TECHNICAL REVIEW AND EVALUATION
OF APPLICATION FOR
AIR QUALITY PERMIT No. 81568

I. INTRODUCTION

This Class II synthetic minor operating permit is issued to DPE Materials, Inc., the Permittee, for the operation of DPE Materials, Inc.'s (DPE) County 19th Facility, which is located at 3999 East County 19th Street, Yuma, AZ 85365. Permit No. 81568 supersedes Permit No. 60681.

A. Company Information

Facility Name: DPE Materials – County 19th Facility

Facility Location: 3999 East County 19th Street, Yuma, AZ 85365

Mailing Address: 1636 East 20th Street, Yuma, AZ 85365

B. Attainment Classification

This facility is located in a non-attainment area for particulate matter below 10 micron size (PM_{10}) in Yuma County, AZ.

II. PROCESS DESCRIPTION

A. Process Description

The facility operates two stationary plants, one portable Pug Mill Blending plant, two portable screen plants, and portable equipment used as needed throughout the facility. The stationary plants are a Hot Mix Asphalt Plant (HMAP) and Crushing & Screening (C&S) plant.

The HMAP is a continuous process that heats and mixes aggregates with asphaltic oil to produce a material suitable for asphalt paving. The aggregates are dried and heated in a counter flow rotary drum dryer. The exhaust of rotary drum dryer is controlled in a high temperature baghouse for minimizing the particulate emissions. The resulting asphalt mix is conveyed to storage silos from where it is discharged for off-site sales.

The C&S plant uses run-of-mine rock recovered from the portable screening plant to produce various sizes of crushed and screened product.

B. Control Devices

Baghouses are used to control emissions from the rotary drum dryer and lime silos. Cyclone dust collector is used for separating fines from the intermediate product. Water trucks and/or manually operated water sprays are used to control dust on storage piles and unpaved roads.

III. LEARNING SITE EVALUATION

In accordance with ADEQ's Environmental Permits and Approvals near Learning Sites Policy, the Department is required to conduct an evaluation to determine if any nearby learning sites would be adversely impacted by the facility. Learning sites consist of all existing public schools, charter schools and private schools the K-12 level, and all planned sites for schools approved by the Arizona School Facilities Board. The learning sites policy was established to ensure that the protection of children at learning sites is considered before a permit approval is issued by ADEQ.

There are no learning sites within 2 miles of the facility.

IV. COMPLIANCE HISTORY

During the permit term, nine (9) compliance certifications were submitted and three (3) field inspections were conducted. During inspection 300502 on May 2, 2018, it was noted that the equipment listed on the permit did not match actual equipment at the facility.

This facility was cited for a Notice of Violation for failure to submit a timely permit renewal application. The facility was required to obtain coverage under a Crushing and Screening General Permit for their crushing and screening operations. Their hot mix asphalt operations were required to discontinue upon expiration of Permit No. 60681.

The Permittee signed a Consent Order A-03-20 with ADEQ on March 20, 2020 to continue the operation of its facility until this individual Permit No. 81568 can be issued. As part of the Consent Order, DPE is required obtained coverage under a Crushing and Screening General Permit for its crushing and screening operations and did so under Permit No. 81425.

V. EMISSIONS

The facility has an uncontrolled potential-to-emit (PTE) more than the major source thresholds of nitrogen oxides (NO_x) and carbon monoxide (CO). The Permittee has accepted hourly limits for the operation of the facility to not to exceed 16 hours per day and 4,160 hours in any rolling 365-day period to not exceed major source thresholds. The facility's PTE is provided in Table 1 below:

Table 1: Potential to Emit

Pollutant	Permit No. 60681 Potential Emissions (tons per year)	Permit No. 81568 Potential Emissions (tons per year)	Difference in Potential Emissions	Minor NSR Thresholds	Minor NSR Triggered?
NO_x	34.32	34.32	0.00	20	No
PM_{10}	30.50	31.80	+1.30*	7.5	No
$PM_{2.5}$	30.50	31.80	+1.30*	5	No
CO	82.18	82.18	0.00	50	No
SO_2	36.16	36.16	0.00	20	No
VOC	28.83	28.83	0.00	20	No

*This difference is from the comparison with updated equipment list from Permit No. 60681.

VI. MINOR NSR REVIEW

The changes being proposed by this permit renewal application does not increase the potential to emit in excess of the minor NSR thresholds as seen in Table 1. As a result, minor NSR does not apply.

VII. APPLICABLE REGULATIONS

Table 2 identifies applicable regulations and verification as to why that standard applies.

Table 2: Applicable Regulations

Unit & Year	Control Device	Rule	Discussion
Drum Dryer (1999)	Baghouse	40 CFR 60 Subpart I	New Source Performance Standards (NSPS) as defined in Code of Federal Regulations Subsection I. The drum dryer and associated equipment were manufactured after the NSPS trigger date and are hence subject to the requirements of NSPS as per Subpart I §60.90 of 40 CFR 60.
Asphalt Heater (1988)	N/A	A.A.C. R18-2-730	These standards apply to all unclassified sources.
Crushing & Screening Plant (Post 1983)	Water Sprays/Water Truck and other reasonable precautions	40 CFR 60, Subpart OOO	NSPS as defined in Code of Federal Regulations Subsection OOO. Subpart OOO contains standards for equipment constructed after August 31, 1983.
Crushing & Screening Plant (Pre 1983)	Water Sprays/Water Truck and other reasonable precautions	A.A.C. R18-2-722	These standards are applicable to crushing and screening plant equipment manufactured prior to August 31, 1983.
Fugitive dust sources	Water Trucks Dust Suppressants	A.A.C.R18-2 Article 6 A.A.C. R18-2-702	These standards are applicable to all fugitive dust sources at the facility.
Abrasive Blasting	Wet blasting; Dust collecting equipment; Other approved methods	A.A.C. R-18-2-702 A.A.C. R-18-2-726	These standards are applicable to any abrasive blasting operation.

Unit & Year	Control Device	Rule	Discussion
Spray Painting	Enclosures	A.A.C. R18-2-702 A.A.C. R-18-2-727	This standard is applicable to any spray painting operation.
Demolition/renovation operations	N/A	A.A.C. R18-2-1101.A.8	This standard is applicable to any asbestos related demolition or renovation operations.

VIII. PREVIOUS PERMIT AND CONDITIONS

Table 3 compares the sections in Permit No. 60681 with the conditions in this renewal permit:

Table 3: Previous Permit Conditions

Section No.	Determination		Comments
	Revised	Delete	
Att. "A"	X		**General Provisions:** Revised to represent the most recent template language.
Att. "B" Section I	X		**Facility wide requirements:** Revised to represent the most recent template language.
Att. "B" Section IV	X		**Crushing and Screening Operations Subject To New Source Performance Standards Subpart OOO:** Revised to update applicable requirements.
Att. "B" New Section VI	X		**Internal Combustion Engine(s) Subject To NSPS Subpart IIII:** The section was added to include requirements for the two (2) diesel engines located at the site.
Att. "B" Section VI	X		**Fugitive Dust:** Revised to reflect the most recent template language. Updated Section number to "V".
Att. "B" Section VII		X	**Mobile Source Requirements:** Removed to represent the most current permit structure.
Att. "B" Section VIII	X		**Other Periodic Activities:** Revised to reflect the most recent template language.
Att. "C"	X		**Equipment List:** Revised to reflect the most recent equipment operating at the facility and to include equipment information provided.

IX. MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

A. Facility Wide

1. Along with the semiannual compliance certification, the Permittee is required to submit reports of all recordkeeping, monitoring and maintenance required by the permit.

2. The Permittee is required to maintain, on-site, records of the manufacturer's specifications or an Operation and Maintenance Plan for all equipment listed in the permit.

3. The Permittee is required to keep a daily record of the hours of operation of the facility.

4. At the end of each day, the Permittee is required to calculate and maintain records of the 365-day rolling total of the operating hours of facility to show compliance with the annual hours limit.

B. Hot Mix Asphalt Plant

1. The Permittee is required to perform monthly Method 9 observations of visual emissions from the drum dryer, silo baghouse, and heater stacks must be performed by a certified Method 9 observer.

2. The Permittee is required to conduct a black light inspection to detect any broken or leaking bags once every year. If broken or leaking bags are detected, the Permittee is required to repair or replace the bags. Upon completion of the inspection, the Permittee is required to record the name of the inspector, the date, the time, and the results of the inspection and repairs.

C. Asphalt Tanks Requirements

1. The Permittee is required to conduct monitoring of visible emissions from the stack of the asphalt tanks.

D. Crushing & Screening Equipment Subject to NSPS OOO

1. The Permittee is required to conduct monthly opacity monitoring on the equipment when in operation.

2. The Permittee is required to perform monthly periodic inspections to check that water is flowing to discharge spray nozzles in the wet suppression system.

3. The Permittee is required to submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards, including reports of opacity observations made using Method 9 to demonstrate compliance with the opacity standards.

4. The Permittee is required to record each periodic inspection required under including dates and any corrective actions taken, in a logbook.

E. Crushing & Screening Equipment Not Subject to NSPS OOO

1. The Permittee is required conduct monthly opacity monitoring on any gravel or stone crushing processes.

2. The Permittee is required to install, calibrate, maintain, and operate monitoring devices which can be used to determine daily the process weight of sand, gravel or crushed stone produced.

3. The Permittee is required to maintain records of the daily production rate of gravel or crushed stone produced.

F. Fugitive Dust

1. The Permittee is required to keep record of the dates and types of dust control measures employed.

2. The Permittee is required to show compliance with the opacity standards by having a Method 9 certified observer perform a monthly survey of visible emission from fugitive dust sources. The observer is required to conduct a 6-minute Method 9 observation if the results of the initial survey appear on an instantaneous basis to exceed the applicable standard.

3. The Permittee is required to keep records of the name of the observer, the time, date, and location of the observation and the results of all surveys and observations.

4. The Permittee is required to keep records of any corrective action taken to lower the opacity of any emission point and any excess emission reports.

G. Periodic Activities

1. The Permittee is required to record the date, duration and pollution control measures of any abrasive blasting project.

2. The Permittee is required to record the date, duration, quantity of paint used, any applicable MSDS, and pollution control measures of any spray painting project.

3. The Permittee is required to maintain records of all asbestos related demolition or renovation projects. The required records include the "NESHAP Notification for Renovation and Demolition Activities" form and all supporting documents.

X. TESTING REQUIREMENTS

A. Hot Mix Asphalt Plant

The Permittee is require to conduct a performance test for PM from the stack of drum dryer within 180 days of issuance of the permit to demonstrate compliance with the applicable PM limit and subsequent testing must be conducted annually.

B. Crushing & Screening Equipment Subject to NSPS OOO

The Permittee is required to demonstrate initial compliance with the applicable opacity limits for fugitive emissions contained in Conditions IV.B.1.a above by conducting initial

performance tests according to 40 CFR 60.11 and the test methods and procedures in Condition IV.C.3.b.

XI. AMBIENT AIR IMPACT ANALYSIS

An ambient air quality impacts analysis was conducted in 2015 for the facility's previous permit, Permit No. 60681, to determine if emissions of any criteria pollutant within the facility will cause or contribute to an exceedance of a National Ambient Air Quality Standard (NAAQS). The American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) version 14134 was used in the modeling analysis.

A. Source Inputs

All emission sources within the facility were modeled. These sources are summarized below.

Point Sources: drum dyer baghouse, asphalt and lime solos;

Area Sources: storage piles wind erosion;

Volume Sources: crushing and screening operations, batch drop operations, material transfer operations, truck/front-end loaders traveling on unpaved roads;

Open-pit Source: all operations within the open pit.

For modeling short-term impacts, the maximum daily process rates were used to estimate the maximum short-term emission rates. The maximum short-term emission rates were also used for modeling annual impacts. Therefore, the annual impacts were likely to be overestimated.

Stack parameters were determined based on manufacture specifications for each point source. Volume sources and area sources were modeled in accordance with section 3.3.2 and Section 3.3.3 of the 2013 ADEQ modeling guidelines, respectively.

B. Meteorological Data

Five years of the surface data collected from the Yuma Marine Corps Air Station, in combination with the concurrent upper air data obtained from the NWS Tucson Airport Station, were processed with AERMET, the meteorological data processor for AERMOD. The MCAS dataset was determined to be both temporally and geographically representative of meteorological conditions of the facility site.

C. Receptor Network

A receptor network was developed to determine areas of maximum predicted concentrations. The grid spacing utilized for the receptors are as follows: process area boundary set at 25-meter intervals; fine receptor grid of 100 meters, extending from the ambient air boundary to 1 kilometer; medium receptor grid of 500 meters, extending from 1 kilometer to 5 kilometers. AERMAP, the AERMOD terrain processor, was used to

process the USGS's National Elevation Data to generate the receptor elevations and hill heights.

D. Urban/Rural Determination

The facility area was determined as "Rural" based on the land use method in Appendix W.

E. Background Concentrations

Air quality background concentrations for ambient PM_{10}, $PM_{2.5}$, CO and SO_2 were sourced from Technical Support Documents published by ADEQ as part of its NAAQS compliance modeling for its Hot Mix Asphalt Plant (HMAP) General Permit. Ambient NO2 concentrations from Deming, New Mexico were used as representative background with sufficient justification.

F. Model Results

The model results are presented in Table 4. The results indicate that the facility will not cause or contribute to an exceedance of the NAAQS. The maximum modeled concentrations for all pollutants under varied meteorological conditions occurred in or near the ambient area boundary of the facility.

Table 4: NAAQS Modeling Analysis Results

NAAQS Pollutant	Averaging Time	Standard (µg/m^3)	Modeled Results (µg/m^3)	Background (µg/m^3)	Total (µg/m^3)	Pass/Fail
CO	1 hour	40,000	149.46	4,500	4649.46	Pass
CO	8 hour	10,000	70.27	2,800	2870.27	Pass
NO_2	1 hour	188	32.92	52.65	85.57	Pass
NO_2	Annual	100	1.02	30.00	31.02	Pass
SO_2	1 hour	196	6.58	13.09	19.67	Pass
$PM_{2.5}$	24 hour	35	3.82	14.60	18.42	Pass
$PM_{2.5}$	Annual	12	0.52	6.70	7.22	Pass
PM_{10}	24 hour	150	44.76	58.00	102.76	Pass

XII. LIST OF ABBREVIATIONS

A.A.C. ..... Arizona Administrative Code
ADEQ ..... Arizona Department of Environmental Quality
Btu/ft^3 ..... British Thermal Units per Cubic Foot
Btu/hr ..... British Thermal Units per Hour
CFR ..... Code of Federal Regulations
CO ..... Carbon Monoxide
FERC ..... Federal Energy Regulatory Commissions
HAP ..... Hazardous Air Pollutant
hp ..... Horsepower
lb/hr ..... Pound per Hour
NO_x ..... Nitrogen Oxides
PM ..... Particulate Matter
PM_{10} ..... Particulate Matter Nominally less than 10 Micrometers
SO_x ..... Sulfur Oxides
VOC ..... Volatile Organic Compound