

Statement of Basis

**Permit to Construct No. P-2014.0002
Project ID 61328**

**Knife River Inc.
Boise, Idaho**

Facility ID 777-00051

Final

**July 7, 2014
Robert Baldwin
Permit Writer**

A handwritten signature in black ink, appearing to read 'R. Baldwin', is written over the printed name 'Robert Baldwin'.

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
cfm	cubic feet per minute
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	CO ₂ equivalent emissions
DEQ	Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
HMA	hot mix asphalt
hp	horsepower
hr/yr	hours per consecutive 12 calendar month period
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
lb/hr	pounds per hour
MACT	Maximum Achievable Control Technology
MMBtu	million British thermal units
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
PC	permit condition
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
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
PW	process weight rate
RAP	recycled asphalt pavement
<i>Rules</i>	<i>Rules for the Control of Air Pollution in Idaho</i>
scf	standard cubic feet
SCL	significant contribution limits
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
TAP	toxic air pollutants
ULSD	ultra-low sulfur diesel
VOC	volatile organic compounds
µg/m ³	micrograms per cubic meter

FACILITY INFORMATION

Description

Knife River Inc. has proposed a modification to the drum-mix asphalt plant. The asphalt plant change is to a counter-flow asphalt drum mixer equipped with a with a bag house, an asphaltic oil storage tank with a heater, and materials transfer equipment. All burners used will be combust natural gas only. 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. The Applicant has also requested that recycled asphalt pavement (RAP) be used in the aggregate (up to 50% can be allowed). 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 asphaltic oil is heated by the asphalt tank heater to allow it to flow and be mixed with the hot, dry aggregate. 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.

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

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).

August 21, 1998	PTC 777-0051 Initial permit to Masco
June 13, 2002	PTC 777-00051 replaced Permit issued 8/21/1998 amend to operate in both attainment and non-attainment areas and to add a diesel generator.
June 24, 2005	P-050011 Fuel change to Masco
May 11, 2009	Owner change from Masco to Knife River Inc.
June 11, 2014	P-2014.0002, Modification including change to a counterflow drum, installation of a baghouse, and the selection of burning natural gas only, Permit status (A) upon issuance of this permit.

Application Scope

This PTC is for a minor modification at an existing minor facility.

The asphalt plant will be fed a mixture of crushed fines and aggregates from imported aggregate.

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 material will pass over a scalping screen before being conveyed into the drum mixer via a scalping screen.

Inside the drum mixer the aggregates will be heated to specification temperature and then asphaltic oil is added. In some instances up to 50% RAP may be substituted for virgin aggregate.

The mixed asphalt is dispensed to a slat conveyor and then lifted up to a hot storage silo for intermediate storage. Trucks are then loaded by driving under the hot storage silo.

The silo loading process will be enclosed and vented back to the drum via suction induced either through the conveyor or via a separate duct line. The unloading process will be uncontrolled.

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 asphalt drum mixer will be collected and vented to a high efficiency baghouse with a minimum control efficiency of 99% as proposed by the Applicant.

The asphalt plant will include a hot oil heating system designed to keep asphaltic oil at specification temperature. Heat will be provided via a natural gas external combustion burner. This burner will operate intermittently during 24-hours per day much the way a hot water heater cycles. Typical burner operation during any 24-hour period is less than 8 hours.

The Applicant has not proposed a asphalt production rate throughput limits change.

The Applicant has stated no IC engines will be used at the site for electrical power.

Application Chronology

February 18, 2014	DEQ received an application.
February 19, 2014	DEQ received the application fee.
March 21, 2014	DEQ determined that the application was complete.
April 21, 2014	DEQ made available the draft permit and statement of basis for peer and regional office review.
May 7, 2014	DEQ made available the draft permit and statement of basis for applicant review. DEQ did not provide a public comment period on the proposed action because emissions were not increased.
July 2, 2014	DEQ received the permit processing fee.
July 7, 2014	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 maintain the moisture content in ¼" or smaller aggregate material at 1.5% by weight, using water sprays, using shrouds, or 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	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
Hot Mix Asphalt Drum Mixer	<u>Asphalt Drum Mixer:</u> Manufacturer: AESCO Model: GB-350 Type: Counter-flow Manufacture Date: XXXX Max. production: 350 T/hr, 6000 T/day, and 1,431,979 T/yr Fuel(s): Natural gas	<u>Asphalt Drum Mixer Baghouse:</u> Manufacturer: CMI Model: AP-850 Type: Reverse pulse-jet Flow rate: 57252 dscf PM ₁₀ control efficiency: 99%	Exit height: 55 ft Exit diameter: XX ft Exit flow rate: 45,000 acfm Exit temperature: 325 °F
Asphaltic Oil Tank Heater	<u>Asphaltic Oil Tank Heater:</u> Heat input rating: 0.5 MMBtu/hr Fuel(s): Natural gas,	N/A	N/A

Emissions Inventories

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 for just the unit that is being modified. The production rates are the same and no engines are used. The following table presents the pre-project potential to emit for all criteria pollutants from for the one unit being modified as submitted by the Applicant and verified by DEQ staff.

Table 2 PRE-PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Emissions Unit	PM ₁₀ /PM _{2.5}		SO ₂		NO _x		CO		VOC		CO _{2e}
	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)	T/yr ^(b)
Asphalt drum mixer	16.11	32.2	20.76	41.53	19.69	39.38	46.54	93.08	11.46	22.91	N/A
Pre-Project Totals	16.11	32.20	20.76	41.53	19.69	39.38	46.54	93.08	11.46	22.91	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

This is for the emission unit being modified. The following table presents the post project Potential to Emit for criteria pollutants from the modified emission unit at the facility as determined by DEQ staff.

Table 3 POST PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Emissions Unit	PM ₁₀ /PM _{2.5}		SO ₂		NO _x		CO		VOC		CO _{2e}
	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)	T/yr ^(b)
Asphalt drum mixer	8.05	16.48	1.19	2.43	9.1	18.62	45.5	93.08	11.2	22.91	0.00
Post Project Totals	8.05	16.48	1.19	2.43	9.10	18.62	45.50	93.08	11.20	22.91	0.0

- 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.

Therefore, this facility is designated as a Minor facility.

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 4 CHANGES IN POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Emissions	PM ₁₀ /PM _{2.5}		SO ₂		NO _x		CO		VOC		CO _{2e}
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	T/yr
Pre-Project Potential to Emit	16.11	32.2	20.76	41.76	16.69	39.38	46.54	93.08	11.46	22.91	0
Post Project Potential to Emit	8.05	16.48	1.19	2.43	9.1	18.62	45.5	93.08	11.2	22.91	0
Changes in Potential to Emit	-8.06	-15.72	-19.57	-39.33	-7.59	-20.76	-1.04	0.00	-0.26	0.00	0.0

Post Project HAP Emissions

The modification to use natural gas only would reduce HAPs and TAPs to levels below the previous amount permitted using diesel and other fuels.

Ambient Air Quality Impact Analyses

The modification for the emission levels did not exceed any thresholds to require modeling analysis

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is located in Ada County, which is designated as attainment or unclassifiable for PM_{2.5}, PM₁₀, SO₂, NO₂, CO, and Ozone. Refer to 40 CFR 81.313 for additional information.

Facility Classification

The facility was classified as a SM 80 source before this permitting action. The modification of the emission units resulted in an emissions decrease, thus the classification of the facility remains a SM80 facility.

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 modified 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 58.01.01.625

Visible Emissions

The sources of PM₁₀ emissions at this facility are subject to the State of Idaho visible emissions standard of 20% opacity. This requirement is assured by Permit Conditions 16 and 24.

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 3, 4 and 9.

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; $E = 1.12 (PW)^{0.27}$

For the new asphalt drum mixer emissions unit proposed to be installed as a result of this project with a proposed throughput of 350 T/hr, E is calculated as follows:

Proposed throughput = 350 T/hr x 2,000 lb/1 T = 700,000 lb/hr

Therefore, E is calculated as:

$E = 1.10 \times PW^{0.25} = 1.10 \times (700,000)^{0.25} = 31.8$ lb-PM/hr

As presented previously in the Emissions Inventories Section of this evaluation the post project PTE for this emissions unit is 8.05 lb-PM₁₀/PM_{2.5} per hour. Assuming PM is 50% PM₁₀/PM_{2.5} means that PM emissions will be 16.1 lb-PM/hr (8.05 lb- PM₁₀/PM_{2.5} per hour ÷ 0.5 lb-PM₁₀/PM_{2.5} per lb-PM). This is less than the calculated Rule requirement PM emissions rate of 31.8 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 8 and 10.

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 4 and 15.

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 PM₁₀, SO₂, NO_x, CO, VOC, and HAP or 10 tons per year for any one HAP or 25 tons per year for all HAP combined. 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 Subpart is 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 15 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. Permit Conditions 23, 24 and 25 includes the requirements of this section. Per the information submitted by the Applicant (see the application, pg. 7-1), the initial Subpart I source test has been performed on this asphalt plant. Therefore, no initial Subpart I source test is required of this asphalt plant.

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 establishes the permit to construct scope.

Permit condition, Table 2, 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 3 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 4 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 5 establishes that the asphalt plant shall not collocate with a rock crushing plant, any other asphalt plant, or a concrete batch plant as requested by the Applicant.

Permit condition 6 establishes that the permittee shall relocate the HMA equipment to a new pit or storage area once every 12 months. This requirement was requested by the Applicant because this is how the plant will normally be operated and because it allowed the set-back distances, required through the Ambient Air Quality Analysis, to be less than what would be required if more than one year of operation at a site was requested.

Permit condition 7 establishes a restriction on locating the portable asphalt plant to non-attainment areas. The location restrictions are based upon parameters used during the ambient air quality modeling analysis performed for this project.

Permit condition 8 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 9 establishes that the permittee shall monitor fugitive dust emissions on a daily basis to demonstrate compliance with the facility-wide permit requirements.

Permit condition 10 establishes that the permittee monitor and record odor complaints to demonstrate compliance with the facility-wide permit requirements.

Permit Condition 11 establishes that the permittee shall maintain records as required by the Recordkeeping General Provision.

Asphalt Production Equipment

Permit condition 12 provides a process description of the asphalt production process at this facility.

Permit condition 13 provides a description of the control devices used on the asphalt production equipment at this facility.

Permit condition 14 establishes hourly and annual emissions limits for PM_{2.5}, SO₂, NO_x, CO, and VOC emissions from the asphalt production operation at this facility.

As discussed previously permit condition 15 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 16 establishes a 20% opacity limit for the asphalt drum mixer baghouse stack, the asphaltic oil tank heater 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 17 establishes an hourly, a daily, and an annual asphalt production limit for the asphalt production operation as proposed by the Applicant.

Permit Condition 18 establishes a daily asphalt production limit for the asphalt production operation when operated on days when a collocated portable rock crusher is operated. This requirement was based upon the air quality modeling analysis performed for this application.

Permit Condition 19 establishes limits for the raw materials used in the asphalt production operation as proposed by the Applicant.

Permit Condition 20 establishes that a baghouse be used to control emissions from the asphalt drum mixer as proposed by the Applicant.

Permit Condition 21 establishes fuel use restrictions for combustion in the asphalt drum mixer.

Permit Condition 22 establishes fuel use restrictions for combustion in the asphaltic oil tank heater. These fuel use restrictions were based on the fuels proposed by the Applicant to be combusted in the asphaltic oil tank heater.

Permit Condition 23 establishes PM_{2.5} performance testing requirements required by DEQ on asphalt plants located in the state of Idaho.

Permit Condition 24 establishes PM_{2.5} performance testing methods and procedures required by DEQ on asphalt plants located in the state of Idaho.

Permit condition 25 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 26 establishes that the Permittee monitor and record hourly and daily asphalt production to demonstrate compliance with the Asphalt Production Limits permit condition.

Permit condition 27 establishes that the Permittee calculate and record RAP use to demonstrate compliance with the Allowable Raw Materials permit condition.

Permit condition 28 establishes that the Permittee measure and record asphalt production equipment setback distances to demonstrate compliance with operating permit requirements.

Permit condition 29 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 30 establishes that the permittee shall maintain records as required by the Recordkeeping General Provision.

Permit Condition 31 establishes that the permittee shall submit the results of the performance tests to the appropriate DEQ office.

Permit condition 32 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 33 incorporates 40 CFR 60, Subpart A – General Provisions.

Permit Condition 34 establishes that the permittee shall maintain records as required by the Recordkeeping General Provision.

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 – EMISSIONS INVENTORIES

Max Controlled Emissions of Any Pollutant from Drum Mix HMA Plant Fabric Filter, Tank Heater, Generator, Silo Fill/Load-out

A. Drum Mix Plant: 360 Tons/hour 4,091 Hours/year 1,431,979 Tons/year 6,000 Tons/day
Maximum emission for each pollutant from any fuel-burning options selected on "Facility Data" worksheet. Fuels Selected = Natural Gas

B. Tank Heater: 0.5000 MMBtu/hr 4,000 Hours/year 12 hrs/day
Maximum emission for each pollutant for heater burning any fuel selected on "Facility Data" worksheet. Fuels Selected = Natural Gas

C1. IC Engine 1: 0.00 gal/hour 0 Hours/year IC Engine < 600hp #2 Fuel Oil 0 hrs/day
C2. IC Engine 2: 0.00 gal/hour 0 Hours/year IC Engine > 600hp #2 Fuel Oil 0 hrs/day

Pollutant	A Drum Mix Max Emission Rate for Pollutant (lb/hr)	B Asphalt Tank Heater Max Emission Rate for Pollutant (lb/hr)	C IC Engine 1 + IC Engine 2 Max Emission Rate for Pollutant (lb/hr)	D Load-out & Silo Filling Emission Rate for Pollutant (lb/hr)	E TOTAL of Max Emission Rates from A, B, C & D (lb/hr)	Pollutant	A Drum Mix Max Emission Rate for Pollutant (lb/hr)	B Asphalt Tank Heater Max Emission Rate for Pollutant (lb/hr)	C IC Engine IC1 + IC2 Max Emission Rate for Pollutant (lb/hr)	D Load-out & Silo Filling Emission Rate for Pollutant (lb/hr)	E TOTAL of Max Emission Rates from A, B, C & D (lb/hr)
PM (total)	11.55	3.73E-03	0.00E+00	3.88E-01	11.94	PAH HAPs					
PM-10 (total)	8.05	3.73E-03	0.00E+00	3.88E-01	8.44	2-Methylnaphthalene	1.21E-02	5.37E-09		3.51E-03	1.56E-02
PM-2.5	7.81	3.73E-03	0.00E+00	3.88E-01	8.20	3-Methylchloranthrene*	0.00E+00	4.03E-10			4.03E-10
CO	45.50	4.12E-02	0.00E+00	8.85E-01	46.43	Acenaphthene	2.29E-04	4.03E-10	0.00E+00	3.40E-04	5.69E-04
NOx	9.10	4.90E-02	0.00E+00		9.15	Acenaphthylene	1.41E-03	4.03E-10	0.00E+00	2.14E-05	1.43E-03
SO ₂	1.19	2.94E-04	0.00E+00		1.19	Anthracene	3.60E-05	5.37E-10	0.00E+00	9.30E-05	1.29E-04
VOC	11.20	2.70E-03	0.00E+00	1.41E+00	12.61	Benzo(a)anthracene*	3.43E-05	4.03E-10	0.00E+00	3.38E-05	6.82E-05
Lead	2.17E-04	2.45E-07	0.00E+00		2.17E-04	Benzo(a)pyrene*	1.80E-06	2.69E-10	0.00E+00	1.28E-06	2.88E-06
HCl ^e	0.00E+00	0.00E+00	0.00E+00		0.00E+00	Benzo(b)fluoranthene*	1.63E-05	4.03E-10	0.00E+00	4.24E-06	2.06E-05
Dioxins ^e						Benzo(e)pyrene	1.80E-05	0.00E+00		8.29E-06	2.83E-05
2,3,7,8-TCDD	0.00E+00				0.00E+00	Benzo(g,h,i)perylene	6.54E-06	2.69E-10	0.00E+00	1.06E-06	7.60E-06
Total TCDD	0.00E+00				0.00E+00	Benzo(k)fluoranthene*	6.70E-06	4.03E-10	0.00E+00	1.23E-06	7.93E-06
1,2,3,7,8-PeCDD	0.00E+00				0.00E+00	Chrysene*	2.94E-05	4.03E-10	0.00E+00	1.45E-04	1.74E-04
Total PeCDD	0.00E+00				0.00E+00	Dibenzo(a,h)anthracene*	0.00E+00	2.69E-10	0.00E+00	2.06E-07	2.06E-07
1,2,3,4,7,8-HxCDD	0.00E+00	0.00E+00			0.00E+00	Dichlorobenzene	0.00E+00	2.69E-07			2.69E-07
1,2,3,6,7,8-HxCDD	0.00E+00				0.00E+00	Fluoranthene	9.97E-05	6.72E-10	0.00E+00	9.01E-05	1.90E-04
1,2,3,7,8,9-HxCDD	0.00E+00	0.00E+00			0.00E+00	Fluorene	6.21E-04	6.27E-10	0.00E+00	6.48E-04	1.47E-03
Total HxCDD	0.00E+00				0.00E+00	Indeno(1,2,3-cd)pyrene*	1.14E-06	4.03E-10	0.00E+00	2.62E-07	1.41E-06
1,2,3,4,6,7,8-HpCDD	0.00E+00	0.00E+00			0.00E+00	Naphthalene*	1.47E-02	1.37E-07	0.00E+00	1.45E-03	1.62E-02
Total HpCDD	0.00E+00	0.00E+00			0.00E+00	Perylene	1.44E-06	0.00E+00		2.47E-05	2.62E-05
Octa CDD	0.00E+00	0.00E+00			0.00E+00	Phenanthrene	1.24E-03	3.81E-09	0.00E+00	1.20E-03	2.44E-03
Total PCDD ^h	0.00E+00	0.00E+00			0.00E+00	Pyrene	8.83E-05	1.12E-09	0.00E+00	2.66E-04	3.64E-04
Furans ^e						Non-HAP Organic Compounds					
2,3,7,8-TCDF	0.00E+00				0.00E+00	Acetone*	0.00E+00	0.00E+00		2.16E-03	2.16E-03
Total TCDF	0.00E+00	0.00E+00			0.00E+00	Benzaldehyde	0.00E+00	0.00E+00			0.00E+00
1,2,3,7,8-PeCDF	0.00E+00				0.00E+00	Butane	1.68E-01	5.15E-04			1.68E-01
2,3,4,7,8-PeCDF	0.00E+00				0.00E+00	Butyraldehyde	0.00E+00	0.00E+00			0.00E+00
Total PeCDF	0.00E+00	0.00E+00			0.00E+00	Crotonaldehyde*	0.00E+00	0.00E+00			0.00E+00
1,2,3,4,7,8-HxCDF	0.00E+00				0.00E+00	Ethylene	1.75E+00	0.00E+00		4.09E-02	1.79E+00
1,2,3,6,7,8-HxCDF	0.00E+00				0.00E+00	Heptane	2.35E+00	0.00E+00			2.35E+00
2,3,4,6,7,8-HxCDF	0.00E+00				0.00E+00	Hexanal	0.00E+00	0.00E+00			0.00E+00
1,2,3,7,8,9-HxCDF	0.00E+00				0.00E+00	Isovaleraldehyde	0.00E+00	0.00E+00			0.00E+00
Total HxCDF	0.00E+00	0.00E+00			0.00E+00	2-Methyl-1-pentene	1.00E+00	0.00E+00			1.00E+00
1,2,3,4,6,7,8-HpCDF	0.00E+00				0.00E+00	2-Methyl-2-butene	1.45E-01	0.00E+00			1.45E-01
1,2,3,4,7,8,9-HpCDF	0.00E+00				0.00E+00	3-Methylpentane	4.75E-02	0.00E+00			4.75E-02
Total HpCDF	0.00E+00	0.00E+00			0.00E+00	1-Pentene	5.50E-01	0.00E+00			5.50E-01
Octa CDF	0.00E+00	0.00E+00			0.00E+00	n-Pentane	5.25E-02	0.00E+00			5.25E-02
Total PCDF ^h	0.00E+00	0.00E+00			0.00E+00	Valeraldehyde*	0.00E+00	0.00E+00			0.00E+00
Total PCDD/PCDF ^h	0.00E+00	0.00E+00	0.00E+00		0.00E+00	Metals					
Non-PAH HAPs						Antimony*	4.50E-05	0.00E+00			4.50E-05
Acetaldehyde*	0.00E+00		0.00E+00		0.00E+00	Arsenic*	9.15E-05	4.48E-08			9.16E-05
Acrolein*	0.00E+00		0.00E+00		0.00E+00	Barium	1.45E-03	1.08E-06			1.45E-03
Benzene*	6.38E-02	4.70E-07	0.00E+00	9.91E-04	6.47E-02	Beryllium*	0.00E+00	2.69E-09			2.69E-09
1,3-Butadiene*			0.00E+00		0.00E+00	Cadmium*	6.70E-05	2.46E-07			6.73E-05
Ethylbenzene*	6.00E-02			4.07E-03	6.41E-02	Chromium*	1.38E-03	3.43E-07			1.38E-03
Formaldehyde*	5.07E-01	1.68E-05	0.00E+00	1.43E-02	5.21E-01	Cobalt*	6.50E-06	2.06E-08			6.52E-06
Hexane*	2.30E-01	4.41E-04		4.61E-03	2.35E-01	Copper*	7.75E-04	2.08E-07			7.75E-04
Isocane	1.00E-02			2.82E-05	1.00E-02	Hexavalent Chromium*	7.36E-05	0.00E+00			7.36E-05
Methyl Ethyl Ketone*	0.00E+00			1.70E-03	1.70E-03	Manganese*	1.93E-03	0.00E+00			1.93E-03
Pentane*		6.37E-04			6.37E-04	Mercury*	6.00E-05	0.00E+00			6.00E-05
Propionaldehyde*	0.00E+00				0.00E+00	Molybdenum*	0.00E+00	2.70E-07			2.70E-07
Quinone*	0.00E+00				0.00E+00	Nickel*	1.03E-02	0.00E+00			1.03E-02
Methyl chloroform*	1.20E-02				1.20E-02	Phosphorus*	7.00E-03	0.00E+00			7.00E-03
Toluene*	3.75E-02	8.33E-07	0.00E+00	4.07E-03	4.16E-02	Silver*	1.20E-04	0.00E+00			1.20E-04
Xylene*	5.00E-02		0.00E+00	2.04E-02	7.04E-02	Selenium*	8.75E-05	0.00E+00			8.75E-05
POM (7-PAH Group)*	8.95E-05	2.55E-09	0.00E+00	1.86E-04	2.75E-04	Thallium*	1.03E-06	0.00E+00			1.03E-06
TOTAL PAH HAPs	3.06E-02	4.21E-07	0.00E+00	8.04E-03	3.87E-02	Vanadium*	0.00E+00	5.64E-07			5.64E-07
						Zinc*	1.53E-02	0.00E+00			1.53E-02

e) IDAPA Toxic Air Pollutant

Criteria Pollutant lb/hr emissions are maximum 1-hr averages
TAPs lb/hr rates are 24-hr averages except for those in bold text. Lb/hr rates for bold TAPs (carcinogens) are annual averages.
Pollutants shown in blue text are emitted only when burning Used Oil, but not when burning #2 Fuel Oil or Natural Gas

Max Controlled Emissions of Any Pollutant from Drum Mix HMA Plant Fabric Filter, Tank Heater, Generator, Silo Fill/Load-out

A. Drum Mix Plant: 350 Tons/hour 4,091 Hours/year 1,431,979 Tons/year HMA throughput 6,000
 Maximum emission for each pollutant from any fuel-burning option selected. Fuels Selected = Natural Gas

B. Tank Heater: 0.5000 MMBtu/hr 4,000 Hours/year 12
 Maximum emission for each pollutant from any fuel-burning option selected. Fuels Selected = Natural Gas

C1. IC Engine 1: 0.00 gal/hour 0 Hours/year #2 Fuel Oil Generator < 600hp 0
C2. IC Engine 2: 0.00 gal/hour 0 Hours/year #2 Fuel Oil Generator > 600hp 0

Pollutant	A Drum Mix Max Emission Rate for Pollutant (lb/hr)	B Asphalt Tank Heater Max Emission Rate for Pollutant (lb/hr)	C IC Engine Max Emission Rate for Pollutant (lb/hr)	D Load-out & Silo Filling Emission Rate for Pollutant (lb/hr)	E TOTAL of Max Emission Rates from A, B, C & D (lb/hr)
non-PAH HAPs^a					
Bromomethane ^a				2.49E-04	2.49E-04
2-Butanone (see Methyl Ethyl Ketone)					
Carbon disulfide ^a				6.23E-04	6.23E-04
Chloroethane (Ethyl chloride ^a)				1.24E-04	1.24E-04
Chloromethane (Methyl chloride ^a)				8.57E-04	8.57E-04
Cumene				1.14E-03	1.14E-03
n-Hexane					
Methylene chloride (Dichloromethane ^a)				8.23E-06	8.23E-06
MTBE					
Styrene ^a				2.40E-04	2.40E-04
Tetrachloroethene (Tetrachloroethylene ^a)				8.01E-05	8.01E-05
1,1,1-Trichloroethane (Methyl chloroform ^a)					
Trichloroethene (Trichloroethylene ^a)					
Trichlorofluoromethane				1.35E-05	1.35E-05
m-/p-Xylene ^a				1.04E-02	1.04E-02
o-Xylene ^a				1.01E-02	1.01E-02
Phenol ^{a,f}				1.01E-03	1.01E-03
Non-HAP Organic Compounds					
Methane				8.60E-01	8.60E-01

e) IDAPA Toxic Air Pollutant

APPENDIX B – AMBIENT AIR QUALITY IMPACT ANALYSIS

NO AIR ANALYSIS WAS REQUIRED

APPENDIX C – T-RACT ANALYSIS

NO T-RACT ANALYSIS WAS REQUIRED

APPENDIX D – PROCESSING FEE

Permit modification where no engineering analysis is required

\$250