



Mitchell E. Daniels, Jr.  
Governor

Thomas W. Easterly  
Commissioner

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

TO: Interested Parties / Applicant  
DATE: May 10, 2005  
RE: Logansport State Hospital / 017-17247-00004  
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



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We make Indiana a cleaner, healthier place to live.*

*Mitchell E. Daniels, Jr.*  
Governor

*Thomas W. Easterly*  
Commissioner

100 North Senate Avenue  
Indianapolis, Indiana 46204  
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May 10, 2005

Mr. Jeffery L. Babb  
Logansport State Hospital  
1098 South Highway 25  
Logansport, IN 46947

Re: Source Specific Operation Status  
**017-17247-00004**

Dear Mr. Babb:

Your applications for Source Specific Operation Status were received on February 19, 2003, and October 27, 2004, and have been reviewed. Based on the data submitted and the provisions in 326 IAC 2, it has been determined that your emission source, a stationary hospital with the following units:

- (a) An unleaded gasoline and diesel fuel dispensing facility, constructed prior to 1989, including one (1) 4,000 gallon underground tank, constructed in 1999, and dispensing no more than 200 gallons of fuel per day.
- (b) One (1) small cold cleaner degreaser, constructed prior to 1980, using only non-halogenated solvents, using no more than 60 gallons in each 16 week period.
- (c) One (1) MIG welding station, capacity: 4 pounds of weld wire per year.
- (d) One (1) stick welder, capacity: 100 pounds of electrodes per year.
- (e) One (1) TIG welder, capacity: 1 pound per year.
- (f) One (1) Oxyacetylene welder, capacity: 5 pounds per year.
- (g) One (1) Oxyacetylene carbon arc flame cutter, capacity: 8 inches per minute.
- (h) Paved and unpaved roads and parking lots with public areas.
- (i) One (1) natural gas-fired boiler, identified as B-1, constructed in 1971, exhausting to stack SB-1, heat input capacity: 30 million British thermal units per hour.
- (j) One (1) natural gas-fired boiler, identified as B-2, constructed in 1981, exhausting to stack SB-2, heat input capacity: 44.6 million British thermal units per hour.
- (k) One (1) natural gas-fired low-NO<sub>x</sub> boiler, identified as B-3, constructed in 2000, exhausting to stack SB-3, heat input capacity: 42.05 million British thermal units per hour.

- (l) Three (3) natural gas-fired water heaters, identified as W-1 through W-3, constructed in 2003, exhausting to stacks SW-1 through SW-3, respectively, heat input capacity: 0.8 million British thermal units per hour, each.
- (m) Three (3) boilers, fired by natural gas or No. 2 fuel oil, identified as B-7 through B-9, constructed in 2003, exhausting to stacks SB-7 through SB-9, heat input capacity: 3.5 million British thermal units per hour, each.
- (n) Eight (8) diesel powered emergency generators, identified as G-1 through G-8, capacities: 45, 80, 45, 32, 80, 150, 275 and 300 horsepower, respectively.
- (o) Woodworking, including one (1) planer, one (1) sander one (1) ban saw, and one (1) cut off saw, equipped with a bag filter, capacity: 0.5 board feet per hour.

located at 1098 South Highway 25, Logansport, Indiana 46947, has met the criteria required to obtain a Source Specific Operating Agreement.

Pursuant to IC 4-21.5-3-5(a) and (b), approval of this Source Specific Operating Agreement shall not be effective until fifteen (15) days from the date of this letter.

This Source Specific Operating Agreement covers the external combustion units at the source (Section A), the internal combustion units at this source (Section B), and the woodworking operations at this source (Section C). All other processes at this source are exempt and are included in Section E. The facilities and processes of this source are hereby granted the Source Specific Operating Agreement provided that the following requirements of 326 IAC 2-9 are satisfied:

**Section A: External Combustion Operation: [326 IAC 2-9-13]**

1. The visible emissions from the external combustion units shall not exceed twenty percent (20%) opacity in twenty-four (24) consecutive readings in a six (6) minute period. The opacity shall be determined using 40 CFR 60, Appendix A, Method 9.
2. The fuel usage for the external combustion units listed in this Source Specific Operating Agreement (SSOA) shall be limited as follows:
  - (a) less than two hundred eighty-four million cubic feet (284 MMcf) of natural gas per year, based on a straight twelve (12) month total, and
  - (b) less than one hundred eighty-seven (187) kilogallons of #1 or #2 distillate oil, or any combination of #1 or #2 oil, per year, based on a straight twelve (12) month total.
3. The source shall keep the following records from the external combustion units:
  - (a) the hours operated for each external combustion unit approved under this Source Specific Operating Agreement (SSOA),
  - (b) records of the annual fuel usage for each external combustion unit approved under this SSOA, and
  - (c) records of all routine maintenance conducted on the external combustion units approved under this SSOA.

These records shall be kept for a minimum period of five (5) years, and made available upon request of the Office of Air Quality (OAQ).

**Section B: Internal Combustion Operation: [326 IAC 2-9-14]**

1. The fuel usage for the internal combustion units listed in this Source Specific Operating Agreement (SSOA) shall be limited to less than three hundred seventy-six and seventy-two hundredths (376.72) kilogallons of diesel fuel per year, based on a straight twelve (12) month total.
2. The source shall keep the following records from the internal combustion units:
  - (a) the hours operated for each internal combustion unit approved under this Source Specific Operating Agreement (SSOA),
  - (b) records of the annual fuel usage for each internal combustion unit approved under this SSOA, and
  - (c) records of all routine maintenance conducted on the internal combustion units approved under this SSOA.

These records shall be kept for a minimum period of five (5) years, and made available upon request of the Office of Air Quality (OAQ).

**Section C: Woodworking Operation: [326 IAC 2-9-4]**

1. The particulate matter with a diameter less than ten (10) microns ( $PM_{10}$ ) from the woodworking operations shall not exceed one-hundredth (0.01) grain per actual cubic foot of outlet air.
2. The woodworking operations shall be controlled by a baghouse and the baghouse shall be in operation at all times that the woodworking equipment is in use.
3. Opacity from the baghouse shall not exceed ten percent (10%).
4. The source shall not, at any time, exhaust to the atmosphere greater than sixty-five thousand (65,000) actual cubic feet of outlet air per minute.
5. Visible emissions from the baghouse shall be observed daily using procedures in accordance with 40 CFR 60, Appendix A, Method 22 and normal or abnormal emissions shall be recorded. In the event abnormal emissions are observed for greater than six (6) minutes in duration, the following shall occur:
  - a. The baghouse shall be inspected.
  - b. Corrective actions, such as replacing or reseating bags, are initiated when necessary.
6. The baghouse shall be inspected quarterly when vented to the atmosphere.
7. The source shall maintain records of the following:
  - a. Dates the baghouse is redirected indoors or to the atmosphere.
  - b. Quarterly inspection reports when venting to the atmosphere.

- c. Visible observation reports.
- d. Records of corrective actions.

**Section D: General Requirements: [326 IAC 2-9-1]**

1. The source shall provide an annual notice to the commissioner, stating that the source is in operation, and certifying that its operations are in compliance with the requirements of this Source Specific Operating Agreement. The above annual notice shall be submitted to:

**Compliance Data Section  
Office of Air Quality  
100 North Senate Avenue  
Indianapolis, IN 46204**

no later than January 30 of each year, with the annual notice being submitted in the format attached.

2. Any exceedance of any requirement contained in this operating agreement shall be reported, in writing, within one (1) week of its occurrence. Said report shall include information on the actions taken to correct the exceedance, including measures to reduce emissions, in order to comply with the established limits. If an exceedance is the result of a malfunction, then the provisions of 326 IAC 1-6 apply.
3. Pursuant to 326 IAC 2-9-1(i), the owner or operator is hereby notified that this operating agreement does not relieve the permittee of the responsibility to comply with the provisions of any applicable federal, state, or local rules, or any New Source Performance Standards (NSPS), 40 CFR Part 60, or National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 61.

**Section E: Exemption**

The following conditions shall be applicable to units (a) through (h) on page 1 of this letter:

1. Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following:
  - (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
  - (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.
2. Any change or modification that increases the gasoline throughput at the fuel dispensing facility to 10,000 gallons per month or more shall cause the source to become subject to 326 IAC 8-4-5 and shall require prior IDEM, OAQ, approval.

Any change or modification which will alter operations in such a way that it will no longer comply with the applicable restrictions and conditions of this operating agreement, must obtain the appropriate approval from the Office of Air Quality (OAQ) under 326 IAC 2-5.1, 326 IAC 2-5.5, 326 IAC 2-6.1, 326 IAC 2-2, 326 IAC 2-3, 326 IAC 2-7, and 326 IAC 2-8, before such change may occur.

Sincerely,

Original Signed by  
Kathy Moore, Section Chief  
Permit Branch  
Office of Air Quality

CAP/MES

cc: File - Cass County  
Cass County Health Department  
Air Compliance Section – Dave Rice  
Permit Tracking  
Compliance Data Section

<b>Source Specific Operating Agreement Annual Notification</b>
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This form should be used to comply with the notification requirements under 326 IAC 2-9.

<b>Company Name:</b>	<b>Logansport State Hospital</b>
<b>Address:</b>	<b>1098 South Highway 25</b>
<b>City:</b>	<b>Logansport, Indiana 46947</b>
<b>Contact Person:</b>	<b>Jeffery L. Babb</b>
<b>Phone #:</b>	<b>(574) 722-4141</b>
<b>SSOA #:</b>	<b>S 017-17247-00004</b>

I hereby certify that Logansport State Hospital is still in operation and is in compliance with the requirements of Source Specific Operating Agreement (SSOA) S 017-17247-00004.

<b>Name (typed):</b>
<b>Title:</b>
<b>Signature:</b>
<b>Date:</b>

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

Technical Support Document (TSD) for a Source Specific Operating Agreement (SSOA)

Source Background and Description

Source Name:	Logansport State Hospital
Source Location:	1098 South Highway 25, Logansport, IN 46947
County:	Cass
SIC Code:	8063
SSOA No.:	017-17247-00004
Permit Reviewer:	CarrieAnn Paukowits

The Office of Air Quality (OAQ) has reviewed an application from Logansport State Hospital relating to the operation of a hospital.

**Permitted Emission Units and Pollution Control Equipment**

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

- (a) An unleaded gasoline and diesel fuel dispensing facility, constructed prior to 1989, including one (1) 4,000 gallon underground tank, constructed in 1999, and dispensing no more than 200 gallons of fuel per day.
- (b) One (1) small cold cleaner degreaser, constructed prior to 1980, using only non-halogenated solvents, using no more than 60 gallons in each 16 week period.
- (c) One (1) MIG welding station, capacity: 4 pounds of weld wire per year.
- (d) One (1) stick welder, capacity: 100 pounds of electrodes per year.
- (e) One (1) TIG welder, capacity: 1 pound per year.
- (f) One (1) Oxyacetylene welder, capacity: 5 pounds per year.
- (g) One (1) Oxyacetylene carbon arc flame cutter, capacity: 8 inches per minute.
- (h) Paved and unpaved roads and parking lots with public areas.
- (i) One (1) natural gas-fired boiler, identified as B-1, constructed in 1971, exhausting to stack SB-1, heat input capacity: 30 million British thermal units per hour.
- (j) One (1) natural gas-fired boiler, identified as B-2, constructed in 1981, exhausting to stack SB-2, heat input capacity: 44.6 million British thermal units per hour.
- (k) One (1) natural gas-fired low-NO<sub>x</sub> boiler, identified as B-3, constructed in 2000, exhausting to stack SB-3, heat input capacity: 42.05 million British thermal units per hour.

- (l) Three (3) natural gas-fired water heaters, identified as W-1 through W-3, constructed in 2003, exhausting to stacks SW-1 through SW-3, respectively, heat input capacity: 0.8 million British thermal units per hour, each.
- (m) Three (3) boilers, fired by natural gas or No. 2 fuel oil, identified as B-7 through B-9, constructed in 2003, exhausting to stacks SB-7 through SB-9, heat input capacity: 3.5 million British thermal units per hour, each.
- (n) Eight (8) diesel powered emergency generators, identified as G-1 through G-8, capacities: 45, 80, 45, 32, 80, 150, 275 and 300 horsepower, respectively.
- (o) Woodworking, including one (1) planer, one (1) sander one (1) ban saw, and one (1) cut off saw, equipped with a bag filter, capacity: 0.5 board feet per hour.

### **Unpermitted Emission Units and Pollution Control Equipment**

There are no unpermitted emission units operating at this source during this review process.

### **Existing Approvals**

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

- (a) T 017-7405-00004, issued on December 21, 1998;
- (b) First Reopening 017-13161-00004, issued on October 18, 2001;
- (c) First Minor Source Modification 017-14164-00004, issued on May 17, 2001; and
- (d) First Significant Permit Modification 017-14199-00004, issued on July 20, 2001.

The units to which specific conditions in the Title V were applicable are now covered under the Source Specific Operating Agreement (SSOA). The source is transitioning from a Part 70 Operating Permit to a SSOA. Therefore, the only condition incorporated into this approval from the Part 70 Operating Permit is the requirement to comply with 326 IAC 5-1, Opacity Limitations.

### **Enforcement Issue**

There are no enforcement actions pending.

### **Recommendation**

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on February 19, 2003. Additional information was received on September 27 and 29, 2004, October 4 and 27, and November 3, 2004.

## Emission Calculations

See pages 1 through 4 of Appendix A of this document for detailed emission calculations for facilities not subject to 326 IAC 2-9, Source Specific Operating Agreement (items (a) through (h) of the facilities listed on pages 1 and 2 of this document). Pages 5 through 9 contain emissions calculations for facilities subject to 326 IAC 2-9, Source Specific Operating Agreement (items (i) through (o) of the facilities listed on pages 1 and 2 of this document), taking into account the limits in the agreement. Page 10 is a summary of the emissions from this source.

## County Attainment Status

The source is located in Cass County.

Pollutant	Status
PM <sub>2.5</sub>	Attainment
PM <sub>10</sub>	Attainment
SO <sub>2</sub>	Attainment
NO <sub>2</sub>	Attainment
1-Hour Ozone	Attainment
8-Hour Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOC) and nitrogen oxides (NO<sub>x</sub>) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to ozone. Cass County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.
- (b) Cass County has been classified as attainment or unclassifiable in Indiana for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.
- (c) Fugitive Emissions  
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 or 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

### Source Status

Existing Source PSD, Part 70, or FESOP Definition (emissions after controls, based on 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/yr)
PM	27.8
PM <sub>10</sub>	27.6
SO <sub>2</sub>	7.24
VOC	2.57
CO	14.0
NO <sub>x</sub>	23.9
Single HAP (Hexane)	0.256
Combination HAPs	0.313

- (a) The emissions are limited by the Source Specific Operating Agreement (see pages 5 through 10 of Appendix A of this document for detailed calculations).
- (b) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories.
- (c) Pursuant to 326 IAC 2-9-1(g), a source may apply for up to four (4) SSOAs at one time as long as the potential to emit of the entire source does not exceed major source levels. The potential to emit of the entire source is less than the major source levels pursuant to 326 IAC 2-2, PSD. Therefore, this source qualifies for a SSOA. The three (3) SSOA applications have been combined into a single SSOA.

### Potential to Emit of Facilities Not Subject to 326 IAC 2-9, SSOA, Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential to Emit (tons/yr)
PM	2.34
PM <sub>10</sub>	1.34
SO <sub>2</sub>	0.00
VOC	1.12
CO	0.00
NO <sub>x</sub>	0.00

HAPs	Potential to Emit (tons/yr)
Manganese	0.00004
2,2,4 - Trimethylpentane	0.005
Benzene	0.003
Cumene	0.0001
Ethylbenzene	0.0003
Hexane	0.021
MTBE	0.010
Styrene	0.0005
Toluene	0.004
Xylene	0.002
Total	0.045

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of pollutants are less than the levels listed in 326 IAC 2-1.1-3(d)(1). The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of the combination of HAPs is less than twenty-five (25) tons per year. Therefore, the units that are not subject to 326 IAC 2-9, SSOA, are considered exempt.
- (b) Pursuant to 326 IAC 2-9-1(b), a source issued a source specific operating agreement is not subject to 326 IAC 2-6.1 unless otherwise required by state, federal or local law. The emission units not covered under a SSOA are exempt from permitting requirements under 326 IAC 2-6.1. In addition, pursuant to 326 IAC 2-6.1-1 (2)(C), existing sources operating pursuant to a source specific operating agreement under 326 IAC 2-9 are exempt from the requirements of 326 IAC 2-6.1. Therefore, this source is exempt from the requirements of 326 IAC 2-6.1.

## Part 70 Permit Determination

### 326 IAC 2-7 (Part 70 Permit Program)

This existing source was issued a Part 70 Operating Permit on December 21, 2003. In place of a Part 70 Renewal application, the source applied to transition from a Part 70 Operating Permit to a Source Specific Operating Agreement (SSOA) for three (3) different processes. Pursuant to 326 IAC 2-9-1(b), a source issued a source specific operating agreement is not subject to 326 IAC 2-7 provided the source specific operating agreement limits the source's potential to emit below the applicability thresholds for 326 IAC 2-7. As shown on page 10 of 10 of Appendix A, the SSOA limits the source-wide potential to emit to less than the applicability thresholds for 326 IAC 2-7. Therefore, the requirements of 326 IAC 2-7 are no longer applicable.

### Federal Rule Applicability

- (a) The one (1) underground storage tank, constructed in 1999, at the fuel dispensing facility has a capacity less than 75 cubic meters. Therefore, the requirements of the New Source Performance Standard, 326 IAC 12 (40 CFR 60.110b, Subpart Kb) are not included in this approval.
- (b) The six (6) boilers all have capacities less than 250 million British thermal units per hour. Therefore, the requirements of the New Source Performance Standard, 326 IAC 12 (40 CFR 60, Subparts D and Da), are not included in this approval.
- (c) The four (4) boilers constructed after June 19, 1984 (B-3, and B-7 through 9), each has a capacity less than 100 million British thermal units per hour. Therefore, the requirements of New Source Performance Standard, 326 IAC 12 (40 CFR 60, Subpart Db), are not included in this approval.
- (d) The one (1) boiler (B-3) that was constructed after June 9, 1989 and has a capacity greater than 10 million British thermal units per hour, only operates on natural gas. Therefore, there are no applicable standards pursuant to the New Source Performance Standard, 326 IAC 12 (40 CFR 60, Subpart Dc). Therefore, therequirements of this rule are not included in the permit.
- (e) This source is not a major source of HAPs. Therefore, the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, are not included in this approval.
- (f) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Halogenated Solvent Cleaning, Part 63, Subpart T, are not included for one (1) degreaser because it does not use any halogenated solvents.

### State Rule Applicability – Entire Source

#### 326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

The unrestricted potential emissions of each attainment criteria pollutant are less than 250 tons per year. Therefore, this source, which is not one of the twenty-eight (28) listed source categories, is a minor source pursuant to 326 IAC 2-2, PSD.

#### 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of this hospital will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

#### 326 IAC 2-6 (Emission Reporting)

This source is not located in Lake or Porter County with the potential to emit greater than twenty-five (25) tons per year of NO<sub>x</sub>, does not emit five (5) tons per year or more of lead and does not require a Part 70 Operating Permit. Therefore, the requirements of 326 IAC 2-6 do not apply.

#### 326 IAC 2-9 (Source Specific Operating Agreement)

- (a) The external combustion units at this source will comply with the requirements of 326 IAC 2-9-13.
- (b) The internal combustion units at this source will comply with the requirements of 326 IAC 2-9-14.
- (c) The woodworking operations at this source will comply with the requirements of 326 IAC 2-9-4.

#### 326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in the permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

#### **State Rule Applicability – Individual Facilities**

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

- (a) The welding operations at this source consume less than 625 pounds of weld wire or rod per day, total. Therefore, pursuant to 326 IAC 6-3-1(b)(9), the requirements of 326 IAC 6-3-1 are not applicable.
- (b) The torch cutting operations at this source cut less than 3,400 inches per hour of stock 1 inch thick or less. Therefore, pursuant to 326 IAC 6-3-1(b)(10), the requirements of 326 IAC 6-3-1 are not applicable.

##### 326 IAC 8-3-1 (Organic Solvent Degreasing Operations)

The one (1) cold cleaner degreaser is not subject to the requirements of 326 IAC 8-3 because it was constructed prior to 1980 and it is located in Cass County.

326 IAC 8-4-3 (Petroleum liquid storage facilities)

The one (1) underground tank at this source has a capacity less than 39,000 gallons. Therefore, the requirements of 326 IAC 8-4-3 are not applicable.

326 IAC 8-4-6 (Gasoline dispensing facilities)

Although the underground tank was constructed after July 1, 1989, the gasoline dispensing facility at this source was constructed prior to July 1, 1989, and the monthly throughput of gasoline is less than 10,000 gallons. Therefore, pursuant to 326 IAC 8-4-1(f), the requirements of 326 IAC 8-4-6 are not applicable.

326 IAC 8-6-1 (Organic Solvent Degreasing Operations)

This source commenced operating in Cass County prior to October 7, 1974. Therefore, the requirements of 326 IAC 8-6 are not applicable.

326 IAC 12 (New Source Performance Standards)

The one (1) underground storage tank, constructed in 1999, at this source has a capacity less than 40 cubic meters. Therefore, the requirements of 326 IAC 12 are not applicable.

**Conclusion**

The operation of this hospital shall be subject to the conditions of the SSOA, S 017-17247-00004.

**Appendix A: Emission Calculations  
Fuel Dispensing Emission Calculations**

Company Name: Logansport State Hospital  
 Plant Location: 1098 South Highway 25, Logansport, IN 46947  
 Permit No.: 017-17247  
 Plant ID: 017-00004  
 Application Date: CarrieAnn Paukowits  
 Permit Reviewer: October 27, 2004

Source	Emission Factor (lbs/1000gal)	Annual Throughput (gallons)	VOC Emissions (lbs/yr)	VOC Emissions (tons/yr)
Splash filling	11.5	73000	840	0.420
Vehicle refueling	1.1	73000	80.3	0.040
Spillage	0.7	73000	51.1	0.026
<b>Total:</b>			971	0.485

**Potential HAP Emissions**

HAP	Worst Case Weight % in gasoline vapor	Gasoline VOC Emissions (lbs/yr)	HAP Emissions from Gasoline (lbs/yr)	HAP Emissions from Gasoline (tons/yr)
2,2,4- Trimethylpentane	0.949%	971	9.21	0.005
Benzene	0.621%	971	6.03	0.003
Cumene	0.018%	971	0.17	0.0001
Ethyl benzene	0.067%	971	0.65	0.0003
n-Hexane	4.346%	971	42.20	0.021
MTBE	1.983%	971	19.25	0.010
Styrene	0.098%	971	0.95	0.0005
Toluene	0.848%	971	8.23	0.004
Xylene	0.354%	971	3.44	0.002
			<b>90</b>	<b>0.045</b>

**Methodology**

VOC emission factors from AP-42, Chapter 5

HAP emission factors are the worst case percent HAPs based upon the permit for a gasoline loading rack source

**Appendix A: Emission Calculations  
Cold Cleaning**

**Company Name: Logansport State Hospital**  
**Address City IN Zip: 1098 South Highway 25, Logansport, IN 46947**  
**Permit No.: 017-17247**  
**Plant ID: 017-00004**  
**Reviewer: CarrieAnn Paukowits**  
**Date: October 27, 2004**

Material	Usage (gal/16 weeks)	Density (lbs/gal)	Volume % VOC	Weight % VOC	Weight % HAP	VOC Emissions (tons/yr)	HAP Emissions (tons/yr)
<b>Degreaser</b>							
Crystal Clean	60	6.54	100.00%	100.00%	0.00%	0.638	0.00

**Methodology**

VOC emissions (tons/yr) = Usage (gal/16 weeks) x Density (lbs/gal) x Weight % VOC x 3.25 16-week periods/yr / 2,000 lbs/ton

HAP emissions (tons/yr) = Usage (gal/16 weeks) x Density (lbs/gal) x Weight % HAP x 3.25 16-week periods/yr / 2,000 lbs/ton

There are no HAPs in this material.

**Appendix A: Emissions Calculations**  
**Welding and Thermal Cutting**

**Company Name: Logansport State Hospital**  
**Address City IN Zip: 1098 South Highway 25, Logansport, IN 46947**  
**Permit No.: 017-17247**  
**Plt ID: 017-00004**  
**Reviewer: CarrieAnn Paukowits**  
**Application Date: October 27, 2004**

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)	EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)	
			PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr		
<b>WELDING</b>												
Submerged Arc	0	0	0.036	0.011			0.00000	0.00000	0.00000	0.00000	0.00000	
Metal Inert Gas (MIG)(carbon steel)	1	0.00046	0.0055	0.0005			0.00000	0.00000	0.00000	0.00000	0.00000	
Stick (E7018 electrode)	1	0.01142	0.0211	0.0009			0.00024	0.00001	0.00000	0.00000	0.00001	
Tungsten Inert Gas (TIG)(carbon steel)	1	0.00011	0.0055	0.0005			0.00000	0.00000	0.00000	0.00000	0.00000	
Oxyacetylene(carbon steel)	1	0.00057	0.0055	0.0005			0.00000	0.00000	0.00000	0.00000	0.00000	
<b>FLAME CUTTING</b>												
PROCESS	Number of Stations	Max. Metal Thickness Cut (in.)	Max. Metal Cutting Rate (in./minute)	EMISSION FACTORS (lb pollutant/1,000 inches cut, 1" thick)**				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Oxyacetylene	3	1	8	0.1622	0.0005	0.0001	0.0003	0.234	0.000	0.000	0.000	0.000
Oxymethane	0			0.0815	0.0002		0.0002	0.000	0.000	0.000	0.000	0.000
Plasma**	0	0	150	0.0039				0.000	0.000	0.000	0.000	0.000
<b>EMISSION TOTALS</b>												
Potential Emissions lbs/hr								0.234	0.0000	0.0000	0.0000	0.00005
Potential Emissions lbs/day								5.61	0.0012	0.0000	0.0000	0.0012
Potential Emissions tons/year								1.02	0.0002	0.0000	0.0000	0.0002

**METHODOLOGY**

\*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.

\*\*Emission Factor for plasma cutting from American Welding Society (AWS). Trials reported for wet cutting of 8 mm thick mild steel with 3.5 m/min cutting speed (at 0.2 g/min emitted). Therefore, the emission factor for plasma cutting is for 8 mm thick rather than 1 inch, and the maximum metal thickness is not used in calculating the emissions.

Using AWS average values: (0.25 g/min)/(3.6 m/min) x (0.0022 lb/g)/(39.37 in./m) x (1,000 in.) = 0.0039 lb/1,000 in. cut, 8 mm thick

Plasma cutting emissions, lb/hr: (# of stations)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 8 mm thick)

Cutting emissions, lb/hr: (# of stations)(max. metal thickness, in.)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 1" thick)

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs.

**Appendix A: Emission Calculations  
Unpaved Roads**

**Company Name:** Logansport State Hospital  
**Address City IN Zip:** 1098 South Highway 25, Logansport, IN 46947  
**Permit No.:** 017-17247  
**Plt ID:** 017-00004  
**Reviewer:** CarrieAnn Paukowits  
**Application Date:** October 27, 2004

The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.2 (12/2003).

$$\begin{aligned}
 & 5 \text{ trip/day} \times \\
 & 0.32198 \text{ mile/trip} \times \\
 & 2 \text{ (round trip) } \times \\
 & 365 \text{ days/yr} = \qquad \qquad \qquad 1175.227 \text{ miles per year}
 \end{aligned}$$

**PM**

**Method 1b:**

$$\begin{aligned}
 E_f &= [k \cdot (s/12)^{1.1} \cdot ((S/30)^d) / ((M/0.5)^c)] - C \\
 &= 3.42 \text{ lb/mile} \\
 \text{where } k &= 6.0 \text{ (particle size multiplier for PM)} \\
 s &= 6.4 \text{ mean \% silt content of unpaved roads} \\
 c &= 0.3 \text{ Constant for PM} \\
 d &= 0.3 \text{ Constant for PM} \\
 S &= 15 \text{ Mean vehicle speed (mph)} \\
 M &= 0.2 \text{ Surface material moisture content, \% (default is 0.2 for dry conditions)} \\
 C &= 0.00047 \text{ PM emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear}
 \end{aligned}$$

$$E = \frac{3.42 \text{ lb/mi} \times 1175.23 \text{ mi/yr}}{2000 \text{ lb/ton}} = 2.01 \text{ tons/yr}$$

Taking natural mitigation due to precipitation into consideration:

$$\begin{aligned}
 E_{\text{ext}} &= E \cdot [(365-p)/365] = 1.32 \text{ tons/yr} \\
 \text{where } p &= 125 \text{ days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)}
 \end{aligned}$$

**PM-10**

**Method 1b:**

$$\begin{aligned}
 E_f &= [k \cdot (s/12)^{1.1} \cdot ((S/30)^d) / ((M/0.5)^c)] - C \\
 &= 0.81 \text{ lb/mile} \\
 \text{where } k &= 1.8 \text{ (particle size multiplier for PM-10)} \\
 s &= 6.4 \text{ mean \% silt content of unpaved roads} \\
 c &= 0.2 \text{ Constant for PM-10} \\
 d &= 0.5 \text{ Constant for PM-10} \\
 S &= 15 \text{ Mean vehicle speed (mph)} \\
 M &= 0.2 \text{ Surface material moisture content, \% (default is 0.2 for dry conditions)} \\
 C &= 0.00047 \text{ PM-10 emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear}
 \end{aligned}$$

$$E = \frac{0.81 \text{ lb/mi} \times 1175.23 \text{ mi/yr}}{2000 \text{ lb/ton}} = 0.479 \text{ tons/yr}$$

Taking natural mitigation due to precipitation into consideration:

$$\begin{aligned}
 E_{\text{ext}} &= E \cdot [(365-p)/365] = 0.315 \text{ tons/yr} \\
 \text{where } p &= 125 \text{ days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)}
 \end{aligned}$$



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

**Company Name: Logansport State Hospital  
Address, City IN Zip: 1098 South Highway 25, Logansport, IN 46947  
Permit No.: 017-17247  
Plt ID: 017-00004  
Reviewer: CarrieAnn Paukowits  
Application Date: October 27, 2004**

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.90	7.60	0.600	100 **see below	5.50	84.0

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

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

Equipment	SSOA Limited Throughput MMCF/yr	Potential Emission in tons/yr					
		PM*	PM10*	SO2	NOx	VOC	CO
All External Combustion	284	0.270	1.08	0.085	14.2	0.781	11.9
<b>Total</b>	<b>284</b>	<b>0.270</b>	<b>1.08</b>	<b>0.085</b>	<b>14.2</b>	<b>0.781</b>	<b>11.9</b>

**Methodology**

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

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

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03

(SUPPLEMENT D 3/98)

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

See page 6 for HAPs emissions calculations.

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

**Company Name: Logansport State Hospital  
Address, City IN Zip: 1098 South Highway 25, Logansport, IN 46947  
Permit No.: 017-17247  
Plt ID: 017-00004  
Reviewer: CarrieAnn Paukowits  
Application Date: October 27, 2004**

HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.10E-03	Dichlorobenzene 1.20E-03	Formaldehyde 7.50E-02	Hexane 1.80E+00	Toluene 3.40E-03
Potential Emission in tons/yr	0.0003	0.0002	0.011	0.256	0.0005

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.00E-04	Cadmium 1.10E-03	Chromium 1.40E-03	Manganese 3.80E-04	Nickel 2.10E-03	Total HAPs
Potential Emission in tons/yr	0.0001	0.0002	0.0002	0.0001	0.0003	<b>0.268</b>

Methodology is the same as page 5.

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

**Appendix A: Emissions Calculations**  
**Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)**  
**#1 and #2 Fuel Oil**

**Company Name:** Logansport State Hospital  
**Address, City IN Zip:** 1098 South Highway 25, Logansport, IN 46947  
**Permit No.:** 017-17247  
**Plt ID:** 017-00004  
**Reviewer:** CarrieAnn Paukowits  
**Application Date:** October 27, 2004

**SSOA Limit**  
**Throughput**  
 kgals/year

S = Weight % Sulfur

0.500
-------

187

	Pollutant				
	PM*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	2.00	71.0 <i>(142.0S)</i>	20.0	0.340	5.00
Potential Emission in tons/yr	0.187	6.64	1.87	0.032	0.468

**Methodology**

Emission Factors are from AP 42, Tables 1.3-1, 1.3-2, and 1.3-3 (SCC 1-03-005-01/02/03) Supplement E 9/98 (see erata file)

\*PM emission factor is filterable PM only. Condensable PM emission factor is 1.3 lb/kgal.

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

**Appendix A: Emission Calculations  
Internal Combustion Engines - Diesel Fuel  
Turbine (>250 and <600 HP)  
Reciprocating**

**Company Name:** Logansport State Hospital  
**Address, City IN Zip:** 1098 South Highway 25, Logansport, IN 46947  
**Permit No.:** 017-17247  
**Plt ID:** 017-00004  
**Reviewer:** CarrieAnn Paukowits  
**Application Date:** October 27, 2004

**The SSOA limitation is in terms of Kgal/yr and there is no emission factor based on Kgal usage. Therefore, the calculation is the unrestricted potential emissions.**

Eight Emergency Generators (G-1 through G-8), each with capacities less than 600 hp.  
Heat Input Capacity                      Potential Throughput  
Horsepower (hp)                              hp-hr/yr

1007.0	503500.0
--------	----------

Emission Factor in lb/hp-hr	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
0.0022	0.0022	0.0021	0.0310	0.0025	0.0067	
Potential Emission in tons/yr	0.554	0.554	0.516	7.80	0.633	1.68

**Methodology**

Potential Throughput (hp-hr/yr) = hp \* 500 hr/yr

Potential annual throughput is based on 500 hours per year since these are emergency generators.

Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)

Emission Factors are from AP42 (Supplement B 10/96), Table 3.3-2

Emission (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] \* 8760 hr/yr / (2,000 lb/ton )

Emission (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton )

\*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

**Appendix A: Emission Calculations  
Woodworking Operations**

**Company Name:** Logansport State Hospital  
**Address, City IN Zip:** 1098 South Highway 25, Logansport, IN 46947  
**Permit No.:** 017-17247  
**Plt ID:** 017-00004  
**Reviewer:** CarrieAnn Paukowits  
**Application Date:** October 27, 2004

**SSOA Limit:**

Unit ID	Grain Loading per Actual Cubic foot of Outlet Air (grains/cub. ft.)	Gas or Air Flow Rate (acfm.)	PM Emission Rate after Controls (lb/hr)	PM Emission Rate after Controls (tons/yr)
Woodworking	0.01	65000	5.57	24.4

**Methodology**

Emission Rate in lbs/hr (after controls) = (grains/cub. ft.) (cub. ft./min.) (60 min/hr) (lb/7000 grains)

Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

Emission Rate in lbs/hr (before controls) = Emission Rate (after controls): (lbs/hr)/(1-control efficiency)

Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

**Appendix A: Emission Calculations  
Emissions Summary**

**Company Name: Logansport State Hospital**  
**Address City IN Zip: 1098 South Highway 25, Logansport, IN 46947**  
**Permit No.: 017-17247**  
**Plant ID: 017-00004**  
**Reviewer: CarrieAnn Paukowits**  
**Date: October 27, 2004**

**Units not covered under 326 IAC 2-9, SSOA**

Facility	PM	PM10	SO2	VOC	NOx	CO	Total HAPs
<b>Fuel Dispensing</b>	0.00	0.00	0.00	0.485	0.00	0.00	0.045
<b>Cold Cleaner</b>	0.00	0.00	0.00	0.638	0.00	0.00	0.00
<b>Welding and Flame Cutting</b>	1.02	1.02	0.00	0.00	0.00	0.00	0.0002
<b>Paved and Unpaved Roads</b>	1.32	0.315	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>2.34</b>	<b>1.34</b>	<b>0.00</b>	<b>1.12</b>	<b>0.00</b>	<b>0.00</b>	<b>0.045</b>

**All units at the source after SSOA limits**

Facility	PM	PM10	SO2	VOC	NOx	CO	Total HAPs
<b>Fuel Dispensing</b>	0.00	0.00	0.00	0.485	0.00	0.00	0.045
<b>Cold Cleaner</b>	0.00	0.00	0.00	0.638	0.00	0.00	0.00
<b>Welding and Flame Cutting</b>	1.02	1.02	0.00	0.00	0.00	0.00	0.0002
<b>Paved and Unpaved Roads</b>	1.32	0.315	0.00	0.00	0.00	0.00	0.00
<b>All External Combustion (Natural gas)</b>	0.270	1.08	0.085	0.781	14.2	11.9	0.268
<b>All External Combustion (Fuel oil)</b>	0.187	0.187	6.64	0.032	1.87	0.468	0.00
<b>All Internal Combustion</b>	0.554	0.554	0.516	0.633	7.80	1.68	0.00
<b>Woodworking</b>	24.4	24.4	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>27.8</b>	<b>27.6</b>	<b>7.24</b>	<b>2.57</b>	<b>23.9</b>	<b>14.0</b>	<b>0.313</b>