



---

**west virginia department of environmental protection**

---

Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304  
Phone (304) 926-0475 • FAX: (304) 926-0479

Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
www.dep.wv.gov

**ENGINEERING EVALUATION / FACT SHEET**

**BACKGROUND INFORMATION**

Application No.: R13-0280B  
Plant ID No.: 107-00004  
Applicant: Camden Materials, LLC  
Facility Name: Parkersburg Facility  
Location: Parkersburg, Wood County  
NAICS Code: 324121  
Application Type: Modification  
Received Date: April 11, 2013  
Engineer Assigned: Thornton E. Martin Jr.  
Fee Amount: \$2,000.00  
Date Received: April 16, 2013  
Complete Date: June 06, 2013  
Applicant Ad Date: April 13, 2013  
Newspaper: *The Parkersburg News and Sentinel*  
UTM's: Easting: 454.194 km Northing: 4344.740 km Zone: 17  
Description: Applicant proposes to convert from a batch plant to a counter-flow drum mix plant and new equipment is to be added to the existing equipment. The plant will be moved to the southeast of its' current location on the existing property.

**PROCESS DESCRIPTION**

Aggregates (limestone, sand and slag) are barged to the site and stored in open stockpile OS1/N. Barges are unloaded by the existing mobile clam shell and transferred to hopper H1/PE (TP1/MD). H1/PE transfers to belt conveyor C1/N (TP2/N) to diverter D1 (TP3/N). D1 directs materials to C2/N (TP4/N) to RS1/N (TP5/N) to OS1/N (TP6/N) or to C3/N (TP7/N) to RS2/N (TP8/N) to OS1/N (TP9/N) or to RS3/N (TP10/N) to OS1/N (TP11/N). OS1/N will consist of various piles of limestone, sand and slag which consolidate the existing SP1-SP8. Recycled asphalt pavement (RAP) is trucked to the site and stored in heated tanks T2 through T4. Tanks T2 through T4 are heated with a natural gas fired heater AH1/N [2E]. No. 2 fuel oil/used oil is trucked to the site and stored in T1. Off-road diesel is trucked to the site and stored in tank T5. Natural gas is piped to the facility.

Aggregates from stockpile OS1/N are transferred by a front endloader to cold feed bins B1/PE through B7/PE (TP12/MDH). The aggregates from B1/PE drop to belt conveyor C4/N; B2/PE to C5/N; B3/PE to C6/N; B4/PE to C7/N; B5/PE to C8/N; B6/PE to C9/N; and B7/PE to C10/N (TP13/PE). C4/N through C10/N transfer to C11/N (TP14/N) to screen SCR1/PW (TP15/N). Oversize from SCR1/PW goes to ground (TP17/N); pass through transfers to belt conveyor C12/N (TP16/PE) which conveys the aggregates to the dryer/drum mixer CFDM1/CYC1 and BH1 [1E] (TP18/PE).

RAP from stockpile OS2/N is transferred by front endloader to RAP bin B8/PE and B9/PE (TP19/MDH). B8/PE and B9/PE drop material onto belt conveyor C13/N (TP20/PE) to screen SCR2/PW

(TP21/N). Oversized material transfers to ground (TP23/N). Pass through material transfers (TP22/PE) to belt conveyor C14/N to CDFM1/CYC1 and BH1 [1E] (TP24/PE).

Additionally, RAP from stockpile OS2/N is transferred by front endloader to RAP bin B10/PE (TP25/MDH). B10/PE drops material onto belt conveyor C15/N (TP26/PE) to C16/N (TP27/N) to screen SCR3/PW (TP28/N). Oversized material transfers to belt C18/N and is transported to the RAP crusher CR1/FE (TP32/N). Material leaving the crusher transfers to belt conveyor C19/N (TP33/PE) and back to C16/N (TP34/N) to SCR3/PW. Pass through RAP from SCR3/PW transfers to CFMD1/CYC1 and BH1 [1E] (TP30/PE).

RAP is also processed by a portable system powered by a diesel generator set (ENG1 [3E]). The portable system may be found anywhere throughout the site. RAP from stockpile OS2/N is transferred by front endloader to RAP bin B11/PE (TP39/MD). B11/PE drops material onto belt conveyor C20/N (TP40/PE) to screen SCR4/PW (TP41/N). Oversized material transfers to belt conveyor C21/N (TP42/PE) and is transported to the RAP crusher CR2/FE (TP43/N). Material leaving the crusher transfers to belt conveyor C22/N (TP44/PE) and back to C20/N (TP45/n) to SCR4/PW. Pass through RAP from SCR4/PW transfers to conveyor BC23/N (TP46/PE) to OS2/N (TP47/N) and to conveyor C24/N (TP48/PE) to OS2/N (TP49/N). Material from the portable system may be sent to B8/PE or loaded to truck and transported off site (TP50/MDH).

Emissions from CFDM1 are vented to the cyclone CYC1, where large particles are removed from the air stream. The CYC1 is vented to a baghouse BH1 [1E]. Particulate matter collected in the hoppers at the bottom of CYC1 and BH1 is removed via a screw conveyor SC1/FE (TP51/FE) that returns the material to the dryer/drum mixer CFDM1/CYC1 and BH1 (TP52/FE) where it becomes part of the product.

From the dryer/drum mixer CFDM1/CYC1 and BH1, hot mix asphalt (HMA) is transferred to a slat conveyor SLC1/FE (TP35/PE), which conveys the material to HMA storage silos BS1/FE through BS3/FE (TP36/PE). The HMA is loaded into trucks via stationary chutes at the base of silos BS1/FE through BS3/FE (TP37/PE).

Note on RAP system emissions : RAP will be crushed one (1) time. Worst case emissions are calculated by sending RAP through the portable system then to B8/B9 to CFDM1.

See the following tables for description, maximum throughput, control equipment, and maximum storage for all permitted equipment at the Parkersburg facility:

**Table 1: Equipment Summary (R13-0280B)**

Equipment ID No.	Description	Installation / Modification Date	Type and Date of Change	Maximum Capacity		Control Equipment <sup>1</sup>
				TPH	TPY	
<b>Equipment</b>						
CFDM1	Counterflow Drum Mix Plant	2013	New	350	500,000	CYC1, BH1
SCR1	Screen	2013	New	350	500,000	PW
SCR2	Screen	2013	New	100	125,000	PW
SCR3	Screen	2013	New	100	187,500	PW
SCR4	Screen	2013	ID Change (formerly S5)	100		PW
CR1	Crusher	2013	New	100	62,500	FE
CR2	Crusher	2013	ID Change (formerly CRS-1)	100		FE
AH-1	Asphalt Heater –	2003	No Change	1,350 scf/h		N
<b>Engine</b>						
ENG1	Caterpillar 3306 Diesel Engine	2013	New	25gal/hr	550 hp	N

Equipment ID No.	Description	Installation / Modification Date	Type and Date of Change	Maximum Capacity		Control Equipment <sup>1</sup>
				TPH	TPY	
<b>Conveyors</b>						
C1	Belt Conveyor	2013	Rate Change	350	500,000	N
C2	Belt Conveyor	2013	Rate Change	350	500,000	N
C3	Belt Conveyor	2013	Rate Change	350	500,000	N
C4	Belt Conveyor	2003	No Change	350	500,000	N
C5	Belt Conveyor	2003	No Change	350	500,000	N
C6	Belt Conveyor	2003	No Change	350	500,000	N
C7	Belt Conveyor	2003	No Change	350	500,000	N
C8	Belt Conveyor	2003	No Change	350	500,000	N
C9	Belt Conveyor	2013	New	350	500,000	N
C10	Belt Conveyor	2013	New	350	500,000	N
C11	Belt Conveyor	2013	ID Change (formerly C9)	350	500,000	N
C12	Belt Conveyor	2013	New	350	500,000	N
C13	Belt Conveyor	2013	ID Change (formerly C14)	100	125,000	N
C14	Belt Conveyor	2013	ID Change (formerly C15)	100	125,000	N
C15	Belt Conveyor	2013	New	100	125,000	N
C16	Belt Conveyor	2013	New	100	187,500	N
C17	Belt Conveyor	2013	New	100	125,000	N
C18	Belt Conveyor	2013	New	100	62,500	N
C19	Belt Conveyor	2013	New	100	62,500	N
C20	Belt Conveyor	2013	ID Change (formerly C10)	100	187,500	N
C21	Belt Conveyor	2013	ID Change (formerly C11)	100	62,500	N
C22	Belt Conveyor	2013	ID Change (formerly C12)	100	62,500	N
C23	Belt Conveyor	2013	ID Change (formerly C13)	100	125,000	N
C24	Belt Conveyor	2013	ID Change (formerly RS4)	100	125,000	N
SLC1	Slat Conveyor	2003	No Change	350	500,000	FE
SC1	Screw Conveyor	2013	New	10	12,500	FE
RS1	Radial Stacker	2013	Rate Change	350	500,000	N
RS2	Radial Stacker	2013	Rate Change	350	500,000	N
RS3	Radial Stacker	2013	Rate Change	350	500,000	N
<b>Storage</b>						
OS1	Aggregate/Limestone/Slag	2013	ID Change	80,000	500,000	N
OS2	RAP Stockpile	2013	ID Change	50,000	125,000	N
T1	Storage Tank – #2 fuel/used oil	2013	ID Change	25,000	1,000,000	N
T2	Storage Tank – Asphalt	2003	No Change	30,000	7,000,000	N
T3	Storage Tank – Asphalt	2013	New	30,000		N
T4	Storage Tank – Asphalt	2013	New	30,000		N
T5	Storage Silo – Off Road Diesel	2003	No Change	24,500	50,000	N
H1	Hopper	2013	Rate Change	350	500,000	PE
B1	Aggregate Bin	2003	No Change	20 tons	500,000	PE
B2	Aggregate Bin	2003	No Change	20 tons		PE
B3	Aggregate Bin	2003	No Change	20 tons		PE
B4	Aggregate Bin	2003	No Change	20 tons		PE
B5	Aggregate Bin	2003	No Change	20 tons		PE
B6	Aggregate Bin	2013	New	20 tons		PE
B7	Aggregate Bin	2013	New	20 tons		PE

Equipment ID No.	Description	Installation / Modification Date	Type and Date of Change	Maximum Capacity		Control Equipment <sup>1</sup>
				TPH	TPY	
B8	RAP Bin	2013	ID Change (formerly B7)	20 tons	125,000	PE
B9	RAP Bin	2013	New	20 tons	125,000	PE
B10	RAP Bin	2013	New	20 tons	125,000	PE
B11	RAP Bin	2013	ID Change (formerly B6)	20 tons	125,000	PE
BS1	HMA Silo	2003	No Change	200 tons	500,000	FE
BS2	HMA Silo	2013	New	200 tons		FE
BS3	HMA Silo	2013	New	200 tons		FE
D1	Diverter	2013	Rate Change	350	500,000	N

## SITE INSPECTION

Douglas Hammel of the Compliance and Enforcement section performed targeted, un-announced partial on-site inspections throughout the month of September and October of 2012 due to complaints of odors originating at the plant. The facility receive a score of 30 - In Compliance or a score of 41 - Not Operating. The facility has a long history of inspections and is generally found to be in compliance. Based on the size and scope of the modification proposed, the writer deemed that a site visit was not necessary at this time.

Directions given in application: From Charleston, take I-77 North to exit 173. Turn left onto State Route 95 West, go 0.3 miles to the first light. Turn right onto Edgelawn then immediately left onto Camden Avenue. Go 1.4 miles, turn right onto Hickory Street and go to the end of the street to the facility.

## ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Emission calculations for this facility were performed by Potesta & Associates, Inc. (Consultant) and reviewed by the writer for completeness and accuracy.

Proposed change to plant emissions are summarized in the following tables 2a and 2b:

**Table 2a: Proposed change to criteria pollutant emissions (R13-0280B)**

Source	Particulate Matter		Particulate Matter-10		Volatile Organic Compounds		Sulfur Dioxide		Nitrogen Oxides		Carbon Monoxide	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Total	-40.71	-9.01	-11.72	-5.52	9.79	6.74	-0.13	-0.42	0.13	0.59	1.41	1.40

**Table 2b: Proposed change to hazardous/toxic pollutant emissions (R13-0280B)**

Source	Acetaldehyde		Benzene		Ethylbenzene		Toluene		Xylene		Formaldehyde	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Total	0.005	0.005	0.008	0.007	0.003	0.007	0.013	0.013	0.029	0.029	0.065	0.065

Current plant emissions are summarized in the following tables 3a and 3b:

**Table 3a: Current criteria pollutant emissions (R13-0280A)**

Source	Particulate Matter		Particulate Matter-10		Volatile Organic Compounds		Sulfur Dioxide		Nitrogen Oxides		Carbon Monoxide	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Total	109.59	66.37	33.16	26.41	11.31	8.36	20.44	14.93	19.25	13.75	45.51	32.52

**Table 3b: Current hazardous/toxic pollutant emissions (R13-0280A)**

Source	Acetaldehyde		Benzene		Ethylbenzene		Toluene		Xylene		Formaldehyde	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Total	0.46	0.33	0.14	0.10	0.08	0.06	1.02	0.73	0.07	0.05	1.09	0.78

Total proposed plant emissions are summarized in the following tables 4a and 4b:

**Table 4a: Total proposed criteria pollutant emissions (R13-0280B)**

Source	Particulate Matter		Particulate Matter-10		Volatile Organic Compounds		Sulfur Dioxide		Nitrogen Oxides		Carbon Monoxide	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Total	68.88	57.36	21.44	20.89	21.11	15.10	20.30	14.51	19.39	14.34	46.91	33.9

**Table 4b: Total proposed hazardous/toxic pollutant emissions (R13-0280B)**

Source	Acetaldehyde		Benzene		Ethylbenzene		Toluene		Xylene		Formaldehyde	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Total	0.46	0.33	0.144	0.10	0.087	0.07	1.028	0.74	0.099	0.08	1.15	0.84

**REGULATORY APPLICABILITY**

NESHAPS and PSD have no applicability to the proposed facility. The proposed modification of a hot mix asphalt plant is subject to the following state and federal rules:

*45CSR2 To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers*

The purpose of this rule is to establish limitations for smoke and particulate matter which are discharged from fuel burning units. Per this rule, Section 2.14 defines an indirect heat exchanger as a device that combusts any fuel and produces steam or heats water or any other heat transfer medium. Section 2.10 defines a fuel burning unit as any furnace, boiler apparatus, device, mechanism, stack or structure used in the process of burning fuel or other combustible material for the primary purpose of producing heat or power by indirect heat transfer. The facility is exempt from sections 4, 5, 6, 8, and 9 because the asphalt heater (1.39 MMBtu/hr) is below 10 MMBtu/hr. The facility will be subject to the opacity requirements in this rule, which is 10% opacity based on

a six minute block average.

*45CSR3 To Prevent and Control Air Pollution from the Operation of Hot Mix Asphalt Plants*

The purpose of this rule is to establish emission limitations for hot mix asphalt plants and the plant property. The facility is subject to this rule because it meets the definition of Hot Mix Asphalt Plant as found in Section 2.14. The facility must meet visible emission limits of 40% opacity during start-up or shutdown and 20% opacity during operations of any fuel burning equipment. The facility shall be operated and maintained in a manner as to prevent emission of particulate matter from any point other than a stack outlet. The facility will utilize water sprays, partial enclosures, full enclosures, and baghouses to minimize particulate emissions.

*45CSR7 To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associate Operations*

The purpose of this rule is to prevent and control particulate matter air pollution from manufacturing processes and associated operations. The facility is subject to the requirements of this rule because it meets the definition of "Manufacturing Process" found in Section 2.20 of this rule.; Subsection 3.7 – no visible emissions from any storage structure pursuant to subsection 5.1 which is required to have an enclosure; Subsection 4.1 – PM emissions shall not exceed those under Table 45-7A (see paragraph below); Subsection 5.1 – manufacturing process and storage structures must be equipped with a system to minimize emissions (CYC1 and BH1 control emissions from the plant CFDM1); Subsection 5.2 – minimize PM emissions from haulroads and plant premises (water sprays will be utilized to control these emissions).

According to Table 45-7A, for a type 'a' source with a maximum process weight rate of 700,000 lb/hr, the maximum allowable emission rate is approximately 50 lb/hr of particulate matter. The proposed maximum point source emission rate at the facility is 40.14 lb/hr of particulate matter according to calculated emissions in permit application R13-0280B.

*45CSR10 To Prevent and Control Air Pollution from Emissions of Sulfur Oxides*

The purpose of this rule is to prevent and control air pollution from the emission of sulfur oxides. Per this rule, Section 2.9 defines an indirect heat exchanger as a device that combusts any fuel and produces steam or heats water or any other heat transfer medium. Section 2.8 defines a fuel burning unit as any furnace, boiler apparatus, device, mechanism, stack or structure used in the process of burning fuel or other combustible material for the primary purpose of producing heat or power by indirect heat transfer. This facility is exempt from sections 3 and 6 because the liquid asphalt heater (1.39 MMBtu/hr) is below 10 MMBtu/hr. According to section 4.1., sulfur dioxide concentrations must fall below 2,000 parts per million by volume.

*45CSR13 Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation*

The proposed modification is subject to the requirements of 45CSR13 because it will result in the potential to discharge greater than six (6) pounds per hour and ten (10) tons per year of a regulated air pollutant (PM and PM<sub>10</sub>) and will involve the construction of equipment subject to NSPS Subparts I and OOO. The facility is subject to the following sections of this rule: reporting requirements, requirements for modifications of stationary sources, demonstrating compliance with stationary sources, public review procedures, and permit application fees. The facility will demonstrate compliance by following all the applicable rules and regulations that apply to the facility. They will also follow the terms and conditions set forth in permit R13-0280B. The permittee published a Class I legal advertisement in the *Parkersburg News and Sentinel* on April 13, 2013 and submitted an application fee of \$1,000.00 as well as the \$1,000.00 NSPS fees.

*45CSR16 Standards of Performance for New Stationary Sources*

This rule establishes and adopts standards of performance for new stationary sources promulgated

by the United States Environmental Protection Agency pursuant to section 111(b) of the federal Clean Air Act, as amended (CAA). The facility is subject to 40CFR60 Subparts I and OOO.

*45CSR30 Requirements for Operating Permits*

The facility's potential to emit will be 14.89 tpy of a regulated air pollutant (PM<sub>10</sub>), not including fugitive emissions from haulroads, which is less than the 45CSR30 threshold of 100 tpy for a major source. However, the facility is subject to 40 CFR 60 Subpart Y. Therefore, the facility is still subject to 45CSR30 and classified as a Title V deferred non-major source.

*40CFR60 Subpart I: Standards of Performance for Hot Mix Asphalt Facilities*

The facility is subject to this Subpart because it meets the definition of "hot mix asphalt facility" as defined in 60.91(a) – hot mix asphalt facility means any facility used to manufacture hot mix asphalt by heating and drying aggregate and mixing with asphalt cements and consisting 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.

*40CFR60 Subpart OOO: Standards of Performance for Nonmetallic Minerals Processing Plant*

In addition to nonmetallic minerals processing plants, provisions of this subpart also apply to crushers and grinding mills at hot mix asphalt facilities that reduce the size of nonmetallic minerals embedded in recycled asphalt pavement and subsequent affected facilities up to, but not including, the first storage silo or bin are subject to the provisions of this subpart. The facility shall be in compliance with 60.672 (b) no greater than 7% opacity from any transfer point on belt conveyors or from any other affected facility (as defined in 60.670 and 60.671) and no greater than 12% opacity from any crusher when the particulate matter control methods and devices (all control methods shown in equipment table) proposed within application R13-0280B are in operation.

The proposed modification of Camden Materials, LLCs' existing hot mix asphalt plant is not subject to the following state and federal rules:

*45CSR14 Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration*

The facility will have the potential to emit 35.26 TPY of a regulated air pollutant (PM), not including fugitive emissions from haulroads, which is less than the 45CSR14 threshold of 250 TPY. This facility is not listed in Table 2, and so fugitive emissions are not included when determining source applicability. Therefore, the proposed Modification is not subject to the requirements set forth within 45CSR14.

*45CFR60 Subpart IIII: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*

The engine is not subject to 40CFR60 Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines because it was manufactured before April 1, 2006, as required by Section 60.4200(a)(2)(i).

*40CFR63 Subpart ZZZZ: National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*

Camden Materials, LLC is not subject to 40CFR63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines because the manufactured date for the Caterpillar 3306 is 1983. Requirements of Subpart ZZZZ apply to an engine at an area source that is manufactured after June 12, 2006. Emission tests for the Caterpillar 3306 must be completed within 180 days after the hard compliance date of October 19, 2013.

## TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

### **Acetaldehyde:**

Acetaldehyde is mainly used as an intermediate in the synthesis of other chemicals. It is ubiquitous in the environment and may be formed in the body from the breakdown of ethanol. Acute (short-term) exposure to acetaldehyde results in effects including irritation of the eyes, skin, and respiratory tract. Symptoms of chronic (long-term) intoxication of acetaldehyde resemble those of alcoholism. Acetaldehyde is considered a probable human carcinogen (Group B2) based on inadequate human cancer studies and animal studies that have shown nasal tumors in rats and laryngeal tumors in hamsters.

### **Benzene:**

Benzene is found in the air from emissions from burning coal and oil, gasoline service stations, and motor vehicle exhaust. Acute (short-term) inhalation exposure of humans to benzene may cause drowsiness, dizziness, headaches, as well as eye, skin, and respiratory tract irritation, and, at high levels, unconsciousness. Chronic (long-term) inhalation exposure has caused various disorders in the blood, including reduced numbers of red blood cells and aplastic anemia, in occupational settings. Reproductive effects have been reported for women exposed by inhalation to high levels, and adverse effects on the developing fetus have been observed in animal tests. Increased incidence of leukemia (cancer of the tissues that form white blood cells) have been observed in humans occupationally exposed to benzene. EPA has classified benzene as a Group A, human carcinogen.

### **Ethyl Benzene:**

Ethyl benzene is mainly used in the manufacturing of styrene. Acute (short-term) exposure to ethyl benzene in humans results in respiratory effects, such as throat irritation and chest constriction, irritation of the eyes, and neurological effects, such as dizziness. Chronic (long-term) exposure to ethyl benzene by inhalation in humans has shown conflicting results regarding its effects on the blood. Animal studies have reported effects on the blood, liver, and kidneys from chronic inhalation exposure to ethyl benzene. Limited information is available on the carcinogenic effects of ethyl benzene in humans. In a study by the National Toxicology Program (NTP), exposure to ethyl benzene by inhalation resulted in an increased incidence of kidney and testicular tumors in rats, and lung and liver tumors in mice. EPA has classified ethyl benzene as a Group D, not classifiable as to human carcinogenicity.

### **Formaldehyde:**

Formaldehyde is used mainly to produce resins used in particle board products and as an intermediate in the synthesis of other chemicals. Exposure to formaldehyde may occur by breathing contaminated indoor air, tobacco smoke, or ambient urban air. Acute (short-term) and chronic (long-term) inhalation exposure to formaldehyde in humans can result in respiratory symptoms, and eye, nose, and throat irritation. Limited human studies have reported an association between formaldehyde exposure and lung and nasopharyngeal cancer. Animal inhalation studies have reported an increased incidence of nasal squamous cell cancer. EPA considers formaldehyde a probable human carcinogen (Group B1).

### **Toluene:**

The acute toxicity of toluene is low. Toluene may cause eye, skin, and respiratory tract irritation. Short-term exposure to high concentrations of toluene (e.g., 600 ppm) may produce fatigue, dizziness, headaches, loss of coordination, nausea, and stupor; 10,000 ppm may cause death from respiratory failure. Ingestion of toluene may cause nausea and vomiting and central nervous system depression. Contact of liquid toluene with the eyes causes temporary irritation. Toluene is a skin irritant and may cause redness and pain when trapped beneath clothing or shoes; prolonged or repeated contact with toluene may result in dry and cracked skin. Because of its odor and irritant effects, toluene is regarded as having good warning properties. The chronic effects of exposure to toluene are much less severe than those of benzene. No carcinogenic effects were reported in animal studies. Equivocal results were obtained in studies to determine developmental effects in animals. Toluene was not observed to be mutagenic in standard studies.

### **Xylene:**

Commercial or mixed xylene usually contains about 40-65% *m*-xylene and up to 20% each of *o*-xylene and *p*-xylene and ethyl benzene. Xylenes are released into the atmosphere as fugitive emissions from industrial sources, from auto exhaust, and through volatilization from their use as solvents. Acute (short-term) inhalation exposure to mixed xylenes in humans results in irritation of the eyes, nose, and throat,

gastrointestinal effects, eye irritation, and neurological effects. Chronic (long-term) inhalation exposure of humans to mixed xylenes results primarily in central nervous system (CNS) effects, such as headache, dizziness, fatigue, tremors, and incoordination; respiratory, cardiovascular, and kidney effects have also been reported. EPA has classified mixed xylenes as a Group D, not classifiable as to human carcinogenicity.

#### AIR QUALITY IMPACT ANALYSIS

Air dispersion modeling was not performed due to the size and proposed location of this facility. This facility will be located in Wood County, WV, which is currently designated as non-attainment for PM<sub>2.5</sub> (particulate matter less than 2.5 microns in diameter). According to 45CSR19, Section 3.7.b., fugitive emissions from haulroads should be excluded when considering the Potential to Emit (PTE) of a major source. The definition of a major source of PM<sub>2.5</sub> is, not including fugitive emissions from haulroads, a PTE at or above 100 TPY. The estimated PTE for PM<sub>10</sub> is 17.41 TPY. Since PM<sub>2.5</sub> is a subset of PM<sub>10</sub>, PM<sub>2.5</sub> is less than the 100 TPY limit for a major source.

#### MONITORING OF OPERATIONS

For the purposes of determining compliance with maximum throughput limits, the applicant shall maintain certified daily and monthly records. An example form is included as Appendix A to Permit R13-0280B. Example form for tracking the amount of water applied through the water truck are included as Appendix B to Permit R13-0280B. An example form for the Monthly Opacity Testing is included as Appendix C to Permit R13-0280B. The Certification Of Data Accuracy statement shall be completed within fifteen (15) days of the end of the reporting period. These records shall be maintained on-site for at least five (5) years and be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

#### RECOMMENDATION TO DIRECTOR

The information contained in the permit application R13-0280B indicates that compliance with all applicable state rules and federal regulations should be achieved when all proposed control methods are in operation. Therefore, the granting of a permit to Camden Materials, LLC for the modification of a hot mix asphalt plant located in Parkersburg, Wood County, West Virginia, is hereby recommended.

\_\_\_\_\_  
Thornton E. Martin Jr.  
Permit Writer

\_\_\_\_\_  
June 06, 2013  
Date