

Statement of Basis

Permit to Construct No. P-2011.0099

Project ID 61457

Lakeside Industries dba Valley Paving 00281

Portable, Idaho

Facility ID 777-00281

Final

April 1, 2015

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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.

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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 ₂ e	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
<i>Rules</i>	<i>Rules for the Control of Air Pollution in Idaho</i>
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
µg/m ³	micrograms per cubic meter

FACILITY INFORMATION

Description

Lakeside Industries dba Valley Paving 00281 has proposed to revise an existing portable drum-mix asphalt plant. The asphalt plant consists of a parallel-flow asphalt drum mixer equipped with a with a bag house to control particulate matter, and materials transfer equipment. Materials transfer equipment at the facility will include front end loaders, feed bins, storage silos, conveyors, stock piles, and haul trucks.

Asphalt is made at the facility as follows. First, stockpiled aggregate is transferred to feed bins. Aggregate is then dispensed from the feed bins onto feeder conveyors, which transfer the aggregate to the asphalt drum mixer. The Applicant has requested that the asphalt drum mixer be fired on natural gas. Next, aggregate travels through the rotating drum mixer, and when dried and heated, it is mixed with hot liquid asphaltic oil. The resulting asphalt is conveyed to hot storage bins until it can be loaded into trucks for transport off-site or transferred to silos for temporary storage prior to transport off-site. As part of the operation, the Applicant has proposed that a portable rock crusher be allowed to be collocated at the facility.

The Applicant has proposed that only line power will be used at the facility. Therefore, IC engines powering electrical generators were not included in the application.

Permitting History

The following information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A) or superseded (S).

October 17, 2011	P-2011.0099, Permit modification to replace the existing wet scrubber with a Gencor pulse-jet baghouse, Permit status (A, but will become S upon issuance of this permit)
April 17, 2001	777-00281, Initial permit for a portable HMA plant, Permit status (S)

Application Scope

The Applicant has proposed to change out the existing parallel-flow drum dryer with a new counter-flow drum dryer with the same 200 T/hr throughput capacity. Note: The production rate will continue to be limited to 134 T/hr production limit. In addition, the facility is requesting that the capability to use up to 50% RAP be allowed since there is no change in emissions with this amount of RAP usage.

Application Chronology

December 9, 2014	DEQ received an application and an application fee.
January 7, 2015	DEQ determined that the application was complete.
February 24, 2015	DEQ made available the draft permit and statement of basis for peer and regional office review.
March 5, 2015	DEQ made available the draft permit and statement of basis for applicant review.
March 16, 2015	DEQ received the permit processing fee.
April 1, 2015	DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

The asphalt production facility utilizes a baghouse for control of particulate matter emissions from the asphalt drum mixer. In addition, the Applicant will use other emissions controls to minimize PM₁₀ emissions from aggregate handling.

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	<u>Material Transfer Points:</u> Materials handling Asphalt aggregate transfers Truck unloading of aggregate Aggregate conveyor transfers Aggregate handling	Fugitive Emissions Controls	N/A
Hot Mix Asphalt Drum Mixer	<u>Asphalt Drum Mixer:</u> Manufacturer: H&R Mechanical Model: N/A Type: Counter-flow Manufacture Date: 2015 Max. production: 134 T/hr Burner Manufacturer: Gencor Burner Model: UF-70H Max. Heat Input: 86 MMBtu/hr Fuel(s): Natural gas only	<u>Asphalt Drum Mixer Baghouse:</u> Manufacturer: Gencor Model: 121 Pulse Jet Baghouse Type: Reverse pulse-jet Flow rate: 7,900 dscfm PM ₁₀ control efficiency: 99%	Asphalt Drum Mixer Baghouse Exhaust

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.

For this permit revision potential to emit calculations were not performed as it was assumed hourly and annual emissions were staying the same as a result of this project since there was no proposed change in hourly or annual throughput. The facility is currently permitted at 3.11 lb-PM₁₀/hr, 6.1 T-PM₁₀/yr, and 56 T-CO/yr.

Ambient Air Quality Impact Analyses

An Ambient Air Quality Impact Analysis was not performed for this project because it was assumed all criteria pollutant emissions were staying the same as a result of this project.

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

This HMA plant is currently permitted to operate as portable throughout the state and it was previously allowed to operate in non-attainment areas with certain limitations. These requirements will be included with this new permit because as discussed previously a modeling analysis was not performed for this project. These previous permit requirements are included as Permit Conditions 1.8 and 2.6.

Proposed throughput = 134 T/hr x 2,000 lb/1 T = 268,000 lb/hr

Therefore, E is calculated as:

$$E = 1.10 \times PW^{0.25} = 1.10 \times (268,000)^{0.25} = 25.0 \text{ lb-PM/hr}$$

As discussed previously in the Emissions Inventories Section of this evaluation the post project PTE for this emissions unit is 3.11 lb-PM₁₀ per hour. Assuming PM is 50% PM₁₀ means that PM emissions will be 6.22 lb-PM/hr (3.11 lb- PM₁₀ per hour ÷ 0.5 lb-PM₁₀ per lb-PM). This is less than the calculated Rule requirement PM emissions rate of 25.0 lb-PM/hr. 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 1.9 and 1.12.

Rules for Control of Hot-Mix Asphalt Plants (IDAPA 58.01.01.805)

IDAPA 58.01.01.805

Rules for Control of Hot-Mix Asphalt Plants

The purpose of Sections 805 through 808 is to establish for hot-mix asphalt plants restrictions on the emission of particulate matter.

Section 806 states that no person shall cause, allow or permit a hot-mix asphalt plant to have particulate emissions which exceed the limits specified in Sections 700 through 703. As demonstrated previously, these requirements have been met by the proposed PM₁₀ emissions rate (see Section on Particulate Matter – New Equipment Process Weight Limitations).

Section 807 states that in the case of more than one stack to a hot-mix asphalt plant, the emission limitation will be based on the total emission from all stacks. The proposed facility only has one stack for emissions from the asphalt drum dryer so there is no need to combine emissions limits from multiple stacks into one stack as required.

Section 808.01 requires fugitive emission controls as follows: No person shall cause, allow or permit a plant to operate that is not equipped with an efficient fugitive dust control system. The system shall be operated and maintained in such a manner as to satisfactorily control the emission of particulate material from any point other than the stack outlet.

Section 808.02 requires plant property dust controls as follows: The owner or operator of the plant shall maintain fugitive dust control of the plant premises and plant owned, leased or controlled access roads by paving, oil treatment or other suitable measures. Good operating practices, including water spraying or other suitable measures, shall be employed to prevent dust generation and atmospheric entrainment during operations such as stockpiling, screen changing and general maintenance.

These requirements are assured by Permit Conditions 1.4 and 1.5.

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 any criteria pollutant or 10 tons per year for any one HAP or 25 tons per year for all HAP combined as determined previously for initial permit 777-00303. 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/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)

Because the facility produces asphalt the following NSPS Subparts are applicable:

- 40 CFR 60, Subpart I - National Standards of Performance for Hot Mix Asphalt Plants

Those sections that are applicable are highlighted.

40 CFR 60, Subpart I

National Standards of Performance for Hot Mix Asphalt Plants

This permitting action is for a new asphalt plant. Therefore, the requirements of this subpart may apply.

§ 60.90 Applicability and designation of affected facility

In accordance with §60.90(a), each hot mix asphalt facility is an affected facility. In accordance with §60.90(b), any hot mix asphalt facility that commences construction or modification after June 11, 1973 is subject to the requirements of Subpart I.

The affected facility includes: the dryer; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler; systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems.

§ 60.91 Definitions

This section contains the definitions of this subpart.

§ 60.92 Standard for particulate matter

In accordance with §60.92, no owner or operator shall discharge or cause the discharge into the atmosphere from any affected facility any gases which contain particulate matter in excess of 0.04 gr/dscf or exhibit 20% opacity or greater. Permit Condition 2.4 includes the requirements of this section.

§ 60.93 Test methods and procedures

In accordance with §60.93(a), performance tests shall use as reference methods and procedures the test methods in Appendix A of 40 CFR 60.

In accordance with §60.93(b), compliance with the particulate matter standards shall be determined by EPA Reference Method 5, and opacity shall be determined by EPA Reference Method 9. This is an existing HMA plant that was permitted in 2001 and modified in 2011 and the initial Subpart I source test has been performed on this asphalt plant. Because this is not defined as a "modification" in this subpart the initial source test is not required.

NESHAP Applicability (40 CFR 61)

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

MACT Applicability (40 CFR 63)

The facility is not subject to any NESHAP requirements in 40 CFR 63.

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 1.3 explains which previous permit for the facility is being replaced as a result of this project.

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 1.4 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 1.5 establishes that the asphalt 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.

Permit condition 1.6 establishes that the asphalt plant may collocate with one portable rock crushing plant, one portable concrete batch plant, or one other portable hot mix asphalt plant when operating within attainment or unclassified areas and the other plant is permitted to specifically allow collocation. This requirement was carried over from the previous permit.

Permit condition 1.7 establishes that the permittee notify DEQ when the permitted portable equipment is relocated. This requirement is based upon imposing reasonable permit conditions for portable asphalt plants.

Permit condition 1.8 establishes throughput limits when operating in PM₁₀ non-attainment areas or proposed PM₁₀ non-attainment areas. This requirement was carried over from the previous permit.

Permit condition 1.9 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 1.10 establishes that the permittee shall monitor fugitive dust emissions on a daily basis to demonstrate compliance with the facility-wide permit requirements.

Permit condition 1.11 establishes that the permittee measure and record the distances to equipment that will be collocated with the asphalt plant to demonstrate compliance with the Collocation Restrictions permit condition.

Permit condition 1.12 establishes that the permittee monitor and record odor complaints to demonstrate compliance with the facility-wide permit requirements.

Permit Condition 1.13 establishes that the permittee shall maintain records as required by the Recordkeeping General Provision.

ASPHALT PRODUCTION EQUIPMENT

Permit condition 2.1 provides a process description of the asphalt production process at this facility.

Permit condition 2.2 provides a description of the control devices used on the asphalt production equipment at this facility.

Permit condition 2.3 establishes hourly and annual emissions limits for PM₁₀ and an annual emissions limit for CO emissions from the asphalt production operation at this facility. This requirement was carried over from the previous permit.

As discussed previously permit condition 2.4 incorporates the particulate matter and opacity standards of 40 CFR 60, Subpart I – Standards of Performance for Hot Mix Asphalt Plants.

As discussed previously, Permit Condition 2.5 establishes a 20% opacity limit for the asphalt drum mixer baghouse stack, the load-out station stack(s), and the silo filling slat conveyor stacks or functionally equivalent openings associated with the asphalt production operation.

Permit Condition 2.6 establishes a daily and an annual asphalt production limit for the asphalt production operation in different attainment areas. This requirement was carried over from the previous permit.

Permit Condition 2.7 establishes limits for the raw materials used in the asphalt production operation as proposed by the Applicant.

Permit Condition 2.8 establishes that a baghouse be used to control emissions from the asphalt drum mixer as proposed by the Applicant.

Permit Condition 2.9 establishes fuel use restrictions for combustion in the asphalt drum mixer. This fuel use restriction was based on the fuels proposed by the Applicant to be combusted in the asphalt drum mixer.

Permit Condition 2.10 establishes PM₁₀ performance testing requirements required by DEQ on asphalt plants located in the state of Idaho.

Permit Condition 2.11 establishes PM₁₀ performance testing methods and procedures required by DEQ on asphalt plants located in the state of Idaho.

Permit condition 2.12 establishes that the permittee monitor asphalt production, visible emissions, RAP percentage usage, and the fuel combusted in the asphalt drum mixer during the performance tests to establish the validity of the performance tests.

Permit condition 2.13 establishes that the Permittee monitor and record hourly and daily asphalt production to demonstrate compliance with the Asphalt Production Limits permit condition.

Permit condition 2.14 establishes that the Permittee calculate and record RAP use to demonstrate compliance with the Allowable Raw Materials permit condition.

Permit condition 2.15 establishes that the Permittee shall establish procedures for operating the baghouse. This is a DEQ imposed standard requirement for operations using baghouses to control particulate emissions.

Permit Condition 2.16 establishes that the permittee shall maintain records as required by the Recordkeeping General Provision.

Permit Condition 2.17 establishes that the permittee shall submit the results of the performance tests to the appropriate DEQ office.

Permit condition 2.18 establishes that the federal requirements of 40 CFR Part 60, Subpart I – Standards of Performance for Hot Mix Asphalt Plants, are incorporated by reference into the requirements of this permit per current DEQ guidance.

Permit Condition 2.19 incorporates 40 CFR 60, Subpart A – General Provisions.

PUBLIC REVIEW

Public Comment Opportunity

Because this permitting action does not authorize an increase in emissions, an opportunity for public comment period was not required or provided in accordance with IDAPA 58.01.01.209.04 or IDAPA 58.01.01.404.04.

APPENDIX A – PROCESSING FEE

PTC Fee Calculation

Instructions:

Fill in the following information and answer the following questions with a Y or N. Enter the emissions increases and decreases for each pollutant in the table.

Company: Lakeside Industries dba Valley Paving
Address: P.O. Box 775
City: Bellevue
State: ID
Zip Code: 83313
Facility Contact: Karen Deal
Title: Environmental & Land Use Director
AIRS No.: 777-00281

N Does this facility qualify for a general permit (i.e. concrete batch plant, hot-mix asphalt plant)? Y/N

Y Did this permit require engineering analysis? Y/N

N Is this a PSD permit Y/N (IDAPA 58.01.01.205.04)

Emissions Inventory			
Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Reduction (T/yr)	Annual Emissions Change (T/yr)
NO _x	0.0	0	0.0
SO ₂	0.0	0	0.0
CO	0.0	0	0.0
PM10	0.0	0	0.0
VOC	0.0	0	0.0
TAPS/HAPS	0.0	0	0.0
Total:	0.0	0	0.0
Fee Due	\$ 1,000.00		

Comments:

APPENDIX B – FACILITY DRAFT COMMENTS

The following comments were received from the facility on March 10, 2015:

Facility Comment: Permit Condition 2.5, Opacity Limit - There is no stack on the slat conveyor or load-out silos.

DEQ Response: The requested change will be made to the permit.

Facility Comment: Permit Condition 2.8, Baghouse System Control Equipment - 100% of the baghouse fines cannot be incorporated into new mix due to quality and state specifications.

DEQ Response: The requested change will be made to the permit.