



AIR QUALITY GENERAL CONSTRUCTION PERMIT

PERMIT NUMBER: GCP-TMCBPS-1 Permit Name: Truck Mix Concrete Plant (Uncontrolled Loadout)

Project Description: Truck mix concrete batch plant limited to producing a maximum of 190,000 cubic yards per year.

Typical Standard Industrial Classification (SIC) Code: 3273, Ready-Mixed Concrete

Pursuant to Chapter 14 of the Nebraska Air Quality Regulations, the public has been notified by prominent advertisement of the proposed construction of air contaminant sources meeting the specific criteria of this general construction permit and the thirty (30) day period allowed for comments has elapsed. This general construction permit approves the construction of specific types of Truck Mix Concrete Plants. This permit document and the associated application make up the complete permit for the specific source identified in the application.

Compliance with this permit shall not be a defense to any enforcement action for violation of an ambient air quality standard. The permit holder, owner, and operator of the facility shall assure that the installation, operation, and maintenance of all equipment is in compliance with all of the conditions of this permit.

The undersigned issues this permit on behalf of the Director under the authority of Nebraska Administrative Code Title 129 – Nebraska Air Quality Regulations as amended July 6, 2015.

(This is a final unexecuted draft of a permit – For an official executed copy visit the NDEQ website or contact the NDEQ Records Management Section at 402.471.3557 or ndeq.records@nebraska.gov)

12/1/15

{ORIGINAL SIGNED}

Date

Shelley Schneider, Air Administrator
Air Quality Division

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ABBREVIATIONS, SYMBOLS, and UNITS OF MEASURE

AP-42	Compilation of Air Pollutant Emission Factors, Volume I, Stationary Point and Area Sources	NAAQS	National Ambient Air Quality Standards
bhp	Brake Horsepower	NDEQ	Nebraska Department of Environmental Quality
BM	Batch Mix	NESHAP	National Emission Standards for Hazardous Air Pollutants
BMP	Best Management Practice	NO ₂	Nitrogen Dioxide
Btu	British Thermal Unit	NO _x	Nitrogen Oxides
CAA	Clean Air Act	NSPS	New Source Performance Standard
CE	Control Equipment	Pb	Lead (chemical abbreviation)
cf	Cubic feet	PbR	Permit-by-Rule
CFR	Code of Federal Regulations	PM	Particulate Matter
CO	Carbon Monoxide	PM ₁₀	Particulate Matter with and aerodynamic diameter equal to or less than 10 microns
CO ₂	Carbon Dioxide	PM _{2.5}	Particulate Matter with and aerodynamic diameter equal to or less than 2.5 microns
CO ₂ e	CO ₂ equivalent	ppb	Parts per Billion
CP	Construction Permit	ppm	Parts per Million
dscf	Dry Standard Cubic Feet	ppmv	Parts per Million by volume
dscfm	Dry Standard Cubic Feet per Minute	ppmvd	Parts per Million by volume, dry basis
EPA	Environmental Protection Agency	PSD	Prevention of Significant Deterioration
EQC	Environmental Quality Council	PTE	Potential to Emit
EP	Emission Point	scf	Standard Cubic Feet
EU	Emission Unit	SIC	Standard Industrial Classification
FID	Facility Identification Number	SIP	State Implementation Plan
FDCP	Fugitive Dust Control Plan	SO ₂	Sulfur Dioxide
FIP	Federal Implementation Plan	SO _x	Sulfur Oxides
FR	Federal Register	tpy	Tons per year
ft	Feet	TRS	Total Reduced Sulfur
GHGs	Greenhouse Gases	TSP	Total Suspended Particulate Matter
H ₂ S	Hydrogen Sulfide	UTM	Universal Transverse Mercator
HAP	Hazardous Air Pollutant	VHAP	Volatile Hazardous Air Pollutant
hp	Horsepower	VMT	Vehicle Miles Traveled
hr	Hour	VOC	Volatile Organic Compound
lb	Pound		
LPG	Liquefied Petroleum Gas (Propane and/or Butane)		
Mgal	One Thousand gallons		
MMBtu	One Million British Thermal Units		
MMscf	One Million Standard Cubic Feet		
MSDS	Material Safety Data Sheet		
MW	Megawatt		

I. GENERAL CONDITIONS

- (A) Coverage granted under this permit is not transferable to another source or location except as provided for in Condition IV. {Chapter 9}
- (B) Coverage under this permit does not relieve the owner or operator of the source from the responsibility to comply with all applicable portions of the Nebraska Air Quality Regulations and any other requirements under local, State, or Federal law. Any permit noncompliance shall constitute a violation of the Nebraska Environmental Protection Act and the Federal Clean Air Act, and is grounds for enforcement action or permit revocation. {Chapter 41 and Chapter 17, Section 011}
- (C) Application for review of plans or advice furnished by the Director will not relieve the owner or operator of legal compliance with any provision of these regulations, or prevent the Director from enforcing or implementing any provision of these regulations. {Chapter 37}
- (D) Any owner or operator who failed to submit any relevant facts or who submitted incorrect information in a general permit application shall, upon becoming aware of such failure or incorrect submittal, promptly reapply for coverage or submit a construction permit application under the provisions of Chapter 17. {Chapter 17, Sections 006, 007, and 008}
- (E) Approval to construct will become invalid if a continuous program of construction is not commenced within 18 months after the date of coverage granted by this general construction permit, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable period of time. {Chapter 17, Section 012}
- (F) The owner or operator shall allow the NDEQ, EPA or an authorized representative, upon presentation of credentials to: {Neb. Rev. Statute §81-1504}
- (1) Enter upon the owner or operator's premises at reasonable times where a source subject to this permit is located, emissions-related activity is conducted or records are kept, for the purpose of ensuring compliance with the permit or applicable requirements;
 - (2) Have access to and copy, at reasonable times, any records, for the purpose of ensuring compliance with the permit or applicable requirements;
 - (3) Inspect at reasonable times any facilities, pollution control equipment, including monitoring and air pollution control equipment, practices, or operations, for the purpose of ensuring compliance with the permit or applicable requirements;
 - (4) Sample or monitor at reasonable times substances or parameters for the purpose of ensuring compliance with the permit or applicable requirements.
- (G) When requested by the NDEQ, the owner or operator shall submit completed emission inventory forms for the preceding year to the NDEQ by March 31 of each year. {Chapter 6}
- (H) Open fires are prohibited except as allowed by Chapter 30.
- (I) Particulate Matter – General Requirements: {Chapter 32}
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- (1) The owner or operator shall not cause or permit the handling, transporting or storage of any material in a manner, which allows particulate matter to become airborne in such quantities and concentrations that it remains visible in the ambient air beyond the property line.
 - (2) The owner or operator shall not cause or permit the construction, use, repair or demolition of a building, its appurtenances, a road, a driveway, or an open area without applying all reasonable measures to prevent particulate matter from becoming airborne and remaining visible beyond the property line. Such measures include, but are not limited to, paving or frequent cleaning of roads, driveways and parking lots; application of dust-free surfaces; application of water; and planting and maintenance of vegetative ground cover.
- (J) If and when the Director declares an air pollution episode as defined in Chapter 38, Section 003.01B, 003.01C, or 003.01D, the owner or operator shall immediately take all required actions listed in Title 129, Appendix I until the Director declares the air pollution episode terminated.
- (K) This permit may be revised (reopened and reissued) or revoked for cause in accordance with Title 129 and Nebraska Administrative Code Title 115 - Rules of Practice and Procedure. Conditions under which this permit will be revised or revoked for cause, include but are not limited to: {Title 129, Chapter 15, Section 006}
- (1) A determination by the Director, or the Administrator of EPA that:
 - (a) the permit must be revised to ensure compliance with the applicable requirements;
 - (b) the permit contains a material mistake or that inaccurate statements were made in the emissions standards or other terms or conditions of the permit.
 - (2) A determination by the Director that the source or activity endangers human health or the environment and that the danger cannot be removed by a revision of the permit.
- (L) Coverage under this permit may be revoked for cause in accordance with Title 129 and Title 115. Conditions under which this permit will be revised or revoked for cause, include but are not limited to: {Title 129, Chapter 15, Section 006}
- (1) The existence at the source of unresolved noncompliance with applicable requirements or a term or condition of the permit, and refusal of the owner or operator to agree to an enforceable schedule of compliance to resolve the noncompliance;
 - (2) The failure of the owner or operator to pay a penalty owed pursuant to court order, stipulation and agreement, or order issued by the Administrator of the EPA; or
 - (3) The submittal by the owner or operator of false, incomplete, or misleading information to the NDEQ or EPA.

II. SPECIFIC CONDITIONS

- (A) The owner/operator of the source shall provide the following notifications to the NDEQ:
- (1) The date construction commenced as defined in Chapter 1. Notification shall be postmarked no later than 30 days after such date and include a summary description and whether the requirement to commence construction was met through: {Title 129, Chapter 17, Section 012}
 - (a) Initiating physical on-site construction activities of a permanent nature that meet the definition of “begin actual construction”, or
 - (b) Entering into binding agreements or contractual obligations. If this option is used, the notice shall also include a brief summary of each binding agreement or contractual obligation entered into, the date of the agreement or contract, and why it cannot be cancelled or modified without substantial loss to the owner or operator.
 - (2) The notification required in Condition II.(A)(1) shall also include an equipment list which must detail all equipment associated with the facility and the corresponding maximum capacities. {Title 129, Chapter 17, Sections 006, 007, and 008}
 - (3) The date on which the source first becomes operational, postmarked within 15 days after such date. {Chapter 7, Section 002.03}
- (B) Recordkeeping: Records of all measurements, results, inspections, and observations as required to ensure compliance with all applicable requirements shall be maintained on-site as follows:
- (1) All calculations and records required throughout this permit shall be completed no later than the fifteenth (15th) day of each calendar month and shall include all information through the previous calendar month, unless otherwise specified in this permit.
 - (2) All records required throughout this permit shall be kept for a minimum of five (5) years and shall be clear and readily accessible to NDEQ representatives, unless otherwise specified in this permit.
 - (3) Copies of all notifications, reports, test results, and plans.
 - (4) Calibration records for all operating parameter monitoring equipment.
 - (5) Operation and Maintenance manuals, or equivalent documentation, detailing proper operation and maintenance of all permitted emission units, required control equipment, and required monitoring equipment shall be kept for the life of the equipment.
 - (6) Records documenting equipment failures, malfunctions, or other variations, including date and time of occurrence, remedial action taken, and when corrections were made to each piece of permitted equipment, required control equipment, and required monitoring equipment.

- (C) All permitted emission units, control equipment, and monitoring equipment shall be properly installed, operated, and maintained. {Chapter 34, Section 006 and Chapter 35 Sections 006.02 and 006.05}
- (D) When performance testing is required it shall be completed and submitted to the NDEQ as follows: {Chapter 34}
- (1) Performance tests shall be conducted while operating at maximum capacity (operating conditions producing the highest emissions or loading to the control device) within sixty (60) days after first reaching the maximum capacity, but not more than 180 days after the start-up of operations of each unit, unless otherwise specified by the NDEQ.
 - (2) Testing shall be conducted according to the methodologies found in Title 129, Chapter 34, Section 002, or other NDEQ approved methodologies.
 - (3) Performance tests shall be conducted for a minimum of three (3) one hour runs unless another run time is specified by the applicable Standard or as deemed appropriate by the NDEQ.
 - (4) The owner or operator of a source shall provide the NDEQ at least thirty (30) days written notice prior to testing to afford the NDEQ an opportunity to have an observer present. The owner or operator shall also provide the NDEQ with an emissions testing protocol at least thirty (30) days prior to testing. The NDEQ may, in writing, approve a notice of less than 30 days. If the testing is pursuant to an underlying requirement contained in a federal rule, the notice provisions of the underlying requirement apply.
 - (5) The owner or operator shall monitor and record the operating parameters for process and control equipment during the performance testing required in the permit.
 - (6) A written copy of the test results signed by the person conducting the test shall be provided to the NDEQ within sixty (60) days of completion of the test unless a different period is specified in the underlying requirements of an applicable Federal Rule and will, at a minimum, contain the following items:
 - (a) A description of the source's operating parameters (e.g., production rates, firing rates of combustion equipment, fuel usage, etc.), control equipment parameters (e.g., baghouse fan speeds, scrubber liquid flow rates, etc.), and ambient conditions (e.g., weather conditions, etc.) during testing.
 - (b) Copies of all data sheets from the test run(s).
 - (c) A description and explanation of any erroneous data or unusual circumstance(s) and the cause for such situation.
 - (d) A final conclusion section describing the outcome of the testing.
- (E) Any emissions due to malfunctions, unplanned shutdowns, and ensuing start-ups that are, or may be, in excess of applicable emission limits shall be reported to the NDEQ in writing and mailed within 48 hours of the beginning of each period of excess emissions. {Chapter 35, Sections 004 and 005}

III.(A) Specific Conditions for Concrete Production

- (1) Permitted Emission Points: The source is permitted to construct the emission units identified in the following table at the capacity and using only the fuel types listed. Emission units shall be controlled by the required control equipment as indicated:

Emission Unit ID# and Description	Required Control Equipment	Combustion Capacity	Fuel Type
EU-1: Truck Dump onto Aggregate Storage Pile	-	-	-
EU-2: Truck Dump onto Sand Storage Pile	-	-	-
EU-3: Aggregate Transfer to Plant	-	-	-
EU-4: Sand Transfer to Plant	-	-	-
EU-5: Aggregate Transfer Conveyor(s)	-	-	-
EU-6: Sand Transfer Conveyor(s)	-	-	-
EU-7: Cement Storage Silo Loading	Dust Collection System	-	-
EU-8: Cement Supplement Storage Silo Loading	Dust Collection System	-	-
EU-9: Weigh Hopper Loading	-	-	-
EU-10: Concrete Truck Loading	-	-	-
EU-11: External Combustion Sources (Boiler[s], Water Heater[s], Heater[s], etc.)	-	≤ 10 MMBtu/hr Combined	Natural Gas, LPG, and/or Diesel
FS-1a: Aggregate Storage Pile(s)	-	-	-
FS-1b Sand Storage Pile(s)	-	-	-

- (2) Emission Limitations and Testing Requirements:

- (a) The emissions limitations of Chapter 20, Sections 001 and 004 apply to the emission points associated with EU-1 through EU-10
- (b) The emissions limitations of Chapter 20, Sections 002 and 004 apply to the emission points associated with EU-11.
- (c) The emissions limitations of Chapter 32, Section 001 apply to the emission points associated with FS-1a and FS-1b.

- (3) Operational and Monitoring Requirements and Limitations

- (a) Cement and cement supplement used for concrete production may not exceed 76,000 tons per any period of twelve (12) consecutive calendar months. At no time during the first eleven (11) months following coverage by this permit shall cement and cement supplement used for concrete production exceed 76,000 tons . {Chapters 17 and 20}
- (b) Concrete production capacity shall not exceed 130 cubic yards per hour, based upon nameplate or design values. {Chapter 20}

- (c) Concrete production shall not exceed 190,000 cubic yards of concrete per any period of twelve (12) consecutive calendar months. At no time during the first eleven (11) months following coverage by this permit shall concrete production exceed 190,000 cubic yards. {Chapter 17}
- (d) Cement and cement supplements shall be stored in enclosed silos which are only loaded using pneumatic transport. {Chapter 17}
- (e) Pneumatic loading of cement and cement supplement storage silos shall be controlled by a dust collection system, such as a baghouse, fabric filter, or cartridge filter which is appropriate for the specific plant design. {Chapter 17}
- (f) External combustion equipment shall be limited to: {Chapter 17}
 - (i) Combusting only natural gas, LPG, or diesel.
 - (ii) Having a maximum combined heat input capacity of 10 MMBtu/hr.
- (g) Operation and maintenance of dust collection systems associated with pneumatic transport shall be in accordance with the following requirements: {Chapter 17}
 - (i) The dust collection system shall be operated and be controlling emissions during pneumatic transport of cement and cement supplement.
 - (ii) The dust collection system(s) used for pneumatic transport of cement and cement supplement shall be equipped with an operational pressure differential indicator readings shall be recorded at least once each day that the associated dust control system is operating.
 - (iii) Filters, filter bags, or cartridge filters are to be inspected and/or replaced as often as necessary to ensure proper operation or more frequently as indicated by pressure differential indicator readings or other indication of failure.
 - (iv) The owner or operator shall maintain an on-site inventory of spare bags of each type used to ensure rapid replacement in the event of bag failure
- (h) Observations of the emission units identified in Condition III.(A)(1) shall be conducted at least once each day during operation to determine whether there are visible emissions, leaks, or other indications that may necessitate corrective action. If corrective action is required, it shall occur immediately. {Chapter 34}
 - (i) The results of the observations and any corrective actions shall be recorded in a log.
- (4) Applicable NSPS, NESHAP, and MACT Requirements:

The NDEQ has not identified any NSPS, NESHAP, or MACT requirements that will always apply to the emission units listed in Condition III.(A)(1) or any associated emission points. There may be applicable requirements based upon specific facilities or design of emission units.

(5) Reporting and Recordkeeping Requirements:

- (a) Records documenting total cement and cement supplement used for each calendar month and each period of twelve (12) consecutive calendar months.
- (b) Records documenting the maximum concrete production capacity of the plant.
- (c) Records documenting total concrete produced for each calendar month and each period of twelve (12) consecutive calendar months.
- (d) Records documenting the types of fuel combusted in the external combustion sources (EU-11).
- (e) Records documenting the maximum combustion capacity of the external combustion sources (EU-11).
- (f) Records documenting the date, time, and pressure differential reading for each day a dust collection system associated with pneumatic loading of silos is in operation.
- (g) Records of filter, filter bag, or filter cartridge replacement including the date the replacement occurred and the type of filter, filter bag, or filter cartridge installed for all dust collection systems associated with pneumatic loading of cement and cement supplement silos.
- (h) Records documenting the date, time, observations, and corrective actions taken for each day the plant is in operation.

III.(B) Specific Conditions for Haul Roads(1) Permitted Emission Points:

All haul roads shall comply with the following conditions. {Chapter 32}

(2) Emission Limitations and Testing Requirements:

Haul roads are subject to the requirements of Title 129, Chapter 32, Section 002.

(3) Operational and Monitoring Requirements and Limitations:

(a) The owner or operator shall utilize best management practices (BMP) on haul roads. The effectiveness of the BMP to minimize emissions from haul roads will be demonstrated by compliance with Condition I.(I). {Chapters 17 and 32}

(b) A survey of the plant property and haul roads shall be conducted for each day of operation to determine if visible fugitive emissions are being generated and leaving plant property. Implementation of BMP shall be taken upon observation of visible fugitive emissions leaving plant property. {Chapter 32}

(4) Applicable NSPS, NESHAP, and MACT Requirements:

The NDEQ has not identified any NSPS, NESHAP, or MACT requirements that apply to the haul roads.

(5) Reporting and Recordkeeping Requirements:

(a) Records shall be kept documenting the use of BMP on haul roads.

(b) Records documenting the date and time of fugitive dust surveys, whether visible emissions crossed site boundaries, and any corrective action taken if visible emissions are observed in areas to which the public has access

IV. Specific Conditions for Relocation

- (A) The owner or operator shall notify the Director at least 20 days in advance of any proposed change in source location. The following information shall be provided for the proposed new location: {Chapter 10}
- (1) A specific description of the source, including Standard Industrial Classification (SIC),
 - (2) A legal description, accurate to the nearest quarter section,
 - (3) Present or previous use,
 - (4) Distance to the nearest occupied building,
 - (5) General description of the site location and adjacent land use,
 - (6) The anticipated dates of operation of the source at the proposed new location,
 - (7) Contact information for the responsible on site source operator including: name, mailing address, and telephone number,
 - (8) The source FID number assigned by the Department, and
 - (9) The relocation notification shall be signed by a responsible source official or source owner certifying its content.
- (B) Relocation within any of the following jurisdictions will require additional notifications:
- (1) Lancaster County {Neb. Rev. Statute §81-1504(23)}
 - (a) If the proposed new location is within Lancaster County, the source shall also notify the Air Quality Section of the Lincoln-Lancaster County Health Department (LLCHD) at least 20 days in advance of the proposed location change. An additional permit may also be required from LLCHD if the source intends to locate within this jurisdiction.
 - (2) City of Omaha {Neb. Rev. Statute §81-1504(23)}
 - (a) If the proposed new location is within 3 miles of the Omaha Corporate City limits, the source shall also notify the Air Quality Section at Omaha Air Quality Control (OAQC) at least 20 days in advance of the proposed location change. An additional permit may also be required from OAQC if the source intends to locate within this jurisdiction.
 - (3) Tribal Lands
 - (a) If the proposed new location is on Tribal Lands, the source shall also notify and receive approval from the United States Environmental Protection Agency Region VII office and/or the Tribe, as appropriate, at least 20 days advance of the

proposed location change. An additional permit may also be required if the source wants to locate within these jurisdictions.

- (4) Cass County {Chapter 21}
 - (a) If the proposed new location is within Cass County, Nebraska, rock processing operations at the source are subject to Chapter 21 requirements requiring 85% reduction in potential emissions from conveying, transfer operation, and railcar and truck loading. Demonstration of the 85% reduction in potential emissions must be submitted with the change in source location notification. An air quality impact analysis, including dispersion modeling, may also be required to ensure compliance with Title 129, Chapter 4 prior to locating in Cass County.
- (C) The Director may disapprove a new proposed location for a temporary source if operation in the new location would cause or contribute to a violation of state or local standards or otherwise adversely affect human health or the environment. {Chapter 10}

Typical Standard Industrial Classification Code: 3273, Ready-Mixed Concrete

Typical North American Industry Classification Code: 327320 – Ready-Mix Concrete Manufacturing

DESCRIPTION OF GENERAL CONSTRUCTION PERMIT:

The Nebraska Department of Environmental Quality (NDEQ) has determined there are numerous similar sources in Nebraska that are subject to the same Federal and State regulatory requirements. Chapter 9 of Nebraska Administrative Code Title 129 - Air Quality Regulations allows the NDEQ to issue a general construction permit (GCP) for these sources. This GCP follows the applicable procedures of Chapters 9, 14, and 17 of Nebraska Administrative Code Title 129 - Air Quality Regulations. The owner of a source that qualifies for this GCP must apply to the NDEQ for coverage under the applicable terms of the GCP. Each application must include all information necessary to determine qualification for, and to ensure compliance with, the GCP.

The NDEQ will notify the applicant of the determination of coverage under this GCP for the source identified in the application. If the Director of the NDEQ denies coverage of the source under the GCP, the applicant may request an adjudicative hearing in accordance with the procedures established in Title 115 - Rules of Practice and Procedure. The NDEQ may issue coverage under a GCP to an individual source without repeating the notice and comment procedures required in Chapter 14 of Title 129. The NDEQ shall maintain a list of all sources covered by general permits, which shall be available for public review.

DESCRIPTION OF THE SOURCE GROUP:

The plants covered under this GCP produce concrete using a truck-mix process by combining portland cement, inert materials such as sand and/or aggregate, water, and usually a cementitious supplement such as pozzolans or fly ash to create wet concrete. These plants may be portable or stationary. This GCP is only applicable to plants with a maximum production capacity of less than 130 cubic yards of wet concrete per hour. In addition to the storage pile(s), conveyors, hoppers, bins, and silos necessary for production, each plant may have up to 10 million British thermal units per hour (MMBtu/hr) of external combustion firing natural gas, liquefied petroleum gas, or diesel. Under this permit, each plant is limited to producing a maximum of 190,000 cubic yards of wet concrete per 12-month period.

This GCP does not permit the installation of a stationary engine. However, any engine which is portable and will not remain at the same location for more than 12 consecutive months is considered a nonroad engine and therefore is not subject to stationary source permitting.

TYPE AND QUANTITY OF AIR CONTAMINANT EMISSIONS ANTICIPATED:

Concrete batch plants covered by this GCP have the potential to emit (PTE) particulate matter (PM), PM with an aerodynamic diameter of less than or equal to 10 microns (PM₁₀), PM with an aerodynamic diameter of less than or equal to 2.5 microns (PM_{2.5}), sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), hazardous air pollutants (HAPs), and greenhouse gases (GHG).

The primary emissions from these facilities will be generated by the storage and transport of the dry components of concrete used to make the final wet mixture. Detailed emissions calculations are included in the fact sheet attachment and a discussion of each general category of emissions follows below.

Raw Material Receiving and Storage:

Facilities usually receive sand, aggregate, cement, and supplement (if used) via truck. In certain cases these materials might exist or be produced on site, but facilities may not add crushing, mining, or other stationary sources of emissions which are not described by this GCP as part of the same project.

Sand and/or aggregate are generally stored in separate piles and moved to the plant via front end loader as needed. Storage pile wind erosion is a source of fugitive emissions, but the addition and removal of material from storage piles is not.

Cement and supplements must be stored in enclosed silos which are pneumatically loaded. Bucket elevators may not be used for loading. Based upon the July 10, 2002, letter from William T. Harnett, Director of Information Transfer and Program Integration Division at EPA, to Edward R. Herbert III, the NDEQ considers a dust collection system (such as a filter or baghouse) to be inherent to the process of pneumatically loading these silos. These systems prevent the loss of the lightweight cementitious materials during loading; however the specific design of these systems will vary. A plant might have a single baghouse which controls both silos, a single baghouse which controls silos and many additional emission units, a simple filter on each silo, or any number of other plant-specific designs.

Although the use of dust collection systems is inherent to pneumatic loading, the NDEQ is including permit conditions to require their use for silo loading in this general permit. This ensures that the design and potential emissions of all facilities granted coverage under this general permit will match the PTE calculated for this general permit, and facilities will not exceed any relevant limit or threshold.

PTE calculations include control credit for pneumatic loading of silos. Facilities may also choose to use controls such as covers or watering to reduce emissions from sand and aggregate storage, but no control credit is included in PTE. PTE for raw material receiving and storage includes PM, PM₁₀, PM_{2.5}, and trace amounts of HAPs.

Concrete Production:

Batch plants are designed to meter specific proportions of the raw materials together to form the final mix, typically dropping dry materials into batchers or weigh hoppers before loading into a truck for mixing and distribution. Sand and/or aggregate are generally loaded into individual hoppers by front end loader, then dropped onto conveyors as needed for transport to batchers or weigh hoppers. Cement and supplement are transported via screw conveyor, gravity feed, or some other method to batchers or weigh hoppers. Finally, these dry materials and water are loaded into trucks for final mixing. The exact design of plants covered by this permit will vary, but the overall process is similar.

Facilities covered by this GCP are limited to using 76,000 tons of cementitious materials (cement and cement supplement) per 12-month period. This is equivalent producing the full 12-month limit of 190,000 cubic yards with 20% cementitious materials, by wet weight. Standard concrete mixtures typically use 10 to 15%, but rare specialized applications sometimes use high strength, high cement concrete.

Specific plants may use dust collection systems to control portions of the batching process such as truck loadout or conveyors. These additional controls are not required under this GCP, but their use will reduce actual plant emissions. For PTE, it is assumed that the concrete production emission units will not be controlled. Concrete production will produce PM, PM₁₀, PM_{2.5}, and trace amounts of HAPs.

External Combustion:

Some batch plants covered by this GCP may use external combustion of natural gas, liquefied petroleum gas (propane, butane, or mixtures), or diesel (equivalent to #2 fuel oil) for heating purposes. Plants that operate throughout the year commonly use water heaters or boilers to ensure that concrete remains workable in cold weather. Additionally, plants may use external combustion for worker comfort or other reasons, provided that all installed equipment uses the fuels named above, does not have a combined combustion capacity exceeding 10 million British thermal units per hour (MMBtu/hr), does not create any air pollutants except combustion emissions, and is not specifically prohibited by any applicable state or federal regulation.

Applicable state regulations include, but are not limited to, open fires not being allowed in Nebraska, except under the provisions of Title 129, Chapter 30. Creation of air pollutants which are not combustion emissions, but are produced by combustion, includes heating of any material which may produce secondary emissions, such as tar or asphalt, or operation of an incinerator. These secondary emissions are not included in PTE under this GCP, therefore any combustion equipment which would produce secondary emissions are not authorized by this permitting action.

PTE for external combustion includes PM, PM₁₀, PM_{2.5}, SO₂, nitrogen oxides NO_x, carbon monoxide CO, VOC, HAPs, and greenhouse gases GHG. Emissions assume that the full 10 MMBtu/hr of combustion will be diesel-fired, which has the greatest emissions of the three fuel types.

Haul Roads:

Fugitive PTE includes an estimated haul road distance of 500 feet of unpaved road to deliver raw materials and ship concrete. This distance is based upon the typical layout of these plants, which are located on or near public roads to streamline delivery. Haul roads will produce PM, PM₁₀, PM_{2.5}

Internal Combustion:

Facilities may not add stationary internal combustion equipment under this GCP. However, many facilities use nonroad generator engines, which are considered portable rather than stationary. These nonroad engines are designed to be moved: they have wheels, skids, are affixed to a trailer or truck bed, or have some other method of easy transportation between locations. However, these engines must be moved at least once per 12 months or they are considered stationary.

Portable engines are not considered for PTE under the construction permit program, and therefore are not included in calculations or applicability analyses. Construction of a stationary engine is not authorized by this GCP. If a source wants to install a stationary engine they must evaluate its PTE, determine if its PTE should be aggregated with previous projects, compare the corresponding PTE with the thresholds in Title 129, Chapter 17, and if necessary, submit a construction permit application.

Emissions Summary:

The following table lists the potential emissions for any individual plant covered by this GCP:

Regulated Pollutant	Total Emissions Including Fugitives (tons/year)	Non-Fugitive Emissions (tons/year)
Particulate Matter (PM)	82.87	46.91
PM smaller than or equal to 10 microns (PM ₁₀)	26.97	14.72
PM smaller than or equal to 2.5 microns (PM _{2.5})	10.67	7.99
Sulfur Dioxide (SO ₂)	2.29	2.29

Regulated Pollutant	Total Emissions Including Fugitives (tons/year)	Non-Fugitive Emissions (tons/year)
Oxides of Nitrogen (NO _x)	6.35	6.35
Carbon Monoxide (CO)	3.61	3.61
Volatile Organic Compounds (VOC)	0.38	0.38
Hazardous Air Pollutants (HAPs)	<0.01	<0.01
Greenhouse Gases (GHG):		
Mass Basis	5,124.00	5,124.00
CO ₂ e Basis	5,129.00	5,129.00

APPLICABLE REQUIREMENTS AND VARIANCES OR ALTERNATIVES TO REQUIRED STANDARDS:

Chapter 4 – Ambient Air Quality Standards:

Based upon the limits of this GCP, the PTE for a plant covered under this GCP is below the thresholds for which air dispersion modeling is typically required, as established in the NDEQ modeling guidance document entitled *Atmospheric Dispersion Modeling Guidance for Permits* (September 2005). Therefore, air dispersion modeling is not required for issuance of coverage under this GCP.

This GCP is not applicable to any concrete batch plant that will be located with an existing hot mix asphalt plant. Such a facility would be required to include fugitive emissions from wind erosion of storage piles towards the state modeling thresholds, which would exceed the modeling threshold for PM₁₀.

Chapters 5 and 7 – Operating Permit Requirements:

For the operating permit program, a major or Class I source is one that emits, or has the potential to emit, greater than 100 tons per year (tpy) of any criteria pollutant, 10 tpy of any individual HAP, 25 tpy of total HAPs, or 5 tpy of lead. A minor or Class II source is any facility with does not exceed the major source thresholds, but has actual emissions greater than one half of these thresholds.

Before issuance of coverage under this permit, potential emissions from the batch plants which can be covered by this permit would not exceed the major source thresholds. Most facilities will not have other significant sources of air pollutants, and therefore would be a “No Permit Required Natural Minor” source for the operating permit program.

A facility with other sources of emissions, such as equipment covered by another construction permit, may exceed minor or major source thresholds for the operating permit program after permit issuance. Each facility covered by this GCP must determine if they are required to apply for an operating permit, or revise an existing operating permit, due to coverage under this GCP.

Chapter 17 – Construction Permit Requirements:

The source is required to obtain a construction permit, because potential emissions, before coverage by this GCP, would exceed the emission thresholds of Chapter 17, Section 001.01. The source-wide PTE, after coverage under of this permit, falls into one of the following categories:

Category I (Fee \$250):

Less than 50 tons per year of any listed air pollutant;
Less than 2.5 tons per year of any single HAP; or

Less than 10 tons per year of any combination of HAPs

Category II (Fee \$1,500):

50 tons or more but less than 100 tons per year of any listed air pollutant;
2.5 tons or more but less than 10 tons per year of any single HAPs; or
10 tons or more but less than 25 tons per year of any combination of HAPs

Category III (Fee \$3,000):

100 tons or more per year of any listed air pollutant;
10 tons or more per year of any single HAP; or
25 tons or more per year of any combination of HAPs

Therefore, the source must submit a fee to obtain coverage under this GCP, in accordance with Chapter 17, Section 003.01 and Chapter 9. The NDEQ does not consider PM a regulated pollutant when determining the fee for a construction permit.

Chapter 18 – New Source Performance Standards (NSPS), and 40 CFR Part 60:

The NDEQ has not identified any NSPS which currently applies to emission units explicitly authorized by this permitting action. Emission units specific to a facility, including those not covered by this GP, may have requirements which have not been identified. These rules are subject to change, and any facility issued coverage under this GCP must evaluate, and continue to evaluate, the standards and requirements to which they are subject.

Subpart A – General Provisions: This subpart, adopted by reference in Title 129, Chapter 18, Section 001.01, applies to those units subject to another NSPS subpart. Unless a facility is subject to another NSPS subpart, it will not be subject to Subpart A.

Subpart F – Standards of Performance for Portland Cement Plants: This subpart, adopted by reference in Title 129, Chapter 18, Section 001.40, applies to those affected facilities at Portland cement plants that commenced construction or modification after August 17, 1971. Production of Portland cement is not included in this permitting action and is not a normal operation at concrete batch plants. Therefore, most facilities covered by this GCP will not be subject to Subpart F.

Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants: This subpart, adopted by reference in Title 129, Chapter 18, Section 001.33, applies to those affected facilities in fixed or portable nonmetallic mineral processing plants that commence construction, modification, or reconstruction after August 31, 1983. Facilities “without crushers or grinding mills above ground” are specifically exempted by this subpart. Crushing operations are not authorized by this permitting action; therefore most facilities covered by this GCP will not be subject to Subpart OOO.

Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines: This subpart, adopted by reference in Title 129, Chapter 18, Section 001.076, applies to stationary compression ignition internal combustion engines at facilities that commence construction, modification, or reconstruction after July, 2005 and manufacturers of CI ICE with a model year of 2007 or later, with additional applicability conditions for fire pump engines. Stationary engines are not authorized by this GCP, and nonroad engines are not subject to Subpart IIII. Therefore, most facilities covered by this GCP will not be subject to Subpart IIII.

Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines: This subpart, adopted by reference in Title 129, Chapter 18, Section 001.82, applies to owners and operators of stationary spark ignition internal combustion engines at facilities that commence construction, modification,

or reconstruction after June 12, 2006, July 1, 2007, January 1, 2008, or January 1, 2009, depending upon engine specifications and use. Stationary engines are not authorized by this GCP, and nonroad engines are not subject to Subpart IIII. Therefore, most facilities covered by this GCP will not be subject to Subpart JJJJ.

Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating

Units: This subpart, adopted by reference in Title 129, Chapter 18, Section 001.52, covers steam generating units with a design rate between 10 MMBtu/hr and 100 MMBtu/hr, installed after June 9, 1989. This general permit authorizes a maximum combined heat input of 10 MMBtu/hr for external combustion. Therefore, only facilities which install a single steam generating unit at the maximum combined allowable heat input capacity would potentially be subject to Subpart Dc.

It is the source's obligation to comply with all applicable NSPS subparts and requirements whether or not they are identified in this permitting action or Title 129. Additional and updated information on all NSPS is available on the NDEQ NSPS Notebook, which can be located by visiting the NDEQ website at <http://deq.ne.gov/>, and first selecting the “Air” tab, then the “Air Grants, Planning and Outreach Program” dropdown menu tab, then the “New Source Performance Standards (NSPS) Program” dropdown menu tab, and then select “New Source Performance Standards (NSPS) Program”. Or alternately use the “Search NDEQ Web” search box on the upper right of the webpage and enter “New Source Performance Standards”.

Chapter 19 – Prevention of Significant Deterioration (PSD):

If a source falls into one of the 28 categories listed in Title 129, Chapter 2, Section 008.01, they are subject to 100 ton per year thresholds, including fugitive emissions, on regulated air pollutants for the PSD program. Fugitive emissions must be included when determining PSD applicability if the source is one of the listed categories in Chapter 2, Section 002. Concrete batch plants are not included in either of the categories; therefore the major source thresholds for regulated air pollutants are 250 tons per year and fugitive emissions are not counted.

Potential emissions for equipment covered by this GCP do not exceed the major source thresholds, and therefore covered facilities will only be major for PSD if they have additional sources of air pollutants.

Potential emissions of PM for equipment covered by this GCP exceed the PSD modification significance threshold for PM; therefore any facility which is currently major for PSD is not eligible to add a concrete batch plant under this GCP. Any such facility would be required to apply for a standard construction permit.

Chapter 20 – Particulate Matter Emissions:

Section 001 – Process Weight Rate

Except for fugitive emissions from haul roads and storage pile erosion, all concrete production operations are subject to the requirements of Section 001. Facilities will comply with these limits through the proper operation and maintenance of equipment, including dust collection systems. Detailed calculations are included in the fact sheet attachment demonstrating compliance.

Section 002 – Particulate Emissions from Combustion Sources

External combustion sources authorized by this permit are subject to Section 002. These emission units will comply through the exclusive use of natural gas, liquefied petroleum gas, or diesel, as appropriate, as well as proper operation and maintenance of equipment. Detailed calculations are included in the fact sheet attachment demonstrating compliance.

Section 004 – Opacity

No person may cause or allow emissions which are of an opacity equal to or greater than twenty percent (20%) as evaluated by an EPA-approved method, or recorded by a continuous opacity monitoring system operated and maintained pursuant to 40 CFR Part 60 Appendix B. Facilities covered by this GCP will demonstrate compliance with this requirement by properly operating and maintaining equipment.

Chapter 27 – Hazardous Air Pollutants:

The source is not subject to the requirements of this chapter because the proposed increase in PTE of any single HAP and total HAPs are less than the 2.5 and 10 tons per year thresholds listed in Section 002 of this chapter.

Chapter 28 – Hazardous Air Pollutant Emission Standards (NESHAPs):

Most sources granted coverage under this GCP will be an area source of HAPs because the facility PTE will be below 10 tpy for any single HAP and 25 tpy for combined HAPs. If a facility has additional sources of air emissions, they could potentially be above these thresholds and be major for HAPs, which may change their NESHAP requirements. The NDEQ has not identified any NESHAP which will always apply to emission units explicitly authorized by this permitting action. NESHAP Subparts A and JJJJJ will apply to hot water heaters firing diesel fuel at facilities which are area sources, and Subparts A and DDDDD will apply to water heaters located at major sources. Emission units specific to a facility, including those not covered by this GCP, may have requirements which have not been identified. Several potentially applicable NESHAPs are discussed below.

Subpart A – General Provisions: This subpart, adopted by reference in Title 129, Chapter 28, Section 001.01, applies to all sources subject to a NESHAP standard unless otherwise stated in the rule. Unless a facility is subject to another NESHAP subpart, it will not be subject to Subpart A.

Subpart LLL – National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry: This subpart, adopted by reference in Title 129, Chapter 28, Section 001.42, applies to those affected facilities at portland cement plants. Production of portland cement is not included in this permitting action and is not a normal operation at concrete batch plants. Therefore, most facilities covered by this GCP will not be subject to Subpart LLL.

Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines: This subpart, adopted by reference in Title 129, Chapter 28, Section 001.88, applies to existing, new, or reconstructed stationary reciprocating internal combustion engines (RICE) located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand and existing residential, commercial, and institutional emergency RICE at area sources used for 15 hours or less per year for emergency demand response, provided they are not also used for local reliability. Stationary engines are not authorized by this GCP, and nonroad engines are not subject to Subpart ZZZZ. Therefore, most facilities covered by this GCP will not be subject to Subpart ZZZZ.

Subpart JJJJJ – National Emissions Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources: This subpart, adopted by reference in Title 129, Chapter 28, Section 001.71, applies to boilers at area sources of HAPs. Boilers which combust gaseous fuels and only fire solid or liquid fuels during periods of gas curtailment, gas supply interruption, startups, or periodic testing are defined as gas-fired boilers by this subpart and are not subject, provided periodic testing does not exceed a total of 48 hours per calendar year. Boilers or water heaters firing diesel at area sources, except those meeting the definition of gas-fired boilers, will be subject to this subpart.

Subpart DDDDD – National Emissions Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters: This subpart, not yet adopted by reference in Title 129, applies to various types of boilers and process heaters at major sources of HAPs. Most facilities covered under this GCP will be area sources of HAPs, and therefore will not be subject to this subpart. Any boiler or water heater at a facility which is a major source will be subject to this subpart.

It is the source's obligation to comply with all applicable NESHAP subparts and requirements whether or not they are identified in this permitting action or Title 129. Additional and updated information on all NESHAP is available on the NDEQ Air Toxics Notebook, which can be located by visiting the NDEQ website at <http://deq.ne.gov/>, and first selecting the “Air” tab, then the “Air Grants, Planning and Outreach Program” dropdown menu tab, then the “Air Toxics Program” dropdown menu tab, and then select “Air Toxics Program – Guide to NESHAPs”. Or alternately use the “Search NDEQ Web” search box on the upper right of the webpage and enter “Air Toxics Notebook”.

Permit conditions specific to the proposed permit are discussed as follows:

- II.(A) When a source undertakes a program of construction, reconstruction, or modification they are required to notify the NDEQ when they begin construction/reconstruction/modification and when the source or modification becomes operational. In addition, the NDEQ is requiring that the source submit an equipment list that includes the maximum rated capacity of each unit associated with the facility. These notifications help the NDEQ and source determine when an operating permit application (or revision to an existing operating permit) may be necessary and also whether some emission increases or decreases are within the contemporaneous period. This notification is either for initial operation of the source as a whole (if constructing a new source) or initial operation of the completed project (if modifying an existing source), not individual emission units. Individual emission units subject to specific NSPS or NESHAP standards may have additional notification requirements specific to those federal standards that are independent of this requirement. Startup of individual emission units (such as a boiler subject to an NSPS) does not necessarily mean the source or project has begun operations. For portable sources this notification is only required for their first commencement of construction following permit issuance. Notifications related to further relocations are handled by the provisions of Condition IV.
- II.(B) This condition contains general recordkeeping and reporting requirements that apply to all permitted emission units, control equipment, and monitoring devices. These requirements establish several things including, a completion date when records must be completed, how long records need to be maintained, and identifying specific types of records that must be maintained. Records are required to be maintained to ensure compliance with all applicable requirements, specifically those required in this permit. However, additional recordkeeping requirements may be established in the future to better ensure compliance. Documentation detailing operation and maintenance can be operational and maintenance manuals provided by the manufacturer. If manufacturer manuals are not available, the owner or operator must develop a document containing proper operation and maintenance requirements for each permitted emission unit and piece of required control equipment.
- II.(C) This condition requires all permitted emissions units, control equipment, and monitoring equipment to be properly installed, operated, and maintained as required in Specific Condition II.(B)(5). Emission estimates for this permitting action are based on the requirement that all equipment be properly operated and maintained, and comply with the conditions of the permit and regulations.
- II.(D) General performance testing requirements. When performance testing is required, it is intended to demonstrate and ensure the source will be in compliance on a continuous basis. As such, testing is generally required to be conducted under conditions producing the highest emissions or loading to a control device. This typically is done at the maximum capacity, which at that level would not create

an unsafe condition, and the facility will operate at that level at least some of the time. For a comprehensive evaluation on representative testing conditions, please review the NDEQ guidance on stack testing available on our web site or the national stack testing guidance document found on EPA's web site. All performance tests required throughout this permit are required to be conducted in accordance with these conditions. The owner or operator must provide a testing protocol and written (i.e. hard copy, not electronic or verbal) notice prior to testing to ensure the NDEQ has the opportunity to witness the testing and review the proposed testing plan. Operating parameters are monitored and recorded to document the conditions under which the testing was conducted. The NDEQ may require additional testing if previous testing is not representative of current operations.

- II.(E) This condition requires any emissions resulting from equipment failures, malfunctions, or other variations in control or process equipment performance that are, or may be, in excess of the applicable emission control regulations to be reported to the NDEQ in accordance with Title 129, Chapter 35, Section 005. The NDEQ must be notified when excess emissions have, or may have occurred along with the cause of the emissions in order to determine the appropriate response. These reports also assist with verifying proper operation and maintenance of process and control equipment.

III.(A) Specific Conditions for Concrete Production:

- (1) This condition identifies the general emission units which are authorized for each project approved under this GCP. Each concrete batch plant will vary in design, but must follow the general standard design for truck-mix concrete plants. External combustion heating sources, such as water heaters, are limited to a combined 10 MMBtu/hr capacity using natural gas, liquefied petroleum gas, or diesel to keep emissions below state modeling thresholds.
- (2) This section specifies which sections of Chapter 20 and 32 apply to each emission unit. Specific facilities may not need to comply with Chapter 20, Sections 001 or 002 if they are subject to more stringent limits in an applicable federal rule or construction permit.
- (3) Under this permit, cement and cementitious materials use is limited to 76,000 tons to keep emissions under the modeling thresholds and Chapter 20, Section 001 limits. This permit is not applicable to concrete batch plants capable of producing more than 130 cubic yards per hour to ensure facilities will comply with Chapter 20, Section 001. Total production is limited to 190,000 cubic yards on a 12-month rolling basis to ensure facilities covered by this GCP will not exceed modeling thresholds.

Concrete batch plants are required to use enclosed storage silos and pneumatic loading with dust collection systems for cement and cement supplement to keep emissions below modeling thresholds. This may be done with a single system or individual systems for each silo.

Many facilities will have additional emission units controlled by dust control systems. If a facility chooses not to use installed control devices, they must ensure that all permitted equipment will continue to function properly to meet the requirements of Condition II.(C).

This condition also gives the requirements for operation and maintenance of the required dust collection system or systems, to keep them in proper working order. Although these requirements are not placed on optional control devices, facilities must ensure that lack of observation or maintenance on optional control devices does not cause a violation of Condition II.(C) for permitted equipment.

Condition III.(A)(3)(h) requires the operator to conduct daily observations during the hours of operation to ensure that there are no visible emissions from the stack or exhaust points of all emission units, leaks, noise from the unit, or atypical monitoring parameters. By requiring daily observations, the NDEQ is confident that any malfunctions will be detected and corrected quickly. The operator must maintain a log containing the results of these observations and any corrective action that occurs as a result of the observations.

- (4) This condition clarifies that there are no NSPS, NESHAP, or MACT requirements which will apply to all facilities covered by this GCP. As discussed in the Chapter 18 and 28 discussions above, there may be requirements for certain facilities.
- (5) This condition specifies recordkeeping required to comply with Conditions III.(A)(1) through III.(A)(3).

A facility covered by this GCP must maintain records of the production capacity of the concrete batch plant and the heat input capacity of external combustion equipment for the lifetime of this equipment. This demonstrates compliance with the hourly production and external combustion capacity limits, as well as demonstrating the plant qualifies for coverage under this GCP. These records may be the nameplate on equipment, a manual produced by the manufacturer, a manufacturer's specification sheet, or any record that can conclusively demonstrate the design capacity of equipment.

III.(B) Specific Conditions for Haul Roads:

This condition clarifies that any haul roads are subject the fugitive dust limits of Chapter 32, and that any facility covered under this GCP must use weekly fugitive dust surveys to demonstrate compliance with Chapter 32 and Condition I.(I). Best management practices for haul roads include water application, wheel washes, speed limits, applying gravel or aggregate to road surfaces, paving, or other methods of directly reducing haul road emissions.

IV. Specific Conditions for Relocation

This condition provides the requirements associated with relocation of the concrete batch plant operation. A notification is required for each relocation. Each facility covered by this GCP is required to obtain the necessary permits and approvals from either Omaha Air Quality or Lincoln Lancaster Health Department if the source would like to locate within Omaha city limits or Lancaster County, respectively, because the NDEQ has delegated jurisdiction over air quality in these two areas. Relocation on Tribal Lands is outside the NDEQ's jurisdiction. Each facility covered by this GCP must contact the US EPA Region VII office or the specific Tribe to determine permit requirements within Tribal jurisdictions. If a facility covered by this GCP relocates into Cass County they will become subject to Title 129, Chapter 21, which imposes additional requirements.

STATUTORY OR REGULATORY PROVISIONS ON WHICH PERMIT REQUIREMENTS ARE BASED:

Applicable regulations: Title 129 - Nebraska Air Quality Regulations as amended July 6, 2015.

PROCEDURES FOR FINAL DETERMINATION WITH RESPECT TO THE PROPOSED CONSTRUCTION PERMIT:

The public notice, as required under Title 129 Chapter 14, shall be published on Tuesday, October 27, 2015 in the Omaha World Herald newspaper and at <http://deq.ne.gov/> under "Public Notices." Persons or groups

shall have 30 days from that issuance of public notice (ending November 24, 2015) to provide the NDEQ with any written comments concerning the proposed permit action and/or to request a public hearing, in accordance with Title 129 Chapter 14. If a public hearing is granted by the Director, there will be a notice of that meeting published at least 30 days prior to the hearing.

During the 30-day public comment period, persons requiring further information about the proposed permit should contact:

Matt Williams
Construction Permitting Unit
NDEQ Air Quality Division
(402) 471-2189

Prior to the end of the 30-day public comment period, persons wanting to submit written comments or a written request for a public hearing may contact the Air Quality Division at:

ndeq.airquality@nebraska.gov

David Graiver, P.E.
Construction Permitting Unit Supervisor
NDEQ Air Quality Division
P.O. Box 98922
Lincoln, NE 68509-8922

If no public hearing is requested, the permit may be granted at the close of the 30-day comment period. If a public hearing is requested, the Director of the NDEQ may choose to extend the date on which the permit is to be granted until after that public hearing has been held.

Telephone inquiries may be made at:

(402) 471-2186

TDD users should call (800) 833-7352 and ask the relay operator to call the Department at (402) 471-2186.

Attachments:
Fact Sheet Attachment

Fact Sheet Attachment

Potential Emissions Summary

Permit-limited production

Truck Mix Concrete Production Limits:	190,000 yd ³ /year 130 yd ³ /hour
Cement and Cement Supplement Use Limit:	76,000 tons/year

Summary of PTE (tons/year)

Pollutant	Truck Mix Concrete Batching	Worst-Case External Combustion	Storage Piles	Haul Roads	Facility Worst Case PTE	Facility Worst Case Non-Fugitive PTE ^[1]
PM	46.28	0.63	14.58	21.38	82.87	46.91
PM ₁₀	13.67	1.05	7.29	4.96	26.97	14.72
PM _{2.5}	6.94	1.05	2.19	0.50	10.67	7.99
SO ₂	-	2.29	-	-	2.29	2.29
NO _x	-	6.35	-	-	6.35	6.35
CO	-	3.61	-	-	3.61	3.61
VOC	-	0.38	-	-	0.38	0.38
Total HAPS	1.77E-02	8.11E-02	-	-	9.88E-02	9.88E-02
Total GHG (mass basis)	-	5,124	-	-	5,124	5,124
Total GHG (CO ₂ e basis)	-	5,129	-	-	5,129	5,129

^[1]Emissions from the storage pile erosion and haul roads are considered fugitive emissions

Emission unit summary

Process Description	Emission Unit ID#	Required Control Device	Combustion Capacity	Fuel Type
Truck Dump onto Aggregate Storage Pile	EU-1	-	-	-
Truck Dump onto Sand Storage Pile	EU-2	-	-	-
Sand Transfer to Conveyor	EU-4	-	-	-
Aggregate Transfer Conveyor(s)	EU-5	-	-	-
Sand Transfer Conveyor(s)	EU-6	-	-	-
Cement Storage Silo Loading (Pneumatic)	EU-7	Baghouse or Dust Collection System	-	-
Cement Supplement Storage Silo Loading (Pneumatic)	EU-8	Baghouse or Dust Collection System	-	-
Weigh Hopper Loading	EU-9	-	-	-
Concrete Truck Loading	EU-10	Baghouse or Dust Collection System	-	-
External Combustion Sources (Boiler[s], Water Heater[s], Heater[s], etc.)	EU-11	-	≤ 10 MMBtu/hr Combined	Natural Gas, LPG, and/or Diesel
Aggregate Storage Pile(s)	FS-1a	-	-	-
Sand Storage Pile(s)	FS-1b	-	-	-
Haul Roads	FS-2	-	-	-

Fact Sheet Attachment

Worst-Case Combined HAPs Analysis

HAPs analysis

Hazardous Air Pollutant	Natural Gas or LPG Combustion (tpy)	Diesel Combustion (tpy)	Truck Mix Plant (tpy)	Worst- Case (tpy)
Benzene	9.02E-05	6.79E-05	-	9.02E-05
Ethylbenzene	-	2.02E-05	-	2.02E-05
Dichlorobenzene	5.15E-05	-	-	5.15E-05
Formaldehyde	3.22E-03	1.05E-02	-	1.05E-02
Hexane	7.73E-02	-	-	7.73E-02
Lead Compounds	2.15E-05	3.94E-04	6.63E-05	4.60E-04
Polycyclic Organic Matter	3.00E-05	3.78E-04	-	3.78E-04
1,1,1-Trichloroethane	-	7.49E-05	-	7.49E-05
Toluene	1.46E-04	1.97E-03	-	1.97E-03
o-Xylene	-	3.46E-05	-	3.46E-05
Arsenic Compounds	8.59E-06	1.75E-04	3.82E-05	2.13E-04
Beryllium Compounds	5.15E-07	1.31E-04	5.34E-06	1.37E-04
Cadmium Compounds	4.72E-05	1.31E-04	5.68E-06	1.37E-04
Chromium Compounds	6.01E-05	1.31E-04	1.75E-04	3.06E-04
Cobalt Compounds	3.61E-06	-	-	3.61E-06
Manganese Compounds	1.63E-05	2.63E-04	7.97E-04	1.06E-03
Mercury Compounds	1.12E-05	1.31E-04	-	1.31E-04
Nickel Compounds	9.02E-05	1.31E-04	4.88E-04	6.19E-04
Total Phosphorus	-	-	1.61E-02	1.61E-02
Selenium Compounds	1.03E-06	6.57E-04	5.39E-06	6.62E-04
Total HAPs	8.11E-02	1.52E-02	1.77E-02	9.88E-02

Fact Sheet Attachment

Concrete Batching PM (EU-1 through EU-10)

Worst-Case Composition of Concrete Under General Permit (weight %)

Aggregate ^[1]	75.0%
Sand ^[1]	0.0%
Cement ^[2]	12.0%
Cement Supplement ^[2]	8.0%
Water ^[3]	5.0%
Total	100%

Weigh Hopper Loading

Aggregate and Sand 75%

Truck Loading

Cement and Supplement 20%

Cement and Supplement 76,000 tons/year

Weight of Concrete

Tons per Cubic Yard 2.0

Truck Mix Permit limit 190,000 yd³/year 380,000 tons/year

PM emissions from truck mix concrete plants

Operation	Material Throughput ^[4] (tons/year)	Emission Factors ^[5] (lb/ton)			Emission Rate (tpy)		
		PM	PM ₁₀	PM _{2.5} ^[6]	PM	PM ₁₀	PM _{2.5}
EU-1: Aggregate Transfer to Stockpile	285,000	6.90E-03	3.30E-03	1.04E-03	0.98	0.47	0.15
EU-2: Sand Transfer to Stockpile	0	2.10E-03	9.90E-04	3.15E-04	0.00	0.00	0.00
EU-3: Aggregate Transfer to Conveyor	285,000	6.90E-03	3.30E-03	1.04E-03	0.98	0.47	0.15
EU-4: Sand Transfer to Conveyor	0	2.10E-03	9.90E-04	3.15E-04	0.00	0.00	0.00
EU-5: Aggregate Transfer to Bin	285,000	6.90E-03	3.30E-03	1.04E-03	0.98	0.47	0.15
EU-6: Sand Transfer to Bin	0	2.10E-03	9.90E-04	3.15E-04	0.00	0.00	0.00
EU-7: Cement Silo Loading ^[7]	45,600	9.90E-04	3.40E-04	1.49E-04	0.02	0.01	0.00
EU-8: Cement Supplement Silo Loading ^[7]	30,400	8.90E-03	4.90E-03	1.34E-03	0.14	0.07	0.02
EU-9: Weigh Hopper Loading	285,000	4.80E-03	2.80E-03	7.20E-04	0.68	0.40	0.10
EU-10: Truck Loading	76,000	1.12	0.31	1.68E-01	42.48	11.78	6.37
Total					46.28	13.67	6.94

^[1]Emission factors for aggregate are higher than for sand, therefore worst case scenario of all aggregate is assumed.

^[2]General permit limits cement and cement supplement combined to 20% by weight. Cement supplement emission factors are greater, but supplement will not exceed 40% of cementitious materials for portland-pozzolan cements (User's Guide to ASTM Specification C94 on Ready-Mixed Concrete, 2005).

^[3]Stoichiometric water to cement ratio of 0.25 assumed as worst-case scenario. More water is normally used to ensure complete hydration, reducing particulate matter emissions.

^[4]For EU-1 through EU-9 throughput is based upon single component of concrete mixture. Truck loading is based upon weight of cement and cement supplement only.

^[5]Emission Factors from AP-42 Table 11.12-2 (6/06).

^[6]PM_{2.5} emission factor based on PM particle size distribution in AP-42 Table B.2.2, Category 3, (9/90)

^[7]Controlled emission factors used as a baghouse is required by the permit and inherent for pneumatic loading.

Fact Sheet Attachment

Truck Mix Plant HAPs (EU-7, EU-8, and EU-10)

Worst-Case Composition of Concrete Under General Permit (weight %)

Aggregate ^[1]	75.0%
Sand ^[1]	0.0%
Cement ^[2]	12.0%
Cement Supplement ^[2]	8.0%
Water ^[3]	5.0%
Total	100%

Weigh Hopper Loading

Aggregate and Sand 75%

Truck Loading

Cement and Supplement 20%

Weight of Concrete

Tons per Cubic Yard 2.0

Truck Mix Permit limit 190,000 yd³/year 380,000 tons/year

Summary of Truck Mix HAPs

Hazardous Air Pollutant	Cement Silo Loading ^[4]		Cement Supplement Silo Loading ^[4]		Truck Loading ^[4]		Total (tpy)
	Emission Factor ^[5] (lb/ton)	PTE (tpy)	Emission Factor ^[5] (lb/ton)	PTE (tpy)	Emission Factor ^[5] (lb/ton)	PTE (tpy)	
Arsenic	4.24E-09	9.67E-08	1.00E-06	1.52E-05	6.02E-07	2.29E-05	3.82E-05
Beryllium	4.86E-10	1.11E-08	9.04E-08	1.37E-06	1.04E-07	3.95E-06	5.34E-06
Cadmium	2.34E-07	5.34E-06	1.98E-10	3.01E-09	9.06E-09	3.44E-07	5.68E-06
Total Chromium	2.90E-08	6.61E-07	1.22E-06	1.85E-05	4.10E-06	1.56E-04	1.75E-04
Lead	1.09E-08	2.49E-07	5.20E-07	7.90E-06	1.53E-06	5.81E-05	6.63E-05
Manganese	1.17E-07	2.67E-06	2.56E-07	3.89E-06	2.08E-05	7.90E-04	7.97E-04
Nickel	4.18E-08	9.53E-07	2.28E-06	3.47E-05	1.19E-05	4.52E-04	4.88E-04
Total Phosphorus	6.98E-04	1.59E-02	2.28E-06	3.47E-05	4.78E-06	1.82E-04	1.61E-02
Selenium	-	-	7.24E-08	1.10E-06	1.13E-07	4.29E-06	5.39E-06
							1.77E-02

^[1]Emission factors for aggregate are higher than for sand, therefore worst case scenario of all aggregate is assumed.

^[2]General permit limits cement and cement supplement combined to 76,000 tons per year, which is equivalent to 20% by wet weight. Cement supplement emission factors are greater, but supplement will not exceed 40% of cementitious materials for portland-pozzolan cements (User's Guide to ASTM Specification C94 on Ready-Mixed Concrete, 2005).

^[3]Stoichiometric water to cement ratio of 0.25 assumed as worst-case scenario. More water is normally used to ensure complete hydration, reducing particulate matter emissions.

^[4]Silo loading factors are based upon weight of cement or cement supplement used, truck loading is based upon weight of cement and cement supplement.

^[5]Emission Factors from AP-42 Table 11.12-8 (6/06).

Fact Sheet Attachment

External Combustion if Natural Gas-Fired (EU-11)

Maximum Combined Capacity	10.0	MMBtu/hr
Combustion Total	87,600	MMBtu/year
Natural Gas Heating Value	1,020	MMBtu/10 ⁶ SCF
Annual Natural Gas Use ^[1]	85.88	10 ⁶ SCF/year

External combustion emissions (natural gas)

Pollutant	Emission Factor^[2] (lb/10⁶ SCF)	PTE (tons/year)
PM	1.9	0.08
PM ₁₀	7.6	0.33
PM _{2.5}	7.6	0.33
SO ₂	0.6	2.58E-02
NO _x	100	4.29
CO	84	3.61
VOC	5.5	0.24
Hazardous Air Pollutants (HAPs)		
Benzene	2.10E-03	9.02E-05
Dichlorobenzene	1.20E-03	5.15E-05
Formaldehyde	7.50E-02	3.22E-03
Hexane	1.80	7.73E-02
Lead Compounds	5.00E-04	2.15E-05
Polycyclic Organic Matter	6.98E-04	3.00E-05
Toluene	3.40E-03	1.46E-04
Arsenic Compounds	2.00E-04	8.59E-06
Beryllium Compounds	1.20E-05	5.15E-07
Cadmium Compounds	1.10E-03	4.72E-05
Chromium Compounds	1.40E-03	6.01E-05
Cobalt Compounds	8.40E-05	3.61E-06
Manganese Compounds	3.80E-04	1.63E-05
Mercury Compounds	2.60E-04	1.12E-05
Nickel Compounds	2.10E-03	9.02E-05
Selenium Compounds	2.40E-05	1.03E-06
Total HAPs		8.11E-02
Greenhouse Gases^[3] (GHGs) (kg/MMBtu)		
CO ₂	53.06	5,124
CH ₄	1.00E-03	9.66E-02
N ₂ O	1.00E-04	9.66E-03
GHGs (mass basis)	53.06	5,123.66
CO ₂ e	53.11	5,128.57

^[1]Based upon operating 8,760 hours

^[2]AP-42 Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4 (6/1998) for everything except GHGs.

^[3]GHG Emission Factors from 40 CFR 98 Tables A-1 (Oct. 30, 2009), C-1 and C-2 (Nov. 29, 2013)

Fact Sheet Attachment

External Combustion if LPG-Fired (EU-11)

Total Boiler Capacity	10.0 MMBtu/hr
LPG Heat Content	92 MMBtu/10 ³ gal
LPG Heat Input	87,600 MMBtu/yr
Maximum LPG Use	952 10 ³ gal/year
LPG Sulfur Content ^[1]	185 ppmw
	0.16 gr/ft ³

External combustion emissions (LPG)

Pollutant	Emission Factor^[2] (lb/10³ gal)	LPG PTE (tpy)
PM	0.2	0.10
PM ₁₀	0.7	0.33
PM _{2.5}	0.7	0.33
SO ₂	1.62E-02	7.71E-03
NO _x	13	6.19
CO	7.5	3.57
VOC	0.8	0.38
Hazardous Air Pollutants ^[3]		8.11E-02
Greenhouse Gases^[4] (kg/MMBtu)		
CO ₂	62.87	6,071
CH ₄	3.00E-03	2.90E-01
N ₂ O	6.00E-04	5.79E-02
GHGs (mass basis)		6,071.17
CO ₂ e		6,094.86

^[1]LPG sulfur content assumed 185 ppmw based upon data from Gas Producer's Association Standard 2140-92. Based upon a density of 0.125 lb/ft³ from Marathon Technical Service, <http://www.marathontech.ca/assets/reference-material/fueltbl.pdf>.

^[2]AP-42 Table 1.5-1 (7/08) for all emission factors except HAPs and greenhouse gases.

^[3]It is assumed HAP emissions are the same as natural gas. Rounding for LPG density creates slight difference in potential HAP emission factors for LPG and natural gas.

^[4]Greenhouse Gases Emission Factors and CO₂e conversion factors from 40 CFR 98 Tables A-1 (Oct. 30, 2009), C-1 and C-2 (Nov. 29, 2013). Emission factors converted from kg/MMBtu to lb/MMBtu.

Fact Sheet Attachment

External Combustion if Diesel-Fired (EU-11)

Maximum Combined Capacity	10.0	MMBtu/hr
Annual Diesel Use ^[1]	635	10 ³ gal/year

External combustion emissions (diesel)

Pollutant	Emission Factor ^[2] (lb/10 ³ gal)	PTE (tons/year)
PM	2	0.63
PM ₁₀	3.3	1.05
PM _{2.5}	3.3	1.05
SO ₂	7.2	2.29
NO _x	20	6.35
CO	5	1.59
VOC	0.34	1.08E-01
Organic Hazardous Air Pollutants (HAPs)		
Benzene	2.14E-04	6.79E-05
Ethylbenzene	6.36E-05	2.02E-05
Formaldehyde	3.30E-02	1.05E-02
Polycyclic Organic Matter	1.19E-03	3.78E-04
1,1,1-Trichloroethane	2.36E-04	7.49E-05
Toluene	6.20E-03	1.97E-03
o-Xylene	1.09E-04	3.46E-05
Metallic HAPs (lb/10¹² Btu)		
Arsenic	4	1.75E-04
Beryllium	3	1.31E-04
Cadmium	3	1.31E-04
Chromium	3	1.31E-04
Lead	9	3.94E-04
Manganese	6	2.63E-04
Mercury	3	1.31E-04
Nickel	3	1.31E-04
Selenium	15	6.57E-04
Total HAPs		1.52E-02
Greenhouse Gases^[3] (GHGs) (kg/MMBtu)		
CO ₂	73.96	7,142
CH ₄	3.00E-03	2.90E-01
N ₂ O	6.00E-04	5.79E-02
GHGs (mass basis)	73.96	7,142.03
CO ₂ e	74.21	7,165.73

^[1]Based upon operating 8,760 hours and 138 MMBtu/10³ gal.

^[2]AP-42 Tables 1.3-1, 1.3-2, 1.3-3, 1.3-9, and 1.3-10 (5/10) for everything except GHGs

^[3]GHG Emission Factors from 40 CFR 98 Tables A-1 (Oct. 30, 2009), C-1 and C-2 (Nov. 29, 2013)

Fact Sheet Attachment

Storage Piles (FS-1a and FS-1b)

Equation (5) for Total Suspended Particulate from Wind Erosion of Active Storage Piles^[1]

$$EF = 1.7 \times \left(\frac{s}{1.5} \right) \times \left(\frac{365-p}{235} \right) \times \left(\frac{f}{15} \right) \times \left(\frac{1}{24} \right)$$

EF: Total suspended particulate emission factor (lb/day/acre)

s: Silt Content Material (%)^[2]

p: Number of days with greater than 0.01 in. of precipitation per year^[3]

$$p = 90$$

f: % of time unobstructed wind speed exceeds 12 mph at mean pile height^[4]

$$f = 30.9$$

As written, the equation calculates TSP. It is assumed that 50% of the TSP equals PM₁₀, and 30% of PM₁₀ is PM_{2.5}.^[5]

Storage pile erosion emissions

EP ID	Description	Silt Content ^[2] (%)	Exposed Surface Area ^[6] (Acres)	PM Emission Factor (lb/hr-acre)	PM ₁₀ Emission Factor (lb/hr-acre)	PM _{2.5} Emission Factor (lb/hr-acre)	PM PTE (ton/yr)	PM ₁₀ PTE (ton/yr)	PM _{2.5} PTE (ton/yr)
FS-1a	Aggregate Pile	2.6	2.00	0.30	0.15	4.44E-02	2.60	1.30	3.89E-01
FS-1b	Sand Pile	12	2.00	1.37	0.68	2.05E-01	11.98	5.99	1.80E+00
TOTAL							14.58	7.29	2.19

^[1]From *Air Pollution Engineering Manual* (1992), Chapter 4: Fugitive Emissions

^[2]AP-42 Table 13.2.4-1 (11/06) for miscellaneous fill materials or sand.

^[4]From AWDN Wind Summary Information, average of all measurement stations in Nebraska for 1996 to 2012 with the two lowest stations thrown out. Data conservatively includes wind speed of 10 mph and above. <http://www.hprcc.unl.edu/awdn/winds/>

^[5] From AP-42 Appendix B.2 Table B.2.2 Category 3

^[6]Conservative estimate of maximum storage pile size for this type of facility.

Fact Sheet Attachment

Haul Roads: FS-2

Unpaved roads {AP-42 Chapter 13.2.2 (11/06)}

Equation (1a):
$$E = k \times \left(\frac{sC}{12}\right)^a \times \left(\frac{W}{3}\right)^b \times \left(\frac{365-P}{365}\right) \times \left(\frac{S}{30}\right)^d \times (1-CE)$$

(modified)

	<i>k</i>	<i>a</i>	<i>b</i>	<i>d</i>
PM	4.9	0.7	0.45	0.3
PM ₁₀	1.5	0.9	0.45	0.5
PM _{2.5}	0.15	0.9	0.45	0.5

Haul Road / Traffic Parameters

Activity / Road Description	Road Type / Silt Value		Roundtrip Length (feet)		Truck Weight (tons)			Ave. Speed (mph)	Unrestricted Maximum Throughput (units/yr)	Ave. Truck Capacity (units/truck)		Annual VMT
			empty	full	empty	full	Ave.					
Aggregate Delivery	u	6.00	500	500	15	30	22.5	15	285,000	15	ton	3,598
Sand Delivery	u	6.00	500	500	15	30	22.5	15	0	15	ton	0
Cement Delivery	u	6.00	500	500	15	30	22.5	15	45,600	15	ton	576
Supplement Delivery	u	6.00	500	500	15	30	22.5	15	30,400	15	ton	384
Concrete Loadout	u	6.00	500	500	15	30	22.5	15	380,000	15	ton	4,798

Emission Calculations

	Emission Factors (lb/VMT)			Potential Emissions (tons/yr)		
	PM	PM ₁₀	PM _{2.5}	PM	PM ₁₀	PM _{2.5}
Aggregate Delivery	4.57	1.06	0.11	8.22	1.91	0.19
Sand Delivery	4.57	1.06	0.11	0.00	0.00	0.00
Cement Delivery	4.57	1.06	0.11	1.32	0.31	0.03
Supplement Delivery	4.57	1.06	0.11	0.88	0.20	0.02
Concrete Loadout	4.57	1.06	0.11	10.97	2.54	0.25
Total	21.38	4.96	0.50			

Description of Constants/Variables

E: haul road emissions (lb/VMT)

Chapter 13.2.1 (paved)

k, a, b, c, d: dimensionless constants from AP-42

Tables 13.2.1-1 & 13.2.2-2 (unpaved)

sL: silt loading (g/m²) of paved road surface

sC: silt content (%) of unpaved road surface

W: average vehicle weight (tons)

P: days/yr with at least 0.01" of precipitation

P = default = 90

S: mean vehicle speed on road (mph)

default = 30, minimum = 15

CE: unpaved road, dust control efficiency

CE = default = 0%

VMT: vehicle miles traveled

Fact Sheet Attachment

Chapter 20 Limits for Truck Mix Plants

Title 129, Chapter 20, Section 001

For process weight rates up to 60,000 lbs/hr:	$E = 4.10 p^{0.67}$
For process weight rates in excess of 60,000 lbs/hr:	$E = 55.0 p^{0.11} - 40$
where E = rate of emissions in lbs/hr PM and p = process weight rate in tons/hr.	

Truck Mix Maximum Hourly Throughput (based upon 2 tons/yr³)

260 tons/hr

Section 001 scenario 1: Only required controls installed, separate emission points for controlled emission units^[1]

Emission Point	Process	p = Process Weight Rate		E = Emissions Limit		Worst-Case PM Emission Rate	
EP-1	EU-1: Aggregate Transfer to Stockpile	195	tons/hr	58.24	lbs/hr	1.35	lbs/hr
EP-2	EU-2: Sand Transfer to Stockpile	0	tons/hr	0.00	lbs/hr	0.00	lbs/hr
EP-3	EU-3: Aggregate Transfer to Conveyor	195	tons/hr	58.24	lbs/hr	1.35	lbs/hr
EP-4	EU-4: Sand Transfer to Conveyor	0	tons/hr	0.00	lbs/hr	0.00	lbs/hr
EP-5	EU-5: Aggregate Transfer to Bin	195	tons/hr	58.24	lbs/hr	1.35	lbs/hr
EP-6	EU-6: Sand Transfer to Bin	0	tons/hr	0.00	lbs/hr	0.00	lbs/hr
EP-7	EU-7: Cement Silo Loading	31	tons/hr	40.30	lbs/hr	0.03	lbs/hr
EP-8	EU-8: Cement Supplement Silo Loading	21	tons/hr	31.32	lbs/hr	0.19	lbs/hr
EP-9	EU-9: Weigh Hopper Loading	195	tons/hr	58.24	lbs/hr	0.94	lbs/hr
EP-10	EU-10: Truck Loading	260	tons/hr	61.39	lbs/hr	58.14	lbs/hr

Section 001 scenario 2: Only required controls installed, controlled emission units share an emission point^[1]

Emission Point	Process	P = Process Weight Rate		E = Emissions Limit		Worst-Case PM Emission Rate	
EP-7/8	EU-8: Cement Silo Loading	52	tons/hr	44.94	lbs/hr	0.22	lbs/hr
	EU-9: Cement Supplement Silo Loading						

^[1]Chapter 20, Section 001 emission limits apply to emission points, not individual emission units. Potential configurations are analyzed to ensure facility will comply with Chapter 20. Uncontrolled emission units sharing an emission point is not considered because it would require an air handling system which would include a baghouse or filter for all practical designs. Uncontrolled emission units being controlled is not considered because the controlled emission factors are significantly lower, no combination would potentially be the worst case scenario.

Fact Sheet Attachment

Chapter 20 Limits for Truck Mix Plants

Title 129, Chapter 20, Section 002

Total Heat Input (MMBtu/hr)	Maximum Allowable Emissions of PM (lbs/MMBtu)
10 or less	0.6
Between 10 and 10,000	$1.026/I^{0.233}$
	Where I = total heat input in MMBtu/hr
10,000 or more	0.12

Section 002 combustion source limits (Section 002)

Source^[1]	Description	Combustion Rate	Chapter 20 Limit (lb/MMBtu)	EF (lb/MMBtu)	Chapter 20 Exceeded
EU-11	Natural Gas Combustion	10	0.60	1.86E-03	No
EU-11	LPG	10	0.60	2.17E-03	No
EU-11	Diesel	10	0.60	1.45E-02	No

^[1]Chapter 20 limit is based upon emission points, but combined emissions are limited to 10 MMBtu/hr. Therefore, all emissions will have a limit of .06 lb/MMBtu, no matter how emission points are structured.