maintenance Labor (F2) | | $5,000 | |
| *a. Number of Employees* | | *1.00* | |
| *b. Cost/Employee/Hour* | | *$20.0* | (provided by source) |
| *c. Operating Hours/Year* | | *250* | |
| Maintenance Material (F3) | 1 F2 | $5,000 | |
| Utilities | | | |
| a. Natural Gas | | $52,539 | |
| *MMBTU/HR Input* | | *0.84* | |
| *Operating Hours/Year* | | *8,760* | (provided by source) |
| *Cost/MMBTU* | | *$7.14* | (rate in Indiana) |
| b. Electricity | | $19,754 | |
| *KW Requirements/Hr* | | *41.0* | |
| *KWH/YR* | | *8,760* | (provided by source) |
| *Cost/KWH* | | *$0.055* | (national ave.) |
| Water | | $0 | |
| Air | | $0 | |
| Replacement Parts | | $13,929 | (as per vendor information) |
| **Total Direct Operating Cost (G)** | | **$101,972** | |
| ***2. Indirect Operating Costs:*** | | | |
| Overhead | 0.6 **(F+F1+F2+F3)** | $9,450 | |
| Insurance, and Administrative Costs | 0.03 **(B+C+D)** | $40,199 | |
| **Total Indirect Operating Cost (H)** | | **$49,649** | |
| **3. Heat Recovery Credits (I):** | | **$22,710** | |
| *MMBTU/HR Input* | | *0.84* | |
| *Operating Hours/Year* | | *8,760* | |
| *Unit Heat Efficiency* | | *95%* | |
| *Heat Exchange Efficiency* | | *65%* | |
| *Percent Heat Recovery* | | *70%* | |
| *Cost/MMBTU* | | *$7.14* | (rate in Indiana) |
| **Total Annual Operating Cost** | **(G+H-I)** | **$128,911** | |
| **Total Annualized Cost** | **(E+G+H-I)** | **$319,697** | |
| **Uncontrolled PTE (tons/yr)** | **48.7** | (as calculated in Appendix A) | |
| **Overall Control Efficiency** | | **90.0%** | |
| **Pollution Removed (tons/yr)** | | **43.8** | |
| **Cost Effectiveness ($ /ton VOC removed)** | | **$7,294** | |

**Appendix C: Cost Analysis for Control Devices**
**Summary**

| | |
|---|---|
| **Company Name:** | Monaco Coach Corporation |
| **Address:** | 606 Nelson's Parkway, Wakarusa, Indiana 46573 |
| **SSM to TV:** | 039-19543 |
| **SPM to TV:** | 039-20873 |
| **Plt ID:** | 039-00017 |
| **Reviewer:** | ERG/SD |
| **Date:** | April 11, 2005 |

**NOTES:**

1. The cost analysis formula is from EPA Air Pollution Control Cost Manual, Sixth Edition (01/02).
2. The control efficiency is as provided by the manufacturer, including capture efficiency and destruction efficiency.
3. The energy price for industrial use in December, 2004 is from the webpage for Energy Information Administration. http://www.eia.doe.gov/
4. Instruments & Controls are listed as separate quotes since interlocks to the booths, duct dampers, and computer tracking system are not included in the basic equipement cost.

**Energy Penalty Calculation**

| | |
|---|---|
| Emission factor for NOx (in lbs/MMSCF) = | 100 |
| Flow Rate (scfm) = | 100000 |
| Hours of Operation hours/year) = | 2250 |
| | |
| NOx emitted (MMSCF/year) = | 13500 |
| NOx emitted (tons/year) = | 675 |
| VOC controlled (tons/year) = | 48.7 |
| lb NOx per lb VOC controlled = | 13.9 |

1 SCF = 1,000 Btu
Emission factor is from AP-42, Chapter 1.4 (Natural Gas Combustion), July, 1998.

**Methodology**

NOx emitted (MMSCF/year) = Flow rate (scfm) * 60 min/hour * hours of operation per year * 1 MMSCF/$10^6$ SCF.
NOx emitted (tons/year) = Nox emitted (MMSCF/year) * Emission Factor (lb/MMSCF) * 1 ton/2000 lbs.