



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT



AUG 05 2015

Rhonda Nunnelley
Delano Rock and Asphalt
PO Box 994248
Redding, CA 96099-4248

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: S-8504
Project Number: S-1153108

Dear Mr. Nunnelley:

Enclosed for your review and comment is the District's analysis of Delano Rock and Asphalt's application for an Authority to Construct for a transportable hot mix asphalt batch plant, at the SE Corner of Schuster Road and Randolph St, Delano.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. After addressing all comments made during the 30-day public notice period, the District intends to issue the Authority to Construct. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Richard Edgehill of Permit Services at (661) 392-5617.

Sincerely,

Arnaud Marjollet
Director of Permit Services

AM:rue/ya

Enclosures

cc: Mike Tollstrup, CARB (w/ enclosure) via email

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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San Joaquin Valley Air Pollution Control District
Authority to Construct
Application Review
Hot Mix Asphalt Batch Plant

Facility Name: Delano Rock and Asphalt, LLC
Mailing Address: PO Box 994248
Redding, CA 96099-4248
Contact Person: Rhonda Nunnelley
Telephone: 530-241-2112
Application #(s): ATCs S-8504-1-2
Project #'s: 1153108
Deemed Complete: July 22, 2015

Date: August 3, 2015
Engineer: Richard Edgehill
Lead Engineer: Stephen Leonard

I. Proposal

Delano Rock and Asphalt, LLC is proposing to reauthorize ATC S-8504-1-1 for a hot mix asphalt batch plant (ABP). The 100 MMBtu/hr asphalt dryer burner initially specified will be replaced with a 70 MMBtu/hr burner. The PM10 emissions factor was revised from 0.012 lb/ton product, applicant proposed for the pre-project burner, to the AP-42 value of 0.023 lb/ton product. No other changes to ATC S-8504-1-1 are proposed.

The equipment authorized by the revised ATC triggers BACT and public notice. Offsets are not required.

The facility is not a major source. Therefore, Rules 2520 and 2530 are not applicable.

ATC S-8504-1-1 is included in **Attachment I**.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4002	National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4202	Particulate Matter Emission Rate (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 4309	Dryers, Dehydrators, and Ovens (12/15/05)
Rule 4801	Sulfur Compounds (12/17/92)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice
Public Resources Code 21000-21177:	California Environmental Quality Act (CEQA)

California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. Project Location

The facility is located at SE corner of Schuster Road and Randolph Street in Delano. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

Aggregate and RAP (from S-8504-3) are hauled from the storage piles and placed in RAP /aggregate hoppers. RAP is crushed and screened prior to entering the rotary dryer.

Drum/Dryer

RAP and aggregate are metered from the hoppers onto a conveyor feeding a natural gas/propane-fired rotary dryer and mixer. The rotary dryer is equipped with flights designed to shower the aggregate inside the drum to promote drying and heating efficiency. After the aggregate and RAP are dried and heated they are mixed (< 60 seconds) with liquid asphalt. The product (hot mix) is conveyed to a storage silo or dropped directly into a truck and hauled to the job site.

Proposed Modification

The 100 MMBtu/hr Gencor Ultraflame II Low NOx burner initially authorized will not be installed. Instead, the facility will install a 70 MMBtu/hr Hawk Novastar burner.

A process flow diagram is included in **Attachment II**. Manufacturer's information on the burner is included in **Attachment III**.

V. Equipment Listing

Pre-Project

ATC S-8504-1-2: HOT MIX ASPHALTIC CONCRETE BATCH PLANT WITH FOUR COLD FEED AGGREGATE HOPPERS WITH A DRUM DRYER/MIXER, FEED CONVEYOR, TWO RAP FEED HOPPERS WITH A CONVEYOR FEEDING A CRUSHER, WITH A CONVEYOR FEEDING ONE VIBRATING SCREEN, WITH A CONVEYOR FEEDING DRUM DRYER/MIXER; ONE 100 MMBTU/HR NATURAL GAS OR PROPANE-FIRED ALLMIX DUODRUM 100 DRYER/MIXER WITH A GENCOR ULTRAFLAME II LOW-NOX BURNER VENTED TO A ALLMIX BAGHOUSE WITH 792 BAGS/FILTERS; ONE ENCLOSED DRAG SLAT CONVEYOR; ONE 100-TON ASPHALT CONCRETE STORAGE SILO WITH A TRUCK LOADOUT

Post-Project

ATC S-8504-1-3: TRANSPORTABLE HOT MIX ASPHALT BATCH PLANT WITH FOUR (4) COLD FEED AGGREGATE HOPPERS, FEED COLLECTION CONVEYOR, TWO (2) RAP FEED HOPPERS, ONE CRUSHER FEED CONVEYOR, ONE VIBRATING SCREEN FEED CONVEYOR, ONE DRYER/MIXER FEED CONVEYOR, ONE NATURAL GAS/PROPANE-FIRED ROTARY DRYER/MIXER WITH 70 MMBTU/HR HAUK NOVASTAR MODEL NS75-004 I LOW-NOX BURNER VENTED TO A ALLMIX BAGHOUSE, ONE ENCLOSED DRAG SLAT CONVEYOR; ONE 100-TON ASPHALT CONCRETE STORAGE SILO WITH A TRUCK LOADOUT, BLUE SMOKE FILTER CONTROL SYSTEM, AND ASPHALT CONCRETE STORAGE SILO VENT AND SILO DISCHARGE GATE VENTED TO ROTARY DRYER/MIXER BURNER

VI. Emission Control Technology Evaluation

The facility will control the PM emissions from the loading and conveying of the cold feed aggregate material by the use of high moisture content material and water fog sprays at conveyor transfer points and other loading operations when needed. The high moisture content of the material being processed will prevent visible emissions in excess of 5% opacity. Water trucks will be required to control fugitive dust emissions from the vehicles traversing the roads.

The proposed dryer/mixer will use a low NOx emitting burner and be fired on natural gas or propane. The particulate matter (PM) emissions from the dryer/mixer will be vented to a baghouse with a PM₁₀ control efficiency of at least 95%.

PM₁₀ and VOC emissions (blue smoke) from loading, storage, and unloading of the asphaltic concrete product will be vented to the dryer/mixer's burner (blue smoke filter).

VII. General Calculations

A. Assumptions

- Operation: 12 hr/day, 3720 hr/yr
- Throughput: 4,800 tons/day, 450,000 tons/yr of asphaltic concrete (product)
- RAP throughput: 2,400 tons/day, 225,000 tons/yr
- Particulate matter (PM) is the only pollutant that will be emitted from the loading, operation.
- Emissions consist of emissions from the dryer/mixer which are vented through the baghouse, PM₁₀ emissions from sand, aggregate and RAP handling and feeding equipment, and PM₁₀, VOC, and CO ("blue smoke") emissions from the finished asphaltic concrete under-silo truck load out.
- VOC and PM₁₀ emissions from silo loading and truck load out are incinerated in the burner of the dryer/mixer with a control efficiency of at least 30% and 95%, respectively.
- 70 MM Btu/hr low-NOx burner utilizes natural gas/propane as fuel.

- Silo temperature: ~325 deg F, asphalt Volatility (V) is -0.5 (manufacturer)
- All the transfer points, except for drag slat drop point, and screens are served by water sprays (project 1143064).
- EPA recognizes that RAP piles are not likely to cause significant fugitive dust problems because the aggregate is coated with asphalt cement (see Section 2.2.1 at: <http://www.epa.gov/ttnchie1/eiip/techreport/volume02/ii03.pdf>)
- Emissions from the asphalt concrete storage silo vent and silo discharge gate will be vented to the burner of the drum dryer.
- Baghouse air flow rate: 62,000 scfm (project 1143064, 7/21/14 supplemental application form correspondence)

B. Emission Factors (Attachment IV)

The emission factor for feed transfer to drum mix and from dryer is as given below:

Feed Handling Operations (AP-42 Section 11.19.2-2 8/04):

Screening (Controlled) - 0.00074 lb/ton
 Conveyor transfer point (Controlled) - 0.000046 lb/ton
 Transfer from front loader to bins - 0.000046 lb/ton

Asphaltic Drum Dryer:

Pollutant	Emission Factors (lb/MMBtu)	Source
NO _x	4.3 ppmv @ 19% O ₂ (0.0492 lb/MMBtu)	Rule 4309
CO	42 ppmv @ 19% O ₂ (0.292 lb/MMBtu)	Rule 4309
SO _x	0.0034 lb/ton	AP42 11.1 Table 11.1-7
PM ₁₀	0.023 lb/ton	AP42 11.1 Table 11.1-3
VOC	0.032 lb/ton	AP42 11.1 Table 11.1-8

Silo Filling and Truck Load-Out:

VOC, CO, and PM₁₀ emission factors (EF) for the filling of the storage silo and the truck load out are from AP-42, Table 11.1-14 (Updated 3/04).

Silo Filling Emission Factors (EF):

$$\begin{aligned}
 EF_{\text{VOC/Silo Filling}} &= 0.0504(-V)e^{((0.0251)(T + 460) - 20.43)} \times (1 - 0.30) \\
 &= 0.0504(0.5)e^{((0.0251)(325 + 460) - 20.43)} \times (1 - 0.30) \\
 &= \mathbf{0.0085 \text{ lb-VOC/ton}}
 \end{aligned}$$

$$EF_{\text{PM10/Silo Filling}} = 0.000332 + 0.00105(-V)e^{((0.0251)(T + 460) - 20.43)} \times (1 - 0.95)$$

$$= 0.000332 + 0.00105(0.5)e^{((0.0251)(325 + 460) - 20.43)} \times (1 - 0.95)$$

$$= \mathbf{0.000029 \text{ lb-PM}_{10}/\text{ton}}$$

$$EF_{\text{CO/Silo Filling}} = 0.00488(-V)e^{((0.0251)(T + 460) - 20.43)}$$

$$= 0.00488(0.5)e^{((0.0251)(325 + 460) - 20.43)}$$

$$= \mathbf{0.00118 \text{ lb-CO/ton}}$$

Silo Load out Emission Factors (EF):

$$EF_{\text{VOC/Loadout}} = 0.0172(-V)e^{((0.0251)(T + 460) - 20.43)} \times (1 - 0.30)$$

$$= 0.0172(0.5)e^{((0.0251)(325 + 460) - 20.43)} \times (1 - 0.30)$$

$$= \mathbf{0.0029 \text{ lb-VOC/ton}}$$

$$EF_{\text{PM}_{10}/\text{Loadout}} = 0.000181 + 0.00141(-V)e^{((0.0251)(T + 460) - 20.43)} \times (1 - 0.95)$$

$$= 0.000181 + 0.00141(0.5)e^{((0.0251)(325 + 460) - 20.43)} \times (1 - 0.95)$$

$$= \mathbf{0.000026 \text{ lb-PM}_{10}/\text{ton}}$$

$$EF_{\text{CO/Loadout}} = 0.00558(-V)e^{((0.0251)(T + 460) - 20.43)}$$

$$= 0.00558(0.5)e^{((0.0251)(325 + 460) - 20.43)}$$

$$= \mathbf{0.00135 \text{ lb-CO/ton}}$$

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Since this is a new emissions unit, PE1 = 0 for all pollutants.

2. Post Project Potential to Emit (PE2)

Feed Handling (PM10 Emissions Only)

PE2 = Emission Factor x Throughput x Hours of Operation x Number of Emission Points

Feed Handling		
Emission Points	Daily Emissions (lb/day)	Annual Emissions (lb/year)
4 cold feed bins	4 x 0.000046 lb/ton x 4,800 tons/day = 0.9 lb/day	4 x 0.000046 lb/ton x 450,000 tons/yr = 83 lb/yr
2 RAP feed bins	2 x 0.000046 lb/ton x 4,800 tons/day = 0.4 lb/day	2 x 0.000046 lb/ton x 450,000 tons/yr = 41 lb/yr
1 Screen	0.00074 lb/ton x 2,400 tons/day = 1.8 lb/day	0.00074 lb/ton x 225,000 tons/yr = 167 lb/yr
4 Conveyor transfer points	4 x 0.000046 lb/ton x 4,800 tons/day = 0.9 lb/day	4 x 0.000046 lb/ton x 450,000 tons/yr = 83 lb/yr
Total PM10	4.0	374

Asphalt Drum Mix Burner Emissions

The asphalt drum mix burner PE2 is calculated as shown below and summarized in the following table:

$$0.0492 \text{ lb-NO}_x/\text{MMBtu} \times 70 \text{ MMBtu/hr} \times 12 \text{ hr/day} = 41.3 \text{ lb-NO}_x/\text{day}$$

$$0.0492 \text{ lb-NO}_x/\text{MMBtu} \times 70 \text{ MMBtu/hr} \times 3720 \text{ hr/yr} = 12,812 \text{ lb-NO}_x/\text{yr}$$

$$0.0034 \text{ lb-SO}_x/\text{ton} \times 4,800 \text{ tons/day} = 16.3 \text{ lb-SO}_x/\text{day}$$

$$0.0034 \text{ lb-SO}_x/\text{ton} \times 450,000 \text{ tons/yr} = 1,530 \text{ lb-SO}_x/\text{yr}$$

$$0.023 \text{ lb-PM}_{10}/\text{ton} \times 4,800 \text{ tons/day} = 110.4 \text{ lb-PM}_{10}/\text{day}$$

$$0.023 \text{ lb-PM}_{10}/\text{ton} \times 450,000 \text{ tons/yr} = 10,350 \text{ lb-PM}_{10}/\text{yr}$$

$$0.292 \text{ lb-CO}/\text{MMBtu} \times 70 \text{ MMBtu/hr} \times 12 \text{ hr/day} = 245.3 \text{ lb-CO}/\text{day}$$

$$0.292 \text{ lb-CO}/\text{MMBtu} \times 70 \text{ MMBtu/hr} \times 3720 \text{ hr/yr} = 76,037 \text{ lb-CO}/\text{yr}$$

$$0.032 \text{ lb-VOC}/\text{ton} \times 4,800 \text{ tons/day} = 153.6 \text{ lb-VOCs}/\text{day}$$

$$0.032 \text{ lb-VOC}/\text{ton} \times 450,000 \text{ tons/yr} = 14,400 \text{ lb-VOCs}/\text{yr}$$

Asphalt Drum Mix Burner Emissions		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	41.3	12,812
SO _x	16.3	1,530
PM ₁₀	110.4	10,350
CO	245.3	76,037
VOC	153.6	14,400

Silo Filling and Truck Loadout

Silo Filling and Truck Loadout				
Pollutant	Processing Rate (ton/day)	EF _{Silo Filling} (lb/ton)	EF _{Loadout} (lb/ton)	Daily PE ₂ _{Silo Filling & Loadout}
CO	4,800	0.00118	0.00135	12.2 lb-CO/day
VOC	4,800	0.0085	0.0029	54.7 lb-VOC/day
PM ₁₀	4,800	0.000029	0.000026	0.3 lb-PM ₁₀ /day

Silo Filling and Truck Loadout				
Pollutant	Processing Rate (ton/year)	EF _{Silo Filling} (lb/ton)	EF _{Loadout} (lb/ton)	Daily PE ₂ _{Silo Filling & Loadout}
CO	450,000	0.00118	0.00135	1,139 lb-CO/year
VOC	450,000	0.0085	0.0029	5,130 lb-VOC/year
PM ₁₀	450,000	0.000029	0.000026	25 lb-PM ₁₀ /year

Total Emissions lb/day				
	Feed Handling	Asphalt Drum Mix Burner	Silo Filling & Truck Loadout	Total
NO _x	0	41.3	0	41.3
SO _x	0	16.3	0	16.3
PM ₁₀	4.0	110.4	0.3	114.7
CO	0	245.3	12.2	257.5
VOC	0	153.6	54.7	208.3

Total Emissions lb/year				
	Feed Handling	Asphalt Drum Mix Burner	Silo Filling & Truck Loadout	Total
NO _x	0	12,812	0	12,812
SO _x	0	1,530	0	1,530
PM ₁₀	374	10,350	25	10,749
CO	0	76,037	1,139	77,176
VOC	0	14,400	5,130	19,530

Emissions Profiles are included in **Attachment V**.

3. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to District Rule 2201, the SSPE1 is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions (AER) that have occurred at the source, and which have not been used on-site.

SSPE1 (lb/year)					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
ATC S-8504-1-1	18,302	1,530	4,425	109,763	19,722
ATC S-8504-3-1	0	0	702	0	0
SSPE1	18,302	1,530	5,127	109,763	19,722

4. Post Project Stationary Source Potential to Emit (SSPE2)

Pursuant to District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site.

SSPE2 (lb/year)					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
ATC S-8504-1-0	12,812	1,530	10,749	77,176	19,530
ATC S-8504-3-1	0	0	702	0	0
SSPE2	12,812	1,530	11,451	77,176	19,530

5. Major Source Determination

Rule 2201 Major Source Determination:

Pursuant to District Rule 2201, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values. For the purposes of determining major source status the following shall not be included:

- any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165

Rule 2201 Major Source Determination (lb/year)						
	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO	VOC
SSPE1	18,302	1,530	5,127	5,127	109,763	19,722
SSPE2	12,812	1,530	11,451	11,451	77,176	19,530
Major Source Threshold	20,000	140,000	140,000	200,000	200,000	20,000
Major Source?	No	No	No	No	No	No

Note: PM2.5 assumed to be equal to PM10

As seen in the table above, the facility is not an existing Major Source and is not becoming a Major Source as a result of this project.

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(iii). Therefore the PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination (tons/year)						
	NO ₂	VOC	SO ₂	CO	PM	PM10
Estimated Facility PE before Project Increase	9.2	9.9	0.8	54.9	2.6	2.6
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source ? (Y/N)	n	n	n	n	n	n

As shown above, the facility is not an existing PSD major source for any regulated NSR pollutant expected to be emitted at this facility.

6. Baseline Emissions (BE)

The BE calculation (in lb/year) is performed pollutant-by-pollutant for each unit within the project to determine the amount of offsets required.

Pursuant to District Rule 2201, BE = PE1 for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, located at a Major Source.

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to District Rule 2201.

Since the equipment is new, BE = PE1 = 0 for all pollutants.

8. Federal Major Modification

District Rule 2201 states that a Federal Major Modification is the same as a “Major Modification” as defined in 40 CFR 51.165 and part D of Title I of the CAA.

Since this facility is not a Major Source for any pollutants, this project does not constitute a Federal Major Modification. Additionally, since the facility is not a major source for PM₁₀ (140,000 lb/year), it is not a major source for PM_{2.5} (200,000 lb/year).

9. Rule 2410 – Prevention of Significant Deterioration (PSD) Applicability Determination

Rule 2410 applies to any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment. The pollutants which must be addressed in the PSD applicability determination for sources located in the SJV and which are emitted in this project are: (See 52.21 (b) (23) definition of significant)

I. Project Emissions Increase - New Major Source Determination

The post-project potentials to emit from all new and modified units are compared to the PSD major source thresholds to determine if the project constitutes a new major source subject to PSD requirements.

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). The PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination: Potential to Emit (tons/year)						
	NO2	VOC	SO2	CO	PM	PM10
Total PE from New and Modified Units	6.4	9.8	0.8	38.6	5.4	5.4
PSD Major Source threshold	250	250	250	250	250	250
New PSD Major Source?	N	N	N	N	N	N

As shown in the table above, the potential to emit for the project, by itself, does not exceed any PSD major source threshold. Therefore Rule 2410 is not applicable and no further analysis is required.

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless specifically exempted by Rule 2201, BACT shall be required for the following actions*:

- a. Any new emissions unit with a potential to emit exceeding two pounds per day,
- b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
- c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or
- d. Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined by the rule.

*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

a. New emissions units – PE > 2 lb/day

Emissions Units	Daily PE2	BACT Threshold	BACT Required?
Cold feed bins	0.9	2 lb/day	No
RAP feed bins	0.4	2 lb/day	No
Screen	1.8 lb-PM ₁₀	2 lb/day	No
Conveyor transfer points	0.9 lb-PM ₁₀	2 lb/day	No
Rotary Drum	41.3 lb-NO _x	2 lb/day	Yes
	16.3 lb-SO _x	2 lb/day	Yes
	110.4 lb-PM ₁₀	2 lb/day	Yes
	245.3 lb-CO	2 lb/day	No
	153.6 lb VOC	2 lb/day	Yes
Silo Filling & Truck Loadout	12.2 lb-CO	2 lb/day	No
	54.7 lb-VOC	2 lb/day	Yes
	0.3 lb-PM ₁₀	2 lb/day	No

BACT is triggered for the dryer/mixer (NO_x, SO_x, PM₁₀, VOC) and the silo filling and truck loadout (VOC). Note that BACT is not triggered for CO since the SSPE2 for CO is not greater than 200,000 lb/year, as demonstrated in Section VII.C.5 above.

b. Relocation of emissions units – PE > 2 lb/day

As discussed in Section I above, there are no emissions units being relocated from one stationary source to another; therefore BACT is not triggered.

c. Modification of emissions units – AIPE > 2 lb/day

As discussed in Section I above, there are no modified emissions units associated with this project. Therefore BACT is not triggered.

d. SB 288/Federal Major Modification

As discussed in Sections VII.C.7 and VII.C.8 above, this project does not constitute an SB 288 and/or Federal Major Modification for NO_x emissions. Therefore BACT is not triggered for any pollutant.

2. BACT Guideline

BACT Guideline 6.3.1, applies to the asphaltic concrete hot mix plant. [Asphaltic Concrete - Drum Mix Plant, = or > 2,000 ton/day or = or > 75.6 MMBtu/hr burner] (See **Attachment VI**)

3. Top-Down BACT Analysis

Per Permit Services Policies and Procedures for BACT, a Top-Down BACT analysis shall be performed as a part of the application review for each application subject to the BACT requirements pursuant to the District's NSR Rule.

Pursuant to the attached Top-Down BACT Analysis (see **Attachment VII**), BACT has been satisfied with the following:

- BACT for NO_x for the Rotary Drum is determined to be a 0.049 lb/MMBtu Low-NO_x burner and either natural gas or LPG as the primary fuel.
- BACT for SO_x for the Rotary Drum is determined to be firing the unit on PUC quality natural gas or LPG as a primary fuel.
- BACT for PM₁₀ the Rotary Drum is determined to be the venting of the rotary drum to a fabric collector.
- BACT for VOC for the Rotary Drum is determined to be firing the unit on PUC quality natural gas or LPG as a primary fuel.
- BACT for VOC for Silo Filling & Truck Loadout is determined to be enclosed hot mix silos and loadout operation vented to the rotary-dryer burner.

B. Offsets

1. Offset Applicability

Offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The SSPE2 is compared to the offset thresholds in the following table.

Offset Determination (lb/year)					
	NO_x	SO_x	PM₁₀	CO	VOC
SSPE2	12,812	1,530	11,451	77,176	19,530
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	No	No	No	No	No

2. Quantity of Offsets Required

As seen above, the SSPE2 is not greater than the offset thresholds for all the pollutants; therefore offset calculations are not necessary and offsets will not be required for this project.

C. Public Notification

1. Applicability

Public noticing is required for:

- a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
- b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- c. Any project which results in the offset thresholds being surpassed, and/or
- d. Any project with an SSPE2 of greater than 20,000 lb/year for any pollutant.
- e. Any project which results in a Title V significant permit modification

a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications

New Major Sources are new facilities, which are also Major Sources. As shown in Section VII.C.5 above, the SSPE2 is not greater than the Major Source threshold for any pollutant. Therefore, public noticing is not required for this project for new Major Source purposes.

As demonstrated in Sections VII.C.7 and VII.C.8, this project does not constitute an SB 288 or Federal Major Modification; therefore, public noticing for SB 288 or Federal Major Modification purposes is not required.

b. PE > 100 lb/day

The PE2 for the new equipment is compared to the daily PE Public Notice thresholds in the following table:

PE > 100 lb/day Public Notice Thresholds			
Pollutant	PE2 (lb/day)	Public Notice Threshold	Public Notice Triggered?
NO _x	41.3	100 lb/day	No
SO _x	16.3	100 lb/day	No
PM ₁₀	114.7	100 lb/day	Yes
CO	245.3	100 lb/day	Yes
VOC	208.3	100 lb/day	Yes

Therefore, public noticing for PE > 100 lb/day purposes is required.

c. Offset Threshold

The SSPE1 and SSPE2 are compared to the offset thresholds in the following table.

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	18,302	12,812	20,000 lb/year	No
SO _x	1,530	1,530	54,750 lb/year	No
PM ₁₀	5,127	11,451	29,200 lb/year	No
CO	109,763	77,176	200,000 lb/year	No
VOC	19,722	19,530	20,000 lb/year	No

As detailed above, there were no thresholds surpassed with this project; therefore public noticing is not required for offset purposes.

d. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a SSIPE of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE = SSPE2 – SSPE1. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table.

SSIPE Public Notice Thresholds					
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	18,302	12,812	-5,490	20,000 lb/year	No
SO _x	1,530	1,530	0	20,000 lb/year	No
PM ₁₀	5,127	10,749	5,622	20,000 lb/year	No
CO	109,763	77,176	-32,587	20,000 lb/year	No
VOC	19,722	19,530	-192	20,000 lb/year	No

As demonstrated above, public noticing for SSIPE purposes is not required.

e. Title V Significant Permit Modification

Since this facility does not have a Title V operating, this change is not a Title V significant Modification, and therefore public noticing is not required.

2. Public Notice Action

As discussed above, public noticing is required for this project for CO and VOC emissions in excess of 100 lb/day and for CO in excess of 20,000 lb/year. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

DELs and other enforceable conditions are required by Rule 2201 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. The DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

Proposed Rule 2201 (DEL) Conditions:

- Asphalt processing rate of drum dryer/mixer burner shall not exceed 4800 ton in any one day nor 450,000 ton in any one calendar year. [District Rule 2201] N
- The quantity of aggregate and RAP processed shall not exceed 2,400 tons in any one day. [District Rule 2201] N
- The quantity of aggregate processed shall not exceed 4,800 tons in any one day nor 450,000 tons in any one calendar year. [District Rule 2201] N
- Emissions from the cold feed aggregate hoppers shall not exceed 0.000046 lb-PM10/ton. [District Rule 2201] N

- Emissions from the RAP feed hoppers shall not exceed 0.000046 lb-PM10/ton. [District Rule 2201] N
- Emissions from the rotary dryer/mixer shall not exceed any of the following limits: 0.0492 lb-NOx/MMBtu, 0.0034 lb-SOx/ton-asphalt, 0.023 lb-PM10/ton-asphalt (measured at the baghouse outlet), 0.292 lb-CO/MMBtu, nor 0.032 lb-VOC/ton-asphalt. [District Rules 2201 and 4309] N
- The quantity of produced asphaltic concrete transferred into the storage silo and loaded out into trucks shall not exceed 4,800 tons in any one day nor 450,000 tons in any one calendar year. [District Rule 2201] N
- Emissions from the transfer of the produced asphaltic concrete into the storage silo shall not exceed any of the following limits: 0.00118 pounds of CO per ton of asphaltic concrete silo transferred, 0.0085 pounds of VOC per ton of asphaltic concrete transferred, nor 0.000029 pounds of PM10 per ton of asphaltic concrete transferred. [District Rule 2201] N
- Emissions from truck loading of asphaltic concrete shall not exceed any of the following limits: 0.00135 pounds of CO per ton of asphaltic concrete loaded, 0.0029 pounds of VOC per ton of asphaltic concrete loaded, nor 0.000026 pounds of PM10 per ton of asphaltic concrete loaded. [District Rule 2201] N

E. Compliance Assurance

1. Source Testing

Pursuant to District Policy APR 1705 (Source Testing Frequency), initial source testing for NOx and PM₁₀ emissions shall be required for asphaltic concrete plants. The applicant is also proposing NOx and CO emission rates to comply with the requirements of District Rule 4309 (Dryers, Dehydrators, and Ovens). Therefore, initial source testing for NOx, CO, and PM₁₀ emissions will be required for the proposed new asphaltic concrete batch plant. Permit conditions will be included in the Authority to Construct permit to specify the following test methods:

NOx Emission Rate:	EPA Method 7E or CARB Method 100
CO Emission Rate:	EPA Method 10 or CARB Method 100
Stack Gas Oxygen:	EPA Method 3 or 3A, or CARB Method 100
Stack Gas Velocity:	EPA Method 2
Stack Gas Moisture Content:	EPA Method 4
PM ₁₀ Emission Rate:	EPA Method 201 and 202, or EPA Method 201A and 202, or CARB Method 501 and 5

Also, in lieu of performing a source test for PM₁₀, the applicant is allowed the option to use the results of the total particulate test to show compliance with the PM₁₀ emissions limit provided the results include both the filterable and condensable (back half) particulates, and that all particulate matter is assumed to be PM₁₀.

The proposed HMA facility is subject to the requirements of the Code of Federal Regulations, Chapter 40 (40 CFR), Part 60, Subpart I (Standards of Performance for Hot Mix Asphalt Facilities). Therefore, source testing as required by 40 CFR, Part 60, Subpart I is required. Pursuant to the referenced Subpart I, the below listed test methods will be required. Permit conditions will be included in the Authority to Construct permit to specify the following test methods:

Particulate Matter Concentration: EPA Method 5
Opacity: EPA Method 9

2. Monitoring

The rotary drum dryer/mixer will be subject to the monitoring requirements of District Rule 4309 (Dryers, Dehydrators, and Ovens). Monitoring requirements, in accordance with District Rules 4309, will be discussed in Section VIII, District Rules 4309, of this evaluation.

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. The following condition(s) are listed on the permit to operate:

- A daily log shall be maintained and shall include the following: (a). Total quantity of aggregate processed (in tons); (b). Total quantity of RAP processed (in tons); (c). Total storage area (in acres) of the aggregate stockpiles; (d). Total storage area (in acres) of the RAP stockpiles; (e). Total quantity of asphaltic concrete produced (in tons); (f). Total quantity of asphaltic concrete transferred into the storage silo (in tons); (g). Total quantity of asphaltic concrete loaded into trucks (in tons); (h). Type and quantity of fuel consumed in the drum dryer/mixer (in scf of natural gas or gallons of propane). [District Rules 1070 & 2201] N
- The permittee shall maintain a record of the cumulative annual amount of asphaltic concrete produced, transferred into the storage silo, and loaded into trucks. The cumulative total shall be updated at least monthly. [District Rule 1070 & 2201] N
- The permittee shall maintain a record of the cumulative annual heat input to the drum dryer/mixer. The cumulative total shall be updated at least monthly. The heat input can be determined by multiplying the amount of fuel burned by its corresponding heating value (natural gas = 1,000 Btu/scf or propane = 94,000 Btu/gallon). [District Rules 1070 & 2201] N
- {3246} All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] N

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

An AAQA is conducted by the Technical Services group, for any project which has an increase in emissions and triggers public notification requirements. Discuss the AAQA results as follows.

An AAQA shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The District's Technical Services Division conducted the required analysis. Refer to **Attachment VIII** of this document for the AAQA summary sheet.

The proposed location is in an attainment area for NO_x, CO, and SO_x. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for NO_x, CO, or SO_x.

The proposed location is in a non-attainment area for the state's PM₁₀ as well as federal and state PM_{2.5} thresholds. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for PM_{1c} and PM_{2.5}.

Rule 2410 Prevention of Significant Deterioration

As shown in Section VII. C. 9. above, this project does not result in a new PSD major source or PSD major modification. No further discussion is required.

Rule 2520 Federally Mandated Operating Permits

Since this facility's potential emissions do not exceed any major source thresholds of Rule 2201, this facility is not a major source, and Rule 2520 does not apply.

Rule 4001 New Source Performance Standards (NSPS)

40 CFR 60 Subpart I - Standards of Performance for Hot Mix Asphalt Facilities:

According to §60.90(b) (Applicability), the requirements of this subpart apply to any hot mix asphaltic concrete facility that commences construction or modification after June 11, 1973. The applicant is proposing to install a new hot mix asphaltic concrete plant. Therefore, the proposed new plant is subject to this subpart.

According to §60.92 (Standards for Particulate Matter), the particulate matter concentration shall not exceed 0.04 gr/dscf and the visible emissions shall be less than 20 percent opacity.

According to §60.93 (Test Methods and Procedures), the owner or operator shall determine compliance with the above standards utilizing EPA Method 5 for particulate matter concentration and EPA Method 9 for opacity.

The following permit conditions will be included on the ATC to ensure compliance with the above standards, test methods, and procedures.

- This unit is subject to the requirements of 40 CFR Part 60, Subpart I: Standards of Performance for Asphaltic Concrete Plants. [District Rule 4001 and 40 CFR §60.90]
- Particulate matter emissions from the exhaust stack of the baghouse shall not exceed 0.04 grains/dscf. [District Rule 4001 and 40 CFR §60.92(a)(1)]
- Source testing to demonstrate compliance with the particulate matter emissions concentration (grains/dscf) and particulate matter emission rate (lb/ton) from the exhaust stack of the baghouse shall be conducted within 60 days of achieving maximum production rate but no longer than 180 days after initial startup. [District Rule 4001 and 40 CFR §60.8(a)] N
- Compliance with the requirements of 40 CFR Part 60, Subpart I shall be verified by the test methods given in the Subpart. [District Rule 4001 and 40 CFR §60.93] N
- Source testing to determine the particulate matter concentration from the baghouse as required by 40 CFR Part 60, Subpart I: Standards of Performance for Asphaltic Concrete Plants shall be conducted using EPA method 5. [District Rule 4001 and 40 CFR §60.93(b)(1)] N
- Source testing to determine opacity as required by 40 CFR Part 60, Subpart I: Standards of Performance for Asphaltic Concrete Plants shall be conducted using EPA Method 9. [District Rule 4001 and 40 CFR §60.93(b)(2)] N

Rule 4002 – National Emission Standards for Hazardous Air Pollutants

Rule 4002 incorporates all federal national emission standards for hazardous air pollutants (NESHAPs) from Part 61, Chapter I, Subchapter C, Title 40, CFR and NESHAPs for source categories from Part 63, Chapter I, Subchapter C, Title 40, CFR. However, no subparts of either Part 61 or Part 63 apply to the proposed operations i.e. Rule 4002 is not applicable.

Rule 4101 Visible Emissions

Per Section 5.0, no person shall discharge into the atmosphere emissions of any air contaminant aggregating more than 3 minutes in any hour which is as dark as or darker than Ringelmann 1 (or 20% opacity). Visible emissions from the operations are not expected to exceed Ringelmann 1 or 20% opacity. The following condition assures compliance with this section:

{15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] N

Rule 4102 Nuisance

Rule 4102 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, compliance with this rule is expected.

California Health & Safety Code 41700 (Health Risk Assessment)

Discuss whether a Health Risk Assessment is required and/or the results of the HRA, including any special conditions to consider when issuing the ATC(s).

District Policy APR 1905 – *Risk Management Policy for Permitting New and Modified Sources* specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

Technical Services has determined that the HRA and AAQA done for project 1143064 are still valid for this project. The results are summarized below and included in **Attachment VIII**.

Project 1143064

A. RMR SUMMARY

RMR Summary			
Categories	Hot Mix Asphaltic Batch Plant (Unit 1-0)	Project Totals	Facility Totals
Prioritization Score	3.71	3.71	>1.0
Acute Hazard Index	0.62	0.62	0.62
Chronic Hazard Index	0.03	0.03	0.03
Maximum Individual Cancer Risk	4.73E-07	4.73E-07	4.73E-07
T-BACT Required?	No		
Special Permit Conditions?	Yes		

Proposed Permit Conditions

To ensure that human health risks will not exceed District allowable levels; the following permit conditions must be included for:

Unit 1-0

For all emissions vented to the baghouse, the exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102] N

Discussion of T-BACT

Discuss whether a T-BACT is or is not triggered and the requirements which satisfy T-BACT (if any).

BACT for toxic emission control (T-BACT) is required if the cancer risk exceeds one in one million. As demonstrated above, T-BACT is not required for this project because the HRA indicates that the risk is not above the District's thresholds for triggering T-BACT requirements; therefore, compliance with the District's Risk Management Policy is expected.

Rule 4201 Particulate Matter Concentration

Section 3.0 of this Rule prohibits the release or discharge into the atmosphere from any single source operation, dust, fumes, or total suspended particulate matter emissions in excess of 0.1 grain per cubic foot of gas at dry standard conditions, as determined by the test methods in section 4.0 of this Rule.

As long as the new equipment is properly maintained and operated it is expected that the particulate matter concentration from the exhaust of the baghouse will be:

From the Baghouse serving the Hot Mix Asphalt Drum Dryer:

Max. Quantity of PM: 110.4 lb-PM/day⁽¹⁾
Max. Operating Hours: 12 hr/day (720 min/day)
Air Flow Rate: 62,000 dscfm

$$\text{PM Concentration} = (110.4 \text{ lb-PM/day} \times 7,000 \text{ grains/lb}) / (62,000 \text{ dscfm} \times 720 \text{ min/day}) \\ = 0.017 \text{ grains/scf}$$

Therefore it can be assumed that under dry conditions that the emission units will not exceed the maximum allowable 0.1 grains/dscf and compliance with this rule is expected.

Rule 4202 Particulate Matter Emission Rate

Maximum Allowable Emission Rate:

$$E_{\text{Max.}} = 17.31 P^{0.16}$$

where: E = Emissions in lb/hr

P = Process weight in ton/hr (P > 30 tons/hr)

¹ Assuming all of the PM emitted from the baghouse is emitted as PM₁₀, the total PM emission rate from the baghouse is (84.0 lb-PM₁₀/day + 0.2 lb-PM₁₀/day) ÷ 1.0 lb PM₁₀/lb PM = 84.2 lb-PM/day.

4800 tons/day/12 hr = 400 tons/hr
 $E = 17.31 (400)^{0.16} = 45.15 \text{ lb PM/hr}$

DEL = 110.4 lb-PM₁₀/day ÷ 24 hr/day = 4.6 lb-PM₁₀/hr (9.2 lb-PM/hr)*
 *PM₁₀ = 0.5 PM

Per applicant, the maximum processing rate of the HMA batch plant will be 4,800 tons/day operating at 24 hrs/day, therefore: $P = 4,800 \text{ tons/day} \div 24 \text{ hr/day} = 200 \text{ tons/hr}$

Permit Number	E _{Proposed} (lb-PM ₁₀ /hr)	P (ton/hr)	E _{Max.} (lb-PM/hr)
S-8504-1	9.2	400	45.15

Since the proposed PM Emission rate is less than the allowable maximum emission rate, the proposed operations are expected to operate in compliance with this rule.

Rule 4301 Fuel Burning Equipment

Pursuant to Section 3.1 of this rule, this rule applies only to units that produce heat or power via indirect heat transfer. The proposed drum dryer/mixer is a direct-fired unit. Thus, this rule does not apply.

Rule 4309 Dryers, Dehydrators, and Ovens

Section 2.0, Applicability

This rule applies to any dryer, dehydrator, or oven that is fired on gaseous fuel, liquid fuel, or is fired on gaseous and liquid fuel sequentially, and the total rated heat input for the unit is 5.0 million British thermal units per hour (5.0 MMBtu/hr) or greater.

The HMA plant associated with this project is natural gas fired with a maximum heat input of 100 MMBtu/hr and is subject to the requirements of this Rule.

Section 5.2, NO_x and CO Emissions Limits

The proposed HMA plant falls under Asphalt Plants of Table 1 in section 5.0 of this Rule, which lists the following requirements for gaseous fuels:

NO_x: 4.3 ppmvd @ 19% O₂
 CO: 42 ppmvd @ 19% O₂

The applicant is proposing the following emission concentrations limits for the proposed HMA plant for natural gas:

NO_x: 4.3 ppmvd @ 19% O₂
 CO: 42 ppmvd @ 19% O₂

Therefore, compliance with Section 5.2 of District Rule 4309 is expected.

Section 5.4, Monitoring Provisions

Section 5.4.1 requires each unit subject to section 5.2 to either install a continuous emissions monitoring system (CEMS) for NO_x, CO, and oxygen or implement an APCO-approved Alternate Monitoring System. The applicant chooses the latter option, and proposes to use Option A (periodic monitoring using District-approved portable analyzer) from the District's pre-approved Alternate Monitoring Schemes contained in District Policy SSP 3005 (4/28/2008). The following conditions will be incorporated into the permit in order to ensure compliance with the requirements of the proposed alternate monitoring plan:

- {Modified 3741} The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month in which asphalt is produced on at least five days or for at least 32 hours, whichever comes first (and in which a source test is not performed), using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 production days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4309]
- {3742} If either the NO_x or CO concentrations corrected to 19% O₂ (or no correction if measured above 19% O₂), as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4309]
- {3743} All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4309]
- {3744} The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 19% O₂ (or no correction if measured above 19% O₂), (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records,

and (5) a description of any corrective action taken to maintain the emissions within the acceptable range [District Rule 4309]

Section 5.5, Compliance Determination

Section 5.5.1 requires that all emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Section 5.5.2 requires that no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0. Therefore, the following permit condition will be listed on the permit as follows:

- *{3713} All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4309. [District Rules 4309]*

Section 5.5.5 requires that for emissions monitoring pursuant to Sections 5.4.1.2.2.1, emission readings shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15-consecutive-minute sample reading or by taking at least five (5) readings evenly spaced out over the 15-consecutive-minute period. Therefore, the following permit condition will be listed on the permit as follows:

- *{3743} All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4309]*

Section 5.5.6 requires that for emissions source testing performed pursuant to Section 6.3.1 for the purpose of determining compliance with an applicable standard or numerical limitation of this rule, the arithmetic average of three (3) 30-consecutive-minute test runs shall apply. If two (2) of three (3) runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. Therefore, the following permit condition will be listed on the permit as follows:

- *{3715} For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4309]*

Section 6.1, Recordkeeping

Section 6.1.6 requires that the records required by Sections 6.1.1 through 6.1.5 shall be maintained for five calendar years and shall be made available to the APCO upon request. Failure to maintain records or information contained in the records that demonstrate noncompliance with the applicable requirements of this rule shall constitute a violation of this rule. A permit condition will be listed on the permit as follows:

- *{Modified 2983} All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and 4309]*

Section 6.2, Test Methods

Section 6.2 identifies the following test methods as District-approved source testing methods for the pollutants listed:

Pollutant	Units	Test Method Required
Fuel hhv	Fuel hhv shall be certified by third party fuel supplier or:	
	Liquid fuels	ASTM D 240-87 or D 2382-88
	Gaseous fuels	ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89
NO _x	ppmv	EPA Method 7E or ARB Method 100
CO	ppmv	EPA Method 10 or ARB Method 100
Stack Gas O ₂	%	EPA Method 3 or 3A, or ARB Method 100
Stack Gas Velocities	ft/min	EPA Method 2
Stack Gas Moisture Content	%	EPA Method 4

The following permit conditions will be listed on the permit as follows:

- {109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
- {3718} NO_x emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis. [District Rule 4309]
- {3719} CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rule 4309]
- {3720} Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rule 4309]

Section 6.3, Compliance Demonstration

Section 6.3.2 requires the permittee to perform initial source test to determine compliance with NOx and CO emission limits. Furthermore, the unit is required to be tested every 24 months. The applicant will be required to perform a source test to satisfy the requirements of this section.

The following conditions will be included in the permit to verify compliance with the proposed NOx and CO emission limits:

- Source testing to measure NOx and CO emissions from this unit shall be conducted at least once every twenty four (24) months thereafter. [District Rules 2201 and 4309]
- {3722} All test results for NOx and CO shall be reported in ppmv @ 19% O2 (or no correction if measured above 19% O2), corrected to dry stack conditions. [District Rule 4309]
- {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

In addition to the provisions of Section 6.3, Section 6.4 allows asphalt/concrete plants to choose one of the following options for source testing:

- 6.4.1 Test the unit using locally mined aggregate in the dryer. If the source test using locally mined aggregate fails, the operator may re-run the source test using aggregate from a different source.
- 6.4.2 Test the unit using aggregate from a source different from the source used during normal operations.
- 6.4.3 Test the unit using a heat-absorbing material in the dryer, but no aggregate.
- 6.4.4 Test the unit with no material in the dryer.

The following permit condition will be listed on the permit as follows:

- Source testing to measure NOx and CO emissions from the asphalt/concrete plant shall be conducted utilizing one of the following options: (a). Test the unit using locally mined aggregate in the dryer. If the source test using locally mined aggregate fails, the operator may re-run the source test using aggregate from a different source.; (b). Test the unit using aggregate from a source different from the source used during normal operations.; (c). Test the unit using a heat-absorbing material in the dryer, but no aggregate.; (d). Test the unit with no material in the dryer. [District Rule 4309]

Section 7.0, Compliance Schedule

For an operator of an asphalt/concrete unit subject to this rule, Section 7.3.2 requires the permittee to demonstrate full compliance with this Rule by December 1, 2009. The applicant is

expected to test this dryer before this date. Therefore, compliance is expected with this section.

Conclusion

Conditions will be incorporated into the permit in order to ensure compliance with each section of this rule. Therefore, compliance with District Rule 4309 requirements is expected.

Rule 4801 Sulfur Compounds

Section 3.1 prohibits emissions of sulfur compounds as SO₂ in excess of 0.2% by volume (2,000 ppmv) averaged over 15 minutes.

From Section VII.B.2. of this document, the worst case SO₂ emissions are calculated based on an emission factor of 0.0034 lb-SO_x/MMBtu. Therefore:

$$\begin{aligned} \text{lb-SO}_2/\text{exhaust vol.} &= (\text{lb-SO}_2/\text{MMBtu}) \div (\text{F factor}) \\ &= (0.0034 \text{ lb-SO}_2/\text{MMBtu}) \div (8,578 \text{ dscf/MMBtu}^{(2)}) \\ &= 3.96 \times 10^{-7} \text{ lb-SO}_2/\text{dscf} \end{aligned}$$

$$\text{Volume SO}_2/\text{exhaust vol.} = nRT/P$$

$$\begin{aligned} \text{Where, } n &= \text{moles SO}_x = (3.96 \times 10^{-7} \text{ lb-SO}_2/\text{dscf}) \div (64 \text{ lb-SO}_2/\text{lb-mol}) \\ &= 6.2 \times 10^{-9} \text{ lb-mol/dscf} \\ R &= \text{Universal gas constant} = 10.73 \text{ psi-ft}^3/\text{lb-mol-}^\circ\text{R} \\ T &= 60^\circ\text{F standard temperature} = 520^\circ \text{R} \\ P &= \text{Standard atmospheric pressure} = 14.7 \text{ psi} \end{aligned}$$

$$\begin{aligned} \text{Volume SO}_2/\text{exhaust vol.} &= [(6.2 \times 10^{-9} \text{ lb-mol/dscf}) \times (10.73 \text{ psi-ft}^3/\text{lb-mol-}^\circ\text{R}) \\ &\quad \times (520^\circ \text{R})] \div 14.7 \text{ psi} \\ &= 2.4 \times 10^{-6} \text{ dscf-SO}_2/\text{dscf-exhaust} \\ &= 2.4 \text{ ppmv} < 2,000 \text{ ppmv} \end{aligned}$$

Compliance with this rule is expected.

California Health & Safety Code 42301.6 (School Notice)

The District has verified that this site is not located within 1,000 feet of a school. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is not required.

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The San Joaquin Valley Unified Air

² Assumed to be equal to the F-Factor for natural gas.

Pollution Control District (District) adopted its Environmental Review Guidelines (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.
- Identify the ways that environmental damage can be avoided or significantly reduced.
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

The City of Delano (City) is the public agency having principal responsibility for approving the project. As such, the City served as the Lead Agency (CCR §15367). In approving the project, the Lead Agency prepared and adopted a Mitigated Negative Declaration. The Lead agency filed a Notice of Determination, stating that the environmental document was adopted pursuant to the provisions of CEQA and concluding that the project would not have a significant effect on the environment.

The District is a Responsible Agency for the project because of its discretionary approval power over the project via its Permits Rule (Rule 2010) and New Source Review Rule (Rule 2201), (CCR §15381). As a Responsible Agency the District complies with CEQA by considering the environmental document prepared by the Lead Agency, and by reaching its own conclusion on whether and how to approve the project (CCR §15096).

The District has considered the Lead Agency's environmental document and finds that it adequately characterizes the project's potential impact on air quality. In addition, the District has conducted an engineering evaluation of the project, this document, which demonstrates that all feasible and cost-effective control measures to reduce potential impacts on air quality resulting from project related stationary source emissions have been applied to the project as part of BACT. Thus, the District finds that through a combination of project design elements, compliance with applicable District rules and regulations, and compliance with District air permit conditions, project specific stationary source emissions would be reduced to lessen the impacts on air quality. The District does not have authority over any of the other project impacts and has, therefore, determined that no additional findings are required (CEQA Guidelines §15096(h)).

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATC S-8504-1-2 subject to the permit conditions on the attached draft ATC in **Attachment IX**.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-8504-1-0	3020-02-H	70 MMBtu/hr	\$1030

Attachments

- I. Current ATC S-8504-1-1
- II. Process Flow Diagram
- III. Manufacturers Information on Burner
- IV. Emissions Factors
- V. Emissions Profiles
- VI. BACT Guideline
- VII: BACT Analysis
- VIII: HRA and AAQA Modeling
- IX: Draft ATC

ATTACHMENT I
Current ATC S-8504-1-1

AUTHORITY TO CONSTRUCT

PERMIT NO: S-8504-1-1

ISSUANCE DATE: 06/11/2015

LEGAL OWNER OR OPERATOR: DELANO ROCK AND ASPHALT, LLC

MAILING ADDRESS: 1643 TAHOE CT
REDDING, CA 96003

LOCATION: SE OF INTERSECTION OF SCHUSTER RD & RANDOLPH ST
DELANO, CA

EQUIPMENT DESCRIPTION:

MODIFICATION OF HOT MIX ASPHALTIC CONCRETE BATCH PLANT WITH FOUR COLD FEED AGGREGATE HOPPERS WITH A DRUM DRYER/MIXER, FEED CONVEYOR, TWO RAP FEED HOPPERS WITH A CONVEYOR FEEDING A CRUSHER WITH A CONVEYOR FEEDING ONE VIBRATING SCREEN WITH A CONVEYOR FEEDING DRUM DRYER/MIXER; ONE 100 MMBTU/HR NATURAL GAS OR PROPANE-FIRED ALLMIX DUODRUM 100 DRYER/MIXER WITH A GENCOR ULTRAFLAME II LOW-NOX BURNER VENTED TO A ALLMIX BAGHOUSE WITH 792 BAGS/FILTERS; ONE ENCLOSED DRAG SLAT CONVEYOR; ONE 100-TON ASPHALT CONCRETE STORAGE SILO WITH A TRUCK LOADOUT; REISSUE ATC TO DELANO ROCK AND ASPHALT, LLC

CONDITIONS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
3. All stockpiled aggregate, reclaimed asphalt pavement, and other materials shall be maintained adequately moist to prevent visible emissions in excess of 20% opacity. [District Rule 2201]
4. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]
5. Asphalt concrete storage silo and truck loadout shall be vented to the rotary dryer and blue smoke filter pack. [District Rule 2201]
6. All conveyors, except for drag slat conveyor, shall be equiped with water sprays at drop points. [District Rule 2201]
7. Visible emissions from the baghouse serving the asphaltic concrete rotary drum dryer/mixer shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
S-6504-1-1: Jul 25 2015 12:35PM - EDGEHLR : Joint Inspection NOT Required

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

8. The baghouse exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
9. The baghouse shall be equipped with a pressure differential gauge to indicate the pressure drop across the bags. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rule 2201]
10. Replacement bags numbering at least 10% of the total number of bags in the largest baghouse using each type of bag shall be maintained on the premises. [District Rule 2201]
11. Material removed from the baghouse shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201]
12. The baghouse cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201]
13. This unit is subject to the requirements of 40 CFR Part 60, Subpart I: Standards of Performance for Asphalt Concrete Plants. [District Rule 4001 and 40 CFR §60.90]
14. Particulate matter emissions from the exhaust stack of the baghouse shall not exceed 0.04 grains/dscf. [District Rule 4001 and 40 CFR §60.92(a)(1)]
15. The drum dryer/mixer burner shall be fired only on natural gas or propane. [District Rule 2201]
16. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted by the drum dryer/mixer burner shall be installed, utilized, and properly maintained. [District Rule 2201]
17. Asphalt processing rate of drum dryer/mixer burner shall not exceed 4800 ton in any one day nor 450,000 ton in any one calendar year. [District Rule 2201]
18. The quantity of aggregate and RAP processed shall not exceed 2,400 tons in any one day. [District Rule 2201]
19. The quantity of aggregate processed shall not exceed 4,800 tons in any one day nor 450,000 tons in any one calendar year. [District Rule 2201]
20. Emissions from the cold feed aggregate hoppers shall not exceed 0.000046 lb-PM10/ton. [District Rule 2201]
21. Emissions from the RAP feed hoppers shall not exceed 0.000046 lb-PM10/ton. [District Rule 2201]
22. Emissions from the rotary dryer/mixer shall not exceed any of the following limits: 0.0492 lb-NOx/MMBtu, 0.0034 lb-SOx/ton-asphalt, 0.012 lb-PM10/ton-asphalt (measured at the baghouse outlet), 0.292 lb-CO/MMBtu, nor 0.032 lb-VOC/ton-asphalt. [District Rule 2201 and 4309]
23. The quantity of produced asphaltic concrete transferred into the storage silo and loaded out into trucks shall not exceed 4,800 tons in any one day nor 450,000 tons in any one calendar year. [District Rule 2201]
24. Emissions from the transfer of the produced asphaltic concrete into the storage silo shall not exceed any of the following limits: 0.00118 pounds of CO per ton of asphaltic concrete silo transferred, 0.0085 pounds of VOC per ton of asphaltic concrete transferred, nor 0.000029 pounds of PM10 per ton of asphaltic concrete transferred. [District Rule 2201]
25. Emissions from truck loading of asphaltic concrete shall not exceed any of the following limits: 0.00135 pounds of CO per ton of asphaltic concrete loaded, 0.0029 pounds of VOC per ton of asphaltic concrete loaded, nor 0.000026 pounds of PM10 per ton of asphaltic concrete loaded. [District Rule 2201]
26. Source testing to demonstrate compliance with the particulate matter emissions concentration (grains/dscf) and particulate matter emission rate (lb/ton) from the exhaust stack of the baghouse shall be conducted within 60 days of achieving maximum production rate but no longer than 180 days after initial startup. [District Rule 4001 and 40 CFR §60.8(a)]
27. Compliance with the requirements of 40 CFR Part 60, Subpart I shall be verified by the test methods given in the Subpart. [District Rule 4001 and 40 CFR §60.93]

CONDITIONS CONTINUE ON NEXT PAGE

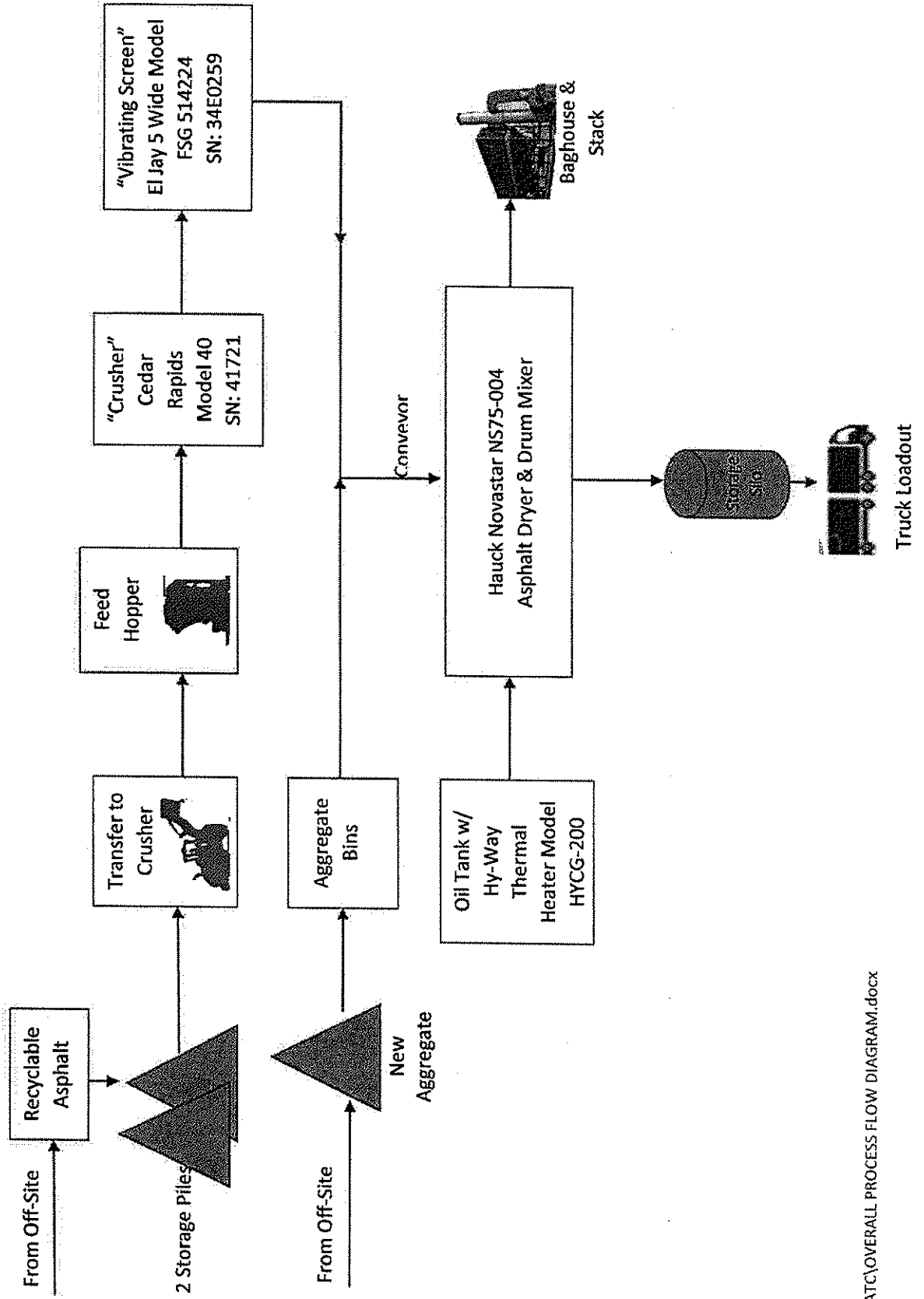
28. Source testing to determine the particulate matter concentration from the baghouse as required by 40 CFR Part 60, Subpart I: Standards of Performance for Asphalt Concrete Plants shall be conducted using EPA method 5. [District Rule 4001 and 40 CFR §60.93(b)(1)]
29. Source testing to determine opacity as required by 40 CFR Part 60, Subpart I: Standards of Performance for Asphalt Concrete Plants shall be conducted using EPA method 9. [District Rule 4001 and 40 CFR §60.93(b)(2)]
30. Source testing to measure NOx and CO emissions from this unit shall be conducted within 60 days of initial startup and at least once every 24 months thereafter. [District Rules 2201 & 4309]
31. All test results for NOx and CO shall be reported in ppmv @ 19% O2 (or no correction if measured above 19% O2), corrected to dry stack conditions. [District Rule 4309]
32. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
33. Source testing to measure NOx and CO emissions from the asphaltic concrete batch plant shall be conducted utilizing one of the following options: (a). Test the unit using locally mined aggregate in the dryer. If the source test using locally mined aggregate fails, the operator may re-run the source test using aggregate from a different source.; (b). Test the unit using aggregate from a source different from the source used during normal operations.; (c). Test the unit using a heat-absorbing material in the dryer, but no aggregate.; (d). Test the unit with no material in the dryer. [District Rule 4309]
34. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
35. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis. [District Rule 4309]
36. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rule 4309]
37. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rule 4309]
38. Source testing to measure PM10 emissions shall be conducted using EPA method 201 and 202, or EPA method 201A and 202, or CARB method 501 and 5. [District Rule 1081]
39. In lieu of performing a source test for PM10, the results of the total particulate test may be used for compliance with the PM10 emission limit provided the results include both the filterable and condensable (back half) particulates, and that all particulate matter is assumed to be PM10. If this option is exercised, source testing shall be conducted using CARB Method 5 or EPA Method 5 (including condensable (back half) particulates). [District Rule 1081]
40. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4309. [District Rule 4309]
41. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rule 4309]
42. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month in which asphalt is produced on at least five days or for at least 32 hours, whichever comes first (and in which a source test is not performed), using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 production days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4309]

CONDITIONS CONTINUE ON NEXT PAGE

43. If either the NO_x or CO concentrations corrected to 19% O₂ (or no correction if measured above 19% O₂), as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4309]
44. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4309]
45. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 19% O₂ (or no correction if measured above 19% O₂), (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4309]
46. A daily log shall be maintained and shall include the following: (a). Total quantity of aggregate processed (in tons); (b). Total quantity of RAP processed (in tons); (c). Total storage area (in acres) of the aggregate stockpiles; (d). Total storage area (in acres) of the RAP stockpiles; (e). Total quantity of asphaltic concrete produced (in tons); (f). Total quantity of asphaltic concrete transferred into the storage silo (in tons); (g). Total quantity of asphaltic concrete loaded into trucks (in tons); (h). Type and quantity of fuel consumed in the drum dryer/mixer (in scf of natural gas or gallons of propane). [District Rules 1070 & 2201]
47. The permittee shall maintain a record of the cumulative annual amount of asphaltic concrete produced, transferred into the storage silo, and loaded into trucks. The cumulative total shall be updated at least monthly. [District Rule 1070 & 2201]
48. The permittee shall maintain a record of the cumulative annual heat input to the drum dryer/mixer. The cumulative total shall be updated at least monthly. The heat input can be determined by multiplying the amount of fuel burned by its corresponding heating value (natural gas = 1,000 Btu/scf or propane = 94,000 Btu/gallon). [District Rules 1070 & 2201]
49. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070]

ATTACHMENT II Process Flow Diagram

OVERALL PROCESS FLOW DIAGRAM DELANO ASPHALT, INC.



ATTACHMENT III
Manufacturers Information of Dryer Burner

C. BURNER CAPACITIES

NovaStar-75 (Natural Gas)								
	Output		Combustion Air Flow (SCFH)	Burner Air Pressure (in.w.c.)	Natural Gas Flow (SCFH)	Burner Gas Pressure (in.w.c.)	Flame	
	VFD (Hz)	Burner (MMBTU/h)					Length (ft)	Diameter (ft)
LOW FIRE	16	18	252,000	0.6	17,300	2.7	5	4
	20	22	315,000	1.2	21,600	3.8	5	4
	25	27	386,000	1.9	26,400	6.6	6	3
	30	33	468,000	2.8	32,000	8.5	7	4
	40	45	630,000	4.9	43,100	16.2	8	4
	50	55	783,000	7.8	53,600	23.7	9	4
HIGH FIRE	60	70	985,000	11.1	67,400	38.4	9	4

NovaStar-75 (Gaseous Propane)								
	Output		Combustion Air Flow (SCFH)	Burner Air Pressure (in.w.c.)	Propane Gas Flow (SCFH)	Burner Gas Pressure (in.w.c.)	Flame	
	VFD (Hz)	Burner (MMBTU/h)					Length (ft)	Diameter (ft)
LOW FIRE	16	18	252,000	0.6	7,200	1.2	5	4
	20	22	315,000	1.2	8,800	1.6	5	4
	25	27	386,000	1.9	10,800	2.8	6	3
	30	33	468,000	2.8	13,200	3.7	7	4
	40	45	630,000	4.9	18,000	7.3	8	4
	50	55	783,000	7.8	22,000	10.3	9	4
HIGH FIRE	60	70	985,000	11.1	28,000	17.1	9	4

NOTES:

1. Capacities based on Natural Gas with a higher heating value of 1,042 BTU/ft³, 0.59 S.G., and a stoichiometric air to fuel ratio of 9.74:1 and Gaseous Propane with a higher heating value of 2,500 BTU/ft³, 1.52 S.G., and a stoichiometric air to fuel ratio of 23.8:1
2. Air and gas flows are based on 60°F @ sea level.
3. Burner air and gas pressures are measured upstream of the mixing assembly.
4. Capacities listed above are for 50% excess air. Capacities and excess air are typically adjusted on site to achieve optimal emissions per application.
5. Burners are suitable for use on other clean industrial gaseous fuels, such as gaseous propane, for more information please consult Hauck.

Table 1. Standard Capacities NS75



Typical Flue Product Emissions Data for Power Flame Burners

	Natural Gas	# 2 Fuel Oil (1)
Carbon Monoxide - CO	.037 lb CO per 10 ⁶ BTU input (50 PPM)	.037 lb per 10 ⁶ BTU INPUT (50 PPM)
Sulfur Dioxide - SO ₂	(1.05) x (% Sulpher by weight in fuel) = lb SO ₂ per 10 ⁶ BTU Input	
Particulate Matter	.0048 lb PM per 10 ⁶ BTU input	.0143 lb PM per 10 ⁶ BTU input
Hydrocarbons	.025 lb HC's per 10 ⁶ BTU input	.038 lb HC's per 10 ⁶ BTU input
CO ₂	9 % to 10%	10% to 13%
Nitrogen Oxides - NO_x		
Standard C, J Burners	.088 lb NO _x per 10 ⁶ BTU input (75 PPM)	.159 lb NO _x per 10 ⁶ BTU Input (120) PPM
LNIAC burner	.029 lb NO _x per 10 ⁶ BTU input (25 PPM)	.12 lb NO _x per 10 ⁶ BTU Input (90) PPM
CM burner	.070 lb NO _x per 10 ⁶ BTU input (60 PPM)	.146 lb NO _x per 10 ⁶ BTU Input (110) PPM
IFGR LNIC NO _x Burners	.029 lb NO _x per 10 ⁶ BTU input (25 PPM)	.126 lb NO _x per 10 ⁶ BTU Input (110) PPM
LNICM burner	.029 lb NO _x per 10 ⁶ BTU input (25) PPM	.12 lb NO _x per 10 ⁶ BTU Input (90) PPM
NPM Premix burner	.029 lb NO _x per 10 ⁶ BTU input (25) PPM	N/A
NOVA Premix Burner	.029 lb NO_x per 10⁶ BTU input (25) PPM	N/A
		N/A

(1) NO_x emissions at 3.0 % O₂ will vary based on the percent of fuel bound nitrogen and boiler configurations.

ATTACHMENT IV Emissions Factors

Table 11.1-3. PARTICULATE MATTER EMISSION FACTORS FOR DRUM MIX HOT MIX ASPHALT PLANTS^a

Process	Filterable PM			Condensable PM ^b			Total PM			
	PM ^c	EMISSION FACTOR RATING	PM-10 ^d	EMISSION FACTOR RATING	Inorganic	EMISSION FACTOR RATING	Organic	EMISSION FACTOR RATING	PM-10 ^e	EMISSION FACTOR RATING
Dryer ^g (SCC 3-05-002-05,-55 to -63)										
Uncontrolled	28 ^h	D	6.4	D	0.0074 ⁱ	E	0.058 ^k	E	28	D
Venturi or wet scrubber	0.026 ^m	A	ND	NA	0.0074 ⁿ	A	0.012 ^p	A	0.045	A
Fabric filter	0.014 ^q	A	0.0039	C	0.0074 ^r	A	0.012 ^s	A	0.033	A
									6.5	D
									ND	NA
									0.023	C

^a Factors are lb/ton of product. SCC = Source Classification Code. ND = no data. NA = not applicable. To convert from lb/ton to kg/Mg, multiply by 0.5.

^b Condensable PM is that PM collected using an EPA Method 202, Method 5 (analysis of "back-half" or impingers), or equivalent sampling train.

^c Filterable PM is that PM collected on or before the filter of an EPA Method 5 (or equivalent) sampling train.

^d Particle size data from Reference 23 were used in conjunction with the filterable PM emission factors shown.

^e Total PM is the sum of filterable PM, condensable inorganic PM, and condensable organic PM.

^f Total PM-10 is the sum of filterable PM-10, condensable inorganic PM, and condensable organic PM.

^g Drum mix dryer fired with natural gas, propane, fuel oil, and waste oil. The data indicate that fuel type does not significantly effect PM emissions.

^h References 31, 36-38, 340.

ⁱ Because no data are available for uncontrolled condensable inorganic PM, the emission factor is assumed to be equal to the maximum controlled condensable inorganic PM emission factor.

^k References 36-37.

^m Reference 1, Table 4-14. Average of data from 36 facilities. Range: 0.0036 to 0.097 lb/ton. Median: 0.020 lb/ton. Standard deviation: 0.022 lb/ton.

ⁿ Reference 1, Table 4-14. Average of data from 30 facilities. Range: 0.0012 to 0.027 lb/ton. Median: 0.0051 lb/ton. Standard deviation: 0.0063 lb/ton.

^p Reference 1, Table 4-14. Average of data from 41 facilities. Range: 0.00035 to 0.074 lb/ton. Median: 0.0046 lb/ton. Standard deviation: 0.016 lb/ton.

^q Reference 1, Table 4-14. Average of data from 155 facilities. Range: 0.00089 to 0.14 lb/ton. Median: 0.010 lb/ton. Standard deviation: 0.017 lb/ton.

Table 11.1-8. EMISSION FACTORS FOR TOC, METHANE, VOC, AND HCl FROM DRUM MIX HOT MIX ASPHALT PLANTS^a

Process	TOC ^b	EMISSION FACTOR RATING	CH ₄ ^c	EMISSION FACTOR RATING	VOC ^d	EMISSION FACTOR RATING	HCl ^e	EMISSION FACTOR RATING
Natural gas-fired dryer (SCC 3-05-002-55, -56, -57)	0.044 ^f	B	0.012	C	0.032	C	ND	NA
No. 2 fuel oil-fired dryer (SCC 3-05-002-58, -59, -60)	0.044 ^f	B	0.012	C	0.032	C	ND	NA
Waste oil-fired dryer (SCC 3-05-002-61, -62, -63)	0.044 ^f	E	0.012	C	0.032	E	0.00021	D

- ^a Emission factor units are lb per ton of HMA produced. SCC = Source Classification Code. ND = no data available. NA = not applicable. To convert from lb/ton to kg/Mg, multiply by 0.5.
- ^b TOC equals total hydrocarbons as propane as measured with an EPA Method 25A or equivalent sampling train plus formaldehyde.
- ^c References 25, 44-45, 48, 50, 339-340, 355. Factor includes data from natural gas-, No. 2 fuel oil, and waste oil-fired dryers. Methane measured with an EPA Method 18 or equivalent sampling train.
- ^d The VOC emission factors are equal to the TOC factors minus the sum of the methane emission factors and the emission factors for compounds with negligible photochemical reactivity shown in Table 11.1-10; differences in values reported are due to rounding.
- ^e References 348, 374, 376, 379, 380.
- ^f References 25, 44-45, 48, 50, 149, 153-154, 209-212, 214, 241, 242, 339-340, 355.

Table 11.1-14. PREDICTIVE EMISSION FACTOR EQUATIONS
FOR LOAD-OUT AND SILO FILLING OPERATIONS^a

EMISSION FACTOR RATING: C

Source	Pollutant	Equation
Drum mix or batch mix plant load-out (SCC 3-05-002-14)	Total PM ^b	$EF = 0.000181 + 0.00141(-V)e^{((0.0251)(T + 460) - 20.43)}$
	Organic PM ^c	$EF = 0.00141(-V)e^{((0.0251)(T + 460) - 20.43)}$
	TOC ^d	$EF = 0.0172(-V)e^{((0.0251)(T + 460) - 20.43)}$
	CO	$EF = 0.00558(-V)e^{((0.0251)(T + 460) - 20.43)}$
Silo filling (SCC 3-05-002-13)	Total PM ^b	$EF = 0.000332 + 0.00105(-V)e^{((0.0251)(T + 460) - 20.43)}$
	Organic PM ^c	$EF = 0.00105(-V)e^{((0.0251)(T + 460) - 20.43)}$
	TOC ^d	$EF = 0.0504(-V)e^{((0.0251)(T + 460) - 20.43)}$
	CO	$EF = 0.00488(-V)e^{((0.0251)(T + 460) - 20.43)}$

^a Emission factor units are lb/ton of HMA produced. SCC = Source Classification Code. To convert from lb/ton to kg/Mg, multiply by 0.5. EF = emission factor; V = asphalt volatility, as determined by ASTM Method D2872-88 "Effects of Heat and Air on a Moving Film of Asphalt (Rolling Thin Film Oven Test - RTFOT)," where a 0.5 percent loss-on-heating is expressed as "-0.5." Regional- or site-specific data for asphalt volatility should be used, whenever possible; otherwise, a default value of -0.5 should be used for V in these equations. T = HMA mix temperature in °F. Site-specific temperature data should be used, whenever possible; otherwise a default temperature of 325°F can be used. Reference 1, Tables 4-27 through 4-31, 4-34 through 4-36, and 4-38 through 4-41.

^b Total PM, as measured by EPA Method 315 (EPA Method 5 plus the extractable organic particulate from the impingers). Total PM is assumed to be predominantly PM-2.5 since emissions consist of condensed vapors.

^c Extractable organic PM, as measured by EPA Method 315 (methylene chloride extract of EPA Method 5 particulate plus methylene chloride extract of impinger particulate).

^d TOC as propane, as measured with an EPA Method 25A sampling train or equivalent sampling train.

Table 11.19.2-2 (English Units). EMISSION FACTORS FOR CRUSHED STONE PROCESSING OPERATIONS (lb/Ton)^a

Source ^b	Total Particulate Matter ^{c,s}	EMISSION FACTOR RATING	Total PM-10	EMISSION FACTOR RATING	Total PM-2.5	EMISSION FACTOR RATING
Primary Crushing (SCC 3-05-020-01)	ND		ND ⁿ		ND ⁿ	
Primary Crushing (controlled) (SCC 3-05-020-01)	ND		ND ⁿ		ND ⁿ	
Secondary Crushing (SCC 3-05-020-02)	ND		ND ⁿ		ND ⁿ	
Secondary Crushing (controlled) (SCC 3-05-020-02)	ND		ND ⁿ		ND ⁿ	
Tertiary Crushing (SCC 3-050030-03)	0.0054 ^d	E	0.0024 ^o	C	ND ⁿ	
Tertiary Crushing (controlled) (SCC 3-05-020-03)	0.0012 ^d	E	0.00054 ^p	C	0.00010 ^q	E
Fines Crushing (SCC 3-05-020-05)	0.0390 ^e	E	0.0150 ^e	E	ND	
Fines Crushing (controlled) (SCC 3-05-020-05)	0.0030 ^f	E	0.0012 ^f	E	0.000070 ^q	E
Screening (SCC 3-05-020-02, 03)	0.025 ^c	E	0.0087 ^f	C	ND	
Screening (controlled) (SCC 3-05-020-02, 03)	0.0022 ^d	E	0.00074 ^h	C	0.000050 ^q	E
Fines Screening (SCC 3-05-020-21)	0.30 ^g	E	0.072 ^g	E	ND	
Fines Screening (controlled) (SCC 3-05-020-21)	0.0036 ^g	E	0.0022 ^g	E	ND	
Conveyor Transfer Point (SCC 3-05-020-06)	0.0030 ^h	E	0.00110 ^h	D	ND	
Conveyor Transfer Point (controlled) (SCC 3-05-020-06)	0.00014 ⁱ	E	4.6 x 10 ^{-5j}	D	1.3 x 10 ^{-3q}	E
Wet Drilling - Unfragmented Stone (SCC 3-05-020-10)	ND		8.0 x 10 ^{-3j}	E	ND	
Truck Unloading - Fragmented Stone (SCC 3-05-020-31)	ND		1.6 x 10 ^{-3j}	E	ND	
Truck Loading - Conveyor, crushed stone (SCC 3-05-020-32)	ND		0.00010 ^k	E	ND	

a. Emission factors represent uncontrolled emissions unless noted. Emission factors in lb/Ton of material of throughput. SCC = Source Classification Code. ND = No data.

b. Controlled sources (with wet suppression) are those that are part of the processing plant that employs current wet suppression technology similar to the study group. The moisture content of the study group without wet suppression systems operating (uncontrolled) ranged from 0.21 to 1.3 percent, and the same facilities operating wet suppression systems (controlled) ranged from 0.55 to 2.88 percent. Due to carry over of the small amount of moisture required, it has been shown that each source, with the exception of crushers, does not need to employ direct water sprays. Although the moisture content was the only variable measured, other process features may have as much influence on emissions from a given source. Visual observations from each source under normal operating conditions are probably the best indicator of which emission factor is most appropriate. Plants that employ substandard control measures as indicated by visual observations should use the uncontrolled factor with an appropriate control efficiency that best reflects the effectiveness of the controls employed.

c. References 1, 3, 7, and 8

d. References 3, 7, and 8

ATTACHMENT V Emissions Profiles

Permit #: S-8504-1-2	Last Updated
Facility: DELANO ROCK AND ASPHALT, LLC	07/25/2015 EDGEHILR

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	12812.0	1530.0	10350.0	77176.0	19530.0
Daily Emis. Limit (lb/Day)	41.3	16.3	110.4	257.5	208.3
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	3203.0	382.0	2587.0	19294.0	4882.0
Q2:	3203.0	382.0	2587.0	19294.0	4882.0
Q3:	3203.0	383.0	2588.0	19294.0	4883.0
Q4:	3203.0	383.0	2588.0	19294.0	4883.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

ATTACHMENT VI BACT Guideline

Best Available Control Technology (BACT) Guideline 6.3.1 Last Update: 5/21/2001

Asphaltic Concrete - Drum Mix Plant, = or > 2,000 ton/day or = or > 75.6 MMBtu/hr burner

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
CO	Natural gas or LPG as a primary fuel.		
NOx	0.088 lb/MMBtu Low-NOx burner and either natural gas or LPG as the primary fuel.		
PM10	99% control efficiency (Rotary drum vents to fabric collector or Venturi scrubber with centrifugal separator) and enclosed conveyors; hot mix storage silos enclosed all vent to oil mist collectors; and natural gas or LPG as a primary fuel.	99% control efficiency (Rotary drum vents to fabric collector or Venturi scrubber with centrifugal separator) and enclosed drag slat conveyor; hot mix storage silos and truck loadout enclosed on two sides; all vent to blue smoke control comprised of electrostatic precipitator or filter pack; and natural gas or LPG as a primary fuel.	
SOx	PUC quality natural gas or LPG as a primary fuel.		
VOC	Natural gas or LPG as a primary fuel; and enclosed hot mix silos and loadout operation vented to the rotary-dryer burner.	Enclosed hot mix silos and loadout operation vented to an afterburner.	

ATTACHMENT VII BACT Analysis

Top-down BACT Analysis for Rotary Drum NOx Emissions

Step 1 - Identify All Possible Control Technologies

Option 1. 0.088 lb/MMBtu Low-NOx burner and either natural gas or LPG as the primary fuel. (Achieved-in-Practice)

Step 2 - Eliminate Technologically Infeasible Options

There is no technologically infeasible option listed.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

Option 1. 0.088 lb/MMBtu Low-NOx burner and either natural gas or LPG as the primary fuel. (Achieved-in-Practice)

Step 4 - Cost Effectiveness Analysis

The applicant has proposed a 0.049 lb/MMBtu Low-NOx burner and either natural gas or LPG as the primary fuel. Since the applicant's proposal is achieved-in-practice BACT option and no other options are identified, a cost effectiveness analysis is not required.

Step 5 - Select BACT

BACT for the emission unit is determined to be a 0.049 lb/MMBtu Low-NOx burner and either natural gas or LPG as the primary fuel.
BACT requirements for NOx emissions, for the rotary drum are satisfied.

Top-down BACT Analysis for Rotary Drum SOx Emissions

Step 1 - Identify All Possible Control Technologies

Option 1. PUC quality natural gas or LPG as a primary fuel. (Achieved-in-Practice)

Step 2 - Eliminate Technologically Infeasible Options

There is no technologically infeasible option listed.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

Option 1. PUC quality natural gas or LPG as a primary fuel.(Achieved-in-Practice)

Step 4 - Cost Effectiveness Analysis

The applicant has proposed to fire the unit on PUC quality natural gas or LPG as a primary fuel. . Since the applicant's proposal is achieved-in-practice BACT option and no other options are identified, a cost effectiveness analysis is not required.

Step 5 - Select BACT

BACT for the emission unit is determined to be firing the unit on PUC quality natural gas or LPG as a primary fuel.

BACT requirements for SOx emissions, for the rotary drum are satisfied.

Top-down BACT Analysis for Rotary Drum PM10 Emissions

Step 1 - Identify All Possible Control Technologies

- Option 1. 99% control efficiency (Rotary drum vents to fabric collector or Venturi scrubber with centrifugal separator) (Technologically Feasible).
- Option 2. 99% control efficiency (Rotary drum vents to fabric collector or Venturi scrubber with centrifugal separator) (Achieved-in-Practice)

Step 2 - Eliminate Technologically Infeasible Options

There is no technologically infeasible option listed.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

- Option 1. 99% control efficiency (Rotary drum vents to fabric collector or Venturi scrubber with centrifugal separator) (Technologically Feasible).
- Option 2. 99% control efficiency (Rotary drum vents to fabric collector or Venturi scrubber with centrifugal separator) (Achieved-in-Practice)

Step 4 - Cost Effectiveness Analysis

The applicant has proposed to vent the rotary drum vents to a fabric collector. Since the applicant's proposal is the most effective control option identified, a cost effectiveness analysis is not required.

Step 5 - Select BACT

BACT for the emission unit is determined to be the venting of the rotary drum to a fabric collector.

BACT requirements for PM₁₀ emissions, for the rotary drum are satisfied.

Top-down BACT Analysis for Rotary Drum VOC Emissions

Step 1 - Identify All Possible Control Technologies

Option 1. Natural gas or LPG as a primary fuel; (Achieved-in-Practice)

Step 2 - Eliminate Technologically Infeasible Options

There is no technologically infeasible option listed.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

Option 1. Natural gas or LPG as a primary fuel; (Achieved-in-Practice)

Step 4 - Cost Effectiveness Analysis

The applicant has proposed to fire the unit on PUC quality natural gas or LPG as a primary fuel. . Since the applicant's proposal is achieved-in-practice BACT option and no other options are identified, a cost effectiveness analysis is not required.

Step 5 - Select BACT

BACT for the emission unit is determined to be firing the unit on PUC quality natural gas or LPG as a primary fuel.

BACT requirements for VOC emissions, for the rotary drum are satisfied.

Top-down BACT Analysis for Silo Filling & Truck Loadout VOC Emissions

Step 1 - Identify All Possible Control Technologies

Option 1. Enclosed hot mix silos and loadout operation vented to an afterburner.
(Technologically Feasible).

Option 2. Enclosed hot mix silos and loadout operation vented to the rotary-dryer
burner. (Achieved-in-Practice)

Step 2 - Eliminate Technologically Infeasible Options

There is no technologically infeasible option listed.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

Option 1. Enclosed hot mix silos and loadout operation vented to an afterburner.
(Technologically Feasible).

Option 2. Enclosed hot mix silos and loadout operation vented to the rotary-dryer burner. (Achieved-in-Practice)

Step 4 - Cost Effectiveness Analysis

The following capital cost estimate for an afterburner serving the proposed asphaltic concrete storage silos and truck loadout was provided for project C1123175 (final 3/14/13).

Equipment Cost = \$540,987
Taxes (8% of equipment cost) = \$43,278.9
Installation Cost = \$50,000
Shipping Costs = \$14,000

Total Capital Investment = Equipment Cost + Taxes + Installation Cost
+ Shipping Costs
= \$540,987 + \$43,278.96 + \$50,000 + \$14,000
= \$648,266

Pursuant to District Policy APR 1305, section X. (11/09/99), the annual cost of the afterburner system will be calculated as follows. The cost will be spread over the expected life of the incineration system, which is estimated at 10 years and using the capital recovery equation (Equation 1). A 10% interest rate is assumed in the equation and the assumption will be made that the equation has no salvage value at the end of the ten-year cycle.

$$\text{Equation 1: } ACI = [P \times i(i+1)^n] / [(i+1)^n - 1]$$

Where: ACI = Annualized Capital Investment
P = Present Value
I = Interest Rate (10%)
N = Equipment Life (10 years)

$$ACI_{\text{Afterburner}} = [\$648,266 \times 0.1(1.1)^{10}] / [(1.1)^{10} - 1] = \$105,502/\text{year}$$

(C). Cost Effectiveness of an Afterburner:

$$\begin{aligned} \text{Cost Effectiveness}_{\text{Afterburner}} &= \text{Annualized Capital Investment (\$/year)} \\ &\quad \div \text{Annual Emission Reduction (ton/year)} \\ &= \$105,502/\text{year} \div (5,130 \text{ lb-VOC})(\text{ton}/2000 \text{ lb}) \\ &= \$41,131/\text{ton-VOC-year} \end{aligned}$$

The cost effectiveness of utilizing an afterburner to capture and control VOC emissions is greater than the VOC cost effectiveness threshold of \$17,500/ton. Therefore, this VOC control option is not cost effective and is being removed from consideration at this time.

Step 5 - Select BACT

BACT for the emission unit is determined to be enclosed hot mix silos and loadout operation vented to the rotary-dryer burner.

BACT requirements for VOC emissions, for the Silo Filling & Truck Loadout are satisfied.

ATTACHMENT VIII
HRA and AAQA Modeling

San Joaquin Valley Air Pollution Control District Risk Management Review

To: David Torii – Permit Services
 From: Cheryl Lawler – Technical Services
 Date: October 22, 2014
 Facility Name: Jaxon Enterprises, Inc.
 Location: SE Corner of Schuster Road & Randolph Street, Delano
 Application #(s): S-8504-1-0
 Project #: S-1143064

A. RMR SUMMARY

RMR Summary			
Categories	Hot Mix Asphaltic Batch Plant (Unit 1-0)	Project Totals	Facility Totals
Prioritization Score	3.71	3.71	>1.0
Acute Hazard Index	0.62	0.62	0.62
Chronic Hazard Index	0.03	0.03	0.03
Maximum Individual Cancer Risk	4.73E-07	4.73E-07	4.73E-07
T-BACT Required?	No		
Special Permit Conditions?	Yes		

Proposed Permit Conditions

To ensure that human health risks will not exceed District allowable levels; the following permit conditions must be included for:

Unit 1-0

1. For all emissions vented to the baghouse, the exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ck), roof overhang, or any other obstruction. [District Rule 4102] N

B. RMR REPORT

I. Project Description

Technical Services received a request on September 25, 2014, to perform a Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA) for a new hot mix asphaltic batch plant. The plant will consist of screening, conveyor transfer points, an asphalt drum mix burner, silo filling, and truck loadout.

II. Analysis

For the RMR, Technical Services calculated toxic emissions using emission factors from the table, "DEFAULT VALUES - Material Storage" in the December, 1998, San Diego Air Pollution Control District document, *Open Material Storage Areas*, and emission factors from tables 11.1-10 (pg. 21) and 11.1-12 (pg. 30) in the March, 2004, *AP 42 Chapter 11 Mineral Products Industry, Section 1 Hot Mix Asphalt Plants*. PM10 emission rates were calculated and supplied by the processing engineer. In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905-1, March 2, 2001), risks were prioritized using the procedures in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEART's database. The prioritization score was greater than 1.0; therefore, a refined health risk assessment was required and performed. AERMOD was used, with area and point source parameters outlined below, and meteorological data from Bakersfield to determine maximum dispersion factors at the nearest residential and business receptors. These dispersion factors were input into the HARP model to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Analysis Parameters			
Source Type	Point	Source Type	Area
Stack Height (m)	7.16	Approximate Area Size (m)	174 x 145
Stack Diameter (m)	1.05	Average Release Height (m)	3.05
Gas Exit Temperature (K)	366	Aggregate Piles Emission Rates (PM10 lbs)	0.23 hr 250 yr
Stack Gas Velocity (m/sec)	34.09	Receptor Distance (m)	381
Asphalt Process Rates (tons)	400 hr 450,000 yr	Closest Receptor Type	Business
		Project Location Type	Rural

Technical Services also performed modeling for criteria pollutants CO, NO_x, SO_x, and PM₁₀; as well as the RMR. The emission rates used for criteria pollutant modeling were calculated and provided by the processing engineer.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

Values are in µg/m³

Hot Mix Asphaltic Batch Plant	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO _x	Pass	X	X	X	Pass
SO _x	Pass	Pass	X	Pass	Pass
PM ₁₀	X	X	X	Pass ¹	Pass ¹

*Results were taken from the attached PSD spreadsheets.

¹The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

III. Conclusions

The criteria modeling runs indicate the emissions from the proposed equipment will not cause or significantly contribute to a violation of a State or National AAQS.

The acute and chronic indices are below 1.0; and the maximum individual cancer risk associated with the project is **4.73E-07**, which is less than the 1 in a million threshold. In accordance with the District's Risk Management Policy, the project is approved **without** Toxic Best Available Control Technology (T-BACT).

To ensure that human health risks will not exceed District allowable levels; the permit conditions listed on Page 1 of this report must be included for the proposed unit.

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.

Attachments

RMR Request Form & Attachments
Project Emails
Toxics Speciation Worksheets
Point Source Parameters Calculations
Prioritization
Risk Results
AAQA Results
Facility Summary

ATTACHMENT IX
Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT
ISSUANCE DATE: DRAFT

PERMIT NO: S-8504-1-2

LEGAL OWNER OR OPERATOR: DELANO ROCK AND ASPHALT, LLC
MAILING ADDRESS: 1643 TAHOE CT
REDDING, CA 96003

LOCATION: SE OF INTERSECTION OF SCHUSTER RD & RANDOLPH ST
DELANO, CA

EQUIPMENT DESCRIPTION:

TRANSPORTABLE HOT MIX ASPHALT BATCH PLANT WITH FOUR (4) COLD FEED AGGREGATE HOPPERS, FEED COLLECTION CONVEYOR, TWO (2) RAP FEED HOPPERS, ONE CRUSHER FEED CONVEYOR, ONE VIBRATING SCREEN FEED CONVEYOR, ONE DRYER/MIXER FEED CONVEYOR, ONE NATURAL GAS/PROPANE-FIRED ROTARY DRYER/MIXER WITH 70 MMBTU/HR HAUK NOVASTAR MODEL NS75-004 I LOW-NOX BURNER VENTED TO A ALLMIX BAGHOUSE, ONE ENCLOSED DRAG SLAT CONVEYOR; ONE 100-TON ASPHALT CONCRETE STORAGE SILO WITH A TRUCK LOADOUT, BLUE SMOKE FILTER CONTROL SYSTEM, AND ASPHALT CONCRETE STORAGE SILO VENT AND SILO DISCHARGE GATE VENTED TO ROTARY DRYER/MIXER BURNER

CONDITIONS

1. ATC S-8504-1-1 is hereby cancelled. [District Rule 2201]
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann I or 20% opacity. [District Rule 4101]
4. All stockpiled aggregate, reclaimed asphalt pavement, and other materials shall be maintained adequately moist to prevent visible emissions in excess of 20% opacity. [District Rule 2201]
5. {271} All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]
6. Asphalt concrete storage silo and truck loadout shall be vented to the rotary dryer and blue smoke filter pack. [District Rule 2201]
7. All conveyors, except for drag slat conveyor, shall be equiped with water sprays at drop points. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DRAFT
Arnaud Marjolle, Director of Permit Services

S-8504-1-2 : Aug 3 2016 3:48PM -- EDGEHILL : Joint Inspection NOT Required

8. Visible emissions from the baghouse serving the asphaltic concrete rotary drum dryer/mixer shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201]
9. The baghouse exhaust stack height shall be at least 33 feet from the ground. [District Rule 4102]
10. The baghouse exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
11. The baghouse shall be equipped with a pressure differential gauge to indicate the pressure drop across the bags. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rule 2201]
12. Replacement bags numbering at least 10% of the total number of bags in the largest baghouse using each type of bag shall be maintained on the premises. [District Rule 2201]
13. Material removed from the baghouse shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201]
14. The baghouse cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201]
15. This unit is subject to the requirements of 40 CFR Part 60, Subpart I: Standards of Performance for Asphalt Concrete Plants. [District Rule 4001 and 40 CFR §60.90]
16. Particulate matter emissions from the exhaust stack of the baghouse shall not exceed 0.04 grains/dscf. [District Rule 4001 and 40 CFR §60.92(a)(1)]
17. The drum dryer/mixer burner shall be fired only on natural gas or propane. [District Rule 2201]
18. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted by the drum dryer/mixer burner shall be installed, utilized, and properly maintained. [District Rule 2201]
19. Asphalt processing rate of drum dryer/mixer burner shall not exceed 4800 ton in any one day nor 450,000 ton in any one calendar year. [District Rule 2201]
20. The quantity of aggregate and RAP processed shall not exceed 2,400 tons in any one day. [District Rule 2201]
21. The quantity of aggregate processed shall not exceed 4,800 tons in any one day nor 450,000 tons in any one calendar year. [District Rule 2201]
22. Emissions from the cold feed aggregate hoppers shall not exceed 0.000046 lb-PM10/ton. [District Rule 2201]
23. Emissions from the RAP feed hoppers shall not exceed 0.000046 lb-PM10/ton. [District Rule 2201]
24. Emissions from the rotary dryer/mixer shall not exceed any of the following limits: 0.0492 lb-NOx/MMBtu, 0.0034 lb-SOx/ton-asphalt, 0.023 lb-PM10/ton-asphalt (measured at the baghouse outlet), 0.292 lb-CO/MMBtu, nor 0.032 lb-VOC/ton-asphalt. [District Rule 2201 and 4309]
25. The quantity of produced asphaltic concrete transferred into the storage silo and loaded out into trucks shall not exceed 4,800 tons in any one day nor 450,000 tons in any one calendar year. [District Rule 2201]
26. Emissions from the transfer of the produced asphaltic concrete into the storage silo shall not exceed any of the following limits: 0.00118 pounds of CO per ton of asphaltic concrete transferred, 0.0085 pounds of VOC per ton of asphaltic concrete transferred, nor 0.000029 pounds of PM10 per ton of asphaltic concrete transferred. [District Rule 2201]
27. Emissions from truck loading of asphaltic concrete shall not exceed any of the following limits: 0.00135 pounds of CO per ton of asphaltic concrete loaded, 0.0029 pounds of VOC per ton of asphaltic concrete loaded, nor 0.000026 pounds of PM10 per ton of asphaltic concrete loaded. [District Rule 2201]
28. Source testing to demonstrate compliance with the particulate matter emissions concentration (grains/dscf) and particulate matter emission rate (lb/ton) from the exhaust stack of the baghouse shall be conducted within 60 days of achieving maximum production rate but no longer than 180 days after initial startup. [District Rule 4001 and 40 CFR §60.8(a)]

DRAFT
CONDITIONS CONTINUE ON NEXT PAGE

29. Compliance with the requirements of 40 CFR Part 60, Subpart I shall be verified by the test methods given in the Subpart. [District Rule 4001 and 40 CFR §60.93]
30. Source testing to determine the particulate matter concentration from the baghouse as required by 40 CFR Part 60, Subpart I: Standards of Performance for Asphalt Concrete Plants shall be conducted using EPA method 5. [District Rule 4001 and 40 CFR §60.93(b)(1)]
31. Source testing to determine opacity as required by 40 CFR Part 60, Subpart I: Standards of Performance for Asphalt Concrete Plants shall be conducted using EPA method 9. [District Rule 4001 and 40 CFR §60.93(b)(2)]
32. Source testing to measure NOx and CO emissions from this unit shall be conducted within 60 days of initial startup and at least once every 24 months thereafter. [District Rules 2201 & 4309]
33. {3722} All test results for NOx and CO shall be reported in ppmv @ 19% O2 (or no correction if measured above 19% O2), corrected to dry stack conditions. [District Rule 4309]
34. {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
35. Source testing to measure NOx and CO emissions from the asphaltic concrete batch plant shall be conducted utilizing one of the following options: (a). Test the unit using locally mined aggregate in the dryer. If the source test using locally minded aggregate fails, the operator may re-run the source test using aggregate from a different source.; (b). Test the unit using aggregate from a source different from the source used during normal operations.; (c). Test the unit using a heat-absorbing material in the dryer, but no aggregate.; (d). Test the unit with no material in the dryer. [District Rule 4309]
36. {109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
37. {3718} NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis. [District Rule 4309]
38. {3719} CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rule 4309]
39. {3720} Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rule 4309]
40. Source testing to measure PM10 emissions shall be conducted using EPA method 201 and 202, or EPA method 201A and 202, or CARB method 501 and 5. [District Rule 1081]
41. In lieu of performing a source test for PM10, the results of the total particulate test may be used for compliance with the PM10 emission limit provided the results include both the filterable and condensable (back half) particulates, and that all particulate matter is assumed to be PM10. If this option is exercised, source testing shall be conducted using CARB Method 5 or EPA Method 5 (including condensible (back half) particulates). [District Rule 1081]
42. {3713} All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4309. [District Rule 4309]
43. {3715} For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rule 4309]
44. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month in which asphalt is produced on at least five days or for at least 32 hours, whichever comes first (and in which a source test is not performed), using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 production days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4309]

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45. {3742} If either the NO_x or CO concentrations corrected to 19% O₂ (or no correction if measured above 19% O₂), as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4309]
46. {3743} All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4309]
47. {3744} The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 19% O₂ (or no correction if measured above 19% O₂), (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4309]
48. A daily log shall be maintained and shall include the following: (a). Total quantity of aggregate processed (in tons); (b). Total quantity of RAP processed (in tons); (c). Total storage area (in acres) of the aggregate stockpiles; (d). Total storage area (in acres) of the RAP stockpiles; (e). Total quantity of asphaltic concrete produced (in tons); (f). Total quantity of asphaltic concrete transferred into the storage silo (in tons); (g). Total quantity of asphaltic concrete loaded into trucks (in tons); (h). Type and quantity of fuel consumed in the drum dryer/mixer (in scf of natural gas or gallons of propane). [District Rules 1070 & 2201]
49. The permittee shall maintain a record of the cumulative annual amount of asphaltic concrete produced, transferred into the storage silo, and loaded into trucks. The cumulative total shall be updated at least monthly. [District Rule 1070 & 2201]
50. The permittee shall maintain a record of the cumulative annual heat input to the drum dryer/mixer. The cumulative total shall be updated at least monthly. The heat input can be determined by multiplying the amount of fuel burned by its corresponding heating value (natural gas = 1,000 Btu/scf or propane = 94,000 Btu/gallon). [District Rules 1070 & 2201]
51. {3246} All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070]

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