



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL CERTIFIED MAIL
FRANKLIN COUNTY**

Street Address:

122 S. Front Street

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center
P.O. Box 1049

Application No: 01-08474

DATE: 11/27/2001

Arrow Concrete Co
Douglas Rexroad
PO Box 4336
Parkersburg, WV 26104-4336

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
236 East Town Street, Room 300
Columbus, Ohio 43215

Very truly yours,

Thomas G. Rigo, Manager
Field Operations and Permit Section
Division of Air Pollution Control

cc: USEPA

CDO



**Permit To Install
Terms and Conditions**

**Issue Date: 11/27/2001
Effective Date: 11/27/2001**

FINAL PERMIT TO INSTALL 01-08474

Application Number: 01-08474
APS Premise Number: 0125042481
Permit Fee: **\$600**
Name of Facility: Arrow Concrete Co
Person to Contact: Douglas Rexroad
Address: PO Box 4336
Parkersburg, WV 26104-4336

Location of proposed air contaminant source(s) [emissions unit(s)]:
**5155 Groveport Rd
Columbus, Ohio**

Description of proposed emissions unit(s):
Mobile concrete batch plant.

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

Part I - GENERAL TERMS AND CONDITIONS

A. Permit to Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

2. Reporting Requirements Related to Monitoring and Recordkeeping Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

3. Records Retention Requirements

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized

representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

6. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

7. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

8. Termination of Permit to Install

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

9. Construction of New Sources(s)

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio

Arrow Concrete Co
PTI Application: 01-08474
Issued: 11/27/2001

Facility ID: 0125042481

Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

10. Public Disclosure

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

11. Applicability

This Permit to Install is applicable only to the emissions unit(s) identified in the Permit to Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

12. Best Available Technology

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

13. Source Operation and Operating Permit Requirements After Completion of Construction

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within thirty (30) days after commencing operation of the emissions unit(s) covered by this permit.

6

Arrow Concrete Co
PTI Application: 01-08474
Issued: 11/27/2001

Facility ID: 0125042481

14. Construction Compliance Certification

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit to Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

15. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit to Install fees within 30 days after the issuance of this Permit to Install.

B. Permit to Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

**SUMMARY (for informational purposes only)
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS**

<u>Pollutant</u>	<u>Tons Per Year</u>
PM (P001, F001 and F002)	27.2

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

- The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
F001 - Load-in and load-out of storage piles (see Section A.2.a for identification of storage piles)	OAC rule 3745-31-05 (A)(3)	No visible emissions except for one minute in any hour Best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust (see Sections A.2.b, A.2.c and A.2.f)
Wind erosion from storage piles (see Section A.2.a for identification of storage piles)	OAC rule 3745-31-05 (A)(3)	No visible emissions except for one minute in any hour Best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust (see Sections A.2.d through A.2.f)
Load-in and load-out of storage piles, and wind erosion from storage piles	OAC rule 3745-31-05 (A)(3) OAC rule 3745-17-07 (B)(6)	Particulate emissions shall not exceed 0.10 ton/yr. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05 (A)(3).

9

Arrow

PTI A

Issued: 11/27/2001

Emissions Unit ID: **F001**

2. Additional Terms and Conditions

- 2.a** The storage piles that are covered by this permit and subject to the above-mentioned requirements are listed below:

Sand and aggregate storage piles

- 2.b** The permittee shall employ best available control measures on all load-in and load-out operations associated with the storage piles for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to wet suppression to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
- 2.c** The above-mentioned control measure(s) shall be employed for each load-in and load-out operation of each storage pile if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measure(s) are necessary to ensure compliance with the above-mentioned applicable requirements. Any required implementation of the control measure(s) shall continue during any such operation until further observation confirms that use of the measure(s) is unnecessary.
- 2.d** The permittee shall employ best available control measures for wind erosion from the surfaces of all storage piles for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to wet suppression to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
- 2.e** The above-mentioned control measure(s) shall be employed for wind erosion from each pile if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measure(s) are necessary to ensure compliance with the above-mentioned applicable requirements. Implementation of the control measure(s) shall not be necessary for a storage pile that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements.
- 2.f** Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rules 3745-17-08 and 3745-31-05.

11

Arrow Concrete Co
PTI Application: 01 08474
Issued

Facility ID: 0125042481

Emissions Unit ID: F001

B. Operational Restrictions

None

C. Monitoring and/or Recordkeeping Requirements

- 1. Except as otherwise provided in this section, the permittee shall perform inspections of each load-in operation at each storage pile in accordance with the following frequencies:

<u>storage pile identification</u>	<u>minimum load-in inspection frequency</u>
Sand and aggregate piles	Daily

- 2. Except as otherwise provided in this section, the permittee shall perform inspections of each load-out operation at each storage pile in accordance with the following frequencies:

<u>storage pile identification</u>	<u>minimum load-out inspection frequency</u>
Sand and aggregate piles	Daily

- 3. Except as otherwise provided in this section, the permittee shall perform inspections of the wind erosion from pile surfaces associated with each storage pile in accordance with the following frequencies:

<u>storage pile identification</u>	<u>minimum wind erosion inspection frequency</u>
Sand and aggregate piles	Daily

- 4. No inspection shall be necessary for wind erosion from the surface of a storage pile when the pile is covered with snow and/or ice and for any storage pile activity if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above identified events shall be performed as soon as such event(s) has (have) ended, except if the next required inspection is within one week.

- 5. The purpose of the inspections is to determine the need for implementing the control measures specified in this permit for load-in and load-out of a storage pile, and wind erosion from the surface of a storage pile. The inspections shall be performed during representative, normal

storage pile operating conditions.

6. The permittee may, upon receipt of written approval from the appropriate Ohio EPA District Office or local air agency, modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the above-mentioned applicable requirements.

7. The permittee shall maintain records of the following information:
 - a. the date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;
 - b. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;
 - c. the dates the control measures were implemented; and
 - d. on a calendar quarter basis, the total number of days the control measures were implemented and, for wind erosion from pile surfaces, the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measure(s).

The information required in 7.d. shall be kept separately for (i) the load-in operations, (ii) the load-out operations, and (iii) the pile surfaces (wind erosion), and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

D. Reporting Requirements

1. The permittee shall submit deviation reports that identify any of the following occurrences:
 - a. each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and
 - b. each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented.
2. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

E. Testing Requirements

1. Compliance with the emission limitations in this permit shall be determined in accordance with the following methods :
 - a. Emission Limitation:
No visible emissions except for one minute in any hour.

Applicable Compliance Method:

If required, compliance with the visible emission limitations for the storage piles identified above shall be determined in accordance with Test Method 22 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(4)(a) through (B)(4)(c) of OAC rule 3745-17-03.

The permittee shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in §60.672, including reports of opacity observations made using Method 9.

- b. Emission Limitation:
 Particulate emissions shall not exceed 0.10 ton/yr

Applicable Compliance Method:

Storage piles compliance shall be determined by using the emission factor equation (AP-42, 13.2.4, 1/95) and multiplying by the maximum hourly and annual production and multiplying by the percentage of emissions that will be uncontrolled. The result of multiplying the emission factor, annual production, and uncontrolled efficiency percentage is then divided by 2,000 pounds per ton.

Aggregate storage

Assumptions/emission factors:

Maximum hourly production - 85 tons/hr (application, 9/28/01)

Maximum annual production - 68,000 tons/yr (application, 9/28/01)

Silt content - 1.5

Acres of surface area - 0.05

Control efficiency - 50% (RACM, 2.22-3, 1983)

Storage piles: $K * 0.0032 * (U/5)^{1.3} / (M/2)^{1.4} = \text{lb/ton}$ (AP 42, 13.2.4, 1/95)

$K = 0.74 \text{ TSP}$ $U = 8.7 \text{ MPH}$ (National Weather Service) $M = 2.4 \%$ moisture content of topsoil (application, 9/28/01)

$0.74 * 0.0032 * (8.7/5)^{1.3} / (2.4/2)^{1.4} = 0.0038 \text{ lb/ton TSP}$

$0.0038 \text{ lb/ton} * 85 \text{ tons/hr} * [(100-50)/100] = 0.16 \text{ lb/hr}$

$0.0038 \text{ lb/ton} * 68,000 \text{ tons/yr} / 2,000 \text{ lbs/ton} * [(100-50)/100] = 0.065 \text{ ton/yr}$

Sand storage

Assumptions/emission factors

Maximum hourly production - 65 tons/hr

Maximum annual production - 52,000 tons/yr

Arrow Concrete Co
PTI Application: 01 08171
Issued

Facility ID: 0125042481

Emissions Unit ID: F001

Silt content - 0.7

Acres of surface area - 0.04

Control efficiency - 50% (RACM, 2.22-3, 1983)

Storage piles: $K * 0.0032 * (U/5)^{1.3} / (M/2)^{1.4} = \text{lb/ton}$ (AP 42, 13.2.4, 1/95)

K = 0.74 TSP U = 8.7 MPH (National Weather Service) M = 3.0% moisture content of topsoil (AP-42, 13.2.4-1, 1/95)

17

Arrow

PTI A

Issued: 11/27/2001

Emissions Unit ID: **F001**

$$0.74 * 0.0032 * (8.7/5)^{1.3} / (3.0/2)^{1.4} = 0.0028 \text{ lb/ton TSP}$$

$$0.0028 \text{ lb/ton} * 65 \text{ tons/hr} * [(100-50)/100] = 0.089 \text{ lb/hr}$$

$$0.0028 \text{ lb/ton} * 52,000 \text{ tons/yr} / 2,000 \text{ lbs/ton} * [(100-50)/100] = 0.036 \text{ ton/yr}$$

Total for F001 :

$$0.16 \text{ lb/hr} + 0.089 \text{ lb/hr} = 0.25 \text{ lb/hr}$$

$$0.065 \text{ ton/yr} + 0.036 \text{ ton/yr} = 0.10 \text{ ton/yr}$$

F. Miscellaneous Requirements

None

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

- The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
F002 - Paved roadways	OAC rule 3745-31-05 (A)(3)	Particulate emissions shall not exceed 1.83 tons/yr. No visible particulate emissions except for 3 minutes during any 60-minute period. Best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust (see Sections A.2.e through A.2.j)
	OAC rule 3745-17-07 (B)(5)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05 (A)(3).
	OAC rule 3745-17-08 (B)(2)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05 (A)(3).

2. Additional Terms and Conditions

- 2.a** The permittee shall employ best available control measures on all paved roadways and parking areas for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to treat the paved roadways by water truck and sweeping at sufficient treatment frequencies to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
- 2.b** The permittee shall employ best available control measures on the unpaved shoulders of all paved roadways for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to treat the unpaved shoulders of all paved roadways with water truck(s) at sufficient treatment frequencies to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
- 2.c** The permittee shall employ best available control measures on all unpaved roadways and parking areas for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to treat the unpaved roadways with water truck(s) at sufficient treatment frequencies to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
- 2.d** The needed frequencies of implementation of the control measures shall be determined by the permittee's inspections pursuant to the monitoring section of this permit. Implementation of the control measures shall not be necessary for a paved or unpaved roadway or parking area that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Implementation of any control measure may be suspended if unsafe or hazardous driving conditions would be created by its use.
- 2.e** Any unpaved roadway or parking area, which during the term of this permit is paved or takes the characteristics of a paved surface due to the application of certain types of dust suppressants, may be controlled with the control measure(s) specified above for paved surfaces. Any unpaved roadway or parking area that takes the characteristics of a paved roadway or parking area due to the application of certain types of dust suppressants shall remain subject to the visible emission limitation for unpaved roadways and parking areas. Any unpaved roadway or parking area that is paved shall be subject to the visible emission limitation for paved roadways and parking areas.

Emissions Unit ID: F002

- 2.f** The permittee shall promptly remove, in such a manner as to minimize or prevent resuspension, earth and/or other material from paved streets onto which such material has been deposited by trucking or earth moving equipment or erosion by water or other means.
- 2.g** Open-bodied vehicles transporting materials likely to become airborne shall have such materials covered at all times if the control measure is necessary for the materials being transported.
- 2.h** Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the best available technology requirements of OAC rule 3745-31-05.

B. Operational Restrictions

None

C. Monitoring and/or Recordkeeping Requirements

1. Except as otherwise provided in this section, the permittee shall perform inspections of the roadways and parking areas in accordance with the following frequencies:

<u>paved roadways and parking areas</u>	<u>minimum inspection frequency</u>
All paved roadways	Daily
<u>unpaved roadways and parking areas</u>	<u>minimum inspection frequency</u>
All unpaved roadways	Daily
2. The purpose of the inspections is to determine the need for implementing the above-mentioned control measures. The inspections shall be performed during representative, normal traffic conditions. No inspection shall be necessary for a roadway or parking area that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above-identified events shall be performed as soon as such event(s) has (have) ended, except if the next required inspection is within one week.
3. The permittee may, upon receipt of written approval from the appropriate Ohio EPA District Office or local air agency, modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the above-mentioned applicable requirements.

4. The permittee shall maintain records of the following information:
 - a. the date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;
 - b. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;
 - c. the dates the control measures were implemented; and
 - d. on a calendar quarter basis, the total number of days the control measures were implemented and the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measures.

The information required in 4.d. shall be kept separately for the paved roadways and the unpaved roadways and parking areas, and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

D. Reporting Requirements

1. The permittee shall submit deviation reports that identify any of the following occurrences:
 - a. each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and
 - b. each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented.
2. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

E. Testing Requirements

1. Compliance with the emission limitations in this permit shall be determined in accordance with the following methods :
 - a. Emission limitation:
Particulate emissions shall not exceed 1.83 tons/yr.

Applicable Compliance Method:

Compliance shall be demonstrated by utilizing the emission factor equation for paved roadways (AP-42 13.2.1, 9/98) - $E = [k (sL/2)^{0.65} (W/3)^{1.5}]$. This equation yields the emission factor that is multiplied by the total vehicle miles traveled/year on the unpaved roadways, divided by 2,000 pounds per ton and then multiplied by the percentage of uncontrolled emissions.

Assumptions/emission factors:

Paved roadways - 600 feet

Average load weight - 27 tons

Vehicular traffic - 10,000 VMT/yr

Control efficiency - 90% (RACm, 2.1.1-3, 1983)

Paved service road (controlled with BAT requirements):

Emission factor equation (AP-42 13.2.1, 9/98) - $E = [k (sL/2)^{0.65} (W/3)^{1.5}]$

Where:

E = size-specific emission factor (lb/VMT)

k = base emission factor for PM-30 (0.082 - AP-42, Table 13.2.1-1)

sL = road surface silt loading [$21.3 (\text{avg. daily traffic} * 100)^{-0.41} = 4.3 \text{ g/m}^2$]

W = average weight of vehicles (27 tons)

Paved roads (controlled - required as BAT)

$$E = 0.082 * (4.3/2)^{0.65} * (27/3)^{1.5}$$

$$E = 0.082 * 1.65 * 27$$

$$E = 3.65 \text{ lbs/VMT}$$

$$\text{TSP} = 3.65 \text{ lbs/VMT} * 10,000 \text{ VMT/yr} / 2,000 \text{ lbs/ton} * [(100-90)/100] = 1.83 \text{ tons/yr}$$

- b. Emission limitation:
No visible particulate emissions except for 3 minutes during any 60-minute period.

Applicable Compliance Method:

Compliance with the emission limitation for the unpaved roadways and parking areas identified above shall be determined in accordance with Test Method 22 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources," as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(4)(a) through (B)(4)(d) of OAC rule 3745-17-03.

F. Miscellaneous Requirements

None

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
P001 - Concrete batch plant	OAC rule 3745-31-05(A)(3)
Transfer of sand and aggregate to elevated bins	OAC rule 3745-31-05(A)(3)
Batcher and auxiliary silos	OAC rule 3745-31-05(A)(3)

Weigh hopper loading of sand and aggregate

Emissions Unit ID: P001

	<p style="text-align: center;"><u>Applicable Emissions Limitations/Control Measures</u></p>	<p>requirements of OAC rule 3745-17-07.</p>
<p>OAC rule 3745-17-07(A)(1)</p>	<p>Particulate emissions shall not exceed 5.28 lbs/hr and 25.3 tons/yr.</p>	<p>Visible particulate emissions from any stack shall not exceed twenty percent opacity, as a six-minute average.</p>
<p>OAC rule 3745-17-11(B)</p>	<p>The visible emissions of fugitive dust shall not exceed 20 percent opacity as a 3-minute average.</p>	<p>The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05 (A)(3).</p>
<p>OAC rule 3745-31-05(A)(3)</p>	<p>The drop height of the front-end loader bucket shall be minimized to the extent possible in order to minimize or eliminate visible emissions of fugitive dust from the conveyor loading area.</p>	<p>The weigh hopper shall be adequately enclosed and vented to the current silo. The enclosure shall be sufficient to eliminate visible emission of fugitive dust at the point of capture.</p>
<p>OAC rule 3745-31-05(A)(3)</p>	<p>The sand and aggregate loaded into the elevated bins shall have a moisture content sufficient to minimize or eliminate visible emissions of fugitive dust from the conveyor and transfer point to bins.</p>	<p>The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05 (A)(3).</p>
<p>OAC rule 3745-17-11(B)</p>	<p>The silo shall be adequately enclosed and vented to the fabric filter; the enclosure shall be sufficient to minimize or eliminate visible emissions of fugitive dust at the point of capture.</p>	
	<p>The fabric filter shall achieve an outlet emission rate of not greater than 0.020 grain of particulate emissions per dry standard cubic feet of exhaust gases or there shall be no visible emissions from the outlet, whichever is less stringent.</p>	
	<p>The requirements of this rule also include compliance with the</p>	

2. Additional Terms and Conditions

- 2.a** The material handling operation(s) that are covered by this permit and subject to the above-mentioned requirements are listed below:

Transfer of sand and aggregate, batcher and auxiliary silos, and weigh hopper loading of sand and aggregate

- 2.b** The permittee shall employ best available control measures for the above-identified material handling operation(s) for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to perform the following control measure(s) to ensure compliance:

material handling operation(s)control measure(s)

Transfer of sand and aggregate

Wet suppression and front-end loader use

Batcher and auxiliary silos

Fabric filters

Weigh hopper loading of sand and aggregate Adequate enclosures and vents

Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

- 2.c** For each material handling operation that is not adequately enclosed, the above-identified control measure(s) shall be implemented if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measure(s) is (are) necessary to ensure compliance with the above-mentioned applicable requirements. Any required implementation of the control measure(s) shall continue during the operation of the material handling operation(s) until further observation confirms that use of the control measure(s) is unnecessary.
- 2.d** Implementation of the above-mentioned control measure(s) in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of 3745-31-05(A)(3).
- 2.e** The 5.28 lbs/hr emission limitation was established to reflect the potential to emit (PTE) for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

B. Operational Restrictions

1. The maximum annual production rate of concrete shall not exceed 1,198,080 tons/yr.
2. Water shall be applied at all points necessary to ensure compliance with the visible emission limitations.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records indicating the number of tons of concrete produced.
2. Except as otherwise provided in this section, for material handling operations that are not adequately enclosed, the permittee shall perform inspections of such operations in accordance

28

Arrow Concrete Co
PTI Application: 01 08171
Issued

Facility ID: 0125042481

Emissions Unit ID: P001

with the following minimum frequencies:

<u>material handling operation(s)</u>	<u>minimum inspection frequency</u>
---------------------------------------	-------------------------------------

All

Daily

3. The above-mentioned inspections shall be performed during representative, normal operating conditions.
4. The permittee may, upon receipt of written approval from the appropriate Ohio EPA District Office or local air agency, modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the above-mentioned applicable requirements.
5. The permittee shall maintain records of the following information:
 - a. the date and reason any required inspection was not performed;
 - b. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measure(s);
 - c. the dates the control measure(s) was (were) implemented; and
 - d. on a calendar quarter basis, the total number of days the control measure(s) was (were) implemented.

The information in 4.d. shall be kept separately for each material handling operation identified above, and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

D. Reporting Requirements

1. The permittee shall submit annual reports indicating the number of total tons of concrete produced. These reports shall be submitted to the Central District Office by January 31 of each year.
2. The permittee shall submit semiannual reports which (a) identify all days during which any abnormal visible fugitive particulate emissions were observed from this emissions unit and (b) describe any corrective actions taken to eliminate the abnormal visible fugitive particulate emissions. These reports shall be submitted to the Director of the Central District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.

E. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.1 of these terms and conditions shall be determined in accordance with the following method(s):

- a. Emission limitation:
Particulate matter shall not exceed 5.28 lbs/hr

Sand and aggregate transfer to elevated storage bin

Assumptions/emission factors:

Maximum hourly production - 240 tons of sand and aggregate/hr (application - 9/28/01)

Maximum annual production (PTE - 240 tons/hr * 8,760 hrs/yr) - 2,102,400 tons/yr

Emission factor (AP-42, Chapter 11, Section 12, 1/95) - 0.029 lb/ton of sand and aggregate

Control Efficiency (wet suppression) - 50% (RACM Section 2.22, Table 2.22-3, 1983)

PTE calculations:

$240 \text{ tons/hr} * 0.029 \text{ lb/ton} * [(100-50)/100] = 3.48 \text{ lbs/hr}$

$240 \text{ tons/hr} * 8,760 \text{ hrs/yr} * 0.029 \text{ lb/tons} / 2,000 \text{ lbs/ton} * [(100-50)/100] = 15.24 \text{ tons/yr}$

Sand and aggregate weigh hopper loading

Assumptions/emission factors:

Maximum hourly production - 240 tons of sand and aggregate/hr (application - 9/28/01)

Maximum annual production (PTE - 240 tons/hr * 8,760 hrs/yr) - 2,102,400 tons/yr

Emission factor (AP-42, Chapter 11, Section 12, 1/95) - 0.020 lb/ton of sand and aggregate

Control Efficiency (wet suppression) - 70% (RACM Section 2.22, Table 2.22-3, 1983)

PTE calculations:

$240 \text{ tons/hr} * 0.020 \text{ lb/ton} * [(100-70)/100] = 1.44 \text{ lbs/hr}$

$240 \text{ tons/hr} * 8,760 \text{ hrs/yr} * 0.020 \text{ lb/tons} / 2,000 \text{ lbs/ton} * [(100-70)/100] = 6.31 \text{ tons/yr}$

Cement silo loading

Assumptions/emission factors:

Maximum hourly production - 56 tons of cement/hr

Maximum annual production (PTE - 56 tons/hr * 8,760 hrs/yr) - 490,560 tons/yr

Emission factor (AP-42, Chapter 11, Section 12, 1/95) - 0.270 lb/ton of cement

Control efficiency (fabric filter) - 95% (application, 1/25/01)

PTE calculations:

$56 \text{ tons/hr} * 0.270 \text{ lb/ton} * [(100-95)/100] = 0.76 \text{ lb/hr}$

$56 \text{ tons/hr} * 8,760 \text{ hrs/yr} * 0.270 \text{ lb/ton} / 2,000 \text{ lbs/ton} * [(100-95)/100] = 3.3 \text{ tons/yr}$

Cement weigh hopper loading

Assumptions/emission factors:

Maximum hourly production - 52 tons of cement/hr

Maximum annual production (PTE - 52 tons/hr * 8,760 hrs/yr) - 455,520 tons/yr

Emission factor (AP-42, Chapter 11, Section 12, 1/95) - 0.020 lb/ton of cement

Arrow Concrete Co
PTI Application: 01 08474
Issued

Facility ID: 0125042481

Emissions Unit ID: **P001**

Control efficiency (fabric filter) - 95%

PTE calculations:

$$52 \text{ tons/hr} * 0.020 \text{ lb/ton} * [(100-95)/100] = 0.052 \text{ lb/hr}$$

$$52 \text{ tons/hr} * 8,760 \text{ hrs/yr} * 0.020 \text{ lb/ton} / 2,000 \text{ lbs/ton} * [(100-95)/100] = 0.23 \text{ ton/yr}$$

Cement loading into transit mixer (concrete trucks)

Assumptions/emission factors:

Maximum hourly production - 240 tons of cement/hr (application - 9/28/01)

Maximum annual production (PTE - 240 tons/hr * 8,760 hrs/yr) - 490,560 tons/yr

Emission factor (AP-42, Chapter 11, Section 12, 1/95) - 0.020 lb/ton of cement

Control efficiency (fabric filter) - 99.6% (application - 9/28/01)

PTE calculations:

$240 \text{ tons/hr} * 0.020 \text{ lb/ton} * [100-99.6/100] = 0.02 \text{ lb/hr}$

$240 \text{ tons/hr} * 8,760 \text{ hrs/yr} * 0.020 \text{ lb/ton} / 2,000 \text{ lbs/ton} * [100-99.6/100] = 0.09 \text{ tons/yr}$

Sand and aggregate loading into transit mixers (concrete trucks)

Assumptions/emission factors:

Maximum hourly production - 240 tons of cement/hr

Maximum annual production (PTE - 240 tons/hr * 8,760 hrs/yr) - 2,733,120 tons/yr

Emission factor (AP-42, Chapter 11, Section 12, 1/95) - 0.020 lb/ton of cement

Control efficiency (fabric filter) - 99.6% (application, 9/28/01)

PTE calculations:

$240 \text{ tons/hr} * 0.020 \text{ lb/ton} * [100-99.6/100] = 0.02 \text{ lb/hr}$

$240 \text{ tons/hr} * 8,760 \text{ hrs/yr} * 0.020 \text{ lb/ton} / 2,000 \text{ lbs/ton} * [100-99.6/100] = 0.09 \text{ ton/yr}$

Total particulate emissions for P001:

$3.48 \text{ lbs/hr} + 1.44 \text{ lbs/hr} + 0.76 \text{ lb/hr} + 0.052 \text{ lb/hr} + 0.02 \text{ lb/hr} + 0.02 \text{ lb/hr} = 5.78 \text{ lbs/hr}$

b. Emission limitation:

Particulate emissions shall not exceed 25.3 tons/yr

Sand and aggregate transfer to elevated storage bin

Assumptions/emission factors:

Maximum hourly production - 240 tons of sand and aggregate/hr (application - 9/28/01)

Maximum annual production (PTE - 240 tons/hr * 8,760 hrs/yr) - 2,102,400 tons/yr

Emission factor (AP-42, Chapter 11, Section 12, 1/95) - 0.029 lb/ton of sand and aggregate

Control Efficiency (wet suppression) - 50% (RACM Section 2.22, Table 2.22-3, 1983)

PTE calculations:

$240 \text{ tons/hr} * 8,760 \text{ hrs/yr} * 0.029 \text{ lb/tons} / 2,000 \text{ lbs/ton} * [(100-50)/100] = 15.24 \text{ tons/yr}$

Sand and aggregate weigh hopper loading

Assumptions/emission factors:

Maximum hourly production - 240 tons of sand and aggregate/hr (application - 9/28/01)

Maximum annual production (PTE - 240 tons/hr * 8,760 hrs/yr) - 2,102,400 tons/yr
Emission factor (AP-42, Chapter 11, Section 12, 1/95) - 0.020 lb/ton of sand and aggregate
Control Efficiency (wet suppression) - 70% (RACM Section 2.22, Table 2.22-3, 1983)
PTE calculations:

$$240 \text{ tons/hr} * 8,760 \text{ hrs/yr} * 0.020 \text{ lb/tons} / 2,000 \text{ lbs/ton} * [(100-70)/100] = 6.31 \text{ tons/yr}$$

Cement silo loading

Assumptions/emission factors:

Maximum hourly production - 56 tons of cement/hr

Maximum annual production (PTE - 56 tons/hr * 8,760 hrs/yr) - 490,560 tons/yr

Emission factor (AP-42, Chapter 11, Section 12, 1/95) - 0.270 lb/ton of cement

Control efficiency (fabric filter) - 95% (application, 1/25/01)

PTE calculations:

$$56 \text{ tons/hr} * 8,760 \text{ hrs/yr} * 0.270 \text{ lb/ton} / 2,000 \text{ lbs/ton} * [(100-95)/100] = 3.3 \text{ tons/yr}$$

Cement weigh hopper loading

Assumptions/emission factors:

Maximum hourly production - 52 tons of cement/hr

Maximum annual production (PTE - 52 tons/hr * 8,760 hrs/yr) - 455,520 tons/yr

Emission factor (AP-42, Chapter 11, Section 12, 1/95) - 0.020 lb/ton of cement

Control efficiency (fabric filter) - 95%

PTE calculations:

$$52 \text{ tons/hr} * 8,760 \text{ hrs/yr} * 0.020 \text{ lb/ton} / 2,000 \text{ lbs/ton} * [(100-95)/100] = 0.23 \text{ ton/yr}$$

Cement loading into transit mixer (concrete trucks)

Assumptions/emission factors:

Maximum hourly production - 240 tons of cement/hr (application - 9/28/01)

Maximum annual production (PTE - 240 tons/hr * 8,760 hrs/yr) - 490,560 tons/yr

Emission factor (AP-42, Chapter 11, Section 12, 1/95) - 0.020 lb/ton of cement

Control efficiency (fabric filter) - 99.6% (application - 9/28/01)

PTE calculations:

$$240 \text{ tons/hr} * 8,760 \text{ hrs/yr} * 0.020 \text{ lb/ton} / 2,000 \text{ lbs/ton} * [100-99.6/100] = 0.09 \text{ tons/yr}$$

Sand and aggregate loading into transit mixers (concrete trucks)

Assumptions/emission factors:

Maximum hourly production - 240 tons of cement/hr

Maximum annual production (PTE - 240 tons/hr * 8,760 hrs/yr) - 2,733,120 tons/yr

Emission factor (AP-42, Chapter 11, Section 12, 1/95) - 0.020 lb/ton of cement

Control efficiency (fabric filter) - 99.6% (application, 9/28/01)

PTE calculations:

Arrow Concrete Co
PTI Application: 01-08474
Issued

Facility ID: 0125042481

Emissions Unit ID: **P001**

$$240 \text{ tons/hr} * 8,760 \text{ hrs/yr} * 0.020 \text{ lb/ton} / 2,000 \text{ lbs/ton} * [100-99.6/100] = 0.09 \text{ ton/yr}$$

37

Arrow

PTI A

Issued: 11/27/2001

Emissions Unit ID: **P001**

Total particulate emissions for P001:

15.24 tons/yr + 6.31 tons/yr + 3.3 tons/yr + 0.23 ton/yr + 0.09 ton/yr + 0.09 ton/yr =
25.26 tons/yr

F. Miscellaneous Requirements

None