Statement of Basis
Concrete Batch Plant General Permit

Permit to Construct No. P-2018.0034
Project ID 62088

Champion Concrete, Inc.
Idaho Falls, Idaho

Facility ID 023-00009

Proposed for Public Comment

DRAFT XX, 2018
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Permit Writer

The purpose of this Statement of Basis is to satisfy the requirements of IDAPA 58.01.01.et seq, Rules for the Control of Air Pollution in Idaho, for issuing air permits.

ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

AAC	acceptable ambient concentrations
AACC	acceptable ambient concentrations for carcinogens
acfm	actual cubic feet per minute
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
BMP	best management practices
Btu	British thermal units
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CAS No.	Chemical Abstracts Service registry number
CBP	concrete batch plant
CEMS	continuous emission monitoring systems
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CI	compression ignition
CMS	continuous monitoring systems
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalent emissions
COMS	continuous opacity monitoring systems
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
FEC	Facility Emissions Cap
GHG	greenhouse gases
gph	gallons per hour
gpm	gallons per minute
gr	grains (1 lb = 7,000 grains)
HAP	hazardous air pollutants
HHV	higher heating value
HMA	hot mix asphalt
hp	horsepower
hr/yr	hours per consecutive 12 calendar month period
ICE	internal combustion engines
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
iwg	inches of water gauge
km	kilometers
lb/hr	pounds per hour
lb/qtr	pound per quarter
m	meters
MACT	Maximum Achievable Control Technology
mg/dscm	milligrams per dry standard cubic meter
MMBtu	million British thermal units
MMscf	million standard cubic feet
NAAQS	National Ambient Air Quality Standard
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
NSPS	New Source Performance Standards
O&M	operation and maintenance

O_2	oxygen
PAH	polyaromatic hydrocarbons
PC	permit condition
PCB	polychlorinated biphenyl
PERF	Portable Equipment Relocation Form
PM	particulate matter
$PM_{2.5}$	particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
POM	polycyclic organic matter
ppm	parts per million
ppmw	parts per million by weight
PSD	Prevention of Significant Deterioration
psig	pounds per square inch gauge
PTC	permit to construct
PTC/T2	permit to construct and Tier II operating permit
PTE	potential to emit
PW	process weight rate
RAP	recycled asphalt pavement
RFO	reprocessed fuel oil
RICE	reciprocating internal combustion engines
Rules	*Rules for the Control of Air Pollution in Idaho*
scf	standard cubic feet
SCL	significant contribution limits
SIP	State Implementation Plan
SM	synthetic minor
SM80	synthetic minor facility with emissions greater than or equal to 80% of a major source threshold
SO_2	sulfur dioxide
SO_X	sulfur oxides
T/day	tons per calendar day
T/hr	tons per hour
T/yr	tons per consecutive 12 calendar month period
T2	Tier II operating permit
TAP	toxic air pollutants
TEQ	toxicity equivalent
T-RACT	Toxic Air Pollutant Reasonably Available Control Technology
ULSD	ultra-low sulfur diesel
U.S.C.	United States Code
VOC	volatile organic compounds
yd^3	cubic yards
$\mu g/m^3$	micrograms per cubic meter

FACILITY INFORMATION

Description

Champion Concrete, Inc. has proposed two new stationary concrete batch plants. The main plant is a central mix and the backup plant is a truck mix. Both concrete batch plants consist of aggregate stockpiles, a cement storage silo, a cement supplement (fly ash) storage silo, a weigh batcher, and conveyors. The main facility combines aggregate, sand, fly ash, and cement and then transfers the mixture into a central drum mixer, along with water, for stationary mixing of the concrete. When using a central mix drum, concrete is transferred to trucks for transport off-site. In addition, water heater(s) are used to heat the water in cold weather prior to use for the mixing of concrete. The backup facility combines aggregate, sand, fly ash, and cement and then transfers the mixture into a truck mixer, along with water, for in-transit mixing of the concrete. In addition, the same water heaters for the main plant are used in the back up plant to heat the water in cold weather prior to use for the mixing of concrete. Only one concrete batch plant may operate at a time. The backup concrete batch plant is solely for operational shut down of the main concrete batch plant to ensure zero down time of production, and that the maximum annual throughput is met.

The concrete batch plant will be fed a mixture of imported pre-washed aggregates from a separate entity.

The process begins with materials being fed via front end loader to a compartment bin feeder system and then dispensed in metered proportions to a collecting conveyor. The metered material is conveyed into the central drum mixer or truck mixer for mixing and transport via mixer trucks to placement areas.

Particulate emissions will be controlled by maintaining the moisture content at 1.5% by weight for all ¼ in and smaller aggregate feed materials via water sprays. In addition, all particulate emissions from the central drum, cementitious weigh batcher, mixer and the truck mixer will be collected and vented to a high efficiency baghouse with a minimum control efficiency of 99.9% as proposed by the Applicant.

The Applicant has proposed concrete production rate throughput limits of 300 cubic yards per hour, 3,000 cubic yards per day, and 200,000 cubic yards per year.

The Applicant has proposed that line power will be used exclusively at the facility. Therefore, no IC engines powering electrical generators were included in the application.

Permitting History

This is the initial PTC for a new facility thus there is no permitting history.

Application Scope

This is the initial PTC for a new facility.

Application Chronology

July 9, 2018	DEQ received an application and an application and processing fee.
July 17, 2018	DEQ received an application processing fee.
July 26 – August 10, 2018	DEQ provided an opportunity to request a public comment period on the application and proposed permitting action.
August 14, 2018	DEQ determined that the application was complete.
Month Day – Month Day, Year	DEQ provided a public comment period on the proposed action.
Month Day, Year	DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

Emissions Units and Control Equipment

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION

Source ID No.	Sources	Control Equipment	Emission Point ID No.
Materials Handling	Material Transfer Points: Materials handling Concrete aggregate transfers Truck unloading of aggregate Aggregate conveyor transfers Aggregate handling	Maintaining the moisture content in ¼" or smaller aggregate material at 1.5% by weight, using water sprays, using shrouds, or other emissions controls	N/A
Concrete Mixer's	Concrete Batch Plant – Central Mix: Manufacturer: Coneco Model: 448 S Central Mix Batch Plant Manufacture Date: 2010 Max. production: 300 yd^3/hr, 3,000 yd^3/day, and 200,000 yd^3/yr Cement Storage Silo: Storage capacity: 134 cubic yards (yd^3) Bin Vent Filter/Baghouse Manufacturer[a]: Coneco Model: PJC 600 Fly Ash Storage Silo: Storage capacity: 134 cubic yards (yd^3) Bin Vent Filter/Baghouse Manufacturer[a]: Coneco Model: PJC 600 Concrete Batch Plant – Truck Mix: Manufacturer: Erie Strayer Model: MC 11-T Manufacture Date: 2018 Max. production: 150 yd^3/hr, 1,000 yd^3/day, and 20,000 yd^3/yr Cement Storage Silo: Storage capacity: 44 cubic yards (yd^3) Bin Vent Filter/Baghouse Manufacturer[a]: C & W Model: CP-10000 Fly Ash Storage Silo: Storage capacity: 44 cubic yards (yd^3) Bin Vent Filter/Baghouse Manufacturer[a]: C & W Model: CP-10000	Weigh Batcher Baghouse: Manufacturer: Coneco Model: PJ 850 $PM_{10}/PM_{2.5}$ control efficiency: 99.90% Cement Storage Silo Bin Vent Filter/Baghouse: Manufacturer: Coneco Model: PJC 600 $PM_{10}/PM_{2.5}$ control efficiency: 99.90% Fly Ash Storage Silo Bin Vent Filter/Baghouse: Manufacturer: Coneco Model: PJC 600 $PM_{10}/PM_{2.5}$ control efficiency: 99.90% Central Mix Baghouse: Manufacturer: Coneco Model: PJ 850 $PM_{10}/PM_{2.5}$ control efficiency: 99.9% Material Transfer Points: $PM_{10}/PM_{2.5}$ control efficiency: 75.0% Weigh Batcher Baghouse: Manufacturer: C & W Model: CP-10000 $PM_{10}/PM_{2.5}$ control efficiency: 99.9% Cement Storage Silo Bin Vent Filter/Baghouse: Manufacturer: C & W Model: CP-10000 $PM_{10}/PM_{2.5}$ control efficiency: 99.9% Fly Ash Storage Silo Bin Vent Filter/Baghouse: Manufacturer: C & W Model: CP-10000 $PM_{10}/PM_{2.5}$ control efficiency: 99.9% Truck Load-out: Shroud $PM_{10}/PM_{2.5}$ control efficiency: 75.0% Truck Mix Baghouse: Manufacturer: C & W Model: CP-10000 $PM_{10}/PM_{2.5}$ control efficiency: 99.9%	N/A

Boiler's	<u>Boiler:</u> Manufacturer: Steam Engineering Model: ST 502 L Manufacture Date: 2018 Heat input rating: 5.0 MMBtu/hr Fuel: ULSD (0.0015% S by weight) <u>Second Boiler:</u> Manufacturer: Pearson Model: P-25-2-25W Manufacture Date: 2018 Heat input rating: 7.0 MMBtu/hr Fuel: ULSD (0.0015% S by weight)	N/A	<u>Boiler Exhaust:</u> Exit height: NA Exit diameter: 0.83 ft (0.25 m) Exit flow rate: 885 acfm Exit temperature: 230 °F (110 ºC) <u>Boiler Exhaust:</u> Exit height: 13 ft 6 in. Exit diameter: 0.83 ft (0.25 m) Exit flow rate: 915 scfm Exit temperature: 500 °F (260 ºC)

a. Both the storage silo baghouse and supplement storage silo flyash baghouse are considered process equipment and therefore there is no associated control efficiency. Controlled PM_{10} emission factors were used when determining PTE and for modeling purposes.

Emissions Inventories

Potential to Emit

IDAPA 58.01.01 defines Potential to Emit as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is state or federally enforceable. Secondary emissions do not count in determining the potential to emit of a facility or stationary source.

Using this definition of Potential to Emit an emission inventory was developed for the concrete batch plant operations at the facility associated with this proposed project using the DEQ developed CBP EI spreadsheet (see Appendix A). Emissions estimates of criteria pollutant PTE were based on the following assumptions:

- Maximum concrete throughput does not exceed 300 yd^3/hour, 3,000 yd^3/day, and 200,000 yd^3/year (per the Applicant).
- Baghouse control efficiencies were assumed to be 99.9%.
- Fugitive emissions of particulate matter (PM), PM_{10}, and $PM_{2.5}$ from the concrete batch plant material transfer points were assumed to be controlled by manual water sprays, sprinklers, or spray bars, or an equivalent method that reduce PM emissions by an estimated 75%. The assumed 75% control efficiency is based on the Western Regional Air Partnership Fugitive Dust Handbook. According to the Handbook, water suppressant of material handling can range from 50-90% control. Assuming the average of 70% and including another 5% due to Best Management Practices required by the permit allow for 75% control to be a conservative estimate.
- Aggregate is washed before delivery to the concrete batch plant site, and water is used on-site to control the temperature of the aggregate. Particulate matter and PM_{10} emissions from the weigh batcher transfer point, cement storage silo, fly ash storage silo, central mix, and truck mix load-out emissions are controlled by a baghouse. Capture efficiency of the central and truck mix load-out baghouse was estimated at 99.9%.
- Controlled emissions of particulate toxic air pollutants (TAPs) were estimated based on the presence of bin vent filters/baghouse controlling emissions from the cement/cement supplement silos, a baghouse controlling emissions from the weigh batcher, and 99.9% control for central mix and truck load-out emissions. Hexavalent chromium content was estimated at 20% of total chromium for cement, and 30% of total chromium for the cement supplement/fly ash. The hexavalent chromium percentages were taken from a University of North Dakota study, by the Energy and Environmental Research Center, Center for Air Toxic Metals. Detailed emissions calculations can be found in Appendix A of this document.
- Determining emissions from a concrete batch plant also includes transfer emissions from the number of drop points throughout the process. The PM_{10} emissions from central-mix loading operations are defined by an equation which includes the wind speed at each drop point and the moisture content of cement and cement supplement and a number of exponents and constants defined by AP-42 Equation 11.12-2 6/06). An average value of wind speed and moisture content are 7 mph, 4.17%, and 1.77%, respectively[1]. The following equation of particulate emissions is specific to PM_{10}. The resulting emissions were used to determine a factor to help evaluate wind speed variations in AERMOD modeling.

[1] 7 mph was the average wind speed obtained from an average of 19 Idaho airports throughout the state from 1996-2006. This data is from the Western Regional Climate Center (http://www.wrcc.dri.edu/htmlfiles/westwind.final.html#IDAHO). 4.17 % and 1.77% were the average percentages for sand and aggregate respectively. These values are based on EPA tests conducted at Cheney Enterprises. The percentages used in AP-42 are typical for most concrete batching operations.

$$E = k(0.0032) * \left[\frac{U^a}{M^b} \right] + c$$

Where:
k = particle size multiplier
a = exponent
b = exponent
c = constant
U = mean wind speed
M = moisture content

- The second transfer emissions calculations were used to determine conveyor emissions. For both coarse and fine aggregate to a conveyor. It was assumed that 82%, which for this facility is 246 yd^3/hr (0.82 x 300 yd^3/hr), of the concrete produced was aggregate. This percentage was based on 1,865 lb coarse aggregate, 1,428 lb sand, 564 lb cement/supplement and 167 lb water for a total of 4,024 lb concrete as defined by AP-42 Table 11.12-5 (06/06). The fine and coarse aggregate contributions were separated into 36% and 46% of the total concrete production[2]. Employing emission factors from AP-42 Table 11.12-5 (6/06) for conveyor transfer and assuming 75% control efficiency as stated earlier for conveyor transfer PM_{10} emissions were calculated for each transfer point. For both fine and coarse aggregate the facility has 11 transfer points at the central mix station and 10 transfer points at the truck mix station.
- Emissions from the backup concrete batch plant were included in the emissions modeling analysis with the requirement that only one concrete batch plant will operate at a time.
- Any emissions unit outside a 1,000 ft radius from the concrete batch plant was not included in the emissions modeling analysis for this project.

Uncontrolled Potential to Emit

Using the definition of Potential to Emit, uncontrolled Potential to Emit is then defined as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall **not** be treated as part of its design **since** the limitation or the effect it would have on emissions **is not** state or federally enforceable.

The uncontrolled Potential to Emit is used to determine if a facility is a "Synthetic Minor" source of emissions. Synthetic Minor sources are facilities that have an uncontrolled Potential to Emit for regulated air pollutants or HAP above the applicable Major Source threshold without permit limits.

The following table presents the uncontrolled Potential to Emit for regulated air pollutants from all emissions units at the facility as determined by DEQ staff using the DEQ Concrete Batch Plant EI spreadsheet. See Appendix A for a detailed presentation of the calculations and the assumptions used to determine emissions for each emissions unit. For this operation uncontrolled Potential to Emit is calculated with 0% control efficiency for the Concrete Batch Plant itself.

[2] The percentages of coarse and fine aggregate are based on the AP-42 concrete composition. One cubic yard of concrete as defined by AP-42 is 4024 total pounds. Similarly, coarse aggregate is 1865 pounds or 46% of the total and sand (fine) aggregate is 1428 pounds or 36%.

Table 2 UNCONTROLLED POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	$PM_{10}/PM_{2.5}$	SO_2	NO_X	CO	VOC
	T/yr	T/yr	T/yr	T/yr	T/yr
Point Sources					
Concrete batch plant[(a)]	0.42	N/A	N/A	N/A	N/A
Steam Engineering boiler	7.07E-02	4.63E-03	4.29E-01	1.07E-01	1.19E-02
Pearson boiler	9.90E-02	6.48E-03	6.00E-01	1.50E-01	1.67E-02
Total, Point Sources	**0.59**	**0.01**	**1.03**	**0.26**	**0.03**

a) $PM_{10}/PM_{2.5}$ emissions from the concrete batch plant are considered "fugitive emissions" and therefore are not included in the Potential to Emit.

The following table presents the uncontrolled Potential to Emit for HAP pollutants from all emissions units at the facility as determined by DEQ staff using the DEQ Concrete Batch Plant EI spreadsheet. See Appendix A for a detailed presentation of the calculations and the assumptions used to determine emissions for each emissions unit. For this operation uncontrolled Potential to Emit is calculated with 0% control efficiency for the Concrete Batch Plant itself.

Table 3 UNCONTROLLED POTENTIAL TO EMIT FOR HAZARDOUS AIR POLLUTANTS

IDAPA Listing	Hazardous Air Pollutants	PTE (T/yr)
585	Ethyl Benzene	1.36E-06
	Chromium metal (II and III)	6.66E-04
	Hexane	3.86E-02
	Manganese as Mn (fume)	2.27E-02
	Phosphorous	1.15E-02
	Selenium	3.47E-06
	Toluene	1.33E-04
586	Arsenic	3.15E-03
	Benzene	3.44E-07
	Beryllium and compounds	4.49E-06
	Cadmium and compounds	7.99E-05
	Chromium (VI)	1.31E-04
	Formaldehyde	5.31E-05
	Nickel	1.34E-03
Not listed	Naphthalene(24-hour)	2.91E-03
	Mercury	9.00E-06
	Polycyclic Organic Matter (POM)	1.88E-08
	Total	**0.08**

Pre-Project Potential to Emit

Pre-project Potential to Emit is used to establish the change in emissions at a facility as a result of this project. This is a new facility. Therefore, pre-project emissions are set to zero for all criteria pollutants.

Table 4 PRE-PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	$PM_{10}/PM_{2.5}$		SO_2		NO_X		CO		VOC	
	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]
Concrete batch plant	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Steam Engineering boiler	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pearson boiler	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pre-Project Totals	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

a) Controlled average emission rate in pounds per hour is a daily average, based on the proposed daily operating schedule and daily limits.
b) Controlled average emission rate in tons per year is an annual average, based on the proposed annual operating schedule and annual limits.

Post Project Potential to Emit

Post project Potential to Emit is used to establish the change in emissions at a facility and to determine the facility's classification as a result of this project. Post project Potential to Emit includes all permit limits resulting from this project.

The following table presents the post project Potential to Emit for criteria and GHG pollutants from all emissions units at the facility as determined by DEQ staff using the DEQ Concrete Batch Plant EI spreadsheet. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 5 POST PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	$PM_{10}/PM_{2.5}$		SO_2		NO_X		CO		VOC	
	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]
Concrete batch plant	0.09	0.03	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Steam Engineering boiler	0.12	0.07	7.71E-03	4.63E-03	0.71	0.43	0.18	0.11	0.02	0.01
Pearson boiler	0.17	0.10	1.08E-02	6.48E-03	1.00	0.60	0.25	0.15	0.03	0.02
Post Project Totals	**0.38**	**0.20**	**0.02**	**0.01**	**1.71**	**1.03**	**0.43**	**0.26**	**0.05**	**0.03**

a) Controlled average emission rate in pounds per hour is a daily average, based on the proposed daily operating schedule and daily limits.
b) Controlled average emission rate in tons per year is an annual average, based on the proposed annual operating schedule and annual limits.

Change in Potential to Emit

The change in facility-wide potential to emit is used to determine if a public comment period may be required and to determine the processing fee per IDAPA 58.01.01.225. The following table presents the facility-wide change in the potential to emit for criteria pollutants.

Table 6 CHANGES IN POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	$PM_{10}/PM_{2.5}$		SO_2		NO_X		CO		VOC	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Pre-Project Potential to Emit	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Post Project Potential to Emit	0.38	0.20	0.02	0.01	1.71	1.03	0.43	0.26	0.05	0.03
Changes in Potential to Emit	**0.38**	**0.20**	**0.02**	**0.01**	**1.71**	**1.03**	**0.43**	**0.26**	**0.05**	**0.03**

Non-Carcinogenic TAP Emissions

Pre- and post-project, as well as the change in, non-carcinogenic TAP emissions are presented in the following table:

Table 7 PRE- AND POST PROJECT POTENTIAL TO EMIT FOR NON-CARCINOGENIC TOXIC AIR POLLUTANTS

Non-Carcinogenic Toxic Air Pollutants	Pre-Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Post Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Change in 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Non-Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Ethyl Benzene	0.00E-03	2.27E-06	2.27-06	29	No
Chromium metal (II and III)-	0.00E-03	5.38E-05	5.38E-05	0.033	No
Hexane	0.00E-03	3.86E-02	3.86E-02	0.013	No
Manganese as Mn (fume)-	0.00E-03	6.30E-05	6.30E-05	0.067	No
Phosphorous-	0.00E-03	1.16E-04	1.16E-04	0.007	No
Selenium-	0.00E-03	7.53E-05	7.53E-05	0.013	No
Toluene	0.00E-03	2.21E-04	2.21E-04	25	No

None of the PTEs for non-carcinogenic TAP were exceeded as a result of this project. Therefore, modeling is not required for any non-carcinogenic TAP because none of the 24-hour average carcinogenic screening ELs identified in IDAPA 58.01.01.586 were exceeded.

Carcinogenic TAP Emissions

Pre- and post-project, as well as the change in, carcinogenic TAP emissions are presented in the following table:

Table 8 PRE- AND POST PROJECT POTENTIAL TO EMIT FOR CARCINOGENIC TOXIC AIR POLLUTANTS

Carcinogenic Toxic Air Pollutants	Pre-Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Post Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Change in Annual Average Emissions Rates for Units at the Facility (lb/hr)	Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Arsenic-	**0.00E-03**	**7.97E-06**	**7.97E-06**	**1.5E-06**	**Yes**
Benzene	0.00E-03	2.51E-06	2.51E-06	8.0E-04	No
Beryllium and compounds-	0.00E-03	5.01E-06	5.01E-06	2.8E-05	No
Cadmium and compounds-	**0.00E-03**	**6.24E-06**	**6.24E-06**	**3.7E-06**	**Yes**
Chromium (VI)-	0.00E-03	3.57E-07	3.57E-07	5.6E-07	No
Formaldehyde	0.00E-03	3.87E-04	3.87E-04	5.1E-04	No
Nickel	0.00E-03	7.28E-06	7.28E-06	2.7E-05	No
Non-Listed (in 586) PAHs*					
Naphthalene(24-hour)	0.00E-03	4.84E-03	4.84E-03	3.33	No
Mercury	0.00E-03	1.50E-05	1.50E-05	N/A	No
Polycyclic Organic Matter (POM)	0.00E-03	1.37E-07	1.37E-07	2.0E-06	No

a) Polycyclic Organic Matter (POM) is considered as one TAP comprised of: benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, chrysene, indeno(1,2,3-cd)pyrene, benzo(a)pyrene. The total is compared to benzo(a)pyrene.

Some of the PTEs for carcinogenic TAP were exceeded as a result of this project. Therefore, modeling is required for arsenic and cadmium because the annual average carcinogenic screening ELs identified in IDAPA 58.01.01.586 were exceeded.

Post Project HAP Emissions

The following table presents the post project potential to emit for HAP pollutants from all emissions units at the facility as submitted by the Applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 9 HAZARDOUS AIR POLLUTANTS EMISSIONS POTENTIAL TO EMIT SUMMARY

IDAPA Listing	Hazardous Air Pollutants	PTE (T/yr)
585	Ethyl Benzene	2.27E-06
	Chromium metal (II and III)	5.38E-05
	Hexane	3.86E-02
	Manganese as Mn (fume)	6.30E-05
	Phosphorous	1.16E-04
	Selenium	7.53E-05
	Toluene	2.21E-04
586	Arsenic	7.97E-06
	Benzene	2.51E-06
	Beryllium and compounds	5.01E-06
	Cadmium and compounds	6.24E-06
	Chromium (VI)	3.57E-07
	Formaldehyde	3.87E-04
	Nickel	7.28E-06
Not listed	Naphthalene(24-hour)	4.84E-03
	Mercury	1.50E-05
	Polycyclic Organic Matter (POM)	1.37E-07
	Total	**0.04**

The estimated PTE for all federally listed HAPs combined is below 25 T/yr and no PTE for a federally listed HAP exceeds 10 T/yr. Therefore, this facility is not a Major Source for HAPs.

Ambient Air Quality Impact Analyses

As presented in the Modeling Memo in Appendix B, the estimated emission rates of PM_{10}, $PM_{2.5}$, SO_2, NO_X, CO, VOC, HAP, and TAP from this project were below applicable screening emission levels (EL) and published DEQ modeling thresholds established in IDAPA 58.01.01.585-586 and in the State of Idaho Air Quality Modeling Guideline[3]. Refer to the Emissions Inventories section for additional information concerning the emission inventories.

The applicant has demonstrated pre-construction compliance to DEQ's satisfaction that emissions from this facility will not cause or significantly contribute to a violation of any ambient air quality standard. The applicant has also demonstrated pre-construction compliance to DEQ's satisfaction that the emissions increase due to this permitting action will not exceed any acceptable ambient concentration (AAC) or acceptable ambient concentration for carcinogens (AACC) for toxic air pollutants (TAP). A summary of the Ambient Air Impact Analysis for TAP is provided in Appendix B.

An ambient air quality impact analysis document has been crafted by DEQ based on a review of the modeling analysis submitted in the application. That document is part of the final permit package for this permitting action (see Appendix B).

As a result of the ambient air quality impact analysis, as well as information submitted by the Applicant for specific operating scenarios, the following conditions (along with corresponding monitoring and record keeping requirements) were placed in the permit:

- The Emissions Limits permit condition,
- The Concrete Production Limits permit condition,

[3] Criteria pollutant thresholds in Table 1, State of Idaho Air Quality Modeling Guideline, Doc ID AQ-011, rev. 1, December 31, 2002.

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is located in Butte County, which is designated as attainment or unclassifiable for $PM_{2.5}$, PM_{10}, SO_2, NO_2, CO, and Ozone. Refer to 40 CFR 81.313 for additional information.

Facility Classification

The AIRS/AFS facility classification codes are as follows:

For HAPs (Hazardous Air Pollutants) Only:

A = Use when any one HAP has actual or potential emissions $\geq$ 10 T/yr or if the aggregate of all HAPS (Total HAPs) has actual or potential emissions $\geq$ 25 T/yr.

SM80 = Use if a synthetic minor (potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable limitations) and the permit sets limits $\geq$ 8 T/yr of a single HAP or $\geq$ 20 T/yr of THAP.

SM = Use if a synthetic minor (potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable limitations) and the potential HAP emissions are limited to < 8 T/yr of a single HAP and/or < 20 T/yr of THAP.

B = Use when the potential to emit without permit restrictions is below the 10 and 25 T/yr major source threshold

UNK = Class is unknown

For All Other Pollutants:

A = Actual or potential emissions of a pollutant are $\geq$ 100 T/yr.

SM80 = Use if a synthetic minor for the applicable pollutant (potential emissions fall below 100 T/yr if and only if the source complies with federally enforceable limitations) and potential emissions of the pollutant are $\geq$ 80 T/yr.

SM = Use if a synthetic minor for the applicable pollutant (potential emissions fall below 100 T/yr if and only if the source complies with federally enforceable limitations) and potential emissions of the pollutant are < 80 T/yr.

B = Actual and potential emissions are < 100 T/yr without permit restrictions.

UNK = Class is unknown.

Table 10 REGULATED AIR POLLUTANT FACILITY CLASSIFICATION

Pollutant	Uncontrolled PTE (T/yr)	Permitted PTE (T/yr)	Major Source Thresholds (T/yr)	AIRS/AFS Classification
PM	0.59	0.20	**100**	B
PM_{10}	0.59	0.20	**100**	B
$PM_{2.5}$	0.59	0.20	**100**	B
SO_2	0.01	0.01	**100**	B
NO_X	1.03	1.03	**100**	B
CO	0.26	0.26	**100**	B
VOC	0.03	0.03	**100**	B
HAP (single)	3.86E-02	3.86E-02	**10**	B
HAP (Total)	0.08	0.04	**25**	B
Pb (Total)	2.85E-05	2.85E-05	**100**	B

Permit to Construct (IDAPA 58.01.01.201)

IDAPA 58.01.01.201 Permit to Construct Required

The permittee has requested that a PTC be issued to the facility for the proposed new emissions source. Therefore, a permit to construct is required to be issued in accordance with IDAPA 58.01.01.220. This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

Tier II Operating Permit (IDAPA 58.01.01.401)

IDAPA 58.01.01.401 Tier II Operating Permit

The application was submitted for a permit to construct (refer to the Permit to Construct section), and an optional Tier II operating permit has not been requested. Therefore, the procedures of IDAPA 58.01.01.400–410 were not applicable to this permitting action.

Visible Emissions (IDAPA 58.01.01.625)

IDAPA 58.01.01.624 Visible Emissions

The sources of PM_{10} emissions at this facility are subject to the State of Idaho visible emissions standard of 20% opacity. This requirement is assured by Permit Conditions 3.4 and 4.4.

Fugitive Emissions (IDAPA 58.01.01.650)

IDAPA 58.01.01.650 Rules for the Control of Fugitive Emissions

The sources of fugitive emissions at this facility are subject to the State of Idaho fugitive emissions standards. These requirements are assured by Permit Conditions 2.1, 2.2, and 2.5.

Particulate Matter – New Equipment Process Weight Limitations (IDAPA 58.01.01.701)

IDAPA 58.01.01.701 Particulate Matter – New Equipment Process Weight Limitations

IDAPA 58.01.01.700 through 703 set PM emission limits for process equipment based on when the piece of equipment commenced operation and the piece of equipment's process weight (PW) in pounds per hour (lb/hr). IDAPA 58.01.01.701 and IDAPA 58.01.01.702 establish PM emission limits for equipment that commenced operation on or after October 1, 1979 and for equipment operating prior to October 1, 1979, respectively.

For equipment that commenced operation on or after October 1, 1979, the PM allowable emission rate (E) is based on one of the following four equations:

IDAPA 58.01.01.701.01.a: If PW is $< 9{,}250$ lb/hr; $E = 0.045\ (PW)^{0.60}$

IDAPA 58.01.01.701.01.b: If PW is $\geq 9{,}250$ lb/hr; $E = 1.10\ (PW)^{0.25}$

For equipment that commenced prior to October 1, 1979, the PM allowable emission rate is based on one of the following equations:

IDAPA 58.01.01.702.01.a: If PW is $< 17{,}000$ lb/hr; $E = 0.045\ (PW)^{0.60}$

IDAPA 58.01.01.702.01.b: If PW is $\geq 17{,}000$ lb/hr; $E = 1.12\ (PW)^{0.27}$

As discussed previously in the Emissions Inventory Section, concrete has a density of 4,024 lb per cubic yard. Thus, for the new Concrete Batch Plant proposed to be installed as a result of this project with a proposed throughput of 300 y^3/hr, E is calculated as follows:

Proposed throughput = 4,024 lb per cubic yard x 300 y^3/hr = 1,207,200 lb/hr

Therefore, E is calculated as:

$E = 1.10 \times PW^{0.25} = 1.10 \times (1{,}207{,}200)^{0.25} = 36.46$ lb-PM/hr

As presented previously in the Emissions Inventories Section of this evaluation the post project PTE for this emissions unit is 0.29 lb-PM_{10}/hr. Assuming PM is 50% PM_{10} means that PM emissions will be 0.58 lb-PM/hr (0.29 lb-PM_{10}/hr ÷ 0.5 lb-PM_{10}/lb-PM). Therefore, compliance with this requirement has been demonstrated.

Rules for Control of Odors (IDAPA 58.01.01.775)

IDAPA 58.01.01.750 Rules for Control of Odors

Section 776.01 states that no person shall allow, suffer, cause, or permit the emission of odorous gases, liquids, or solids into the atmosphere in such quantities as to cause air pollution. These requirements are assured by Permit Conditions 2.4 and 2.7.

Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70)

IDAPA 58.01.01.301 Requirement to Obtain Tier I Operating Permit

Post project facility-wide emissions from this facility do not have a potential to emit greater than 100 tons per year for all criteria pollutants or 10 tons per year for any one HAP or 25 tons per year for all HAP combined as demonstrated previously in the Emissions Inventories Section of this analysis. Therefore, the facility is not a Tier I source in accordance with IDAPA 58.01.01.006 and the requirements of IDAPA 58.01.01.301 do not apply.

PSD Classification (40 CFR 52.21)

40 CFR 52.21 Prevention of Significant Deterioration of Air Quality

The facility is not a major stationary source as defined in 40 CFR 52.21(b)(1), nor is it undergoing any physical change at a stationary source not otherwise qualifying under paragraph 40 CFR 52.21(b)(1) as a major stationary source, that would constitute a major stationary source by itself as defined in 40 CFR 52. Therefore in accordance with 40 CFR 52.21(a)(2), PSD requirements are not applicable to this permitting action. The facility is not a designated facility as defined in 40 CFR 52.21(b)(1)(i)(a), and does not have facility-wide emissions of any criteria pollutant that exceed 250 T/yr.

NSPS Applicability (40 CFR 60)

The facility is not subject to any NSPS requirements 40 CFR Part 60.

NESHAP Applicability (40 CFR 61)

The facility is not subject to any NESHAP requirements in 40 CFR 61.

GACT Applicability (40 CFR 63)

The facility has two diesel-fired boilers potentially subject to 40 CFR 63 JJJJJJ. The facility has deemed the diesel-fired boilers "seasonal boilers", per 40 CFR 63 JJJJJJ, "*Seasonal boiler,* means a boiler that undergoes a shutdown for a period of at least 7 consecutive months (or 210 consecutive days) each 12-month period due to seasonal conditions, except for periodic testing. Periodic testing shall not exceed a combined total of 15 days during the 7-month shutdown. This definition only applies to boilers that would otherwise be included in the biomass subcategory or the oil subcategory". As diesel is in the oil subcategory, 40 CFR 63 JJJJJJ is not applicable to the two diesel-fired boilers at this facility. All HAPs which would otherwise be federally regulated and excluded under this subpart have been included in the emissions inventory and engineering analysis, due to the non-applicability.

Permit Conditions Review

This section describes the permit conditions for this initial permit or only those permit conditions that have been added, revised, modified or deleted as a result of this permitting action.

Permit condition 1.1 establishes the permit to construct scope.

Permit condition, Table 1.1, provides a description of the purpose of the permit and the regulated sources, the process, and the control devices used at the facility.

FACILITY-WIDE CONDITIONS

As discussed previously, permit condition 2.1 establishes that the permittee shall take all reasonable precautions to prevent fugitive particulate matter (PM) from becoming airborne and provides examples of the controls in accordance with IDAPA 58.01.01.650-651.

As discussed previously, permit condition 2.2 establishes that the concrete batch plant shall employ efficient fugitive dust controls and provides examples of the controls in accordance with IDAPA 58.01.01.808.01 and 808.02.

As discussed previously, permit condition 2.3 establishes that the backup concrete batch plant may collocate with the main concrete batch plant, however only one concrete batch plant may operate at a time.

As discussed previously, permit condition 2.4 establishes that there are to be no emissions of odorous gases, liquids, or solids from the permit equipment into the atmosphere in such quantities that cause air pollution.

As discussed previously, permit condition 2.5 establishes that the permittee shall monitor fugitive dust emissions on a daily basis to demonstrate compliance with the facility-wide permit requirements.

As discussed previously, permit condition 2.6 establishes that the permittee monitor and record which concrete batch plant operates to demonstrate compliance with the backup plant collocation permit requirements.

As discussed previously, permit condition 2.7 establishes that the permittee monitor and record odor complaints to demonstrate compliance with the facility-wide permit requirements.

Permit Condition 2.8 establishes that the permittee shall maintain records as required by the Recordkeeping General Provision.

MAIN CONCRETE BATCH PLANT EQUIPMENT

Permit condition 3.1 provides a process description of the concrete production process at this facility.

Permit condition 3.2 and Table 3.1 provides a description of the control devices used on the concrete production equipment at this facility.

Permit condition 3.3 establishes hourly and annual emissions limits for $PM_{10}/PM_{2.5}$, SO_2, NO_X, CO, and VOC emissions from the concrete production operation at this facility.

As discussed previously, Permit Condition 3.4 establishes a 20% opacity limit for the concrete batch plant baghouse and the boiler stacks or functionally equivalent openings associated with the concrete production operation.

Permit Condition 3.5 establishes a daily and annual concrete production limit for the concrete production operation as proposed by the Applicant.

Permit condition 3.6 establishes setback distance restrictions for the concrete production operation when the mixer/loadout, and both boilers are operating and not operating. The setback distance restrictions are based upon the results of the Ambient Air Quality Modeling Analysis performed for this project.

Permit condition 3.7 requires that the Applicant employ a baghouse filter to control emissions from the weigh batcher loadout operation as proposed by the Applicant.

Permit condition 3.8 requires that the Applicant employ a baghouse to control emissions from the central loadout operation as proposed by the Applicant.

Permit condition 3.9 requires that the Applicant employ a baghouse to control emissions from the fly ash silo operation as proposed by the Applicant.

Permit condition 3.10 requires that the Applicant employ a baghouse to control emissions from the cement storage silo operation as proposed by the Applicant.

Permit condition 3.11 requires that the Applicant employ industry specific water sprays on material transfer points to control fugitive emissions as proposed by the Applicant.

Permit Condition 3.12 establishes that the concrete plant will not be operated at least seven (7) consecutive months each twelve (12) month period due to seasonal conditions. This requirement was requested by the Applicant because this is how the plant will normally be operated. This permit condition also sets the hourly and consecutive 5 month operating hours for each boiler.

The facility has two diesel-fired boilers potentially subject to 40 CFR 63 JJJJJJ. The facility has deemed the diesel-fired boilers "seasonal boilers", per 40 CFR 63 JJJJJJ, "*Seasonal boiler* means a boiler that undergoes a shutdown for a period of at least 7 consecutive months (or 210 consecutive days) each 12-month period due to seasonal conditions, except for periodic testing. Periodic testing shall not exceed a combined total of 15 days during the 7-month shutdown. This definition only applies to boilers that would otherwise be included in the biomass subcategory or the oil subcategory". As diesel is in the oil subcategory, 40 CFR 63 JJJJJJ is not applicable to the two diesel-fired boilers at this facility. All HAPs which would otherwise be federally regulated and excluded under this subpart have been included in the emissions inventory and engineering analysis, due to the non-applicability.

Permit condition 3.13 establishes that the Permittee shall only combust distillate fuel oil which meets ASTM Grades 1 or 2, or a mixture of ASTM Grades 1 and 2, and which has a maximum sulfur content of 0.0015% (15 ppm) by weight to demonstrate compliance with the Seasonal Boiler Fuel Specifications permit condition.

Permit condition 3.14 establishes that the Permittee monitor and record hourly and daily concrete production to demonstrate compliance with the Concrete Production Limits permit condition.

Permit condition 3.15 establishes that the Permittee measure and record concrete production equipment setback distances to demonstrate compliance with operating permit requirements.

Permit condition 3.16 establishes that the Permittee shall establish procedures for operating the weigh batcher, cement storage silo, fly ash storage silo, and central loadout baghouses. This is a DEQ imposed standard requirement for operations using baghouses to control particulate emissions.

Permit condition 3.17 establishes that the permittee shall record daily and consecutive 5 month operational hours for each boiler to demonstrate compliance with the Seasonal Boiler Operation permit requirement.

Permit Condition 3.18 establishes that the permittee shall maintain distillate fuel records to demonstrate compliance with the Distillate Fuel Oil Specifications Recordkeeping requirement.

Permit Condition 3.19 establishes that the permittee shall maintain records as required by the Recordkeeping General Provision.

BACKUP CONCRETE BATCH PLANT EQUIPMENT

Permit condition 4.1 provides a process description of the concrete production process at this facility.

Permit condition 4.2 and Table 4.1 provides a description of the control devices used on the concrete production equipment at this facility.

Permit condition 4.3 establishes hourly and annual emissions limits for $PM_{10}/PM_{2.5}$, SO_2, NO_X, CO, and VOC emissions for the backup concrete batch plant if operated at this facility.

As discussed previously, Permit Condition 4.4 establishes a 20% opacity limit for the concrete batch plant baghouse and the boiler stacks or functionally equivalent openings associated with the concrete production operation.

Permit Condition 4.5 establishes a daily and annual concrete production limit for the backup concrete batch plant as proposed by the Applicant.

Permit Condition 4.6 establishes setback distance restrictions for the concrete production operation when the mixer/loadout, and both boilers are operating and not operating. The setback distance restrictions are based upon the results of the Ambient Air Quality Modeling Analysis performed for this project.

Permit condition 4.7 requires that the Applicant employ a baghouse filter to control emissions from the weigh batcher loadout operation as proposed by the Applicant.

Permit condition 4.8 requires that the Applicant employ a boot or shroud with a water ring to control emissions from the truck loadout operation as proposed by the Applicant.

Permit condition 4.9 requires that the Applicant employ a baghouse to control emissions from the truck loadout operation as proposed by the Applicant.

Permit condition 4.10 requires that the Applicant employ a baghouse to control emissions from the fly ash storage silo operation as proposed by the Applicant.

Permit condition 4.11 requires that the Applicant employ a baghouse to control emissions from the cement storage silo operation as proposed by the Applicant.

Permit condition 4.12 requires that the Applicant employ industry specific water sprays on material transfer points to control fugitive emissions as proposed by the Applicant.

Permit condition 4.13 establishes that the concrete plant will not be operated at least seven (7) consecutive months each twelve (12) month period due to seasonal conditions. This requirement was requested by the Applicant because this is how the plant will normally be operated. This permit condition also sets the hourly and consecutive 5 month operating hours for both boilers.

The facility has two diesel-fired boilers potentially subject to 40 CFR 63 JJJJJJ. The facility has deemed the diesel-fired boilers "seasonal boilers", per 40 CFR 63 JJJJJJ, "*Seasonal boiler* means a boiler that undergoes a shutdown for a period of at least 7 consecutive months (or 210 consecutive days) each 12-month period due to seasonal conditions, except for periodic testing. Periodic testing shall not exceed a combined total of 15 days during the 7-month shutdown. This definition only applies to boilers that would otherwise be included in the biomass subcategory or the oil subcategory". As diesel is in the oil subcategory, 40 CFR 63 JJJJJJ is not applicable to the two diesel-fired boilers at this facility. All HAPs which would otherwise be federally regulated and excluded under this subpart have been included in the emissions inventory and engineering analysis, due to the non-applicability.

Permit condition 4.14 establishes that the Permittee shall only combust distillate fuel oil which meets ASTM Grades 1 or 2, or a mixture of ASTM Grades 1 and 2, and which has a maximum sulfur content of 0.0015% (15 ppm) by weight to demonstrate compliance with the Seasonal Boiler Fuel Specifications permit condition.

Permit condition 4.15 establishes that the Permittee monitor and record hourly and daily concrete production to demonstrate compliance with the Concrete Production Limits permit condition.

Permit Condition 4.16 establishes that the Permittee measure and record concrete production equipment setback distances to demonstrate compliance with operating permit requirements.

Permit condition 4.17 establishes that the Permittee shall establish procedures for operating the weigh batcher, cement storage silo, fly ash storage silo, and central loadout baghouses. This is a DEQ imposed standard requirement for operations using baghouses to control particulate emissions.

Permit condition 4.18 establishes that the permittee shall record daily and consecutive 5 month operational hours for each boiler to demonstrate compliance with the Seasonal Boiler Operation permit requirement.

Permit Condition 4.19 establishes that the permittee shall maintain distillate fuel records to demonstrate compliance with the Distillate Fuel Oil Specifications Recordkeeping requirement.

Permit Condition 4.20 establishes that the permittee shall maintain records as required by the Recordkeeping General Provision.

PUBLIC REVIEW

Public Comment Opportunity

An opportunity for public comment period on the application was provided in accordance with IDAPA 58.01.01.209.01.c or IDAPA 58.01.01.404.01.c. During this time, there were comments on the application and there was a request for a public comment period on DEQ's proposed action. Refer to the chronology for public comment opportunity dates.

Public Comment Period

A public comment period was made available to the public in accordance with IDAPA 58.01.01.209.01.c. During this time, comments were/were not submitted in response to DEQ's proposed action. Refer to the chronology for public comment period dates.

{comments received} A response to public comments document has been crafted by DEQ based on comments submitted during the public comment period. That document is part of the final permit package for this permitting action.

APPENDIX A – EMISSIONS INVENTORIES

APPENDIX B – AMBIENT AIR QUALITY IMPACT ANALYSES

APPENDIX C – FACILITY DRAFT COMMENTS

The following comments were received from the facility on October 3, 2018:

Facility Comment: In the permit on page 5 add the word additional before concrete batch plant.

DEQ Response: Permit Condition 2.3 has been revised to specifically state only one concrete batch plant may operate at a time, when the backup concrete batch plant is collocated with the main concrete batch plant.

Facility Comment: In the statement of basis on page 5 paragraph 3 please revise to the following:

The process begins with materials being fed via front end loader to a compartment bin feeder system and then dispensed in metered proportions to a collecting conveyor. The metered material is conveyed into the central drum mixer or truck mixer for mixing and transport via mixer trucks to placement areas.

DEQ Response: This paragraph has been revised per your request as this does not change the process or emissions.

Facility Comment: In the statement of basis on page 5 paragraph 4 please revise to the following:

Particulate emissions will be controlled by maintaining the moisture content at 1.5% by weight for all ¼ in and smaller aggregate feed materials via water sprays. In addition, all particulate emissions from the central drum, cementitious weigh batcher, mixer and the truck mixer will be collected and vented to a high efficiency baghouse with a minimum control efficiency of 99.9% as proposed by the Applicant.

DEQ Response: This paragraph has been revised per your request as this does not change the process or emissions.

APPENDIX D – PROCESSING FEE