

April 6, 2001

MEMORANDUM

TO: Mark Dietrich, Administrator
Boise Regional Office

FROM: Allan Johnson 
Air Quality Engineer
State Technical Services Office

SUBJECT: **PERMIT TO CONSTRUCT TECHNICAL ANALYSIS**
P-000330, Idaho Asphalt Supply, Inc., Blackfoot, Idaho
(Asphalt Storage, Mixing, and Distribution Facility, PTC No. 011-00023)

PURPOSE

The purpose of this memorandum is to satisfy the requirements of IDAPA 58.01.01.200 (*Rules for the Control of Air Pollution in Idaho*) for issuing Permits to Construct (PTC).

PROJECT DESCRIPTION

Idaho Asphalt Supply, Inc. (IAS) is proposing the modification of their main boiler to combust recycled waste oil (i.e. used crankcase or motor oil). The dual-fuel burner that IAS is installing in the boiler will still allow the unit to combust natural gas in times when not running on the recycled waste oil. IAS is also requesting that their backup boiler and emergency hot oil heater which were originally installed under self exemptions that cannot be specifically documented, be added to the permit to construct. A secondary hot oil heater that was installed under a self exemption for which documentation exists, is at the facility but is not included in this project.

SUMMARY OF EVENTS

On September 12, 2000, the Idaho Department of Environmental Quality (DEQ) received an application from IAS for the boiler modification. On October 4, 2000, the application was determined complete. Since the time the application was determined complete, more information was requested for modeling purposes and IAS requested some time to explore some options for pollution control and dispersion improvement. Several concerned parties requested a public comment period for the proposed permit. The public comment period began on February 21, 2001 and ended March 23, 2001. The comments that were received have been addressed separately from this technical memorandum. Several typographical errors and a change in the plant manager were the only modifications made to the permit as a result of the public comment period.

DISCUSSION

1. **Process Description**

IAS is a facility that stores asphalt and manufactures and stores asphalt emulsion and asphalt cutback. Asphalt is the product that is left over after crude oil is distilled at oil refineries. Asphalt has a widely varied chemical make-up consisting of very dense hydrocarbon chains containing between 18 and 150 carbon atoms. Asphalt has a very low Volatile Organic Compound (VOC) content, is relatively dense, and is nearly solid at ambient temperatures. Asphalt must be heated

and stored at temperatures reaching up to 300 °F prior to mixing and pumping. Asphalt is the main ingredient in asphalt concrete, which is used for a large number of paving projects in Southeast Idaho.

The asphalt product that is used for the manufacture of asphalt concrete exists in two forms, asphalt emulsion, and asphalt cutback. In order for the asphalt concrete to be workable, the asphalt must be mixed with substances that lower the density of the concrete. Asphalt emulsion is the main product manufactured at the facility. Mixing asphalt with water and surfactants makes asphalt emulsion. Asphalt concrete made from asphalt emulsion solidifies when the water portion of the emulsion evaporates from the mixture, leaving a solid asphalt/gravel behind.

Small quantities of asphalt cutback are manufactured at the facility by mixing asphalt with light oil. Asphalt cutback concrete solidifies when the oil volatilizes.

In an effort to reduce the amount of VOCs emitted into the atmosphere, asphalt emulsion has become the product of choice throughout the United States and represents nearly all product manufactured at the facility.

IAS uses two boilers and two hot oil heaters for heating the asphalt products. The asphalt is stored at 300 °F. Asphalt emulsion is stored at about 160 °F. Asphalt cutback is stored at ambient temperatures.

The larger boiler at the facility, a 500 hp Cleaver Brooks (CB500), will be modified as part of this project to burn recycled waste oil in addition to natural gas. The recycled waste oil will be obtained from an oil recycling facility. In order for the recycled waste oil to be certified as non-hazardous waste in accordance with the Resource Conservation and Recovery Act (RCRA), the oil must contain less than 5 parts per million (ppm) of arsenic, 2 ppm cadmium, 10 ppm chromium, 100 ppm lead, 1,000 ppm total halogens, and a minimum flash point of 100 °F. The supplier has agreed to provide certification that the recycled crankcase oil is below the RCRA standards.

The recycled waste oil will be supplied to IAS by an oil recycling facility that specializes in creating clean fuels from used oil. During the waste oil recycling process, batches of waste oil are filtered and blended to produce a relatively consistent supply of oil. Different degrees of quality can be achieved depending on the degree of filtration that occurs. The waste oil to be used by IAS will be filtered to a higher degree than required by RCRA standards to remove more arsenic and ash from the oil.

The facility operates the boilers and oil heaters only 40 weeks per year due to a decrease in the demand of asphalt during the winter months. The smaller boiler, a 400 hp Cleaver Brooks (CB400), and the hot oil heaters, are used almost exclusively as backup units for the CB500.

2. Equipment Listing

The following is a list of air pollution-emitting equipment that IAS has indicated is to be installed or modified as a part of this project.

2.1 Primary Boiler

Manufacturer:	Cleaver Brooks
Model:	CB500

Heat Input Capacity:	20.5 million BTU per hour
Fuel:	Natural Gas/Recycled Waste Oil
Stack Height:	50 feet
Stack Diameter:	23.5 inches
Exhaust Temperature:	500 °F
Exhaust Flow Rate:	9,518 acfm

2.2 Secondary Boiler

Manufacturer:	Cleaver Brooks
Model:	CB400
Heat Input Capacity:	16.8 million BTU per hour
Fuel:	Natural Gas
Stack Height:	26 feet, 8 inches
Stack Diameter:	23.5 inches
Exhaust Temperature:	500 °F
Exhaust Flow Rate:	6,222 acfm

2.3 Primary Hot Oil Heater

Manufacturer:	CEI Enterprises, Inc.
Model:	CEI-5000G
Heat Input Capacity:	7.3 million BTU per hour
Fuel:	Natural Gas
Stack Height:	6 feet 6 inches
Stack Diameter:	16 inches
Exhaust Temperature:	600 °F
Exhaust Flow Rate:	3,233 acfm

3. Emission Estimates

Emission estimates for this project were calculated using EPA approved AP-42 emission factors. The maximum potential to emit of any pollutant due to this modification is 44 tons per year of sulfur dioxide (SO₂). Actual SO₂ emissions based on 40 weeks of continual operation and a limit on the amount of recycled waste oil that may be combusted are less than 10 tons per year. Under controlled conditions, emissions of NO_x are the highest at 19.52 tons per year. Emissions increases of VOCs, beryllium, and mercury are at levels below regulatory concern as a result of this modification.

Emissions of various toxic air pollutants (TAPs) are expected as a result of this modification. TAP emissions were estimated using a combination of AP-42 emission factors and conservative mass balance techniques. Only emissions of arsenic, benzo(a)pyrene, formaldehyde, and nickel are expected at levels above the screening emission levels (EL). The concentrations of these TAPs have been modeled and are expected to be below the Acceptable Ambient Concentration for Carcinogenic TAPs (AACC). Appendix A contains the exhaustive emission estimates for each emission unit as well as the entire facility.

As part of the emission estimates, a combustion analysis was performed for the CB500 boiler and the Particulate Matter (PM) grain loading was estimated. The PM grain loading calculations indicated that the CB500 boiler would not be able to meet the PM standards contained in IDAPA

58.01.01.676 without additional controls or fuel filtration. IAS agreed to accept a limit on the ash content in the recycled waste oil with a source testing provision in order to meet this standard.

4. Modeling

The facility consists of several buildings and over 60 tanks of various sizes with heights ranging up to 50 feet. This complexity presented a problem in completing a competent dispersion model. During the technical review for the permit, it was determined that a simple SCREEN3 model could not accurately predict ambient concentrations of air pollutants. Therefore, IAS was requested to submit information to DEQ for the completion of an ISC3 Prime dispersion model.

On December 18, 2000, adequate information was received by DEQ and an ISC3 Prime dispersion model was completed for the facility. The ISC3 model predicted concentrations of all criteria pollutants to be below the National Ambient Air Quality Standards (NAAQS) and TAPs below their respective ambient concentration limits except for emissions of arsenic from the CB500 boiler when combusting recycled waste oil. The AACC for arsenic is an annual average standard; therefore, the annual average emissions of arsenic will be controlled by a limit on the amount of fuel that may be combusted during any 12-month period. Appendix B of this technical memorandum contains a summary of the ambient impacts of criteria pollutants and TAPs for the entire facility.

By burning only recycled waste oil that is certified by the supplier to have an arsenic content of no more than one part per million by weight (1 ppm), burning no more than 260,000 gallons of recycled waste oil per consecutive 12 months, and raising the CB500 boiler stack to 50 feet above grade, the facility will be able to meet the annual average AACC for arsenic and all other TAPs.

5. Facility Classification

The facility is not a designated facility as defined in IDAPA 58.01.01.006.27, and not a major facility as defined in IDAPA 58.01.01.006.55 and IDAPA 58.01.01.008.10. The AIRS facility subsystem classification for this facility is "B" because potential uncontrolled emissions not including fugitives are less than 100 tons per any consecutive 12-month period (T/yr). The facility's Standard Industrial Classification (SIC) Code is 2951, which refers to an establishment that is primarily engaged in manufacturing asphalt and tar paving mixtures.

6. Area Classification

The IAS asphalt storage, mixing, and distribution facility is located near Blackfoot, Idaho, which is in Zone 12 and Air Quality Control Region (AQCR) 61. The area is classified as attainment or unclassifiable for all criteria pollutants in accordance with 40 CFR § 81.313.

7. Regulatory Review

The following regulations have been reviewed as a part of this technical analysis.

IDAPA 58.01.01.201

Permit to Construct Required

IAS is proposing a physical change to an emission unit, which will increase the amount of air pollutants emitted into the atmosphere. This constitutes a modification as defined in IDAPA 58.01.01.58, and therefore triggers the need to obtain a PTC for the change.

IDAPA 58.01.01.203 Permit Requirements for New and Modified Stationary Sources

Permit requirements for this source have been placed in the permit to protect the NAAQS, to comply with the TAP standards, to comply with the PM grain loading standard for fuel burning equipment, and the reasonable control of fugitives.

IDAPA 58.01.01.210 Demonstration of Preconstruction Compliance With Toxic Standards

Emissions of TAPs were estimated and modeled to determine their ambient impacts. Limits were placed in the permit to assure compliance with section 210.

IDAPA 58.01.01.577 Ambient Air Quality Standards for Specific Air Pollutants - NAAQS

Emissions of NAAQS pollutants were modeled and none are expected at levels even close to the respective standards for each air pollutant.

IDAPA 58.01.01.585 Toxic Air Pollutants – Non-Carcinogenic Increments

No emissions of non-carcinogenic TAPs were estimated at levels above the screening levels, therefore no additional analysis was required.

IDAPA 58.01.01.586 Toxic Air Pollutants – Carcinogenic Increments

Emissions of several carcinogenic TAPs were estimated at levels above the screening levels. These TAPs were modeled and limits were set to prevent ambient concentrations of any carcinogenic TAP from exceeding the AACC

IDAPA 58.01.01.625 Visible Emissions

Visible emissions are addressed in the permit with the standard conditions for reasonable control.

IDAPA 58.01.01.675 Fuel Burning Equipment – Particulate Matter

Estimates show that only the CB500 boiler will be close to exceeding the PM standard for fuel burning equipment. The permit contains an operating requirement to control the ash content in the fuel oil as well as a source-testing requirement for PM emissions.

40 CFR § 52 Prevention of Significant Deterioration (PSD)

The facility is not a PSD major facility and does not belong to any designated source category, and the modification is not major in and of itself, therefore PSD review is not applicable.

40 CFR § 60 New Source Performance Standards (NSPS)

The CB500 boiler is an affected emission unit under 40 CFR § 60 Subpart Dc. The permit has been written to include all applicable emission limits, operating requirements,

source-testing requirements, and reporting and record-keeping requirements from Subpart Dc.

40 CFR § 61 & 63

National Emission Standards for Hazardous Air Pollutants (NESHAPs) & Maximum Achievable Control Technology (MACT)

There is no applicable NESHAP or MACT for this facility.

8. Permit Requirements

8.1 Emission Limits

The pollutants of concern from the CB500 boiler are PM, SO₂, arsenic and cadmium. There is a limit that has been placed on each of these pollutants to protect the PM grain loading standard, the SO₂ NSPS standard, the TAP AACC for arsenic, and the AACC for cadmium. Each of these emission limits has operating, monitoring, and recordkeeping requirements associated with them. The limits of importance are the emission limits, not the operating requirements, but the operating requirements are necessary in order for IAS to have a practical way of complying with the emission limits. The operating, monitoring, and recordkeeping requirements are in place to make the emission limits enforceable as a practical matter.

In addition to the emission limits on the CB500 boiler, there is an opacity limit and fuel burning equipment PM grain loading standards for each emission unit. These limits generally apply to each emissions unit.

8.2 Operating Requirements

The operating requirements of this permit have been developed to protect all applicable standards for criteria air pollutants and TAPs. Most of the operating requirements are in place to ensure that the recycled waste oil fuel supplied to the CB500 boiler meets the standards for used oil under RCRA, the NSPS standards for industrial steam-generating units, and fuel standards which IAS agreed to in order to meet applicable emission standards for PM and TAPs. The CB400 boiler and the CEI-5000G hot oil heater do not need additional operating requirements as long as they burn only natural gas (which is the only fuel IAS is allowed to burn in those units).

The CB500 boiler, the CB400 boiler, and the CEI-5000G hot oil heater may burn as much natural gas as they are physically capable of using due to the clean-burning nature of natural gas. The amount of natural gas that will actually be combusted during each year is inherently limited by each emission unit's maximum heat capacity and IAS's annual operating schedule. The amount of recycled waste oil combusted in the CB500 boiler, however, is limited to 260,000 gallons in any 12 month consecutive period. The reason for this annual limit of recycled waste oil combustion is to protect the concentrations of TAP emissions from exceeding the standards in IDAPA 58.01.01.586.

According to 40 CFR § 279.11, used oil burned for energy recovery is considered hazardous waste regulated under RCRA unless the oil meets all of the following standards: (1) a maximum arsenic content of 5 ppm, (2) a maximum cadmium content of 2ppm, (3) a maximum chromium content of 10 ppm, (4) a maximum lead content of 100 ppm, (5) a minimum flash point of 100 °F, and (6) a maximum total halogen content of

1,000 ppm. Used oil that meets these standards is referred to as "on specification" oil and is not regulated by RCRA. This permit requires IAS to burn only recycled waste oil that has been certified by the fuel supplier to meet these specifications.

With the modification of the CB500 boiler to burn an alternative fuel, it will become an NSPS affected unit under 40 CFR § 60, Subpart Dc. The requirement associated with this subpart is a SO₂ standard. Compliance with the SO₂ standard may be shown by burning only recycled waste oil with a sulfur content of 0.5 wt% or less. This standard is more stringent than the requirement in IDAPA 58.01.01.727.02 which requires oil that meets the ASTM residual fuel oil characteristics to contain a sulfur content of 1.75 wt% or less.

Engineering analysis showed that it would be possible for the CB500 boiler to violate the fuel burning equipment PM grain loading standard contained in IDAPA 58.01.01.675 (0.05 grains per dry standard cubic feet (gr/dscf) corrected to 3% O₂), when operating on recycled waste oil. For the purpose of preventing this standard from being violated, IAS decided to have the oil filtered by the supplier and certified to contain less than 2 wt% of ash content. While analysis shows that an ash content of 2 wt% corresponds to PM emissions just below the grain loading standard, actual PM emissions from the unit may be above the allowable standard, therefore, source testing for PM is being required in the permit to determine compliance with IDAPA 58.01.01.675.

In order to protect the standard for arsenic as contained in IDAPA 58.01.01.586, which is an annual average concentration, IAS agreed to accept a limit to require all recycled waste oil to have an arsenic content of less than 1ppm. In addition to the fuel content limit for arsenic, IAS agreed to establish the height of the CB500 boiler stack to 50 feet above grade. Increasing stack height is a dispersion technique that is allowed under IDAPA 58.01.01.510. IAS determined that they would be able to obtain adequate dispersion of TAPs by increasing the stack height of the CB500 boiler to 50 feet above the ground.

The standard permit conditions for the control of fugitive emissions is included in the operating requirements section of the permit to ensure compliance with IDAPA 58.01.01.651.

8.3 Monitoring and Record Keeping Requirements

A compliance test for PM emissions from the CB500 boiler is required as part of the monitoring and record keeping section of the permit. The purpose of this is for IAS to demonstrate compliance with the fuel burning equipment PM grain loading standard contained in IDAPA 58.01.01.675. The reason why the source test was deemed necessary is due to the emission estimates of PM at levels very close to the standard even after taking the ash content requirement into consideration.

The SO₂ performance test for the CB500 boiler as required by 40 CFR § 60, Subpart Dc, consists of certification from the fuel supplier. No additional testing for SO₂ will be required for the CB500 boiler or any other unit.

In order to show compliance with all the fuel certifications for the recycled waste oil, IAS is required to maintain certification of the RCRA standards, ash content, sulfur content, and arsenic content. All of these certifications may be obtained as a single

document, but must have all the information required by sections 3.4.1, 3.4.2, 3.4.3, and 3.4.4 of the permit.

There are no monitoring or record keeping requirements for the CB400 boiler or CEI-5000G hot oil heater due to their lack of significant emissions.

9. Permit Coordination

The IAS facility in Blackfoot is not a major facility as defined by IDAPA 58.01.01.006.55 and IDAPA 58.01.01.008.10. However, the applicant has indicated that it is an NSPS-affected facility (40 CFR Part 60, Subpart I), and as such, it is a Tier I source as defined by IDAPA 58.01.01.006.104(b). In accordance with IDAPA 58.01.01.301.02(b), these Tier I sources not located at major facilities do not require a Tier I operating permit until June 1, 2001, unless an earlier date is required by an applicable standard or EPA determines that no Tier I operating permit is required.

In order to quantify the facility-wide emissions from this facility and combine all applicable permit limits into one permit, the DEQ Air Program Office has recommended to the Pocatello Regional Office that a Tier II operating permit be issued for this facility.

10. AIRS Information

Information necessary to update the AIRS database is included as Appendix C of this technical memorandum.

FEES

The IAS facility is not a major facility as defined in IDAPA 58.01.01.008.10. Therefore, registration fees are not applicable in accordance with IDAPA 58.01.01.527.

RECOMMENDATION

Based on review of application materials and all applicable state and federal rules and regulations, DEQ staff recommend that Idaho Asphalt Supply, Inc. be issued PTC No. 011-00023 for boiler construction and modification. The project does not involve Prevention of Significant Deterioration (PSD) requirements.

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cc: DEQ State Office
Pocatello Regional Office

Appendix A

Emission Estimate Calculations

P-000330

Idaho Asphalt Supply, Inc., Blackfoot, ID

Idaho Asphalt Supply Fuel-Burning Equipment Emission Summary

Potential to Emit

Regulated Pollutants	Potential Emissions (lb/hr)	Potential Emissions (T/yr)	Limited Emissions (T/yr)	Significant Level (T/yr)	Below Regulatory Concern?	Significant Increase?
Criteria Pollutants						
PM-10	1.57	6.9	2.78	15	NO	NO
SO ₂	10.1	44.0	9.7	40	NO	NO
NO _x	4.92	21.5	21.43	40	NO	NO
CO	3.34	14.6	15.28	100	NO	NO
VOC	0.27	1.17	1.18	40	YES	NO
Lead	0.083	0.36	0.079	0.6	NO	NO

Non-Criteria Pollutants with a Significant Threshold						
PM	1.93	8.4	3.12	25	NO	NO
Beryllium	5.25E-07	2.30E-06	2.30E-06	0.0004	YES	NO
Mercury	2.16E-05	9.45E-05	6.45E-05	0.1	YES	NO

Other Pollutants						
TOC	0.48	2.11	2.24	N/A	N/A	N/A
HCl	6.04	26.5	5.75	N/A	N/A	N/A
Methane	0.12	0.52	0.50	N/A	N/A	N/A
CO ₂	3007	13,169	2,860	N/A	N/A	N/A
N ₂ O	0.096	0.42	0.42	N/A	N/A	N/A

Toxic Air Pollutant Information

Toxic Air Pollutant	Emissions (lb/hr)	Emissions (lb/yr)	EL (lb/hr)	Below Concern?	Modeling Required? ^a
Arsenic	1.13E-03	3.79E-03	1.50E-06	NO	YES
Barium	1.92E-04	6.46E-04	3.30E-02	YES	NO
Benzene	3.43E-05	1.15E-04	8.00E-04	YES	NO
Beryllium	5.25E-07	1.76E-06	2.80E-05	YES	NO
Benzo(a)pyrene	5.75E-04	1.93E-03	2.00E-06	NO	YES
Bis(2-ethylhexyl)phthalate	3.01E-04	1.01E-03	2.80E-02	YES	NO
Cadmium	4.75E-04	1.60E-03	3.70E-06	NO	YES
Chromium	3.70E-04	1.24E-03	3.33E-02	YES	NO
Cobalt	3.07E-05	1.03E-04	7.00E-03	YES	NO
Copper	2.61E-04	8.76E-04	1.30E-02	YES	NO
Dibutylphthalate	4.65E-06	1.56E-05	3.33E-01	YES	NO
Dichlorobenzene	1.09E-07	3.67E-07	2.00E+01	YES	NO
Ethylbenzene	8.69E-06	2.92E-05	2.90E+01	YES	NO
Fluorene	6.77E-07	2.27E-06	1.33E-01	YES	NO
Formaldehyde	5.91E-03	1.99E-02	5.10E-04	NO	YES
Hexane	7.87E-02	2.64E-01	1.20E+01	YES	NO
Manganese	9.30E-03	3.13E-02	6.70E-02	NO	NO
Mercury	2.16E-05	7.25E-05	3.00E-03	YES	NO
Molybdenum	4.81E-05	1.62E-04	3.30E-01	YES	NO
Napthalene	1.79E-03	6.02E-03	3.33E+00	YES	NO
Nickel	1.55E-03	5.22E-03	2.70E-05	NO	YES
Pentane	1.14E-01	3.82E-01	1.18E+02	YES	NO
Phenol	3.28E-04	1.10E-03	1.27E+00	YES	NO
Selenium	1.05E-06	3.53E-06	1.30E-02	YES	NO
Toluene	9.28E-04	3.12E-03	2.50E+01	YES	NO
Vanadium	1.01E-04	3.38E-04	None	N/A	NO
o-Xylene	1.49E-05	5.01E-05	2.90E+01	YES	NO
Zinc	4.66E-03	1.57E-02	6.67E-01	YES	NO

a - Only the pollutants with emissions higher than the screening limit (EL) need to be modeled.

CB500 Boiler
Emission Summary

Waste Oil Operating Parameters		Natural Gas Operating Parameters		Waste Oil Properties	
Boiler Heat Input (MM Btu/hr) =	20.50	Boiler Heat Input (MM Btu/hr) =	20.50	Fuel Sulfur Content (S) (%wt) =	0.5
Fuel Heat Value (Btu/gal) =	150,000	Fuel Heat Value (Btu/cfm) =	1,020	Fuel Ash Content (A) (%wt) =	0.2
Gallons of Fuel Burned (gal/hr) =	137	Cubic Feet of Fuel Burned (cf/hr) =	20,098	Fuel Lead Content (L) (%wt) =	0.011
Pounds of fuel burned (lb/hr) =	1,122	Max. Cubic Feet of Fuel Burned (MMcf/yr) =	178.06	Fuel Chlorine Content (Cl) (%wt) =	0.67
Max. Gallons of Fuel Burned (MMgal/yr) =	1.20	Actual Cubic Feet of Fuel Burned (Mgal/yr) =	137.82	Fuel Arsenic Content (As) (ppm) =	1
Actual Gallons of Fuel Burned (Mgal/yr) =	260.00	Max Hours of Operation (hr/yr) =	8,760	Fuel Cadmium Content (Ca) (ppm) =	0.4
Max Hours of Operation (hr/yr) =	8,760	Actual Hours of Operation (hr/yr) =	6,858	Fuel Chromium Content (Cr) (ppm) =	0.3
Actual Hours of Operation (hr/yr) =	1,902	Actual Operation (weeks/yr) =	41	Density of Waste Oil (lb/gal) =	8.212
Actual Operation (weeks/yr) =	11	Permitted hours of operation (hr/yr) =	8,760		
Permitted hours of operation* (hr/yr) =	1,902	Permitted hours of operation (hr/day) =	24		
Permitted Daily hours of operation* (hr/day) =	24				
Fuel limit* (gal/yr) =	260,000				

a - Federally-enforceable operating limits for the purpose of reducing emissions.

Potential to Emit

Regulated Pollutants	Oil EF (lb/10 ³ gal)	Oil Hourly Emissions (lb/hr)	Natural Gas EF (lb/MMcf)	Natural Gas Emissions (lb/hr)	Potential Emissions (T/yr)	Limited Emissions (T/yr)	Significant Level (T/yr)	Below Regulatory Concern?	Significant Increase?
Criteria Pollutants									
PM-10	51 A	1.39	7.6	0.15	6.1	2.00	15	NO	NO
SO2	147 S	10.0	0.6	0.012	44.0	9.6	40	NO	NO
NOx	19	2.80	100	2.01	11.4	11.27	40	NO	NO
CO	5	0.68	84	1.69	2.99	8.04	100	YES	NO
VOC	1	0.137	5.5	0.111	0.60	0.61	40	YES	NO
Lead	55 L	8.27E-02	5.00E-04	1.00E-05	3.62E-01	7.87E-02	0.6	NO	NO

Non-Criteria Pollutants with a Significant Threshold									
PM	84 A	1.75	7.6	0.15	7.7	2.33	25	YES	NO
Beryllium	N/A	N/A	1.20E-05	2.41E-07	1.06E-06	1.06E-06	0.0004	YES	NO
Mercury	1.13E-04	1.54E-05	2.60E-04	5.23E-06	6.76E-05	3.76E-05	0.1	YES	NO

Other Pollutants									
TOC	1	0.137	11	0.22	0.60	1.10	N/A	N/A	N/A
HCl	66 C	6.04	N/A	N/A	26.5	5.75	N/A	N/A	N/A
Methane	0.475	0.065	2.3	0.046	0.28	0.28	N/A	N/A	N/A
CO2	22,000	3,007	N/A	N/A	13,169	2,860	N/A	N/A	N/A
N2O	N/A	N/A	2.2	0.044	0.194	0.194	N/A	N/A	N/A

Grain Loading PM Standard

Emission Rate of Waste Oil (lb/hr)	PM Emiss. (ar/min)	Stack Flow (acfm)	Std Flow (dscfm)	DSCF @ 3% O2	Grain Load (gr/dscf)	Meets Standard? ^a
1.75	204.1	12,163	5,463	4,095	0.050	YES

Emission Rate of Natural Gas (lb/hr)	PM Emiss. (ar/min)	Stack Flow (acfm)	Std Flow (dscfm)	DSCF @ 3% O2	Grain Load (gr/dscf)	Meets Standard? ^a
0.15	17.8	12,163	5,463	4,095	0.004	YES

b - The standard is 0.050 gr/dscf for oil combustion and 0.015 gr/dscf for NG combustion (both corrected to 3% Oxygen).

Toxic Air Pollutant Information

Toxic Air Pollutant	Oil EF (lb/10 ³ gal)	Oil ER (lb/hr)	NG EF (lb/MMcf)	NG ER (lb/hr)	Average (lb/hr)	Emissions (lb/yr)	EL (lb/hr)	Below Concern?	Modeling Required? ^d
Arsenic ^c	8.21E-03	1.12E-03	2.00E-04	4.02E-06	2.48E-04	2.17E+00	1.50E-06	NO	YES
Barium		6.01E-07	4.40E-03	8.84E-05	8.86E-05	7.76E-01	3.30E-02	NO	NO
Benzene ^c	2.14E-04	2.92E-05	2.14E-04	4.30E-06	1.07E-05	9.33E-02	8.00E-04	NO	NO
Beryllium ^c	BDL	N/A	1.20E-05	2.41E-07	2.41E-07	2.11E-03	2.80E-05	NO	NO
Benzo(a)pyrene ^c	4.00E-03	5.47E-04	1.20E-03	2.41E-05	1.43E-04	1.25E+00	2.00E-06	NO	YES
Bis(2-ethylhexyl)phthalate ^c	2.20E-03	3.01E-04			6.53E-05	5.72E-01	2.80E-02	NO	NO
Cadmium ^c	3.28E-03	4.49E-04	1.10E-03	2.21E-05	1.20E-04	1.05E+00	3.70E-06	NO	YES
Chromium	2.46E-03	3.37E-04	1.40E-03	2.81E-05	1.01E-04	8.87E-01	3.33E-02	NO	NO
Cobalt	2.10E-04	2.87E-05	8.40E-05	1.69E-06	7.92E-06	6.94E-02	7.00E-03	NO	NO
Copper	1.78E-03	2.41E-04	6.50E-04	1.71E-05	6.93E-05	6.07E-01	1.30E-02	NO	NO
Dibutylphthalate	3.40E-05	4.65E-06			1.01E-06	8.84E-03	3.33E-01	NO	NO
Dichlorobenzene	8.00E-07	1.09E-07			2.37E-08	2.06E-04	2.00E+01	NO	NO
Ethylbenzene	6.36E-05	8.69E-06			1.89E-06	1.65E-02	2.90E+01	NO	NO
Fluorene	4.47E-06	6.11E-07	2.80E-06	5.63E-08	1.89E-07	1.66E-03	1.33E-01	NO	NO
Formaldehyde ^c	3.03E-02	4.14E-03	7.50E-02	1.51E-03	2.41E-03	2.11E+01	5.10E-04	NO	YES
Hexane		2.46E-04	1.80E+00	3.62E-02	3.62E-02	3.17E+02	1.20E+01	NO	NO
Manganese	6.80E-02	9.29E-03	3.80E-04	7.64E-06	2.03E-03	1.77E+01	6.70E-02	NO	NO
Mercury	1.13E-04	1.54E-05	2.60E-04	5.23E-06	6.56E-06	7.52E-02	3.00E-03	NO	NO
Molybdenum		1.50E-07	1.10E-03	2.21E-05	2.21E-05	1.94E-01	3.30E-01	NO	NO
Naphthalene	1.30E-02	1.78E-03	6.10E-04	1.23E-05	3.98E-04	3.49E+00	3.33E+00	NO	NO
Nickel ^c	1.10E-02	1.50E-03	2.10E-03	4.22E-05	3.69E-04	3.23E+00	2.70E-05	NO	YES
Pentane		3.55E-04	2.60E+00	5.23E-02	5.23E-02	4.58E+02	1.18E+02	NO	NO
Phenol	2.40E-03	3.28E-04			7.12E-05	6.24E-01	1.27E+00	NO	NO
Selenium	BDL	N/A	2.40E-05	4.82E-07	4.82E-07	4.23E-03	1.30E-02	NO	N/A
Toluene	6.20E-03	8.47E-04	3.40E-03	6.83E-05	2.52E-04	2.21E+00	2.50E+01	NO	NO
Vanadium		3.14E-07	2.30E-03	4.62E-05	4.63E-05	4.06E-01	None	N/A	NO
p-Xylene	1.09E-04	1.49E-05			3.24E-06	2.83E-02	2.90E+01	NO	NO
Zinc	2.91E-02	3.98E-03	2.90E-02	5.83E-04	1.45E-03	1.27E+01	6.67E-01	NO	NO

c - Indicates carcinogenic toxic air pollutants which have an annual ambient acceptable concentration for carcinogenics (AACC) rather than a 24-hr ambient acceptable concentrations (AAC) like the non-carcinogenic toxics.

d - Only the pollutants with emissions higher than the screening limit (EL) need to be modeled.

CB400 Boiler
Emission Summary

Natural Gas	
Boiler Heat Input (MM Btu/hr) =	16.80
Fuel Heat Value (Btu/cfm) =	1,020
Cubic Feet of Fuel Burned (cf/hr) =	16,471
Fuel Heat Value (Btu/lb) =	22,900
Pounds of Fuel Burned per Hour (lb/hr) =	734
Max. Cubic Feet of Fuel Burned (MMcf/yr) =	144.28
Actual Cubic Feet of Fuel Burned (Mgal/yr) =	144.28
Max Hours of Operation (hr/yr) =	8,760
Actual Hours of Operation (hr/yr) =	8,760
Actual Operation (weeks/yr) =	52
Permitted hours of operation (hr/yr) =	8,760
Permitted hours of operation (hr/dav) =	24

Potential to Emit

Regulated Pollutants	Natural Gas EF (lb/MMcf)	Natural Gas Emissions (lb/hr)	Potential Emissions (T/yr)	Limited Emissions (T/yr)	Significant Level (T/yr)	Below Regulatory Concern?	Significant Increase?
Criteria Pollutants							
PM-10	7.6	0.13	0.5	0.55	15	YES	NO
SO2	0.6	0.010	0.0	0.0	40	YES	NO
NOx	100	1.65	7.2	7.21	40	NO	NO
CO	84	1.38	6.06	6.06	100	YES	NO
VOC	5.5	0.091	0.397	0.397	40	YES	NO
Lead	5.00E-04	8.24E-06	3.61E-05	3.61E-05	0.6	YES	NO

Non-Criteria Pollutants with a Significant Threshold							
PM	7.6	0.13	0.5	0.55	25	YES	NO
Beryllium	1.20E-05	1.98E-07	8.66E-07	8.66E-07	0.0004	YES	NO
Mercury	2.60E-04	4.28E-06	1.88E-05	1.88E-05	0.1	YES	NO

Other Pollutants							
TOC	11	0.18	0.79	0.79	N/A	N/A	N/A
Methane	2.3	0.038	0.17	0.17	N/A	N/A	N/A
N2O	2.2	0.036	0.16	0.16	N/A	N/A	N/A

Grain Loading PM Standard

Emission Rate of Natural Gas (lb/hr)	PM Emiss. (ar/min)	Stack Flow (acfm)	Std Flow (dscfm)	DSCF @ 3% O2 (dscfm)	Grain Load (gr/dscf)	Meets Standard? ^a
0.13	14.6	6,222	2,661	2,792	0.005	YES

a - The standard is 0.015 gr/dscf for NG combustion (corrected to 3% Oxygen).

Toxic Air Pollutant Information

Toxic Air Pollutant	NG EF (lb/MMcf)	NG ER (lb/hr)	Emissions (lb/yr)	EL (lb/hr)	Below Concern?	Modeling Required? ^c
Arsenic ^b	2.00E-04	3.29E-06	1.44E-05	1.50E-06	NO	YES
Barium	4.40E-03	7.25E-05	3.17E-04	3.30E-02	YES	NO
Benzene ^b	2.14E-04	3.52E-06	1.54E-05	8.00E-04	YES	NO
Beryllium ^b	1.20E-05	1.98E-07	8.66E-07	2.80E-05	YES	NO
Benzo(a)pyrene ^b	1.20E-03	1.98E-05	8.66E-05	2.00E-06	NO	YES
Cadmium ^b	1.10E-03	1.81E-05	7.94E-05	3.70E-06	NO	YES
Chromium	1.40E-03	2.31E-05	1.01E-04	3.33E-02	YES	NO
Cobalt	8.40E-05	1.38E-06	6.06E-06	7.00E-03	YES	NO
Copper	8.50E-04	1.40E-05	6.13E-05	1.30E-02	YES	NO
Fluorene	2.80E-06	4.61E-08	2.02E-07	1.33E-01	YES	NO
Formaldehyde ^b	7.50E-02	1.24E-03	5.41E-03	5.10E-04	NO	YES
Hexane	1.80E+00	2.96E-02	1.30E-01	1.20E+01	YES	NO
Manganese	3.80E-04	6.26E-06	2.74E-05	6.70E-02	YES	NO
Mercury	2.60E-04	4.28E-06	1.88E-05	3.00E-03	YES	NO
Molybdenum	1.10E-03	1.81E-05	7.94E-05	3.30E-01	YES	NO
Napthalene	6.10E-04	1.00E-05	4.40E-05	3.33E+00	YES	NO
Nickel ^b	2.10E-03	3.46E-05	1.51E-04	2.70E-05	NO	YES
Pentane	2.60E+00	4.28E-02	1.88E-01	1.18E+02	YES	NO
Selenium	2.40E-05	3.95E-07	1.73E-06	1.30E-02	YES	NO
Toluene	3.40E-03	5.60E-05	2.45E-04	2.50E+01	YES	NO
Vanadium	2.30E-03	3.79E-05	1.66E-04	None	N/A	N/A
Zinc	2.90E-02	4.78E-04	2.09E-03	6.67E-01	YES	NO

b - Indicates carcinogenic toxic air pollutants which have an annual ambient acceptable concentration for carcinogenics (AACC) rather than a 24-hr ambient acceptable concentrations (AAC) like the non-carcinogenic toxics.

c - Only the pollutants with emissions higher than the screening limit (EL) need to be modeled.

CEI-5000G Hot Oil Heater
Emission Summary

Natural Gas	
Hot Oil Heater Heat Input (MM Btu/hr) =	7.30
Fuel Heat Value (Btu/cfm) =	1,020
Fuel Heat Value (lb/cfm) =	22,900
Cubic Feet of Fuel Burned (cf/hr) =	7,157
Pounds of Fuel Burned (lb/hr) =	319
Max. Cubic Feet of Fuel Burned (MMcf/yr) =	62.69
Actual Cubic Feet of Fuel Burned (Mgal/yr) =	62.69
Max Hours of Operation (hr/yr) =	8,760
Actual Hours of Operation (hr/yr) =	8,760
Permitted hours of operation ^a (hr/yr) =	8,760
Permitted Daily hours of operation ^a (hr/dav) =	24

Potential to Emit

Regulated Pollutants	EF (lb/MMcf)	Hourly Emissions (lb/hr)	Potential Emissions (T/yr)	Limited Emissions (T/yr)	Significant Level (T/yr)	Below Regulatory Concern?	Significant Increase?
Criteria Pollutants							
PM-10	7.6	0.054	0.238	0.238	15	YES	NO
SO2	0.29	0.0020	0.0090	0.0090	40	YES	NO
NOx	94	0.67	2.95	2.95	40	YES	NO
CO	37.5	0.27	1.18	1.18	100	YES	NO
VOC	5.5	0.039	0.172	0.172	40	YES	NO
Lead	5.00E-04	3.58E-06	1.57E-05	1.57E-05	0.6	YES	NO

Non-Criteria Pollutants with a Significant Threshold							
PM	7.6	0.054	0.238	0.238	25	YES	NO
Beryllium	1.20E-05	8.59E-08	3.76E-07	3.76E-07	0.0004	YES	NO
Mercury	2.60E-04	1.86E-06	8.15E-06	8.15E-06	0.1	YES	NO

Other Pollutants							
TOC	11	0.079	0.34	0.34	N/A	N/A	N/A
Methane	2.3	0.016	0.072	0.072	N/A	N/A	N/A
N2O	2.2	0.016	0.07	0.07	N/A	N/A	N/A

Grain Loading Standard for Particulate Matter

Emission Rate of PM (lb/hr)	PM Emiss. (gr/min)	Stack Flow (acfm)	Std Flow (dscfm)	DSCF @ 3% O2 (dscfm)	Grain Load (gr/dscf)	Meets Standard? ^a
0.05	6.3	2,985	1,156	1,213	0.005	YES

a - The standard is 0.015 gr/dscf for NG combustion (corrected to 3% Oxygen).

Toxic Air Pollutant Information

Toxic Air Pollutant	EF (lb/MMcf)	Emissions (lb/hr)	Emissions (lb/yr)	EL (lb/hr)	Below Concern?	Modeling Required? ^c
Arsenic ^b	2.00E-04	1.43E-06	1.25E-02	1.50E-06	NO	NO
Barium	4.40E-03	3.15E-05	2.76E-01	3.30E-02	YES	NO
Benzene ^b	2.14E-04	1.53E-06	1.34E-02	8.00E-04	YES	NO
Benzo(a)pyrene ^b	1.20E-03	8.59E-06	7.52E-02	3.30E-03	YES	NO
Beryllium ^b	1.20E-05	8.59E-08	7.52E-04	2.80E-05	YES	NO
Cadmium ^b	1.10E-03	7.87E-06	6.90E-02	3.70E-06	NO	YES
Chromium	1.40E-03	1.00E-05	8.78E-02	3.33E-02	YES	NO
Cobalt	8.40E-05	6.01E-07	5.27E-03	7.00E-03	YES	NO
Copper	8.50E-04	6.08E-06	5.33E-02	1.30E-02	YES	NO
Fluorene	2.80E-06	2.00E-08	1.76E-04	1.33E-01	YES	NO
Formaldehyde ^b	7.50E-02	5.37E-04	4.70E+00	5.10E-04	NO	YES
Hexane	1.80E+00	1.29E-02	1.13E+02	1.20E+01	YES	NO
Manganese	3.80E-04	2.72E-06	2.38E-02	6.70E-02	YES	NO
Mercury	2.60E-04	1.86E-06	1.63E-02	3.00E-03	YES	NO
Molybdenum	1.10E-03	7.87E-06	6.90E-02	3.30E-01	YES	NO
Napthalene	6.10E-04	4.37E-06	3.82E-02	3.33E+00	YES	NO
Nickel ^b	2.10E-03	1.50E-05	1.32E-01	2.70E-05	NO	NO
Pentane	2.60E+00	1.86E-02	1.63E+02	1.18E+02	YES	NO
Selenium	2.40E-05	1.72E-07	1.50E-03	1.30E-02	YES	NO
Toluene	3.40E-03	2.43E-05	2.13E-01	2.50E+01	YES	NO
Vanadium	2.30E-03	1.65E-05	1.44E-01	None	YES	NO
Zinc	2.90E-02	2.08E-04	1.82E+00	6.67E-01	YES	NO

b - indicates carcinogenic toxic air pollutants which have an annual ambient acceptable concentration for carcinogenics (AACC) rather than a 24-hr ambient acceptable concentrations (AAC) like the non-carcinogenic toxics.

c - Only the pollutants with emissions higher than the screening limit (EL) need to be modeled, therefore the pollutants which do not need modeling are shown as meeting the AAC or AACC.

Appendix B

Modeling Results

P-000330

Idaho Asphalt Supply, Inc., Blackfoot, ID

Idaho Asphalt Supply - Blackfoot
Modeling Summary

CB500

Pollutant of Concern	ER (lb/hr)	EL (lb/hr)	Use Factor (%)	Concentrations										Meets Limit?		
				1-hr		3-hr		8-hr		24-hr		Quarterly			Annual	
				Actual	Limit*	Actual	Limit*	Actual	Limit*	Actual	Limit*	Actual	Limit*		Actual	Limit*
PM-10	1.39		21.72	16.44	-	-	-	-	-	7.13	64	-	-	0.6995427	17.3	YES
SO2	10.0		21.72	118.27	-	103.4	757	-	-	51.35	221	-	-	2.0111294	56.6	YES
NOx	2.60		21.72	30.75	-	-	-	-	-	-	-	-	-	2.3689	60	YES
CO	1.69		21.72	19.98	28,600	-	-	14.11	4,870	-	-	-	-	-	-	YES
Lead	8.27E-02		21.72	9.78E-01	-	-	-	-	-	-	-	2.20E-01	1.33	-	-	YES
Arsenic	1.12E-03	1.50E-06	21.72	1.33E-02	-	-	-	-	-	-	-	-	-	2.29E-04	2.30E-04	YES
Benzo(a)pyrene	5.47E-04	2.00E-06	21.72	6.47E-03	-	-	-	-	-	-	-	-	-	1.40E-04	3.00E-04	YES
Cadmium	4.49E-04	3.70E-06	21.72	4.86E-02	-	-	-	-	-	-	-	-	-	5.31E-04	5.60E-04	YES
Formaldehyde	4.14E-03	5.10E-04	21.72	4.90E-02	-	-	-	-	-	-	-	-	-	2.57E-03	7.70E-02	YES
Nickel	1.50E-03	2.70E-05	21.72	1.77E-02	-	-	-	-	-	-	-	-	-	3.44E-04	4.20E-03	YES

CB400

Pollutant of Concern	ER (lb/hr)	EL (lb/hr)	Use Factor (%)	Concentrations										Meets Limit?		
				1-hr		3-hr		8-hr		24-hr		Quarterly			Annual	
				Actual	Limit*	Actual	Limit*	Actual	Limit*	Actual	Limit*	Actual	Limit*		Actual	Limit*
PM-10	0.13		100	3.712	-	-	-	-	-	1.99	64	-	-	0.54227	17.3	YES
SO2	0.0099		100	0.28	-	0.26	757	-	-	0.15	221	-	-	0.0413	56.6	YES
NOx	1.65		100	47.125	-	-	-	-	-	-	-	-	-	6.88271	60	YES
CO	1.38		100	39.41	28,600	-	-	32.83	4,870	-	-	-	-	-	-	YES
Lead	8.24E-06		100	2.40E-04	-	-	-	-	-	-	-	5.40E-05	1.33	-	-	YES
Arsenic	3.29E-06	1.50E-06	100	9.00E-05	-	-	-	-	-	-	-	-	-	1.00E-05	2.30E-04	YES
Benzo(a)pyrene	1.98E-05	2.00E-06	100	2.50E-04	-	-	-	-	-	-	-	-	-	4.00E-05	3.00E-04	YES
Cadmium	1.81E-05	3.70E-06	100	2.20E-04	-	-	-	-	-	-	-	-	-	3.00E-05	5.60E-04	YES
Formaldehyde	1.24E-03	5.10E-04	100	1.53E-02	-	-	-	-	-	-	-	-	-	2.24E-03	7.70E-02	YES
Nickel	3.46E-05	2.70E-05	100	4.30E-04	-	-	-	-	-	-	-	-	-	6.00E-05	4.20E-03	YES

CEI-5000G

Pollutant of Concern	ER (lb/hr)	EL (lb/hr)	Use Factor (%)	Concentrations										Meets Limit?		
				1-hr		3-hr		8-hr		24-hr		Quarterly			Annual	
				Actual	Limit*	Actual	Limit*	Actual	Limit*	Actual	Limit*	Actual	Limit*		Actual	Limit*
PM-10	0.05		100	3.535	-	-	-	-	-	1.919	64	-	-	0.47905	17.3	YES
SO2	0.0020		100	0.14	-	0.12	757	-	-	0.077	221	-	-	0.01916	56.6	YES
NOx	0.67		100	47.38	-	-	-	-	-	-	-	-	-	6.41922	60	YES
CO	0.27		100	19.09	28,600	-	-	12.95	4,870	-	-	-	-	-	-	YES
Lead	3.58E-06		100	2.50E-04	-	-	-	-	-	-	-	5.63E-05	1.33	-	-	YES
Arsenic	1.43E-06	1.50E-06	100	9.00E-05	-	-	-	-	-	-	-	-	-	1.00E-05	2.30E-04	YES
Benzo(a)pyrene	8.59E-06	2.00E-06	100	6.10E-04	-	-	-	-	-	-	-	-	-	8.00E-05	3.00E-04	YES
Cadmium	7.87E-06	3.70E-06	100	5.60E-04	-	-	-	-	-	-	-	-	-	8.00E-05	5.60E-04	YES
Formaldehyde	5.37E-04	5.10E-04	100	3.80E-02	-	-	-	-	-	-	-	-	-	5.14E-03	7.70E-02	YES
Nickel	1.50E-05	2.70E-05	100	1.06E-03	-	-	-	-	-	-	-	-	-	1.40E-04	4.20E-03	YES

FACILITY TOTAL

Pollutant of Concern	ER (lb/hr)	EL (lb/hr)	Use Factor (%)	Concentrations										Meets Limit?		
				1-hr		3-hr		8-hr		24-hr		Quarterly			Annual	
				Actual	Limit*	Actual	Limit*	Actual	Limit*	Actual	Limit*	Actual	Limit*		Actual	Limit*
PM-10	1.57		100	18.99	-	-	-	-	-	9.198	64	-	-	0.8256229	17.3	YES
SO2	10.1		100	118.46	-	103.6	757	-	-	51.46	221	-	-	2.0162829	56.6	YES
NOx	4.92		100	87.165	-	-	-	-	-	-	-	-	-	11.80259	60	YES
CO	3.34		100	60.62	28,600	-	-	47.64	4,870	-	-	-	-	-	-	YES
Lead	8.27E-02		100	9.78E-02	-	-	-	-	-	-	-	2.20E-02	1.33	-	-	YES
Arsenic	1.13E-03	1.50E-06	100	1.33E-02	-	-	-	-	-	-	-	-	-	2.30E-04	2.30E-04	YES
Benzo(a)pyrene	5.75E-04	2.00E-06	100	6.64E-03	-	-	-	-	-	-	-	-	-	1.49E-04	3.00E-04	YES
Cadmium	4.75E-04	3.70E-06	100	4.88E-02	-	-	-	-	-	-	-	-	-	5.37E-04	5.60E-04	YES
Formaldehyde	5.91E-03	5.10E-04	100	6.37E-02	-	-	-	-	-	-	-	-	-	7.59E-03	7.70E-02	YES
Nickel	1.55E-03	2.70E-05	100	1.80E-02	-	-	-	-	-	-	-	-	-	3.58E-04	4.20E-03	YES

* Note: The limit as listed here is the NAAQS limit for each pollutant with the statewide background for each pollutant subtracted out. For toxics, no background values are used.

Appendix C

AIRS Information

P-000330

Idaho Asphalt Supply, Inc., Blackfoot, ID

AIRS/AFS FACILITY-WIDE CLASSIFICATION DATA ENTRY FORM

FACILITY NAME: Idaho Asphalt Supply, Inc., Blackfoot

AIRS NUMBER: 011-00023

DATE: April 6, 2001

Air Program Description	SIP	PSD	NESHAP	NSPS	MACT	TITLE V	AREA CLASSIFICATION
							Attainment/Unclassifiable Nonattainment
SO ₂	B			ND			Attainment/Unclassifiable
NO _x	B						Attainment/Unclassifiable
CO	B						Attainment/Unclassifiable
PM-10	B						Attainment/Unclassifiable
PT (Particulate)	B						Attainment/Unclassifiable
VOC	B						Attainment/Unclassifiable
THAP (Total HAPs)	B						Attainment/Unclassifiable
Other (Specify Below)							
(Add additional lines if necessary.)							
VE/FE/FD	ND	ND	ND	ND	ND	ND	

***VE/FE/FD (VISIBLE EMISSIONS, FUGITIVE EMISSIONS, AND FUGITIVE DUST) ARE ENTERED FOR COMPLIANCE PURPOSES ONLY AND DO NOT REQUIRE EVALUATION BY THE PERMIT ENGINEER.**

March 27, 2001

STATE OF IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY
RESPONSES TO COMMENTS AND QUESTIONS
SUBMITTED DURING A PUBLIC COMMENT PERIOD
FOR THE PROPOSED PERMIT TO CONSTRUCT
FOR IDAHO ASPHALT SUPPLY, INC.

Introduction

The public comment period for the Idaho Asphalt Supply, Inc. permit application and proposed modification of the air quality Permit to Construct for the asphalt storage, mixing, and distribution facility near Blackfoot, Idaho was held from February 21, 2001 through March 23, 2001. A public meeting was held on March 15, 2001. Comment packages that included the application materials, DEQ's technical analysis, and the proposed permit were made available for public review at the Blackfoot Public Library, the DEQ Regional Office in Pocatello, and the state office in Boise. Comments were submitted to DEQ by mail, facsimile, and email.

Public comments regarding the air quality aspects of the proposed permit and analysis have been summarized below. Due to the similarity of many of the comments received, the summary presented below will have some comments that have been combined and/or paraphrased in order to eliminate duplication and to provide a more concise summary. Questions, comments, and/or suggestions received during the comment period which do not relate to the air quality aspects of the permit application, DEQ's technical analysis, or the proposed permit are not addressed.

Public Comments and DEQ Responses

Comment 1: **A comment was received that DEQ does not currently measure the release of several harmful Chemicals including large amounts of hydrogen sulfide (H₂S), and other sulfur compounds from the Idaho Asphalt Supply facility.**

Response to 1: DEQ does not physically measure pollutants from any one source but operates a network of pollutant monitors throughout the state. The monitoring network for fine particulate matter (PM₁₀ and PM_{2.5}) is the most extensive across the state due to problems with PM₁₀ that have existed in the past. Sulfur dioxide (SO₂) is monitored in Southeast Idaho. Nitrogen Oxides (NO_x) are monitored in the Treasure Valley area. Carbon monoxide (CO) is monitored in the Treasure Valley and in the Lewiston Area. This is the extent to which DEQ currently monitors air pollutants.

Often times, DEQ will require facilities to conduct compliance testing of emissions units at a facility to measure the nature and amount of pollutants that are being emitted. Idaho Asphalt Supply is required to conduct a compliance test for particulate matter (PM) emissions from their primary boiler. Independent contractors perform source testing. The source testing contractors are hired by the facility and have the necessary equipment and knowledge to perform such tests accurately.

Emissions at a facility that are not directly measured are estimated based on the most current emission factors that have been published by the

United States Environmental Protection Agency (EPA), or emission factors that have been developed from industry studies and source tests. The EPA approved emission factors are found in the *Compilation of Air Pollutant Emission Factors Volume I, Fifth Edition (AP-42)*. Estimated emissions from an emissions unit are calculated by multiplying the emission factor by the maximum amount of material or fuel the emissions unit is able to handle. Conservative estimates are made assuming the emissions unit will operate the maximum number of hours possible per year (8,760).

When an applicant requests a permit to modify or construct an air pollution emitting unit or facility, it is up to the applicant to submit necessary emissions data concerning the nature and amount of each regulated pollutant that will be emitted by the emissions unit. Prior to this particular modification, Idaho Asphalt Supply applied for a PTC for some of their larger asphalt storage tanks. Only emissions of volatile organic compounds (VOC) were determined to be above the level that is considered to be below regulatory concern as defined in IDAPA 58.01.01.221.01. Idaho Asphalt Supply accepted a limit on their VOC emissions in PTC No. 011-00023 that was issued on April 8, 1993. Idaho Asphalt Supply has certified that they do not emit any pollutants in amounts greater than allowed by permit or in the rules.

Since that time, Idaho Asphalt Supply has installed additional storage tanks and natural gas fired equipment under the exemption guidelines in IDAPA 58.01.01.220. Since this present modification does not meet the exemption criteria, Idaho Asphalt Supply has applied for a PTC.

Several times since the initial construction of the Idaho Asphalt Supply Blackfoot facility, concerned parties have alleged that Toxic Air Pollutants (TAPs) are being emitted by Idaho Asphalt Supply in excess of amounts allowed by the rules. DEQ has not been presented with any evidence of this from Idaho Asphalt Supply, by any concerned parties, or by EPA. In EPA's *Compilation of Air Pollutant Emission Factors (AP-42 Volume I, Fifth Edition)* Chapter 4.5, emissions from asphalt and asphalt paving operations are categorized by the following statement, "The primary pollutants of concern from asphalts and asphalt paving operations are volatile organic compounds (VOC). Of the three types of asphalts, the major source of VOC is cutback". No mention of TAPs from the storage or use of asphalt is made in Chapter 4.5 of AP-42. AP-42 is the primary tool used to estimate emissions from a facility.

DEQ cannot legally deny a permit to any facility that certifies itself to be in compliance with all applicable rules solely on the basis of allegations that have not been shown and proven to be valid. If evidence is submitted to DEQ showing that a facility is out of compliance with any applicable Idaho air quality standard, an enforcement action will likely take place.

Comment 2:

A comment was received that as far as DEQ is concerned, Idaho Asphalt Supply only Stores 50,000 Gallons of asphalt products on sight, and only Distributes 6,000 tons of asphalt products annually.

There was a concern that DEQ withheld information concerning the nature and amounts of asphalt products stored and distributed by Idaho Asphalt Supply from public information requests that were submitted to DEQ.

Response to 2: There have been several Public Information Requests (PIRs) in the past few years concerning information about Idaho Asphalt Supply that DEQ has on file. For each PIR processed by DEQ, portions of the requests were withheld due to claims of confidentiality of the information by Idaho Asphalt Supply. Idaho Asphalt Supply maintains that their tank sizes and the amount of material stored and distributed is confidential business information, therefore, that information was withheld from all PIRs. It would have been unlawful for DEQ to release these records to the public until a determination as to the confidentiality of the information was made. The rules governing the protection and disclosure of records in the possession of DEQ are contained in IDAPA 58.01.21. DEQ is currently negotiating the claims of confidentiality with Idaho Asphalt Supply. At such time that DEQ makes a formal determination that any information that was previously held to be confidential can not be regarded as such or is essential emissions data, the information may be released to the public.

Comment 3: A comment informing DEQ that Idaho Asphalt Supply stores in excess of 13,000,000 gallons of materials at their facility was received.

Response to 3: DEQ possesses records from Idaho Asphalt Supply about the size and capacity of all storage tanks on site. These records are part of the information that Idaho Asphalt Supply regards as confidential information. At such time that DEQ determines that any of this information is not confidential or is emissions data, the information will be subject to disclosure to the public. DEQ cannot legally disclose this information until the substantiation of the information is exhausted.

Comment 4: A comment was received concerning emissions of H₂S and other chemicals are emitted from the asphalt storage tanks through normal expansion, contraction, evaporation, draining, filling, and mixing.

Response to 4: Small amounts of H₂S and other chemicals have been shown to exist in asphalt. The problem that DEQ has associated with this fact is that this particular permit is not for the construction or operation of any tanks at the facility, only the boilers and hot oil heater. No increase in H₂S is expected from the operation of the fuel-burning equipment, therefore this permit does not address emissions of H₂S. Furthermore, DEQ has no information indicating that H₂S or other harmful chemicals are actually being released from the Idaho Asphalt Supply facility.

According to conversations with Idaho Asphalt Supply, all tanks have pressure relief valves that allow excess air to escape from the tanks. This air is ducted through a biofilter that is designed to remove sulfur compounds and other odorous gasses.

Comment 5: A comment was made that the extent of current emissions from the tanks is unknown. It was mentioned that ordinary citizens do not have the equipment to test emissions from a facility and that DEQ does have testing equipment.

Response to 5: DEQ does not have equipment or manpower to test for the existence of any pollutant at any single source of air pollutants. The statewide monitoring network measures the concentrations of pollutants at ambient locations throughout the state (from multiple sources). For source specific emissions, DEQ has little ability to test pollutants. If there is any question concerning a facilities ability to meet an applicable emission rate or standard, DEQ will require the facility to hire a contractor to test for those pollutants that are suspected to being emitted at levels near or at their permitted levels. (emission units may not be permitted to emit pollutants at levels above any applicable standard).

Comment 6: Concerns were expressed that on top of Idaho Asphalt Supply's current release, DEQ is proposing to allow them to emit more SO₂.

Response to 6: SO₂ is produced when sulfur compounds are burned. Burning any fuel with any amount of sulfur, such as fuel oil, coal, wood, and even natural gas, results in SO₂ emissions. SO₂ is not naturally occurring in asphalt and is not emitted from the storage tanks, but would likely be created if asphalt were burned. The Material Safety Data Sheet (MSDS) for asphalt lists SO₂ as being present as a product of oxidized (i.e. burned) asphalt. Idaho Asphalt Supply is not permitted to burn asphalt nor would they have any reason to do so. Therefore the facility total emissions of SO₂ are due only to the combustion of fossil fuels that contain sulfur compounds. The proposed emission rate of SO₂ is 10.1 pounds per hour and 9.7 tons per year. These emissions result in concentrations of SO₂ in the ambient air at or beyond the property boundary that are well below the National Ambient Air Quality Standards (NAAQS) for SO₂ that are contained in 40 CFR § 50.

DEQ used an EPA approved model (the Industrial Source Complex model) to determine the facilities ability to comply with the NAAQS and TAP emissions. Actual meteorological data from the Pocatello airport was used as well as the assumption that the equipment would be operated at maximum capacity for 8,760 hours per year. Even with a high degree of conservatism in the analysis, the model demonstrated compliance with the NAAQS. DEQ cannot legally deny Idaho Asphalt Supply a permit when it can be demonstrated that they comply with all applicable Idaho air quality standards.

Comment 7: A comment was received that the proposed permit will allow the release of TAPs when the current rate of their release is not known. Concern was expressed that DEQ is responsible for regulating the total release of air pollutants but is choosing to regulate part of it.

Response to 7: The total release of air pollutants is being regulated by DEQ. Although allegations have been made that TAPs are being emitted by the storage

tanks, no analysis has been presented to DEQ that demonstrates that any pollutants other than small amounts of VOCs are being emitted by the storage tanks at the Blackfoot facility. The VOC emission estimates are based on existing permits and engineering analyses. The emissions from the tanks were not revisited as a part of this permit. Doing so would be outside the scope of this permit.

The facility-wide permitted emissions, not including fuel-burning equipment, consists of a small amount of VOCs. In addition to VOCs, odorous compounds that are common to asphalt and other petroleum products are being emitted. In an effort to reduce odorous emissions, Idaho Asphalt currently operates biofilters that all tanks at the facility vent into. The biofilters are designed to destroy odorous compounds. DEQ did not require Idaho Asphalt Supply to install and operate the biofilters.

VOC emissions from fuel-burning equipment have been estimated to be below regulatory concern (less than ten percent of their significance level as identified in IDAPA 58.01.01.006.92.) Therefore, this proposed permit does not address VOC emissions.

This permit does not allow increases of any pollutants that are already being emitted at the facility at levels above regulatory concern. All of the pollutants that will increase due to this modification are not currently being emitted in significant amounts.

DEQ agrees that the facility-wide emissions from the tanks needs to be quantified and permit limits established regarding the release of odorous emissions and other pollutants which may exist. DEQ is planning to require Idaho Asphalt Supply to submit an application for a facility-wide Tier II permit in accordance with IDAPA 58.01.01.401.03. The Tier II permit will cover all emissions units at the facility to ensure that emissions from the combination of every unit is beneath the applicable standard. As a part of the application, Idaho Asphalt Supply will be required to quantify all emissions at the facility including possible TAP emissions from the tanks and perform dispersion modeling for every pollutant emitted at the facility. The permit will require Idaho Asphalt Supply to conduct a risk assessment due to facility-wide TAP emissions, develop and maintain an odor management plan, and comply with all other applicable air quality standards. This future action is outside of the scope of the present PTC.

Comment 8:

DEQ received notification that Idaho Asphalt Supply currently does not meet the General Duty Requirements of Section 112(r) of the Clean Air Act.

“Idaho Asphalt Supply stores and uses chemicals that are at, or above threshold limits designated by the EPA Under Section 112(r). Under Section 112(r) owners or operators of stationary sources who produce, process, handle, or store substances listed under section 112(r)(3) or any other extremely hazardous substances have a general duty to initiate specific activities to prevent and mitigate accidental releases. The general duty requirements apply to stationary

sources regardless of the quantity of substances managed at the facility. Activities such as identifying hazards which may result from accidental releases using appropriate hazard assessment techniques; designing, maintaining and operating a safe facility; and minimizing the consequences of accidental releases if they occur would be essential activities to be taken as necessary to satisfy the general duty requirements”.

Response to 8:

The General Duty Requirements of Section 112(r) of the clean air act states the following (emphasis added):

(r) Prevention of Accidental Releases.-

(1) Purpose and general duty.- It shall be the objective of the ***regulations and programs authorized under this subsection*** to prevent the accidental release and to minimize the consequences of any such release of any substance listed pursuant to paragraph (3) or any other extremely hazardous substance. The owners and operators of stationary sources producing, processing, handling or storing such substances have a general duty in the same manner and to the same extent as section 654, title 29 of the United States Code, to identify hazards which may result from such releases using appropriate hazard assessment techniques, to design and maintain a safe facility taking such steps as are necessary to prevent releases, and to minimize the consequences of accidental releases which do occur. For purposes of this paragraph, the provisions of section 304 shall not be available to any person or otherwise be construed to be applicable to this paragraph. Nothing in this section shall be interpreted, construed, implied or applied to create any liability or basis for suit for compensation for bodily injury or any other injury or property damages to any person which may result from accidental releases of such substances.

The regulations authorized under section 112(r) of the Clean Air Act are contained in the Code of Federal Regulations, Title 40, Part 68 (40 CFR § 68). These regulations may apply to the Idaho Asphalt Supply, Inc. Blackfoot facility. Idaho Asphalt Supply may, in fact, not meet the general duty requirements. However ***DEQ does not have a federally approved program that is authorized to administer this section of the Clean Air Act.*** In addition, 40 CFR § 68 is not incorporated into the Rules for the Control of Air Pollution in Idaho (IDAPA 58.01.01). In Idaho, the EPA administers the regulations of this program. Idaho Asphalt Supply and any concerned parties should contact the EPA concerning compliance with 40 CFR § 68. A list of the materials regulated by 40 CFR § 68 and the threshold storage amount of each one is listed in 40 CFR § 68.

Requirements in 40 CFR § 68 requires affected facilities to have response plans in place so that in the event of an accidental chemical spill, the

proper safety measures are in place to protect workers and the general public from any adverse effects.

This comment is outside of the scope of this permit and DEQ's regulatory authority.

Comment 9:

The following comment was received:

“As I have made DEQ aware in the past and will now state again. Idaho Asphalt Supply inc. Currently does not meet any fire codes, to quote Fire Chief Kevin Grey, ‘All of the Expansion at this facility should have required plans as well as permits from the fire department and State Fire Marshall's office. No permits were issued or applied for.... Idaho Asphalt Supply inc. Has a facility in Nampa almost identical to the one on Trego Road. The Nampa plant has complied with all state and local restrictions. I believe they know what should have been done but neglected to follow the Uniform Fire Code.’ As you can see they don't even come close to meeting the General Duty Requirements.”

Response to 9:

DEQ has no jurisdiction over fire code or any other local laws or requirements. This comment is outside of the scope of this permit and DEQ's regulatory authority.

Comment 10:

The question was asked, “how can you issue them more permits when they currently are not in compliance with current regulations?”

Response to 10:

DEQ is required by law to issue permits to facilities that demonstrate compliance with the standards in IDAPA 58.01.01 et. seq. DEQ can only deny a permit to a facility if information is provided that shows that the facility is either out of compliance with or is not capable of complying with Idaho's air quality rules as proposed or constructed. No evidence has been presented to DEQ that demonstrates non-compliance with the state or federal air quality standards that DEQ has authority over. Other state, federal, or local laws or regulations have no affect on DEQ's obligation to issue a permit to a facility in accordance with the law. Conversely, obtaining a permit from DEQ does not in any way affect a facilities obligation to comply with all other applicable state, federal, or local laws, regulations, or codes.

Comment 11:

A comment was received that the proposed permit allows Idaho Asphalt Supply to burn used oil instead of natural gas. Concern was also expressed that Idaho Asphalt Supply should have to put up with the higher prices of natural gas like everyone else.

Response to 11:

The proposed permit allows Idaho Asphalt Supply to burn used oil in addition to natural gas. The limit of 260,000 gallons that is in the permit equates to approximately 11 weeks per year. The rest of the time, the boiler will have to be operated on natural gas.

A large number of other facilities in Idaho are obtaining permits allowing them to add the capability to use fuels other than natural gas. Many hot mix asphalt plants across Idaho are burning used oil as their primary fuel.

State officials, in light of the recent energy crisis, have encouraged fuel switching. Governor Kempthorne issued a directive on February 22, 2001 to DEQ to expedite review for energy related projects which include increased electricity production and natural gas supply **and projects that decrease dependency on natural gas usage**. The result of this project is to reduce Idaho Asphalt Supply's dependency on natural gas usage.

Comment 12: **Concerns were expressed over odorous emissions from the facility associated with this project.**

Response to 12: Detectable odorous emissions are not expected as a direct result of the combustion of used oil. Any permit for emissions units or activities that may cause odorous emissions should contain an odorous emissions limit. The emissions units that are included in this permit are not sources of odors; therefore odors are not addressed in this permit. Future permits for odorous emissions units or facility-wide permits will address odors.

Comment 13: **Several comments were received stating that DEQ does not allow tires to be burned and that burning used oil is the same as burning tires.**

Response to 13: Burning used oil is quite different from burning tires. The chemical make-up of oil is very different from that of tires, and the emissions are quite different. DEQ would probably not permit this boiler to burn used tires unless some type of emissions control device was installed.

DEQ does not allow open burning of tires as a disposal method but may allow tires to be burned as a fuel under controlled conditions. There is at least one facility in Idaho that is permitted to burn tires in a Portland cement kiln. As long as a facility can demonstrate compliance with all applicable emission rates and standards, DEQ cannot place restrictions on the type of fuel that is used. Often times, if a facility can demonstrate compliance with the standards while burning a recycled fuel such as used oil, tires, or railroad ties, the use of those substances as a fuel is an environmentally friendly way to dispose of wastes.

Comment 14: **Several comments were made inferring Idaho Asphalt Supply was going to burn their own used oil and that the level of air pollution associated with the combustion of the used oil would result in a large amount of contaminants being emitted to the surrounding area.**

Response to 14: A used oil recycling facility will provide the oil that Idaho Asphalt Supply proposes to use in the boiler. The permit requires the oil to be certified by the recycling facility to contain less than threshold amounts of toxic substances. The EPA prohibits the use of oil that is not certified unless special provisions are met. The used oil that Idaho Asphalt Supply is further restricted by this permit to contain even lower levels of ash, sulfur,

and arsenic than the EPA requires. The resulting emissions, from burning the cleaned, filtered oil that meets the higher standards, will be cleaner and less polluting than if the oil simply met the EPA standards.

Comment 15: **Several comments were received criticizing DEQ of not enforcing the guidelines of air quality permits that have been issued in the past.**

Response to 15: DEQ has conducted numerous inspections of the Idaho Asphalt Supply facility and has found them to be in compliance with all their permit conditions on numerous occasions. Any issues of non-compliance have been dealt with by requiring Idaho Asphalt Supply to perform corrective action.

In conducting inspections of facilities, DEQ is limited to inspect and enforce only the conditions in the facility's permit and other applicable rules and air quality standards contained in Idaho's air quality rules. DEQ would have a difficult time proceeding with an enforcement action based on a complaint against a facility when the facility is operating within the limits allowed by their permit and other applicable rules. Simply because DEQ does impose penalties against a facility every time complaints are received does not mean that DEQ is not enforcing the facility's permit or other standards.

Comment 16: **A comment was received expressing concern that DEQ has no record of phone calls or letters concerning complaints on file.**

Response to 16: DEQ does have numerous complaints on file. Most complaints are received at the regional offices and are kept there. Idaho Asphalt Supply's source file in the state office should contain all of the complaints that have been received by the regions. Complaint records that have the name and address of the complainant are kept in the confidential portion of the facility file. Recently, copies of complaint records with the names and addresses removed have been placed in the general correspondence portion of the facility file. Records that are not considered confidential are available for anyone to view.

Comment 17: **A comment was received expressing concern that DEQ did not properly notify the public about the date change for the public meeting.**

Response to 17: DEQ had initially scheduled the public meeting for March 21 in a legal notice published February 21 in The Morning News and in letters to those on the mailing list. Due to some unexpected staff scheduling conflicts, the meeting had to be changed to March 15. The new date for the meeting was published in a legal notice published February 26 in The Morning News and emphasized the revised date in the second letter mailed to those on the mailing list. In addition to the regular mailing list, four concerned citizens from Blackfoot had requested to be on the mailing list and were mailed both notices (i.e. Kenneth Spiegel, Rhea Swenson, Bonnie Moon, and Marcene Freeman). Marcene Freeman was one of the persons who attended the March 15 meeting in Blackfoot.