SMAQMD BACT CLEARINGHOUSE

CATEGORY Type: **CONCRETE BATCH PLANT**

BACT Category: MINOR SOURCE

BACT Determination Number: 246	**BACT Determination Date:** 12/3/2021

Equipment Information

Permit Number: N/A -- Generic BACT Determination

Equipment Description: Concrete Batch Plant ≥ 5 Cubic Yards per Batch

Unit Size/Rating/Capacity:

Equipment Location:

EXPIRED

BACT Determination Information

District Contact: Quintin Phan Phone No.: 279-207-1143 email: qphan@airquality.org

ROCs	**Standard:**	No Standard
	Technology Description:	
	Basis:	Achieved in Practice
NOx	**Standard:**	No Standard
	Technology Description:	
	Basis:	Achieved in Practice
SOx	**Standard:**	No Standard
	Technology Description:	
	Basis:	Achieved in Practice
PM10	**Standard:**	See Page 8 of 9 of BACT 246
	Technology Description:	
	Basis:	Achieved in Practice
PM2.5	**Standard:**	Equivalent to PM10 control standards
	Technology Description:	
	Basis:	Achieved in Practice
CO	**Standard:**	No Standard
	Technology Description:	
	Basis:	Achieved in Practice
LEAD	**Standard:**	No Standard
	Technology Description:	
	Basis:	Achieved in Practice

Comments: This is a generic BACT determination based on BACT determinations made, and published, by other air agencies in California and/or other States.

Printed: 12/7/2021

777 12th Street, Suite 300 Sacramento, CA 95814

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION

EXPIRED

DETERMINATION NO.:	246
DATE:	08/17/2021
ENGINEER:	Quintin Phan

Category/General Equip Description: Concrete Batch Plant

Equipment Specific Description: Concrete Batch Plant ≥ 5 Cubic Yards per Batch

Equipment Size/Rating: Minor Source BACT

Previous BACT Det. No.: 193

This BACT determination will update Determination #193 for concrete batch plants with a throughput greater than or equal to 5 cubic yards per batch.

Concrete batching operations involve the processing of concrete and the handling of concrete components. Concrete is a mixture of sand, aggregate, portland cement, and water. Sand and aggregate add strength and cement acts as a binding agent in the mixture. A cement supplement, such as potash, may replace a portion of the cement to influence the mixture's properties such as its permeability or strength. The concrete formula may vary depending upon the engineering specifications, its specific application, and the weather. Various types of equipment used in concrete batching operations can include hoppers, silos, conveyors, pumps, storage bins, front end loaders, trucks, engines, motors, generators, and boilers/water heaters.

There are 2 general methods of producing concrete: Wet-batching and dry batching. Wet-batching is a process whereby concrete is mixed at the plant and is then transported to a job site where it's poured. The concrete may also be mixed and poured into molds on-site to create pre-formed products such as concrete pipes, slabs, and beams. Dry-batching is a process whereby concrete components are loaded into a truck mounted mixer and then subsequently mixed by the truck enroute to a job site where it is poured. An alternate form of dry-batching is the loading of concrete components into separate bins on a truck where the components remaining unmixed until they are offloaded at the job site.

BACT ANALYSIS

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

The following control technologies are currently employed as BACT for Concrete Batch plants

that produce greater than or equal to 5 cubic yards per batch by the following air pollution control districts:

US EPA

BACT
Source: EPA RACT/BACT/LAER Clearinghouse RBLC ID: NV-0047 (02/26/2008), RBLC ID: NV-0045 (12/11/2006)

Concrete Batch Plants (A)	
PM10	1. Maintain a min 1.5% moisture content in materials less than 0.25 inches in diameter for the entire process and control efficiency of 81.5%. Nellis Air Force Base Concrete Batch Plant 02/26/2008, and 2. Enclosure, control efficiency of 62%, Sloan Quarry 12/11/2006.
PM2.5	No standard

(A) The only criteria emissions of interest are PM10 and PM2.5 No standards are listed for VOC, NOx, SOx, or CO emissions.

RULE REQUIREMENTS:
None

CALIFORNIA AIR RESOURCES BOARD

BACT
Source: California Air Resources Board BACT Determination Tool: Concrete Batch Plant Application No. 406717
Searched "Concrete" to find SCAQMD BACT Determination.

Concrete Batch Plan (A)	
PM10	Venting of batch plant equipment and cement and flyash storage silos to baghouse or filter vent and maintaining sufficient moisture in aggregate at transfer points to control particulate emissions (11-12-03)
PM2.5	No standard

(A) The only criteria emissions of interest are PM10 and PM2.5 No standards are listed for VOC, NOx, SOx, or CO emissions.

RULE REQUIREMENTS:
None.

SMAQMD

BACT
From SMAQMD BACT #193 issued on 8/14/18

Concrete Bath Plant ≥ 5 Cubic Yards per Batch (A)	
PM10	1. Sand and Aggregate storage: outdoor storage piles adequately wetted to prevent visible emissions > 5% opacity 2. Sand and aggregate handling (all transfer points): water sprays on all transfer points 3. Sand and aggregate weigh batcher: material adequately wetted to prevent visible emissions > 5% opacity 4. Storage silos for cement, flyash and other supplements: enclosed silo vented to a control device with 99% efficiency (baghouse, bin vent or equivalent) 5. Cement weigh batcher: enclosed weigh batcher vented to a control device with 99% efficiency (baghouse or equivalent) 6. Transit-mixed truck loading: loading operation enclosed by a flexible shroud which seals to the truck and is vented to a control device with 99% efficiency (baghouse or equivalent) 7. Central mixer loading: Enclosed mixer vented to a control device with 99% efficiency (baghouse or equivalent)
PM2.5	Equivalent to PM10 control standards

(A) The only criteria emissions of interest are PM10 and PM2.5 No standards are listed for VOC, NOx, SOx, or CO emissions.

RULE REQUIREMENTS:
None

South Coast AQMD

BACT
From SCAQMD BACT Determinations - Concrete Batch Plant, A/N 406717 12/9/03:

Concrete Batch Plan (A)	
PM10	Venting of batch plant equipment and cement and flyash storage silos to baghouse or filter vent and maintaining sufficient moisture in aggregate at transfer points to control particulate emissions (11-12-03)
PM2.5	No standard

(B) The only criteria emissions of interest are PM10 and PM2.5 No standards are listed for VOC, NOx, SOx, or CO emissions.

RULE REQUIREMENTS:
None

San Diego County APCD

BACT
From SDCAPCD NSR Requirements for BACT, section and page 3-9:

Concrete Batch Plants (A)	
PM10	1. Enclosed cement weigh hoppers, screw conveyors and concrete batcher vented to a 99% efficienct fabric filter baghouse. 2. Flexible shroud which seals to the truck. Shroud vented to 99% efficient fabric baghouse on silos. 3. Water spray system for sand and aggregate transfer points. 4. Sand and aggregate storage piles adequately wet to maintain a minimum moisture content of 4% by weight. 5. Open areas maintained adequately wet to prevent fugitive emissions in excess of 20 percent opacity or Ringlemann 1.
PM2.5	No standard

(A) The only criteria emissions of interest are PM10 and PM2.5 No standards are listed for VOC, NOx, SOx, or CO emissions.

May choose to limit the Potential to Emit (PTE) from the equipment to less than 10 pounds per day for each pollutant in lieu of meeting the stated BACT requirement.

RULE REQUIREMENTS:
None

Bay Area AQMD

BACT
Source: BAAQMD BACT Guideline

Concrete Batch Plants ≥ 5 cubic yards per batch (A)	
PM10	Water spray system for aggregate handling, aggregate storage pile and site road surfaces; and enclosure and venting of cement handling and storage to a baghouse
PM2.5	No standard

(A) The only criteria emissions of interest are PM10 and PM2.5 No standards are listed for VOC, NOx, SOx, or CO emissions.

RULE REQUIREMENTS:
None

San Joaquin Valley APCD

BACT
Source: SJVUAPCD BACT Guideline

Concrete Batch Plants ≥ 5 cubic yards per batch (A)	
PM10	1. Sand and Aggregate storage: outdoor storage piles adequately wetted to prevent visible emissions > 5% opacity 2. Sand and aggregate handling (all transfer points): water sprays on all transfer points 3. Sand and aggregate weigh batcher: material adequately wetted to prevent visible emissions > 5% opacity 4. Storage silos for cement, flyash and other supplements: enclosed silo vented to a control device with 99% efficiency (baghouse, bin vent or equivalent) 5. Cement weigh batcher: enclosed weigh batcher vented to a control device with 99% efficiency (baghouse or equivalent) 6. Transit-mixed truck loading: loading operation enclosed by a flexible shroud which seals to the truck and is vented to a control device with 99% efficiency (baghouse or equivalent) 7. Central mixer loading: Enclosed mixer vented to a control device with 99% efficiency (baghouse or equivalent)
PM2.5	No standard

(A) The only criteria emissions of interest are PM10 and PM2.5 No standards are listed for VOC, NOx, SOx, or CO emissions.

RULE REQUIREMENTS:
None

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

SUMMARY OF ACHIEVED IN PRACTICE CONTROL TECHNOLOGIES (A)	
PM10	1) a. Sand and Aggregate storage: outdoor storage piles adequately wetted to prevent visible emissions > 5% opacity b. Sand and aggregate handling (all transfer points): water sprays on all transfer points c. Sand and aggregate weigh batcher: material adequately wetted to prevent visible emissions > 5% opacity d. Storage silos for cement, flyash and other supplements: enclosed silo vented to a control device with 99% efficiency (baghouse, bin vent or equivalent) e. Cement weigh batcher: enclosed weigh batcher vented to a control device with 99% efficiency (baghouse or equivalent) f. Transit-mixed truck loading: loading operation enclosed by a flexible shroud which seals to the truck and is vented to a control device with 99% efficiency (baghouse or equivalent) g. Central mixer loading: Enclosed mixer vented to a control device with 99% efficiency (baghouse or equivalent) – [SMAQMD, SJVAPCD]

SUMMARY OF ACHIEVED IN PRACTICE CONTROL TECHNOLOGIES (A)	
	2) a. Enclosed cement weigh hoppers, screw conveyors and concrete batcher vented to a 99% efficienct fabric filter baghouse. b. Flexible shroud which seals to the truck. Shroud vented to 99% efficient fabric baghouse on silos. c. Water spray system for sand and aggregate transfer points. d. Sand and aggregate storage piles adequately wet to maintain a minimum moisture content of 4% by weight. e. Open areas maintained adequately wet to prevent fugitive emissions in excess of 20 percent opacity or Ringlemann 1. - [SDCAPCD] 3) Water spray system for aggregate handling, aggregate storage pile and site road surfaces; and enclosure and venting of cement handling and storage to a baghouse – [BAAQMD] 4) a. Maintain a min 1.5% moisture content in materials less than 0.25 inches in diameter for the entire process and control efficiency of 81.5% , and b. Enclosure of Aggregate/Cement Mixing with a control efficiency of 62%, – [US EPA]
PM2.5	Equivalent to PM10 control standards – [SMAQMD]

(A) The only criteria emissions of interest are PM10 and PM2.5 No standards are listed for VOC, NOx, SOx, or CO emissions.

The following control technologies have been identified as the most stringent, achieved in practice control technologies:

BEST CONTROL TECHNOLOGIES ACHIEVED		
Pollutant	**Standard**	**Source**
VOC	No Standard	
NOx	No Standard	
SOx	No Standard	
PM10	a. Sand and Aggregate storage: outdoor storage piles adequately wetted to prevent visible emissions > 5% opacity b. Sand and aggregate handling (all transfer points): water sprays on all transfer points c. Sand and aggregate weigh batcher: material adequately wetted to prevent visible emissions > 5% opacity d. Storage silos for cement, flyash and other supplements: enclosed silo vented to a control device with 99% efficiency (baghouse, bin vent or equivalent) e. Cement weigh batcher: enclosed weigh batcher vented to a control device with 99% efficiency (baghouse or equivalent) f. Transit-mixed truck loading: loading operation enclosed by a flexible shroud which seals to the truck and is vented to a control device with 99% efficiency (baghouse or equivalent) g. Central mixer loading: Enclosed mixer vented to a control device with 99% efficiency (baghouse or equivalent)	SMAQMD
PM2.5	Equivalent to PM10 control standards	SMAQMD
CO	No Standard	

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

Technologically Feasible Alternatives:

Any alternative basic equipment, fuel, process, emission control device or technique, singly or in combination, determined to be technologically feasible by the Air Pollution Control Officer. As fabric filters are generally considered to achieve the highest level of particulate control for processes that they may be applied to, and since the achieved in practice BACT determination has been determined to be the use of 99% efficient fabric filter, no additional technologies were analyzed as techonologically feasible.

C. SELECTION OF BACT:

Based on the fact that no other technologically feasible control technologies were identified as being more appropriate with a higher level of control efficiency than a fabric filter for particulate control for this application, BACT for PM10 will be the highest level of control that has been achieved in practice that used this technology. As PM2.5 is a subset of PM10, BACT for PM2.5 will be set to the same standard as is set for PM10.

BACT FOR CONCRETE BATCH PLANTS ≥ 5 CUBIC YARD PER BATCH		
Pollutant	**Standard**	**Source**
VOC	No Standard	
NOx	No Standard	
SOx	No Standard	
PM10	a. Sand and Aggregate storage: outdoor storage piles adequately wetted to prevent visible emissions > 5% opacity b. Sand and aggregate handling (all transfer points): water sprays on all transfer points c. Sand and aggregate weigh batcher: material adequately wetted to prevent visible emissions > 5% opacity d. Storage silos for cement, flyash and other supplements: enclosed silo vented to a control device with 99% efficiency (baghouse, bin vent or equivalent) e. Cement weigh batcher: enclosed weigh batcher vented to a control device with 99% efficiency (baghouse or equivalent) f. Transit-mixed truck loading: loading operation enclosed by a flexible shroud which seals to the truck and is vented to a control device with 99% efficiency (baghouse or equivalent) 1. Central mixer loading: Enclosed mixer vented to a control device with 99% efficiency (baghouse or equivalent)	SMAQMD
PM2.5	Equivalent to PM10 control standards	SMAQMD
CO	No Standard	

D. SELECTION OF T-BACT:

Toxics are in the form of PM matter. The control of particulate matter through meeting the BACT standard will also control toxics found in the PM. Therefore, meeting the BACT controls for the control of PM will be considered equivalent ot meeting T-BACT requirements.

APPROVED BY: *Brian F Krebs* **DATE:** 12-03-2021

Attachment A

EPA BACT Determinations

Pollutant Information

Click on the Process Information button to see more information about the process associated with this pollutant.
Or click on the Process List button to return to the list of processes.

RBLC Home | New Search | Search Results | Facility Information | Process List | Process Information | Pollutant Information

Help

FINAL

RBLC ID: NV-0045
Corporate/Company: AGGREGATE INDUSTRIES
Facility Name: SLOAN QUARRY
Process: AGGREGATE/CEMENT MIXING

Pollutant: Particulate matter, filterable < 10 µ (FPM10)
CAS Number: PM

Pollutant Group(s): Particulate Matter (PM),
Substance Registry System: Particulate matter, filterable < 10 µ (FPM10)

Pollution Prevention/Add-on Control Equipment/Both/No Controls Feasible: P
P2/Add-on Description: ENCLOSURE

Test Method:	Unspecified
Percent Efficiency:	62.000
Compliance Verified:	Yes
EMISSION LIMITS:	
Case-by-Case Basis:	LAER
Other Applicable Requirements:	
Other Factors Influence Decision:	
Emission Limit 1:	0.0038 LB/T
Emission Limit 2:	0.3800 LB/H
Standard Emission Limit:	0.0038 LB/T
COST DATA:	
Cost Verified?	No
Dollar Year Used in Cost Estimates:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Pollutant Notes:	THE ANNUAL EMISSION LIMIT FOR THIS UNIT IS 0.29 TONS PER YEAR.

http://cfpub.epa.gov/rblc/index.cfm?action=PermitDetail.ProcessInfo&facility_id=26652&PROCESS_ID=106068
Last updated on 10/2/2015

Technology Transfer Network

Clean Air Technology Center | RACT/BACT/LAER Clearinghouse | Clean Air Technology Center

RACT/BACT/LAER Clearinghouse | RBLC Basic Search | RBLC Search Results | Process Information - Details

Process Information - Details

For information about the pollutants related to this process, click on the specific pollutant in the list below.

RBLC Home | New Search | Search Results | Facility Information | Process List | Process Information

Help

FINAL

RBLC ID: NV-0045
Corporate/Company: AGGREGATE INDUSTRIES
Facility Name: SLOAN QUARRY
Process: AGGREGATE/CEMENT MIXING

Primary Fuel: N/A
Throughput: 100.00 T/H
Process Code: 90.012

Pollutant Information - List of Pollutants

Help

Pollutant	Primary Emission Limit		Basis Verified
Particulate matter, filterable < 10 µ (FPM10)	0.0038 LB/T	LAER	YES

Process Notes: THE EMISSION UNIT (AP12) IS THE MIXER OPERATED BY AGGREGATE/CEMENT PRODUCTS. THE ANNUAL PROCESS CAPACITY IS LIMITED TO 150,000 TONS PER YEAR.

Process Information - Details

For information about the pollutants related to this process, click on the specific pollutant in the list below.

Help

FINAL

RBLC ID: NV-0047
Corporate/Company: 99 CIVIL ENGINEER SQUADRON OF USAF
Facility Name: NELLIS AIR FORCE BASE
Process: CONCRETE BATCH PLANT

Primary Fuel: N/A
Throughput:
Process Code: 90.012

Pollutant Information - List of Pollutants

Help

Pollutant	Primary Emission Limit	Basis	Verified
Particulate matter, filterable < 10 µ (FPM10)	0.0514 LB/T PRODUCTION	Other Case-by-Case	NO

Process Notes: THE PROCESS CONSISTS OF THIRTEEN (13) EMISSION UNITS INCLUDING ONE DIESEL GENERATOR. THE CONCRETE BATCH PLANT (UNIT A015) IS SELECTED TO SHOW THE BACT DETERMINATIONS. PRODUCTION FOR THE PLANT IS LIMITED TO 200 TONS/HR AND 15,000 TONS/YR.

http://cfpub.epa.gov/rblc/index.cfm?action=PermitDetail.PollutantInfo&Facility_ID=26873&Process_ID=106717&Pollutant_ID=171&Per_Control_Equipment_Id=142058

Page updated on 10/2/2015

Technology Transfer Network

Clean Air Technology Center RACT/BACT/LAER Clearinghouse

Pollutant Information

Click on the Process Information button to see more information about the process associated with this pollutant.
Or click on the Process List button to return to the list of processes.

RBLC Home | New Search | Search Results | Facility Information | Process List | Process Information | Pollutant Information

Help

FINAL

RBLC ID: NV-0047
Corporate/Company: 99 CIVIL ENGINEER SQUADRON OF USAF
Facility Name: NELLIS AIR FORCE BASE
Process: CONCRETE BATCH PLANT

Pollutant: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Pollutant Group(s): Particulate Matter (PM),

Substance Registry System: Particulate matter, filterable < 10 µ (FPM10)

Pollution Prevention/Add-on Control Equipment/Both/No Controls Feasible: P

P2/Add-on Description: MAINTAINING A MINIMUM OF 1.5% MOISTURE CONTENT IN MATERIALS LESS THAN 0.25 INCHES IN DIAMETER FOR THE ENTIRE PROCESS

Test Method:	Unspecified
Percent Efficiency:	81.500
Compliance Verified:	No
EMISSION LIMITS:	
Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	SIP , OPERATING PERMIT
Other Factors Influence Decision:	No
Emission Limit 1:	0.0514 LB/T PRODUCTION
Emission Limit 2:	10.2900 LB/H
Standard Emission Limit:	0.0514 LB/T PRODUCTION
COST DATA:	
Cost Verified?	No
Dollar Year Used in Cost Estimates:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Pollutant Notes:	

Pollutant Information

Click on the Process Information button to see more information about the process associated with this pollutant.
Or click on the Process List button to return to the list of processes.

RBLC Home | New Search | Search Results | Facility Information | Process List | Process Information | Pollutant Information

Help

FINAL

RBLC ID: NV-0045
Corporate/Company: AGGREGATE INDUSTRIES
Facility Name: SLOAN QUARRY
Process: AGGREGATE/CEMENT MIXING

Pollutant: Particulate matter, filterable < 10 µ (FPM10)
CAS Number: PM

Pollutant Group(s): Particulate Matter (PM),
Substance Registry System: Particulate matter, filterable < 10 µ (FPM10)

Pollution Prevention/Add-on Control Equipment/Both/No Controls Feasible: P
P2/Add-on Description: ENCLOSURE

Test Method:	Unspecified (EPA/CARB Methods) (All Other Methods)
Percent Efficiency:	62.000
Compliance Verified:	Yes
EMISSION LIMITS:	
Case-by-Case Basis:	LAER
Other Applicable Requirements:	
Other Factors Influence Decision:	
Emission Limit 1:	0.0038 LB/T
Emission Limit 2:	0.3800 LB/H
Standard Emission Limit:	0.0038 LB/T
COST DATA:	
Cost Verified?	No
Dollar Year Used in Cost Estimates:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Pollutant Notes:	THE ANNUAL EMISSION LIMIT FOR THIS UNIT IS 0.29 TONS PER YEAR.

Pollutant Information

Click on the Process Information button to see more information about the process associated with this pollutant.
Or click on the Process List button to return to the list of processes.

RBLC Home | New Search | Search Results | Facility Information | Process List | Process Information | Pollutant Information

Help

FINAL

RBLC ID: NV-0047
Corporate/Company: 99 CIVIL ENGINEER SQUADRON OF USAF
Facility Name: NELLIS AIR FORCE BASE
Process: CONCRETE BATCH PLANT

Pollutant: Particulate matter, filterable < 10 µ (FPM10)
CAS Number: PM

Pollutant Group(s): Particulate Matter (PM),
Substance Registry System: Particulate matter, filterable < 10 µ (FPM10)

Pollution Prevention/Add-on Control Equipment/Both/No Controls Feasible: P
P2/Add-on Description: MAINTAINING A MINIMUM OF 1.5% MOISTURE CONTENT IN MATERIALS LESS THAN 0.25 INCHES IN DIAMETER FOR THE ENTIRE PROCESS

Test Method: Unspecified
EPA/DAR Methods | All Other Methods

Percent Efficiency: 81.500
Compliance Verified: No
EMISSION LIMITS:
Case-by-Case Basis: Other Case-by-Case
Other Applicable Requirements: SIP , OPERATING PERMIT
Other Factors Influence Decision: No
Emission Limit 1: 0.0514 LB/T PRODUCTION
Emission Limit 2: 10.2900 LB/H
Standard Emission Limit: 0.0514 LB/T PRODUCTION
COST DATA:
Cost Verified? No
Dollar Year Used in Cost Estimates:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Pollutant Notes:

Attachment B

SMAQMD BACT Determination

SMAQMD BACT CLEARINGHOUSE

EXPIRED

CATEGORY Type: **CONCRETE PLANT**

BACT Category: MINOR SOURCE

BACT Determination Number:	193	**BACT Determination Date:**	**8/14/2018**

Equipment Information

Permit Number: N/A -- Generic BACT Determination

Equipment Description: Concrete Batch Plant

Unit Size/Rating/Capacity: Greater than or equal to 5 cubic yards per batch

Equipment Location:

BACT Determination Information

District Contact: Venk Reddy Phone No.: (916) 874-4861 email: vreddy@airquality

ROCs	**Standard:**	No Stadard
	Technology Description:	
	Basis:	Achieved in Practice
NOx	**Standard:**	No Standard
	Technology Description:	
	Basis:	Achieved in Practice
SOx	**Standard:**	No Standard
	Technology Description:	
	Basis:	Achieved in Practice
PM10	**Standard:**	No Standard
	Technology Description:	See page 8 of 8 of BACT Determination 193
	Basis:	Achieved in Practice
PM2.5	**Standard:**	Equivalent to PM10 controls
	Technology Description:	See page 8 of 8 of Bact Determination 193
	Basis:	Achieved in Practice
CO	**Standard:**	No Standard
	Technology Description:	
	Basis:	Achieved in Practice
LEAD	**Standard:**	No Standard
	Technology Description:	
	Basis:	Achieved in Practice

Comments: The Technology Description is too long to fit in the comment section. Please see page 8 of 8 of BACT Determination 193 for the control requirements of PM10/PM2.5.

Attachment C

SCAQMD BACT Determination

Section I: AQMD BACT Determinations

Application No.: 406717

Equipment Category – Concrete Batch Plant

1. GENERAL INFORMATION

DATE: 11/12/2003

A. MANUFACTURER:

B. TYPE: C. MODEL:

D. STYLE:

E. APPLICABLE AQMD RULES: 401, 402, 404, 405

F. COST: $ (NA) SOURCE OF COST DATA:

G. OPERATING SCHEDULE: 12 HRS/DAY 6 DAYS/WK 52 WKS/YR

2. EQUIPMENT INFORMATION

APP. NO.: 406717

A. FUNCTION: Produces transit mixed concrete. Aggregate (sand, gravel or crushed rock) is mixed with cement and flyash to produce concrete for loading into trucks equipped with rotary drum mixers.

B. SIZE/DIMENSION/CAPACITY: 87,450 tons/mo.

C. BLOWERS: D. TOTAL FLOW RATE: scfm

E. MATERIAL STORED/PROCESSED/HANDLED: Aggregate, cement, flyash

F. THROUGHPUT/PROCESS RATE/USAGE RATE: 87,450 tons/mo.

3. COMPANY INFORMATION

APP. NO.: 406717

A. NAME: Cemex Construction Materials B. SIC CODE: 3273

C. ADDRESS: 2722 N. Alameda Street
CITY: Compton STATE: CA ZIP: 91761

D. CONTACT PERSON: Christine Jones E. PHONE NO.: 909-974-5471

4. PERMIT INFORMATION

APP. NO.: 406717

A. AGENCY: SCAQMD B. APPLICATION TYPE: modification

C. AGENCY CONTACT PERSON: Merrill Hickman D. PHONE NO.: 909-396-2676

E. PERMIT TO CONSTRUCT/OPERATE INFORMATION: P/C NO.: ISSUANCE DATE:
☒ CHECK IF NO P/C P/O NO.: F57114 ISSUANCE DATE: 12/17/2002

F. START-UP DATE: Prior to September 2002

5. EMISSION INFORMATION

APP. NO.: 406717

A. PERMIT

A1. PERMIT LIMIT: Cement weigh hopper, gathering hopper and truck loading station are to be vented to baghouse. Cement and flyash storage silos are to be vented to baghouse or filter vent. Aggregate is to be kept sufficiently moist to prevent excessive dust emissions.

5. EMISSION INFORMATION

APP. NO.: 406717

A2. BACT/LAER DETERMINATION: Venting of batch plant equipment and cement and flyash storage silos to baghouse or filter vent and maintaining sufficient mositure in aggregate at transfer points to control particulate emissions.

A3. BASIS OF THE BACT DETERMINATION: AQMD BACT Guidelines, Part D.

B. CONTROL TECHNOLOGY

B1. MANUFACTURER/SUPPLIER: Ross

B2. TYPE: Baghouses

B3. DESCRIPTION: The flyash storage silo and one cement storage silo are vented to separately permited baghouses (A/N's 406718 and 406719, resp.). One cement storage silo is equipped with a filter vent. The cement/flyash weigh hopper and gathering hopper, where cement/flyash and aggregate are mixed, along with the truck loading station, are vented to a third baghouse (A/N 406720). The baghouses have reverse air cleaning systems. The silo vent blowers are 2 hp, and the batching system vent blower is 10 hp. Aggregate is kept sufficiently moist at transfer points using water sprays.

B4. CONTROL EQUIPMENT PERMIT APPLICATION DATA: P/C NO.: ISSUANCE DATE:
P/O NO.: ISSUANCE DATE:

B5. WASTE AIR FLOW TO CONTROL EQUIPMENT: FLOW RATE:
ACTUAL CONTAMINANT LOADING: BLOWER HP:

B6. WARRANTY:

B7. PRIMARY POLLUTANTS: PM10

B8. SECONDARY POLLUTANTS:

B9. SPACE REQUIREMENT:

B10. LIMITATIONS: B11. UNUSED

B12. OPERATING HISTORY:

B13. UNUSED B14. UNUSED

C. CONTROL EQUIPMENT COSTS

C1. CAPITAL COST: ☐ CHECK IF INSTALLATION COST IS INCLUDED IN CAPITAL COST
EQUIPMENT: $ INSTALLATION: $ (NA) SOURCE OF COST DATA:

C2. ANNUAL OPERATING COST: $ (NA) SOURCE OF COST DATA:

D. DEMONSTRATION OF COMPLIANCE

D1. STAFF PERMFORMING FIELD EVALUATION:
ENGINEER'S NAME: INSPECTOR'S NAME: DATE:

D2. COMPLIANCE DEMONSTRATION:

D3. VARIANCE: NO. OF VARIANCES: DATES:
CAUSES:

D4. VIOLATION: NO. OF VIOLATIONS: DATES:
CAUSES:

D5. MAINTENANCE REQUIREMENTS: D6. UNUSED

5. EMISSION INFORMATION

APP. NO.: 406717

D7. SOURCE TEST/PERFORMANCE DATA RESULTS AND ANALYSIS:
DATE OF SOURCE TEST: CAPTURE EFFICIENCY:
DESTRUCTION EFFICIENCY: OVERALL EFFICIENCY:
SOURCE TEST/PERFORMANCE DATA:
OPERATING CONDITIONS:
TEST METHODS:

6. COMMENTS

APP. NO.: 406717

Attachment D

SDAPCD BACT Determination

CONCRETE BATCH PLANTS
Fee Schedule 08A

Review the BACT Control Option listed below. The applicant must propose the Control Option listed or perform a Top-down BACT Analysis as described in Section 4 to justify the selection of another Control Option. The applicant will be required to provide documentation that the Control Option selected meets the requirements listed in the table.

	VOC	NOx	SOx	PM*
BACT Emission Rate Limit	(N/A)	(N/A)	(N/A)	<0.008 grain/dscf
BACT Control Option	(N/A)	(N/A)	(N/A)	99% efficient Fabric or Cartridge type vent filters on silos. Enclosed cement weigh hoppers, screw conveyors and concrete batcher vented to a 99% efficient fabric filter baghouse. Flexible shroud which seals to the truck along with a water sprinkler system used when dry products are mixed. Shroud vented to 99% efficient fabric filter baghouse Water spray system for sand and aggregate transfer points. Sand and aggregate storage piles adequately wet to maintain a minimum moisture content of 4% by weight. Open areas maintained adequately wet to prevent fugitive emissions in excess of 20 percent opacity or Ringlemann 1. (A/P)

The applicant may choose to limit the Potential to Emit (PTE) from the equipment to less than 10 pounds per day for each pollutant in lieu of meeting the stated BACT requirement.

* The BACT emission rate limit is based on TSP which is used as a surrogate for PM10.

Attachment E

BAAQMD BACT Determination

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Best Available Control Technology (BACT) Guideline

Source Category

Source:	*Concrete Batch Plants*	Revision:	*1*
		Document #:	*49.2*
Class:	*≥ 5 Cubic yards per batch*	Date:	*09/04/91*

Determination

POLLUTANT	BACT 1. Technologically Feasible/ Cost Effective 2. Achieved in Practice	TYPICAL TECHNOLOGY
POC	1. *n/a* 2. *n/a*	1. *n/a* 2. *n/a*
NOx	1. *n/a* 2. *n/a*	1. *n/a* 2. *n/a*
SO_2	1. *n/a* 2. *n/a*	1. *n/a* 2. *n/a*
CO	1. *n/a* 2. *n/a*	1. *n/a* 2. *n/a*
PM_{10}	1. *Water spray w/ chemical suppressants for aggregate handling and storage piles; and Paving of site road surfaces; and Enclosure and venting of cement handling and storage to baghouse w/ ≤0.0013 gr/dscf*[a,b] 2. *Water spray for aggregate handling, aggregate storage piles, and site road surfaces; and Enclosure and venting of cement handling and storage to baghouse w/ ≤0.01 gr/dscf*[a]	1. *BAAQMD Approved Design and Operation*[a] 2. *BAAQMD Approved Design and Operation*[a]
NPOC	1. *n/a* 2. *n/a*	1. *n/a* 2. *n/a*

References

a. BAAQMD
b. BAAQMD A #4770

Attachment F

SJUAPCD BACT Determination

Back

Best Available Control Technology (BACT) Guideline 6.2.2
Last Update: 7/31/2018

Concrete Batch Plant

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
PM10	1) SAND/AGGREGATE STORAGE: Outdoor storage piles adequately wetted a) to prevent vislble emissions > 5% opacity, or b) with minimum moisture content of 2% for aggregate and 4% for sand 2) SAND/AGGREGATE HANDLING (ALL TRANSFER POINTS): Water sprays on all transfer points to prevent visible emissions > 5% opacity 3) SAND/AGGREGATE WEIGH BATCHER: Material adequately wetted to prevent visible emissions > 5% opacity 4) STORAGE SILOS for CEMENT, FLYASH and OTHER SUPPLEMENTS: Enclosed silo vented to a control device with 99% efficiency (baghouse, bin vent or equivalent) 5) CEMENT/FLYASH/SUPPLEMENTS WEIGH BATCHER: Enclosed weigh batcher vented to a control device with 99% efficiency (baghouse or equivalent) 6) TRANSIT-MIXED TRUCK LOADING: Loading operation enclosed by a flexible shroud which seals to the truck and is vented to a control device with 99% efficiency (baghouse or equivalent) 7) CENTRAL MIXER LOADING: a) < 5 yd3 batch capacity: enclosed mixer with water sprays, b) > or = 5 yd3 batch capacity: enclosed mixer vented to a control device with 99% efficiency (baghouse or equivalent)	1) SAND/AGGREGATE STORAGE: Enclosed storage (building, silo, or equivalent) vented to a control device with 99% control efficiency (baghouse or equivalent) 2) CENTRAL MIXER LOADING: < 5 cubic yard batch capacity: enclosed mixer vented to a control device with 99% control efficiency (baghouse or equivalent)	

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 s a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is requried for all determinations that are not achieved in practice or contained in an EPA approved State