

ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY  
DIVISION OF AIR POLLUTION CONTROL

Summary Report Relative to Permit Application

Submitted By: Jet Asphalt & Rock Company, Inc. #3  
1251 Smackover Hwy  
El Dorado (Union County)

CSN: 880316

Permit No.: 1334-A

Date Issued: 8/7/92

Submittals: May 11, 1992

Summary

Jet Asphalt & Rock Company, Inc. proposes to construct and operate a double barrel drum type hot mix asphalt plant in El Dorado. Maximum throughput capacity at the facility will be 350 tons per hour. The facility is subject to regulation under the *Arkansas Air Pollution Control Code* and the *Regulations of the Arkansas Plan of Implementation for Air Pollution Control*. The facility is also subject to the requirements of the *Standards of Performance for New Stationary Sources* (NSPS) as contained in Title 40 of the *Code of Federal Regulations Part 60, Subpart I - Standards of Performance for Asphalt Concrete Plants*.

Virgin aggregate and recycle aggregate, each with an average moisture content of 5%, are stored in stockpiles. Wet virgin aggregate is moved, as needed, by wheeled bucket loader to cold feed bins. A belt feeder under each bin feeds aggregate at the proper rate to make the desired product. The material falls from the feeders to the gathering conveyor, then through a scalping screen to remove any extraneous material. From the screen, the material travels up the incline conveyor, across a weigh bridge section, and is dumped into the feed chute on the inlet end of the double barrel drum.

A combination gas/oil fired burner is mounted on the discharge end of the drum. Natural gas is the primary fuel. No. 2 fuel oil may be used as a backup fuel. Liquid fuel is pumped to the burner from a fuel tank. The burner furnishes the heat to dry and heat the aggregate.

The double barrel is inclined from the material inlet end to the burner end. Obstructions, called flights, in the drum control the movement of the aggregate, increase the aggregate drying time, and shower the aggregate within the drum to promote drying and heating.

Installation: April 1992

Control Equipment: \$290,870

Reviewed By: Elaine Wachowiak

Applicable Regulation: Air Code      SIP      NSPS

Operation: October 1992

Total Project: \$2,000,000

Approved By: James B. Jones, Jr.

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Near the burner end of the drum, there are special flights which prevent the showering of aggregate through the flame while protecting the shell from excessive heat. These flights form a combustion space so that the fuels can be efficiently burned without the chilling effect of showering aggregate. Openings which permit the hot virgin aggregate to fall into the outer stationary drum are located at the burner end of the drum. Flights and mixing devices mounted on the exterior of the inner drum mix the material in the outer drum as it is moved toward the discharge opening. Liquid asphaltic cement, recycle aggregate, and other ingredients are added and mixed in the outer drum. Vapors released in the outer shell are drawn into the inner drum in the combustion zone where any combustibles are consumed.

Recycle aggregate is fed at the desired rate through a "lump breaker", which breaks apart oversize pieces, through a scalping screen, which removes extraneous material, and onto the recycle conveyor. The recycle conveyor carries the aggregate over a weigh bridge section and feeds it into the outer shell of the double barrel.

Finished hot mix asphalt cement is discharged from the double barrel into the boot of the drag chain conveyor. This conveyor elevates the asphalt to a traverse conveyor which feeds the "batcher" mounted above each storage bin. By dropping material into the surge bin in batches, rather than as a steady stream, segregation of the asphalt is reduced. Any material which is out of specification, as at start up and shut down, is dumped out the drag by-pass chute to be recycled.

Storage bins enable the plant to operate at an efficient steady rate, by making mix to a single formula and by providing the ability to store asphalt for several days without deterioration by sealing out oxygen and preventing significant heat loss.

Gases from the drum are exhausted through the drop out chamber over the coater and through the baghouse, which has a cyclonic inlet section. Screws in the hopper of the baghouse transfer the collected dust back to the double barrel for use in the product. Gas flow is induced through the unit by the exhaust fan. The gases are discharged through the exhaust stack, SN-01.

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### Specific Conditions

1. Emission limits shall not exceed the limits set forth in Table I of this permit.
2. Hours of operation shall not exceed the limits specified in Table I of this permit.
3. Asphalt production at this facility shall not exceed 350 tons per hour.
4. All emission control equipment associated with this asphalt plant shall be maintained and operated in serviceable condition as prescribed by the manufacturer during operation of this plant.
5. Visible emissions from each source shall not exceed 20% opacity as measured by EPA Reference Method 9.
6. The permittee shall water all processes, storage piles, and haul roads as needed in order to ensure that no visible emissions extend beyond the property line of the facility.
7. The permittee shall use no more than 95,000 cubic feet of natural gas per hour. In the event of natural gas curtailment, No. 2 fuel oil may be used for fuel.
8. The permittee shall measure the particulate emissions from the baghouse in accordance with EPA Reference Method 5. During the test, the facility shall be operated within 10% of its design capacity. The baghouse is the only emission point to be permitted at this facility.
9. The permittee shall maintain records, which can be used by the Department for enforcement purposes, which enable the Department to determine compliance with the above conditions. These records shall be kept on site and shall be provided to Department personnel upon request.
10. Jet Asphalt & Rock Company, Inc. shall notify the Department in writing at least 30 calendar days prior to relocation of this plant.

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TABLE I

BAGHOUSE EMISSION RATES					
Pollutant	Emission Limit			Hr/Day:Day/Wk:Wk/Yr	Opacity %
	lb/hr	ton/yr	Other Units		
TSP/PM <sub>10</sub>	11.93	21.47	0.04 gr/dscf	12:6:50	20%
SO <sub>2</sub>	40.88	73.58	--	12:6:50	20%
NO <sub>x</sub>	12.60	22.68	--	12:6:50	20%
CO	13.30	23.94	--	12:6:50	20%
VOC	9.80	17.64	--	12:6:50	20%

reference methods and procedures specified in this section:

(1) Source processes elemental sulfur or anhydrous sulfur dioxide, elemental sulfur and sulfur dioxide, or sulfur dioxide and sulfur dioxide, the following procedures may be used instead of determining volumetric flow rate and production rate:

(i) The integrated technique of Method 3 is used to determine  $\text{SO}_2$  concentration and, if required,  $\text{CO}_2$  concentration.

(ii) The  $\text{SO}_2$  or acid mist emission rate is calculated as described in § 60.8(d), substituting the acid mist concentration for  $\text{C}_s$  as appropriate.

#### Subpart I—Standards of Performance for Asphalt Concrete Plants

##### § 60.90 Applicability and designation of affected facility.

(a) The affected facility to which the provisions of this subpart apply is each hot mix asphalt facility. For the purpose of this subpart, a hot mix asphalt facility is comprised only of any combination of the following: dryers; 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.

(b) Any facility under paragraph (a) of this section that commences construction or modification after June 11, 1973, is subject to the requirements of this subpart.

[60.90(a) amended by 51 FR 12325, April 10, 1986]

##### § 60.91 Definitions

[60.91 revised by 51 FR 12325, April 10, 1986]

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in Subpart A of this part.

(a) "Hot mix asphalt facility" means any facility, as described in § 60.90, used to manufacture hot mix asphalt by heating and drying aggregate and mixing with asphalt cements.

##### § 60.92 Standard for particulate matter.

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall discharge or cause the discharge into the atmosphere from any affected facility any gases which:

(1) Contain particulate matter in excess of 90 mg/dscm (0.04 gr/dscf).

(2) Exhibit 20 percent opacity, or greater.

##### § 60.93 Test methods and procedures.

[60.93 revised by 54 FR 6662, February 14, 1989]

(a) In conducting the performance tests required in § 60.8, the owner or operator shall use as reference methods and procedures the test methods in Appendix A of this part or other methods and procedures as specified in this section, except as provided in § 60.8(b).

(b) The owner or operator shall determine compliance with the particulate matter standards in § 60.92 as follows:

(1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.90 dscm (31.8 dscf).

(2) Method 9 and the procedures in § 60.11 shall be used to determine opacity.

#### Subpart J—Standards of Performance for Petroleum Refineries

##### § 60.100 Applicability, designation of affected facility, and reconstruction.

[60.100 head amended by 54 FR 34026, August 17, 1989]

(a) The provisions of this subpart are applicable to the following affected facilities in petroleum refineries: fluid catalytic cracking unit catalyst regenerators, fuel gas combustion devices, and all Claus sulfur recovery plants except Claus plants producing less than 100 tons per day (LTD) or less. The Claus sulfur recovery plant need not be physically located within the boundaries of a petroleum refinery to be an affected facility, provided it processes gases produced within a petroleum refinery.

(b) Any fluid catalytic cracking unit catalyst regenerator or fuel gas combustion device under paragraph (a) of this section which commences construction or modification after June 11, 1973, or any Claus sulfur recovery plant under paragraph (a) of this section which commences construction or modification after October 4, 1976, is subject to the requirements of this subpart except as provided under

paragraphs (c) and (d) of this section. [60.100(b) amended and (c) — (e) amended by 54 FR 34026, August 17, 1989]

(c) Any fluid catalytic cracking unit catalyst regenerator under paragraph (b) of this section which commences construction or modification on or before January 17, 1984, is exempt from § 60.104(b).

(d) Any fluid catalytic cracking unit in which a contact material reacts with petroleum derivatives to improve feedstock quality and in which the contact material is regenerated by burning off coke and/or other deposits and the unit commences construction or modification on or before January 17, 1984, is exempt from this subpart.

(e) For purposes of this subpart, under § 60.15, the "fixed capital cost of the new components" includes the fixed capital cost of all depreciable components which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following January 17, 1984. For purposes of this paragraph, "completed" means that an owner or operator has undertaken a continuous program of component replacement or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of component replacement.

##### § 60.101 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in Subpart A.

(a) "Petroleum refinery" means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of petroleum or through redistillation, cracking or re-refining of unfinished petroleum derivatives.

(b) "Petroleum" means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

(c) "Process gas" means any gas generated by a petroleum refinery process unit, except fuel gas and process upset gas as defined in this section.

(d) "Fuel gas" means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas also includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a

[Sec. 60.101(d)]