

**CONSTRUCTION PERMIT  
OFFICE OF AIR MANAGEMENT**

**Consolidated Grain & Barge Company  
210 George Street  
Aurora, Indiana 47001**

is hereby authorized to construct

a whole grain handling operation, consisting of the following equipment:

- (a) one (1) natural gas fired column grain dryer, rated at 12.0 million (MM) British thermal units (Btu) per hour, processing a maximum of 2,000 bushels of grain per hour;
- (b) one (1) grain dump pit, with a baghouse for particulate matter control;
- (c) two (2) steel storage bins (ID Nos. 1 and 2), each with a storage capacity of 25,000 bushels;
- (d) two (2) steel storage bins (ID Nos. 3 and 4), each with a storage capacity of 22,000 bushels;
- (e) two (2) steel storage bins (ID Nos. 5 and 6), each with a storage capacity of 252,000 bushels; and
- (f) enclosed grain handling operations including the following: auger, belt conveyor and bucket elevator.

This permit is issued to the above mentioned company (herein known as the Permittee) under the provisions of 326 IAC 2-1 and 40 CFR 52.780, with conditions listed on the attached pages.

Construction Permit No.: CP-029-9354-00024	
Issued by:  Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

## Construction Conditions

### General Construction Conditions

1. That the data and information supplied with the application shall be considered part of this permit. Prior to any proposed change in construction which may affect allowable emissions, the change must be approved by the Office of Air Management (OAM).
2. That this permit 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.

### Effective Date of the Permit

3. That pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.
4. That pursuant to 326 IAC 2-1-9(b)(Revocation of Permits), the Commissioner may revoke this permit 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. That notwithstanding Construction Condition No. 6, all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

### First Time Operation Permit

6. That this document shall also become a first-time operation permit pursuant to 326 IAC 2-1-4 (Operating Permits) when, prior to start of operation, the following requirements are met:
  - (a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the facilities were constructed as proposed in the application. The facilities covered in the Construction Permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.
  - (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
  - (c) Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.
  - (d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-1-7.1(Fees).
  - (e) Pursuant to 326 IAC 2-1-4, the Permittee shall apply for an operation permit renewal at least ninety (90) days prior to the expiration date established in the validation letter. The operation permit issued shall contain as a minimum the conditions in the Operation Conditions section of this permit.

7. That when the facility is constructed and placed into operation the following operation conditions shall be met:

### **Operation Conditions**

#### General Operation Conditions

1. That the data and information supplied in the application shall be considered part of this permit. Prior to any change in the operation which may result in an increase in allowable emissions exceeding those specified in 326 IAC 2-1-1 (Construction and Operating Permit Requirements), the change must be approved by the Office of Air Management (OAM).
2. That the permittee shall 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.

#### Preventive Maintenance Plan

3. That pursuant to 326 IAC 1-6-3 (Preventive Maintenance Plans), the Permittee shall prepare and maintain a preventive maintenance plan, including the following information:
  - (a) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices.
  - (b) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions.
  - (c) Identification of the replacement parts which will be maintained in inventory for quick replacement.

The preventive maintenance plan shall be submitted to IDEM, OAM upon request and shall be subject to review and approval.

#### Transfer of Permit

4. That pursuant to 326 IAC 2-1-6 (Transfer of Permits):
  - (a) In the event that ownership of this whole grain handling operation is changed, the Permittee shall notify OAM, Permit Branch, within thirty (30) days of the change. Notification shall include the date or proposed date of said change.
  - (b) The written notification shall be sufficient to transfer the permit from the current owner to the new owner.
  - (c) The OAM shall reserve the right to issue a new permit.

#### Permit Revocation

5. That pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:
  - (a) Violation of any conditions of this permit.
  - (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.

- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of 326 IAC 2-1 (Permit Review Rules).

Availability of Permit

6. That pursuant to 326 IAC 2-1-3(l), the Permittee shall maintain the applicable permit on the premises of this source and shall make this permit available for inspection by the IDEM, or other public official having jurisdiction.

Malfunction Condition

7. That pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):
- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) or appointed representative upon request.
  - (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAM, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
  - (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
  - (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

Particulate Matter

8. That pursuant to 326 IAC 6-1-2 (Particulate Emission Limitations), the source shall comply with the following:
- (a) The source shall provide for good housekeeping and maintenance procedures which is defined as those practices which would be followed by a prudent management in controlling, regulating, and maintaining clean and safe conditions of buildings and grounds. In particular, these practices are required to minimize the opportunity for particulate matter to become airborne and leave the property.

- (b) Good housekeeping practices shall be conducted in the following areas or operations:
  - (1) Areas to be swept and maintained clean in appearance shall include at a minimum: general grounds, yard and other open areas; floors, decks, hopper areas, loading areas, dust collectors, and all such areas of dust or waste concentration; and grain driers with respect to accumulated particulate matter.
  - (2) Cleanings or other collected waste material shall be handled and disposed of in such a manner that the area does not generate fugitive dust.
  - (3) Dust from driveways, access roads, and other areas of travel shall be controlled.
  - (4) Accidental spills and other accumulations shall be cleaned up as soon as possible but no later than completion of the day's operation.
  
- (c) Good equipment maintenance will be those procedures which eliminate or minimize emissions from equipment or a system caused by:
  - (1) Malfunctions.
  - (2) Breakdowns.
  - (3) Improper adjustment.
  - (4) Operation above rated or designed capacity.
  - (5) Not following designed operating specifications.
  - (6) Lack of good preventive maintenance care.
  - (7) Lack of critical and proper spare replacement parts on hand.
  - (8) Lack of properly trained and experienced personnel.
  
- (d) To insure the above good housekeeping and maintenance procedures, emissions from the affected areas, operations, equipment and systems shall not exceed twenty percent (20%) opacity as determined pursuant to 326 IAC 5-1.

Particulate Matter

- 9. (a) That pursuant to 326 IAC 6-3 (Process Operations), the baghouse and enclosures shall be in operation at all times when the grain dump pit and grain handling systems are in operation, and particulate matter (PM) emissions from each of the following operations shall not exceed the allowable PM emission rate of 45.9 pounds per hour: grain dryer, grain dump pit, six (6) storage bins, and the grain handling operations.
  
- (b) This PM limit will also render the requirements of 326 IAC 2-2 (PSD) not applicable.

Baghouse Operating Condition

- 10. That the baghouse shall be operated at all times when the grain dump pit is in operation.
  - (a) The Permittee shall take and record readings of the total static pressure drop across the baghouse, at least once per week. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop across the baghouses shall be maintained within the range of 0.5 and 2 inches of water. The Preventive Maintenance Plan for the baghouse shall contain troubleshooting contingency and corrective actions for when the pressure reading is outside of this range for any one reading.
  
  - (b) The instrument used for determining the pressure shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

- (c) The gauge employed to take the pressure drop across the baghouse or any part of the facility shall have a scale such that the expected normal reading shall be no less than 20 percent of full scale and be accurate within  $\pm 2\%$  of full scale reading. The instrument shall be quality assured and maintained as specified by the vendor.
- (d) An inspection shall be performed each calendar quarter of the baghouse. Defective bags shall be replaced. A record shall be kept of the results of the inspection and the number of bags replaced.
- (e) In the event that a bag's failure has been observed:
  - (i) The affected compartments will be shut down immediately until the failed units have been replaced.
  - (ii) Based upon the findings of the inspection, any additional corrective actions will be devised within eight (8) hours of discovery and will include a timetable for completion.

Visible Emission Notations

11. That visible emission notations of all exhaust to the atmosphere from the baghouse shall be performed once per working shift. A trained employee will record whether emissions are normal or abnormal.
- (a) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, 80% of the time, the process is in operation, not counting start up or shut down time.
  - (b) In the case of batch or discontinuous operation, readings shall be taken during that part of the operation specified in the facility's specific condition prescribing visible emissions.
  - (c) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal and abnormal visible emissions for that specific process.
  - (d) The Preventive Maintenance Plan for this facility shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

Fugitive Dust Emissions

12. That pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), the permittee shall be in violation of 326 IAC 6-4 (Fugitive Dust Emissions) if any of the criteria specified in 326 IAC 6-4-2(1) through (4) are violated. Observations of visible emissions crossing the property line of the source at or near ground level must be made by a qualified representative of IDEM. [326 IAC 6-4-5(c)].

Particulate Matter Limitations

13. That particulate matter (PM) emissions shall be considered in compliance, in lieu of a stack test, provided that:
- (a) good housekeeping and equipment maintenance procedures are implemented;

- (b) emissions are minimized in receiving, handling, and shipping operations by appropriate methods. These may include but need not be limited to, dust collection systems, windscreens, baffles, restricted hopper openings, enclosed transfer points, flexible drop spouts and/or sleeves;
- (c) no visible accumulation of particulate matter beyond the plant property line;
- (d) emissions do not violate 326 IAC 6-4 (Fugitive Dust Emissions); and
- (e) emissions do not violate 326 IAC 6-3 (Process Operations).

Open Burning

14. That the permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6.

Emergency Reduction Plans

15. Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

- (a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.

- (b) These ERPs shall be submitted for approval to:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Management  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

within 180 calendar days from the issuance date of this permit.

- (c) If the ERP is disapproved by IDEM, OAM, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP. If after this time, the Permittee does not submit an approvable ERP, IDEM, OAM, shall supply such a plan.
- (d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.
- (e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.
- (f) Upon direct notification by IDEM, OAM, that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate level. [326 IAC 1-5-3]





REV 3/96

FAX NUMBER - (317) 233-5967

\*SEE NEXT PAGE

**Please note - This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.**

**326 IAC 1-6-1**

**Applicability of rule**

Sec. 1. The requirements of this rule (326 IAC 1-6) shall apply to the owner or operator of any facility which has the potential to emit twenty-five (25) pounds per hour of particulates, one hundred (100) pounds per hour of volatile organic compounds or SO<sub>2</sub>, or two thousand (2,000) pounds per hour of any other pollutant; or to the owner or operator of any facility with emission control equipment which suffers a malfunction that causes emissions in excess of the applicable limitation.

**326 IAC 1-2-39**

**“Malfunction” definition**

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. (Air Pollution Control Board; 326 IAC 1-2-39; filed Mar 10, 1988, 1:20 p.m. : 11 IR 2373)

\***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

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## Indiana Department of Environmental Management Office of Air Management

### Technical Support Document (TSD) for New Construction and Operation

#### Source Background and Description

Source Name: Consolidated Grain & Barge Company  
Source Location: 210 George Street, Aurora, Indiana 47001  
County: Dearborn  
Construction Permit No.: CP-029-9354-00024  
SIC Code: 5153  
Permit Reviewer: Trish Earls/EVP

The Office of Air Management (OAM) has reviewed an application from Consolidated Grain & Barge Company relating to the construction and operation of a whole grain handling operation, consisting of the following equipment:

- (a) one (1) natural gas fired column grain dryer, rated at 12.0 million (MM) British thermal units (Btu) per hour, processing a maximum of 2,000 bushels of grain per hour;
- (b) one (1) grain dump pit, with a baghouse for particulate matter control;
- (c) two (2) steel storage bins (ID Nos. 1 and 2), each with a storage capacity of 25,000 bushels;
- (d) two (2) steel storage bins (ID Nos. 3 and 4), each with a storage capacity of 22,000 bushels;
- (b) two (2) steel storage bins (ID Nos. 5 and 6), each with a storage capacity of 252,000 bushels; and
- (c) enclosed grain handling operations including the following: auger, belt conveyor and bucket elevator.

#### Enforcement Issue

IDEM is aware that this whole grain handling operation has been constructed and operated prior to receipt of the proper permit. 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

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

Information, unless otherwise stated, 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 January 7, 1998, with additional information received on February 13, 1998.

### Emissions Calculations

See Appendix A (Emissions Calculation Spreadsheets) for detailed calculations (3 pages).

### Total Potential and Allowable Emissions

Indiana Permit Allowable Emissions Definition (after compliance with applicable rules, based on 8,760 hours of operation per year at rated capacity):

Pollutant	Allowable Emissions (tons/year)	Potential Emissions (tons/year)
Particulate Matter (PM)	804.2	201.6
Particulate Matter (PM10)	--	51.0
Sulfur Dioxide (SO <sub>2</sub> )	--	0.0
Volatile Organic Compounds (VOC)	--	0.2
Carbon Monoxide (CO)	--	1.8
Nitrogen Oxides (NO <sub>x</sub> )	--	7.4
Single Hazardous Air Pollutant (HAP)	--	0.0
Combination of HAPs	--	0.0

- (a) Allowable PM emissions are determined from the applicability of rule 326 IAC 6-3-2. See attached spreadsheets for detailed calculations (page 2 of Appendix A).
- (b) The potential emissions before control are less than the allowable emissions, therefore, the potential emissions before control are used for the permitting determination.
- (c) Allowable emissions (as defined in the Indiana Rule) of PM and PM10 are greater than 25 tons per year. Therefore, pursuant to 326 IAC 2-1, Sections 1 and 3, a construction permit is required.

### County Attainment Status

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) are precursors for the formation of ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the ozone standards. Dearborn 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 and 40 CFR 52.21.
- (b) The portion of Dearborn County in which this source is located has been classified as attainment or unclassifiable for all other criteria 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 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 and Emission Offset applicability.

### Source Status

New Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	66.0
PM10	17.1
SO <sub>2</sub>	0.0
VOC	0.2
CO	1.8
NO <sub>x</sub>	7.4
Single HAP	0.0
Combination HAPs	0.0

- (a) 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, except PM, 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

#### 40 CFR Part 60.300 through 60.304, Subpart DD

This source is not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60.300, Subpart DD). This rule applies to affected facilities at any grain terminal elevator or grain storage elevator, that was constructed after August 3, 1978. Since this grain elevator does not have a permanent storage capacity that is greater than 2.5 million U.S. bushels and is not located at a wheat flour, wet corn, dry corn, or rice mill or a soybean extraction plant, it does not meet the definition of a grain terminal elevator or a grain storage elevator. Therefore, the requirements of 40 CFR Part 60.300, Subpart DD, do not apply.

There are no National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 63, applicable to this source.

### **State Rule Applicability**

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

This facility is not subject to 326 IAC 2-6 (Emission Reporting), because the source does not emit more than 100 tons/yr of any of the pollutants listed in 326 IAC 2-6-1(b).

#### **326 IAC 5-1 (Visible Emissions Limitations)**

This source is not subject to the requirements of 326 IAC 5-1 (Visible Emissions Limitations) because visible emission limitations have been established for this source pursuant to 326 IAC 6-1-2.

#### **326 IAC 6-1-2 (Nonattainment Area Limitations)**

This source is subject to the requirements of 326 IAC 6-1-2 because the source is located in Dearborn County and has potential PM emissions of greater than 100 tons per year. Pursuant to 326 IAC 6-1-2(d), since this source is a grain elevator with a permanent storage capacity of 600,000 U.S. bushels per year, it is only subject to the requirements of 326 IAC 6-1-2(d)(2). Pursuant to this rule, the following shall apply:

- (a) The source shall provide for good housekeeping and maintenance procedures which is defined as those practices which would be followed by a prudent management in controlling, regulating, and maintaining clean and safe conditions of buildings and grounds. In particular, these practices are required to minimize the opportunity for particulate matter to become airborne and leave the property.
- (b) Good housekeeping practices shall be conducted in the following areas or operations:
  - (1) Areas to be swept and maintained clean in appearance shall include at a minimum: general grounds, yard and other open areas; floors, decks, hopper areas, loading areas, dust collectors, and all such areas of dust or waste concentration; and grain driers with respect to accumulated particulate matter.
  - (2) Cleanings or other collected waste material shall be handled and disposed of in such a manner that the area does not generate fugitive dust.
  - (3) Dust from driveways, access roads, and other areas of travel shall be controlled.
  - (4) Accidental spills and other accumulations shall be cleaned up as soon as possible but no later than completion of the day's operation.
- (c) Good equipment maintenance will be those procedures which eliminate or minimize emissions from equipment or a system caused by:
  - (1) Malfunctions.
  - (2) Breakdowns.
  - (3) Improper adjustment.
  - (4) Operation above rated or designed capacity.
  - (5) Not following designed operating specifications.
  - (6) Lack of good preventive maintenance care.
  - (7) Lack of critical and proper spare replacement parts on hand.
  - (8) Lack of properly trained and experienced personnel.

- (d) To insure the above good housekeeping and maintenance procedures, emissions from the affected areas, operations, equipment and systems shall not exceed twenty percent (20%) opacity as determined pursuant to 326 IAC 5-1.

326 IAC 6-3-2 (Particulate Emission Limitations)

The grain dryer, grain dump pit, six (6) storage bins, and the grain handling operations are subject to particulate matter limitations under 326 IAC 6-3-2. Pursuant to this rule, particulate emissions from the grain dryer, grain dump pit, six (6) storage bins, and the grain handling operations shall each be limited by the following equation:

$$E = 55.0 P^{0.11} - 40 \text{ (for process weights greater than 60,000 lbs/hr)}$$

where E = maximum allowable PM emission rate (lbs/hr)

P = process weight (tons/hr): 57.61 tons/hr

$$E = 55.0(57.61^{0.11}) - 40 = 45.9 \text{ lbs/hr (201.1 tons/yr) for each operation (grain receiving, grain drying, bin loading, and grain shipping)}$$

Total potential uncontrolled PM emissions from the grain drying, receiving, shipping, and loading operations are 200.9 tons per year and are less than the allowable emission rate of 804.2 tons/yr, therefore, the grain dryer, grain dump pit, six (6) storage bins, and the grain handling operations will comply with the requirements of 326 IAC 6-3-2.

326 IAC 6-4 (Fugitive Dust Emissions)

This source is subject to 326 IAC 6-4 for fugitive dust emissions. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), fugitive dust shall not be visible crossing the boundary or property line of a source. Observances of visible emissions crossing property lines may be refuted by factual data expressed in 326 IAC 6-4-2(1), (2) or (3).

**Air Toxic Emissions**

Indiana presently requests applicants to provide information on emissions of the 187 hazardous air pollutants 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.

- (a) None of these listed air toxics will be emitted from this proposed construction.
- (b) See attached spreadsheets for detailed air toxic calculations.

**Conclusion**

The construction of this whole grain handling operation will be subject to the conditions of the attached proposed **Construction Permit No. CP-029-9354-00024**.

## Indiana Department of Environmental Management Office of Air Management

### Addendum to the Technical Support Document for New Construction and Operation

Source Name:	Consolidated Grain & Barge Company
Source Location:	210 George Street, Aurora, Indiana 47001
County:	Dearborn
Construction Permit No.:	CP-029-9354-00024
SIC Code:	5153
Permit Reviewer:	Trish Earls/EVP

On March 19, 1998, the Office of Air Management (OAM) had a notice published in the Register Publications, Lawrenceburg, Indiana, stating that Consolidated Grain & Barge Company had applied for a construction permit to construct and operate a whole grain handling operation with a baghouse and enclosures as air pollution control. The notice also stated that OAM proposed to issue a permit for this installation 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.

Upon further review, the OAM has decided to make the following changes to the Construction Permit:

1. To aid in determining compliance, the requirement to record, as well as read, the total static pressure drop across the baghouse controlling the grain dump pit will be added to operation condition 10, part (a), page 5 of 9. Part (a) of operation condition no. 10 is revised to read as follows (changes in bold):
  - (a) The Permittee shall take **and record** readings of the total static pressure drop across the baghouse, at least once per week. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop across the baghouses shall be maintained within the range of 0.5 and 2 inches of water. The Preventive Maintenance Plan for the baghouse shall contain troubleshooting contingency and corrective actions for when the pressure reading is outside of this range for any one reading.
  
2. Operation condition no. 13 of the Construction Permit, page 6 of 9, stated conditions that, when met, indicate that PM emissions are in compliance. However, if the source conducts a stack test and is out of compliance with the PM limit pursuant to 326 IAC 6-3, and all of the requirements of operation condition no. 13 are met, this could create enforcement problems. Therefore, operation condition no. 13 has been revised from:
 

Particulate Matter Limitations

  13. That particulate matter (PM) emissions shall be considered in compliance provided that:
    - (a) good housekeeping and equipment maintenance procedures are implemented.
    - (b) emissions are minimized in receiving, handling, and shipping operations by appropriate methods. These may include but need not be limited to, dust collection systems, windscreens, baffles, restricted hopper openings, enclosed transfer points, flexible drop spouts and/or sleeves,

- (c) no visible accumulation of particulate matter beyond the plant property line, and
- (d) emissions do not violate 326 IAC 6-4 (Fugitive Dust Emissions).

to the following (changes in bold):

Particulate Matter Limitations

13. That particulate matter (PM) emissions shall be considered in compliance, **in lieu of a stack test**, provided that:
- (a) good housekeeping and equipment maintenance procedures are implemented;
  - (b) emissions are minimized in receiving, handling, and shipping operations by appropriate methods. These may include but need not be limited to, dust collection systems, windscreens, baffles, restricted hopper openings, enclosed transfer points, flexible drop spouts and/or sleeves;
  - (c) no visible accumulation of particulate matter beyond the plant property line;
  - (d) emissions do not violate 326 IAC 6-4 (Fugitive Dust Emissions); **and**
  - (e) **emissions do not violate 326 IAC 6-3 (Process Operations).**



## Appendix A: Emission Calculations Emissions Summary

**Company Name:** Consolidated Grain & Barge Company  
**Address City IN Zip:** 210 George Street, Aurora, Indiana 47001  
**CP:** 029-9354  
**Pit ID:** 029-00024  
**Reviewer:** Trish Earls  
**Date:** February 13, 1998

### Allowable Emissions Definition (tons/year)

Emissions Generating Activity			
Pollutant	Grain Handling and Drying	Natural Gas Combustion	TOTAL
PM	200.85	0.74	201.6
PM-10	50.21	0.74	51.0
SO <sub>2</sub>	0.00	0.03	0.0
NO <sub>x</sub>	0.00	7.36	7.4
VOC	0.00	0.15	0.2
CO	0.00	1.84	1.8
HAPs	0.00	0.00	0.0

Total emissions based on rated capacity at 8,760 hours/year.

### New Source PSD Definition (tons/year)

Emissions Generating Activity			
Pollutant	Grain Handling and Drying	Natural Gas Combustion	TOTAL
PM	65.28	0.74	66.0
PM-10	16.32	0.74	17.1
SO <sub>2</sub>	0.00	0.03	0.0
NO <sub>x</sub>	0.00	7.36	7.4
VOC	0.00	0.15	0.2
CO	0.00	1.84	1.8
HAPs	0.00	0.00	0.0

Total emissions based on rated capacity at 8,760 hours/year.

**Appendix A: Emissions Calculations**  
**Inland Terminal Grain Elevator**

**Company Name:** Consolidated Grain & Barge Company  
**Address City IN Zip:** 210 George Street, Aurora, Indiana 47001  
**CP:** 029-9354  
**Pit ID:** 029-00024  
**Reviewer:** Trish Earls  
**Date:** February 13, 1998

GRAINTYPE	BUSHEL RECEIVED PER YEAR	BUSHEL WEIGHTS (lb/bu)
Corn:	11,370,000	56
Soybean:	5,774,440	56
Wheat:	819,200	60

State Potential Emissions (uncontrolled):					
	GRAIN RECEIVING (truck)	GRAIN DRYING	BIN LOADING	SHIPPING (rail or barge)	TOTAL
Maximum Annual Corn Throughput (tons/yr)	318,360	318,360	318,360	318,360	
Maximum Annual Soybean Throughput (tons/yr)	161,684	161,684	161,684	161,684	
Maximum Annual Wheat Throughput (tons/yr)	24,576	24,576	24,576	24,576	
Corn PM Emission Factor in lb/ton	0.1500	0.2200	0.0500	0.4000	
Soybean PM Emission Factor in lb/ton	0.1500	0.2200	0.0500	0.4000	
Wheat PM Emission Factor in lb/ton	0.0600	0.0880	0.0200	0.1600	
Corn PM10 Emission Factor in lb/ton	0.0375	0.0550	0.0125	0.1000	
Soybean PM10 Emission Factor in lb/ton	0.0375	0.0550	0.0125	0.1000	
Wheat PM10 Emission Factor in lb/ton	0.0150	0.0220	0.0050	0.0400	
Corn Dustiness Ratio (DR)	2.5	2.5	2.5	2.5	
Soybean Dustiness Ratio (DR)	2.5	2.5	2.5	2.5	
Wheat Dustiness Ratio (DR)	1.0	1.0	1.0	1.0	
Potential PM Emissions (tons/yr)	36.74	53.89	12.25	97.97	200.85
Potential PM10 Emissions (tons/yr)	9.19	13.47	3.06	24.49	50.21

Federal Potential Emissions (controlled):					
	GRAIN RECEIVING	GRAIN DRYING	BIN LOADING	SHIPPING	TOTAL
Potential PM Emissions (tons/yr)	36.74	53.89	12.25	97.97	
Potential PM10 Emissions (tons/yr)	9.19	13.47	3.06	24.49	
Control Equipment (1)	enclosure & baghouse	N/A	enclosure	enclosure	
Control Efficiency	99.00%	0.00%	90.00%	90.00%	
Controlled PM Emissions (tons/yr)	0.37	53.89	1.22	9.80	65.28
Controlled PM10 Emissions (tons/yr)	0.09	13.47	0.31	2.45	16.32

**Methodology:**

Emission factors are from U.S.EPA's AP-42, Interim Section 9.9.1, 11/95, Table 9.9.1-2 (Interim Uncontrolled Particulate Emission Factors for Grain Elevators)

Maximum Annual Throughput (tons/yr) = Bushels received per year (bu/yr) \* Grain Weight (lb/bu) \* (1 ton/2000 lbs)

Potential PM/PM10 Emissions (tons/yr) = Annual Throughput (tons/yr) \* PM/PM10 Emission Factor (lb/ton) \* Dustiness Ratio \* (1 ton/2000 lbs)

Controlled PM/PM10 Emissions (tons/yr) = Potential Uncontrolled PM/PM10 Emissions (tons/yr) \* (1 - Control Efficiency)

**326 IAC 6-3-2 Compliance Calculations:**

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

$$E = 55.0 * P^{0.11 - 40}$$

where: P = Process Weight Rate, tons/hr = 57.61

E = Allowable Emission Rate, lbs/hr = 45.90

tons/yr = 201.06

(for each of the grain receiving, grain drying, bin loading, and shipping operations)  
(will comply)

The total allowable emission rate is 45.9 lbs/hr \* 4 operations = 183.6 lbs/hr (804.2 tons per year)

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

**Company Name:** Consolidated Grain & Barge Company  
**Address City IN Zip:** 210 George Street, Aurora, Indiana 47001  
**CP:** 029-9354  
**Plt ID:** 029-00024  
**Reviewer:** Trish Earls  
**Date:** February 13, 1998

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

12.0

105.1

Heat Input Capacity includes:  
one (1) natural gas fired grain dryer.

	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	14.0	14.0	0.6	140.0	2.8	35.0
Potential Emission in tons/yr	0.74	0.74	0.03	7.36	0.15	1.84

Methodology:

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors for NOx: Uncontrolled = 100, Low NOx burner = 83, Flue gas recirculation = 30

Emission Factors for CO: Uncontrolled = 35, Low NOx Burner = 61, Flue gas recirculation = 34

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

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