Florida Department of

Environmental Protection

Memorandum

TO: Rick Bradburn
THROUGH: Armando I. Sarasua, P.E.
FROM: Debbie Moore
DATE: April 22, 2011
SUBJECT: Evaluation Summary for Roads, Inc.; Cantonment Asphalt Plant 7775285-003-AO; Escambia County

We recommend issuing a permit to Roads, Inc., to operate their Cantonment Asphalt Plant. This permit follows 7775285-002-AO, effective May 8, 2006.

Process Description. This facility consists of a 160 ton per hour Almix counter-flow Duo Drum (drying and mixing drums) mix asphalt plant. The maximum heat input of the dryer drum (Asphalt Equipment Company model 7624CF) is 75.6 MMBtu per hour. The mixing drum is a model 6014 manufactured by Asphalt Equipment Company. Aggregate is stored in a four compartment bin on site. After the aggregate is thoroughly dried, in the drying drum, it is transferred by enclosed chute into the mixing drum where hot liquid asphalt is added to create the asphalt concrete. Liquid asphalt is delivered by truck tankers and pumped into one of two storage tanks and is heated with an electric heater, which is exempt from permitting. The plant is also equipped to handle a maximum of 30% recycled asphalt paving (RAP) and is introduced into the drying drum next to the burner. Particulate matter (PM) emissions produced by both drums are controlled by an Asphalt Equipment Company model 32KRA baghouse system (BH-1) having a total cloth-filtration area of 6,562 square feet and an air-to-cloth ration of 4.9:1. The filter bags are cleaned by a reversed air to reverse portions of the exhaust air back into bags to remove the "dust cake." Fine PM from the BH-1 is collected by a screw conveyor and delivered back into the mixing drum.

Additional Notes: This facility is different that the typical asphalt plants in that it utilizes separate drums to dry the aggregate and mix the aggregate and liquid asphalt (duo drum plant, drums positioned 90° relative to each other). Although the manufacturer provided emissions factors that are identical to that of AP-42 for drum mixing, the applicant estimated that the potential for slightly greater emissions was likely, but not to the extent of the AP-42 emission factors for batching operations. This assumption or estimate came about by the fact that the duo drum dries aggregate without the liquid asphalt being applied, which is expected to result in higher PM emission. It is also assumed, based on the drying process that CO, NO_X and SO_2 emissions produced, as byproducts from combustion will not be absorbed to the extent as in a typical drum mix plant. Based on these assumptions, the applicant applied a safety factor of 20% to the calculated potential emissions (denoted above). Without more specific information, such as test data, the above assumptions and applied safety factors were accepted.

This plant is located at the site of a previous Anderson Columbia facility (ARMS ID 7775074). See site visit memo dated 5/26/05 for more information concerning the location.

The facility is regulated under NSPS - 40 CFR 60 subpart I (Standards of Performance for Hot Mix Asphalt Facilities) and Rule 62-210.300(3)(c)2., F.A.C. (Conditional Exemptions from Title V Permitting). The asphalt facility is a synthetic minor with annual throughput limited to 500,000 tons of asphalt concrete per year. The facility oil consumption (dryer and RAP crusher) is limited to 1.2 million gallons in any consecutive twelve-month period and the sulfur content of the fuel oil shall not exceed 0.6%, by weight. This facility is allowed to operate with No. 2 fuel, No. 4 fuel or natural gas.

Pollution Control Equipment. Particulate emissions from the plant are controlled by an Asphalt Equipment Company Model 32KRA baghouse system (BH-1). Air to cloth ratio is 4:1, equipped with 380 bags with a surface area of 6,562 square feet

Environmental Impact.

Airborne Contaminant Emitted	FAC Rule	Estimated Emissions		Allowable Emissions	
		lbs/hr	T/yr	lb/hr	T/yr
PM	40 CFR 60 subpart I	6.0	13.4	0.04 gr/dscf	50[2]
PM10	N/A		1.2		
SO2	N/A	N/A	34.8[1]	N/A	50[2]
VOC	N/A	N/A	9.6	N/A	50[2]
NOx	N/A	N/A	16.5	N/A	50[2]
CO	N/A	N/A	39	N/A	50[2]
Objectionable Odors	62-296.320(2)	N/A	N/A	None allowed off plant property	
VE	62-296.320(4)	N/A	N/A	Not more than 20% opacity	

The above estimates were provided by the applicant because the facility is not a true drum mix or batch plant. The facility utilizes two drums (dryer and mixing drum) and therefore is expected (per the applicant) to have emissions greater than a drum mix facility but less than a batch facility. Due to this expectation that applicant included a 20% safety factor to the AP-42 emission factors for drum mixing (See permit application for more information).

1 Based on AP-42 11.1-5, 50% of fuel bound sulfur, up to maximum of 0.1 lb/ton of product is expected to be retained in the product with remainder existing as SO2.

2 Limited to 50 tons per year based on the emissions fee paid (AC1D for emissions from 25 to 50 tons/year) during the initial construction permit process.

Applicable Rules & Regulations. The facility is regulated under NSPS - 40 CFR 60 subpart I (Standards of Performance for Hot Mix Asphalt Facilities) and Rule 62-210.300(3)(c)2., F.A.C. The asphalt facility is conditionally exempt from Title V permitting with annual throughput limited to 500,000 tons of asphalt concrete per year. The facility oil consumption is limited to 1.2 million gallons in any consecutive 12-month period and the sulfur content of the fuel oil shall not exceed 0.6%, by weight.

Compliance Monitoring. Annual testing for PM and VE. Records of facility oil consumption and production of asphalt. Facility has an ECP.

Compliance History. In August 2006, facility had a minor non-compliance for recordkeeping. During an inspection on May 11, 2007, a particulate plume was observed. The facility paid penalties in the amount of $4,000 according to consent Order OGC 07-1216-17-AO. On December 5, 2007, particulate matter was observed on roadways. During the most recent inspection on April 12, 2011, the facility did not have records on site. The facility has passed all of the required compliance testing.

Fee Summary. This is an AO2A ($1,500 fee) minor source with stack test. The original construction permit fee was $2000 for an AC1D facility (source less than 50 TPY).

DM/c