

SMAQMD BACT CLEARINGHOUSE

ACTIVE

CATEGORY Type: **MATERIAL PROCESSING**

BACT Category: Small Emitter BACT (PTE < 10 lb/day)

BACT Determination Number: 262	BACT Determination Date: 6/29/2022
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Equipment Information

Permit Number: N/A -- Generic BACT Determination
Equipment Description: FEEDER, CRUSHER, SCREEN, TRANSFER & STORAGE
Unit Size/Rating/Capacity: STATIONARY AGGREGATE PROCESSING & CONCRETE/ASPHALT RECY
Equipment Location:

BACT Determination Information

District Contact: Felix Trujillo Phone No.: (279)207-1154 email: ftrujillo@airquality.org

ROCs	Standard:	
	Technology Description:	
	Basis:	
NOx	Standard:	
	Technology Description:	
	Basis:	
SOx	Standard:	
	Technology Description:	
	Basis:	
PM10	Standard:	See standards outlined below in the Comments Section.
	Technology Description:	See description outlined below in the Comments Section.
	Basis:	Achieved in Practice
PM2.5	Standard:	See standards outlined below in the Comments Section.
	Technology Description:	See description outlined below in the Comments Section.
	Basis:	Achieved in Practice
CO	Standard:	
	Technology Description:	
	Basis:	
LEAD	Standard:	
	Technology Description:	
	Basis:	

Comments: PM10 and PM2.5: Use of water sprays on crushers, screens, conveyors and transfer points as necessary to show compliance with the most stringent 40 CFR Subpart OOO opacity limitations. The emissions from the entry feed hopper loading, stockpile loading and storage piles will be subject to an opacity limitation of 20%. This is a generic BACT determination based on BACT determinations made and published by other air agencies in California and/or other States.



BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION

DETERMINATION NO.: 262
DATE: 6/29/22
ENGINEER: Felix Trujillo, Jr.

Category/General Equip Description: Stationary Aggregate Processing & Concrete/Asphalt Recycling
Equipment Specific Description: Feeder, Crusher, Screen, Transfer & Storage
Equipment Size/Rating: Small Emitter BACT (< 10lb/day)/Capacity > 25 tons/hr
Previous BACT Det. No.: 146

This BACT will update the stationary concrete/asphalt recycling BACT that was previously performed under BACT 146. The same processing equipment can be used for aggregate processing. The San Joaquin Valley Air Pollution Control District lists these operations under one BACT guideline. Therefore, this BACT will also apply to aggregate processing.

Stationary Aggregate Processing & Concrete/Asphalt Recycling consist of material fed into a feed hopper and transferred via associated conveyors to a crusher and screen for separating into various sizes. The material is then conveyed to a storage pile via a stacking conveyor.

The District's Small Emitter and "Otherwise-Exempt Equipment" BACT Determinations policy states that units which are classified as small emitters (less than 10 lbs/day of VOC, NO_x, SO_x, PM₁₀, or PM_{2.5} and less than 550 lbs/day of CO) and are located at non-major stationary sources are only required to meet BACT standards that have been achieved in practice. Therefore, this BACT determination will only be based on what is achieved in practice and will only apply to small emitters at non-major sources. BACT will be evaluated on a case-by-case basis for units that do not fit this criteria.

This BACT will clarify the standards for the entry feed hopper loading, stockpile loading and stockpile emissions, since these emission points are not subject to [40 CFR Part 60 Subpart OOO](#) requirements. These emission points shall default to the SCAQMD Rule 1157 standards of 20% opacity as listed under the SCAQMD section of this determination. Aggregate processing will also be included on the description, since the same equipment (i.e. crushers, screens or conveyors) is used and would be subject to the same requirements. Also, since Subpart OOO applies to stationary operations with a rating of greater than 25 tons/hour, this BACT shall be set to this rating. The District does not anticipate receiving any applications with a rating of 25 tons/hour or less. If such an application is received, the application will be processed under a separate BACT.

BACT ANALYSIS

A: ACHIEVED IN PRACTICE (Rule 202, §205.1a)

The following control technologies are currently employed as BACT for aggregate processing and concrete/asphalt recycling operations that are small emitters by the following air pollution control districts:

US EPA

BACT:

Source: [EPA RACT/BACT/LAER Clearinghouse](#)

None

RULE REQUIREMENTS:

40 CFR 60 Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants

This regulation applies to fixed nonmetallic mineral processing plants that include crushing or grinding equipment with capacities of greater than 25 tons/hr.

This regulation includes two separate opacity limitations based on the construction, modification or reconstruction date of the equipment. Pursuant to 40 CFR Subpart A Section 60.2 (Definitions), installation is included under the definition of construction. Equipment that was installed after April 22, 2008 are subject to an opacity limit of 7% for screening and conveyor transfer points and 12% for crushers. Equipment installed after April 22, 2008, are also required to do monthly inspections on their water spray equipment. A Method 9 (Visible Emissions) source test is required for verification of compliance with the opacity limitations of the NSPS.

California Air Resource Board (CARB)

BACT:

Source: [ARB BACT Clearinghouse](#)

None

RULE REQUIREMENTS:

None

Sacramento Metropolitan AQMD

BACT:

Source: [SMAQMD BACT Clearinghouse](#)

Stationary Concrete Recycling Operation	
VOC	No standard
NOx	No standard
SOx	No standard
PM10	Use of water sprays on crushers, screens, conveyors, transfer points and storage piles as necessary to show compliance with the most stringent 40 CFR Subpart OOO opacity limitations.
PM2.5	Use of water sprays on crushers, screens, conveyors, transfer points and storage piles as necessary to show compliance with the most stringent 40 CFR Subpart OOO opacity limitations.
CO	No standard

RULE REQUIREMENTS:

None

South Coast AQMD

BACT

Source: [SCAQMD BACT Guidelines for Non-Major Polluting Facilities, page 13.](#)

Rock – Aggregate Processing	
VOC	No standard
NOx	No standard
SOx	No standard
PM10	Baghouse Venting Jaw Crushers, Cone Crushers, and Material Transfer Points Adjacent to and after these Items; and Water Sprays at Other Material Transfer Points.
PM2.5	No standard
CO	No standard

The SCAQMD BACT trigger level is 1 lb/day. Therefore, the SCAQMD BACT Clearinghouse was reviewed as part of this BACT determination. There is no specific BACT guideline for concrete recycling. The SCAQMD does include a BACT for Rock-Aggregate processing with an all size rating (SCAQMD BACT Guidelines for Non-Major Polluting Facilities 10/20/00, page 104) that lists a baghouse venting a crusher and water sprays at other material transfer points. The District contacted SCAQMD to determine if they apply this BACT to concrete recycling operations. SCAQMD responded stating these are just guidelines and the guideline could be used for concrete recycling operations. But if a facility can demonstrate that it is not feasible then they can do a case-by-case determination. SCAQMD stated they have accepted water sprays only as BACT for these types of operations. Since they have allowed the use of water sprays for these types of operations, the use of a baghouse will be considered as technologically feasible. Small emitters are only subject to achieved in practice standards. Therefore, the SCAQMD standards will not be referenced for this small emitter BACT determination.

RULE REQUIREMENTS:

[Rule 1157 – PM10 Emission Reductions from Aggregate and Related Operations \(8/8/06\)](#)

(1) General Performance Standards

(A) The operator of a facility/operation shall not cause or allow:

- (i) a discharge into the atmosphere of, fugitive dust emissions exceeding 20 percent opacity from any activity, equipment, storage pile, or disturbed surface area, based on an average of 12 consecutive readings, using the SCAQMD Opacity Test Method No. 9B; or
- (ii) discharges into the atmosphere of, fugitive dust emissions exceeding 50 percent opacity from any activity, equipment, storage pile, or disturbed surface area, based on five individual, consecutive readings, using the SCAQMD Opacity Test Method No. 9B, effective December 3, 2005; or
- (iii) any visible fugitive dust plume from exceeding 100 feet in any direction from any activity, equipment, storage pile, or disturbed surface area.

(B) The operator of a facility/operation shall promptly remove any pile of material spillage on any internal paved roads. Alternatively, the operator shall maintain in a stabilized condition the pile of material spillage with dust suppressants and remove it by the end of each day.

(C) The operator of a facility/operation shall maintain in a stabilized condition all other piles of material spillage and carry-back with dust suppressants until removal.

(D) The operator of a facility/operation shall use sufficient dust suppressants or other dust control methods as necessary to meet the performance standards in subparagraph (d)(1)(A).

(2) Loading, Unloading, and Transferring

The operator of an existing permanent or temporary facility/operation shall use dust suppressants or other dust control methods at each emission source during loading, unloading, or transferring activities of materials as necessary to meet the performance standards in subparagraph (d)(1)(A).

(3) Conveyor

The operator of a facility/operation using a conveyor shall apply dust suppressants or other dust control methods at the conveyor including all transfer points where materials are released as necessary to meet the performance standards in subparagraph (d)(1)(A).

(4) Crushing Equipment

The operator of a facility/operation conducting crushing activities of materials shall use baghouses to control PM10 emissions. Alternatively, the operator may apply dust suppressants or other dust control methods at the crusher including all discharge points as necessary to meet the performance standards in subparagraph (d)(1)(A).

(5) Screening Equipment

The operator of a facility/operation conducting outdoor screening activities of materials shall use enclosed screening equipment that is equipped with a baghouse. Alternatively, the operator may apply dust suppressants or other dust control methods at the screening equipment including all discharge points during such activities as necessary to meet the performance standards in subparagraph (d)(1)(A).

(6) Storage Piles

(A) The operator of a facility/operation shall maintain in a stabilized condition the entire surface area of the open storage piles of materials, except for areas of the piles that are actively disturbed during the loading and/or unloading activities. Alternatively, the operator may:

- (i) store materials in a silo or a bunker;
- (ii) maintain at least two feet of freeboard from the highest portion of the piles; and
- (iii) for the bunker, stabilize the sides of the pile that are not shielded by non-porous walls.

(B) At the end of each work day in which loading or unloading activities of materials were performed, the operator of a facility/operation shall re-apply dust suppressants to re-stabilize disturbed areas of the piles.

This rule applies to stationary and portable equipment. Although, a baghouse is listed as a control option, the rule allows the use of alternate controls such as the use of dust suppressants to meet the 20% opacity requirement. The use of water is listed under the definition of dust suppressant. Therefore, the use of a baghouse will be considered as technologically feasible. This strictest performance standard for the equipment is to meet a 20% opacity standard. Small emitters are only subject to achieved in practice standards.

San Diego County APCD

BACT

Source: [NSR Requirements for BACT](#)

The SDCAPCD has a BACT trigger level of 10 lb/day. Therefore, the SDCAPCD BACT clearinghouse will not be referenced for this small emitter BACT determination.

RULE REQUIREMENTS:

None

Bay Area AQMD

BACT

Source: [BAAQMD BACT Workbook](#)

The BAAQMD has a BACT trigger level of 10 lb/day. Therefore, the BAAQMD BACT clearinghouse will not be referenced for this small emitter BACT determination.

RULE REQUIREMENTS:

None.

San Joaquin Valley APCD

BACT

Source: [SJVAPCD BACT Guidelines](#)

Sand, Gravel, Aggregate, Recycled Asphalt & Recycled Concrete: Processing, Crushing, Screening and Storage Operations	
VOC	No standard
NOx	No standard
SOx	No standard
PM10	<p>1) CRUSHING: Water sprays allowing visible emissions no greater than 12% opacity as measured using EPA Method 9 (Visible Opacity)</p> <p>2) SCREENING: Water sprays allowing visible emissions no greater than 7% opacity as measured using EPA Method 9 (Visible Opacity)</p>
PM2.5	<p>3) CONVEYORS/TRANSFER POINT: Water sprays allowing visible emissions no greater than 7% opacity as measured using EPA Method 9 (Visible Opacity)</p> <p>4) STORAGE (PILES): Water sprays allowing visible emissions no greater than 20% opacity as measured using EPA Method 9 (Visible Opacity)</p>
CO	No standard

The SJVAPCD BACT trigger level is 2 lb/day. Therefore, the SJVAPCD BACT Clearinghouse was reviewed as part of this BACT determination.

RULE REQUIREMENTS:

[Rule 8031 – Bulk Materials \(08/19/04\)](#)

The purpose of this rule is to limit fugitive dust emissions from outdoor handling, storage and transport of bulk materials to comply with a 20% visible emissions opacity. This BACT will limit the opacity from the loading of the feeder and stockpile to 20% and limit the opacity from the processing equipment (conveyors, screens and crushers) to the opacity limitations of Subpart 000.

The following control technologies have been identified and are ranked based on stringency:

BEST CONTROL TECHNOLOGIES ACHIEVED		
Pollutant	Standard	Source
VOC	No standard	EPA, ARB, SMAQMD, SCAQMD, SJVAPCD, BAAQMD, SDCAPCD
NOx	No standard	EPA, ARB, SMAQMD, SCAQMD, SJVAPCD, BAAQMD, SDCAPCD
SOx	No standard	EPA, ARB, SMAQMD, SCAQMD, SJVAPCD, BAAQMD, SDCAPCD
PM10	Use of water sprays on crushers, screens, conveyors and transfer points as necessary to show compliance with the most stringent 40 CFR Subpart 000 opacity limitations. The emissions from the entry feed hopper loading, stockpile loading and storage piles will be subject to an opacity limitation of 20%.	EPA, SMAQMD, SCAQMD, SJVAPCD
PM2.5	Use of water sprays on crushers, screens, conveyors and transfer points as necessary to show compliance with the most stringent 40 CFR Subpart 000 opacity limitations. The emissions from the entry feed hopper loading, stockpile loading and storage piles will be subject to an opacity limitation of 20%.	EPA, SMAQMD, SCAQMD, SJVAPCD
CO	No standard	EPA, ARB, SMAQMD, SCAQMD, SJVAPCD, BAAQMD, SDCAPCD

B: TECHNOLOGICALLY FEASIBLE AND COST EFFECTIVE (Rule 202, §205.1.b.)

The District’s Small Emitter and “Otherwise-Exempt Equipment” BACT Determinations policy (dated 5/16/2019) states that units which are classified as small emitters (less than 10 lbs/day of VOC, NOx, SOx, PM10, or PM2.5 and less than 550 lbs/day of CO) and are located at non-major stationary sources are only required to meet BACT standards that have been achieved in practice. Therefore, this BACT determination will only be based on what is achieved in practice and will only be applied to small emitters at non-major sources. BACT will be evaluated on a case-by-case basis for units that do not fit these criteria.

C: SELECTION OF BACT

Based on the above analysis, BACT for PM10 and PM2.5 will be the most stringent standards of what is currently achieved in practice.

BACT # 262 for Stationary Aggregate Processing & Concrete/Asphalt Recycling > 25 Tons/hr Capacity		
Pollutant	Standard	Source
VOC	No standard	EPA, ARB, SMAQMD, SCAQMD, SJVAPCD, BAAQMD, SDCAPCD
NOx	No standard	EPA, ARB, SMAQMD, SCAQMD, SJVAPCD, BAAQMD, SDCAPCD
SOx	No standard	EPA, ARB, SMAQMD, SCAQMD, SJVAPCD, BAAQMD, SDCAPCD
PM10	Use of water sprays on crushers, screens, conveyors and transfer points as necessary to show compliance with the most stringent 40 CFR Subpart OOO opacity limitations. The emissions from the entry feed hopper loading, stockpile loading and storage piles will be subject to an opacity limitation of 20%.	EPA, SMAQMD, SJVAPCD
PM2.5	Use of water sprays on crushers, screens, conveyors and transfer points as necessary to show compliance with the most stringent 40 CFR Subpart OOO opacity limitations. The emissions from the entry feed hopper loading, stockpile loading and storage piles will be subject to an opacity limitation of 20%.	EPA, SMAQMD, SJVAPCD
CO	No standard	EPA, ARB, SMAQMD, SCAQMD, SJVAPCD, BAAQMD, SDCAPCD

APPROVED BY: Brian F Krebs

DATE: 06-29-2022

Appendix A

SJVAPCD BACT Guideline 6.1.2

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 6.1.2*

Last Update: 7/31/2018

**Sand, Gravel, Aggregate, Recycled Asphalt & Recycled Concrete: Processing,
Crushing, Screening and Storage Operations**

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
PM10	<p>1) CRUSHING: Water sprays allowing visible emissions no greater than 12% opacity as measured using EPA Method 9 (Visible Opacity)</p> <p>2) SCREENING: Water sprays allowing visible emissions no greater than 7% opacity as measured using EPA Method 9 (Visible Opacity)</p> <p>3) CONVEYORS/TRANSFER POINT: Water sprays allowing visible emissions no greater than 7% opacity as measured using EPA Method 9 (Visible Opacity)</p> <p>4) STORAGE (PILES): Water sprays allowing visible emissions no greater than 20% opacity as measured using EPA Method 9 (Visible Opacity)</p>	<p>1) CRUSHING: Charged fog spray or water spray with chemical additives</p> <p>2) STORAGE (PILES): Water spray with chemical suppressant</p>	

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in a State Implementation Plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

***This is a Summary Page for this Class of Source**