

Barry W. Bundant
Independent Concrete Pipe Corp.
P.O. Box 21007
Indianapolis, IN 46221

Re: Registered Construction and Operation Status,
059-11637-00025

Dear Mr. Bundant:

The application from Independent Concrete Pipe Corp., received on December 8, 1999, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following concrete batching operation, to be located at 8 N. Junction St., Maxwell, Indiana, is classified as registered:

- (a) Aggregate storage, identified as Unit 001, with a maximum capacity of 160 tons, with fugitive dust as emissions.
- (b) Mixer #2, identified as Unit 002, with a maximum capacity of 30 tons per hour, with a dust collector identified as Unit CE001 as control.
- (c) Mixer #1, identified as Unit 003, with a maximum capacity of 6 tons per hour, with fugitive dust as emissions.
- (d) Fly ash silo, identified as Unit 004, with a maximum capacity of 32.5 tons per hour, using a bag filter as control, and exhausting to stack 001.
- (e) Cement silo, identified as Unit 005, with a maximum capacity of 66 tons, using a bag filter as control, and exhausting to stack 002.
- (f) Cement silo, identified as Unit 006, with a maximum capacity of 20 tons, using a bag filter as control, and exhausting to stack 003.
- (g) Weigh hoppers, identified as Unit 007, with a maximum capacity of 4.5 tons per hour, with fugitive dust as emissions.
- (h) Weigh hopper, identified as Unit 008, with a maximum capacity of 24 tons per hour, with fugitive dust as emissions.
- (i) Weigh hopper, identified as Unit 009, with a maximum capacity of 0.9 tons per hour, with fugitive dust as emissions.
- (j) Weigh hopper, identified as Unit 010, with a maximum capacity of 4.8 tons per hour, with fugitive dust as emissions.
- (k) Product storage areas with a maximum capacity of 36 tons per hour and fugitive dust as emissions.

The following conditions shall be applicable:

1. Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following:
 - (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.
2. Pursuant to 326 IAC 6-3-2 (Process Operations)
The particulate matter (PM) from the concrete batching operation shall be limited by the following:

Interpolation and extrapolation 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

The PM from mixer #1 and mixer #2 shall be limited to 13.6 lb/hr and 40.0 lb/hr, respectively.
3. The Permittee shall record the total static pressure drop across the dust collectors, units CE001, 004, 005, and 006, used in conjunction with the fly ash silo, two (2) cement silos, and the concrete batch mixer #2, at least once weekly when the concrete batching is in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the dust collectors shall be maintained within the range of 3.0 and 7.0 inches of water.
4. An inspection shall be performed each calendar quarter of all dust collectors controlling the three (3) silos and concrete batch mixer when venting to the atmosphere. A dust collector inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective dust collector bags shall be replaced.
5. In the event that bag failure has been observed:
 - (a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps shall be devised and shall include a timetable for completion.
 - (b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced.

This registration is the first air approval issued to this source. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Management that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.5-4(a)(3). The

annual notice shall be submitted to:

**Compliance Data Section
Office of Air Management
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015**

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Management (OAM) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

DH

cc: File – Hancock County
Hancock County Health Department
Air Compliance – Warren Greiling
Permit Tracking - Janet Mobley
Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak

Registration Annual Notification

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

Company Name:	Independent Concrete Pipe Corp.
Address:	8 N. Junction St.
City:	Maxwell
Authorized individual:	
Phone #:	
Registration #:	059-11637-00025

I hereby certify that Independent Concrete Pipe Corp. is still in operation and is in compliance with the requirements of Registration 059-11637-00025.

Name (typed):
Title:
Signature:
Date:

Indiana Department of Environmental Management Office of Air Management

Technical Support Document (TSD) for Registration

Source Background and Description

Source Name: Independent Concrete Pipe Corp.
Source Location: 8 N. Junction St., Maxwell, IN
County: Hancock
SIC Code: 3272
Operation Permit No.: 059-11637-00025
Permit Reviewer: Daniel Harper

The Office of Air Management (OAM) has reviewed an application from Independent Concrete Pipe Corp. relating to the construction and operation of a concrete batching operation.

Unpermitted Emission Units and Pollution Control Equipment

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

- (a) Aggregate storage, identified as Unit 001, with a maximum capacity of 160 tons, with fugitive dust as emissions.
- (b) Mixer #2, identified as Unit 002, with a maximum capacity of 30 tons per hour, with a dust collector identified as Unit CE001 as control.
- (c) Mixer #1, identified as Unit 003, with a maximum capacity of 6 tons per hour, with fugitive dust as emissions.
- (d) Fly ash silo, identified as Unit 004, with a maximum capacity of 32.5 tons per hour, using a bag filter as control, and exhausting to stack 001.
- (e) Cement silo, identified as Unit 005, with a maximum capacity of 66 tons, using a bag filter as control, and exhausting to stack 002.
- (f) Cement silo, identified as Unit 006, with a maximum capacity of 20 tons, using a bag filter as control, and exhausting to stack 003.
- (g) Weigh hoppers, identified as Unit 007, with a maximum capacity of 4.5 tons per hour, with fugitive dust as emissions.
- (h) Weigh hopper, identified as Unit 008, with a maximum capacity of 24 tons per hour, with fugitive dust as emissions.
- (i) Weigh hopper, identified as Unit 009, with a maximum capacity of 0.9 tons per hour, with fugitive dust as emissions.
- (j) Weigh hopper, identified as Unit 010, with a maximum capacity of 4.8 tons per hour, with fugitive dust as emissions.

- (k) Product storage areas with a maximum capacity of 36 tons per hour and fugitive dust as emissions.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (inch)	Flow Rate (acfm)	Temperature (°F)
001	Fly ash silo, unit 004	30	20 x 2	ambient	ambient
002	Fly ash silo, unit 005	52	20 x 2	ambient	ambient
003	Fly ash silo, unit 006	52	20 x 2	ambient	ambient

Enforcement Issue

- (a) IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled *Unpermitted Emission Units and Pollution Control Equipment*.
- (b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Recommendation

An application for the purposes of this review was received on December 8, 1999, with additional information received on December 13, 1999.

Emission Calculations

The calculations submitted by the applicant have been verified and found to be accurate and correct. These calculations are provided in Appendix A of this document.

Potential To Emit

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

Pollutant	Potential To Emit (tons/year)
PM	24.8
PM-10	3.1
SO ₂	0
VOC	0
CO	0
NO _x	0

- (a) The PM PTE is less than 25 tons per year, but greater than five (5) pounds per hour. Therefore, pursuant to 326 IAC 2-1, a registration is required.

(b) Fugitive Emissions

Since this type of operation is not one of the twenty-eight (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 particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Actual Emissions

No previous emission data has been received from the source.

County Attainment Status

The source is located in Hancock County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Hancock County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Hancock County has been classified as attainment or unclassifiable for all pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (c) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2, 40 CFR 52.21, or 326 IAC 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

This new source is **not** a major stationary source because no attainment 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. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This new source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and

- (c) any combination of HAPs is less than 25 tons/year.

This is the first air approval issued to this source.

Federal Rule Applicability

- (a) The New Source Performance Standards (NSPS)(40 CFR Part 60 Subpart OOO) is not applicable to this source because this source does not use crushing or screening equipment.
- (b) There are no New Source Performance Standards (NSPS)(40 CFR Part 60) applicable to this source.
- (c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR art 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 5-1 (Visible Emissions Limitations)

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

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

State Rule Applicability - Individual Facilities

326 IAC 6-3-2 (Process Operations)

The particulate matter (PM) from the concrete batching operation shall be limited by the following:

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

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

$$\text{Mixer 1: } E = 4.10 (6)^{0.67} = 13.6 \text{ lb PM/hr} \\ \text{Mixer 2: } E = 4.10 (30)^{0.67} = 40.0 \text{ lb PM/hr}$$

The dust collectors shall be in operation at all times the concrete batching is in operation, in order to comply with this limit.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

None of the listed air toxics will be emitted from this source.

Conclusion

The construction and operation of this concrete batching operation shall be subject to the conditions of the attached Registration 059-11637-00025.

Appendix A: Emission Calculations

Stationary Concrete Batch Plants - Attainment Area

Company Name: Independent Concrete Pipe Co.
Address City IN Zip: P.O. Box 21007, Indianapolis, IN 46221
CP: Registration 059-11637-00025
Plt ID: 059-00025
Reviewer: D. Harper
Date: 12/08/99

** emissions before controls **

Table with 4 columns: Activity, Unit, Calculation, Emission (tons/yr). Rows include Storage, Transporting, Aggregate Dropping, Aggregate Transfer, Cement Transfer, Weigh Scale Loading, Mixer Loading, Truck Loading, and Total emissions before controls. Includes regulatory references on the right.

A construction permit is not needed since potential emissions do not exceed 25 tons per year.

** emissions after controls **

Table with 4 columns: Activity, Emission (tons/yr), Control Efficiency, Emission after controls (tons/yr). Rows include Storage, Transporting, Aggregate Dropping, Aggregate Transfer, Cement Transfer, Weigh Scale Loading, Mixer Loading, Truck Loading, and Total emissions after controls.

0
0

** fugitive vs. nonfugitive **

Storage	0.00 tons/yr x	50.0% emitted after controls =	0.00 tons/yr
Transporting	0.00 tons/yr x	50.0% emitted after controls =	0.00 tons/yr
Aggregate Dropping	0.00 tons/yr x	50.0% emitted after controls =	0.00 tons/yr
Total fugitive emissions:			0.00 tons/yr
Weigh Scale Loading	0.00 tons/yr x	1.0% emitted after controls =	0.00 tons/yr
Mixer Loading	0.00 tons/yr x	0.2% emitted after controls =	0.00 tons/yr
Truck Loading	0.00 tons/yr x	100.0% emitted after controls =	0.00 tons/yr
Aggregate Transfer	0.00 tons/yr x	0.0% emitted after controls =	0.00 tons/yr
Cement Transfer	0.00 tons/yr x	1.0% emitted after controls =	0.00 tons/yr
Total nonfugitive emissions:			0.00 tons/yr

** storage **

Storage emissions, which result from wind erosion, are determined by the following calculations:

$$E_f = 1.7 \cdot (s/1.5) \cdot (365-p) / 235 \cdot (f/15)$$

$$= 1.85 \text{ lb/acre/day}$$

where s = 1.6 % silt content of material
p = 125 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

$$E_p (\text{storage}) = E_f \cdot sc \cdot (40 \text{ cuft/ton}) / (2000 \text{ lb/ton}) / (43560 \text{ sqft/acre}) / (25 \text{ ft}) \cdot (365 \text{ day/yr})$$

$$= 0.01 \text{ tons/yr}$$

where sc = 1 ,000 tons storage capacity

Note: This calculation is from AP-42, Fourth edition. The calculations were not included in subsequent editions of AP-42, therefore, it is up to the permit reviewer's discretion to use this calculation.

0
0

** unpaved roads **

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 (Supplement E, 9/98).

Two methods are provided for calculating emissions. The first method does not consider natural mitigation due to precipitation.

$$\begin{aligned}
& 6.55 \text{ trip/hr} \times \\
& 0.075 \text{ mile/trip} \times \\
& 2 \text{ (round trip) } \times \\
& 8760 \text{ hr/yr} = \qquad \qquad \qquad 8606.7 \text{ miles per year}
\end{aligned}$$

This method has a lower quality rating than Method 1.

Method 1:

$$\begin{aligned}
E_f &= k \cdot [(s/12)^{0.8}] \cdot [(W/3)^b] / [(M/0.2)^c] \\
&= 2.19 \text{ lb/mile} \\
\text{where } k &= 2.6 \text{ (particle size multiplier for PM-10) (k=10 for PM-30 or TSP)} \\
s &= 4.8 \text{ mean \% silt content of unpaved roads} \\
b &= 0.4 \text{ Constant for PM-10 (b = 0.5 for PM-30 or TSP)} \\
c &= 0.3 \text{ Constant for PM-10 (c = 0.4 for PM-30 or TSP)} \\
W &= 17 \text{ tons average vehicle weight} \\
M &= 0.3 \text{ surface material moisture content, \% (default is 0.2 for dry conditions)}
\end{aligned}$$

Method 2:

$$\begin{aligned}
E_f &= \{k \cdot [(s/12)^{0.8}] \cdot [(W/3)^b] / [(M_{dry}/0.2)^c]\} \cdot [(365-p)/365] \\
&= 3.45 \text{ lb/mile} \\
\text{where } k &= 2.6 \text{ (particle size multiplier for PM-10) (k=10 for PM-30 or TSP)} \\
s &= 4.8 \text{ mean \% silt content of unpaved roads} \\
b &= 0.4 \text{ Constant for PM-10 (b = 0.5 for PM-30 or TSP)} \\
c &= 0.3 \text{ Constant for PM-10 (c = 0.4 for PM-30 or TSP)} \\
W &= 38 \text{ tons average vehicle weight} \\
M_{dry} &= 0.2 \text{ surface material moisture content, \% (default is 0.2 for dry conditions)} \\
p &= \text{no. of days with at least 0.254mm of precipitation (See Fig. 13.2.2-1)}
\end{aligned}$$

$$\frac{2.19 \text{ lb/mi} \times 8606.7 \text{ mi/yr}}{2000 \text{ lb/ton}} = 9.41 \text{ tons/yr}$$

$$\frac{3.45 \text{ lb/mi} \times 8606.7 \text{ mi/yr}}{2000 \text{ lb/ton}} = 14.84 \text{ tons/yr}$$

$$\begin{aligned}
E_f &= (S/15) \cdot 9.41 \text{ tons/yr, where (S/15) is a correction factor for speeds, S, under 15 mph} \\
E_f &= (5/15) \cdot 9.41 \text{ tons/yr} \\
E_f &= 3.14 \text{ tons/yr}
\end{aligned}$$

Note: The permit reviewer can choose which method he/she wants to use. See AP-42 13.2.2 for further information. Cell J12 should reference G101 if Method 1 is used or N101 if Method 2 is used.

** aggregate handling **

The following calculations determine the amount of emissions created by dropping of material, based on 8760 hours of use and AP-42 13.2.4 (Fifth edition, 1/95).

$$\begin{aligned}
E_f &= k \cdot (0.0032) \cdot (U/5)^{1.3} / (M/2)^{1.4} \\
&= 0.0016 \text{ lb/ton} \\
\text{where } k &= 0.74 \text{ (particle size multiplier)} \\
U &= 10 \text{ mile/hr mean wind speed} \\
M &= 5 \text{ \% material moisture content}
\end{aligned}$$

0
 0

** miscellaneous **

The following calculations determine the emissions created by natural gas combustion based on 8,760 hours of use and EPA SCC #1-03-006-03 (FIRE 6.01):

Pollutant: $\frac{9.9 \text{ MMBtu/hr} \times 8760 \text{ hr/yr}}{1000 \text{ Btu/cf} \times 2000 \text{ lb/ton}} \times \text{Ef (lb/MMcf)} = \text{Emission rate (tons/yr)}$

P M*:	4.5 lb/MMcf =	0.20 tons/yr	*filterable PM only
S O x:	0.6 lb/MMcf =	0.03 tons/yr	
N O x:	100.0 lb/MMcf =	4.34 tons/yr	
V O C:	5.3 lb/MMcf =	0.23 tons/yr	
C O:	21.0 lb/MMcf =	0.91 tons/yr	

SOx, NOx, VOC and CO emissions are small enough to be negligible since the pollutant of concern is particulate matter.
 Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

The following calculations determine compliance with 326 IAC 6-2-4:

limit = $1.09 / (9.9)^{.26} = 0.60 \text{ lb/MMBtu by default}$

$\frac{0.20 \text{ ton/yr} \times 2000 \text{ lb/ton}}{8760 \text{ hr/yr} \times 9.9 \text{ MMBtu/hr}} = 0.09 \text{ lb/MMBtu (will comply)}$

The following calculations determine compliance with 326 IAC 6-3-2 for process weight rates less than or equal to 30 tons per hour:

limit = $55 \times (34^{.11}) - 40 = 41.06 \text{ lb/hr}$

0 tons/yr x $\frac{2000 \text{ lb/ton}}{8760 \text{ hr/yr}} = 0.00 \text{ lb/hr (will comply)}$

concret1.wk4 5/96
updated 4/99