

SMAQMD BACT CLEARINGHOUSE

CATEGORY:

MATERIAL HANDLING

BACT Size: SMALL EMITTER (<10 LB/DAY) AND MIN MATERIAL HANDLING, SCREENING, CONVEYING

BACT Determination Number: 97	BACT Determination Date: 12/1/2014
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Equipment Information

Permit Number: N/A -- Generic BACT Determination
Equipment Description: MATERIAL HANDLING, SCREENING, CONVEYING
Unit Size/Rating/Capacity: Gypsum handling, screening, conveying, stockpiling
Equipment Location:

BACT Determination Information

ROCs	Standard:	
	Technology Description:	
	Basis:	
NOx	Standard:	
	Technology Description:	
	Basis:	
SOx	Standard:	
	Technology Description:	
	Basis:	
PM10	Standard:	0.01 gr/dscf
	Technology Description:	Handling: enclosure of size reduction & classification equipment; conveyors and transfer points vented to baghouse. Storage: enclosed storage vented to a baghouse.
	Basis:	Achieved in Practice
PM2.5	Standard:	0.01 gr/dscf
	Technology Description:	Handling: enclosure of size reduction & classification equipment; conveyors and transfer points vented to baghouse. Storage: enclosed storage vented to a baghouse.
	Basis:	Achieved in Practice
CO	Standard:	
	Technology Description:	
	Basis:	
LEAD	Standard:	
	Technology Description:	
	Basis:	

Comments: Handling: PM10 & PM2.5: 0.01 gr/dscf by enclosure of size reduction & classification equipment; conveyors and transfer points vented to baghouse.
 Storage: PM10 & PM2.5: 0.01 gr/dscf by enclosed storage vented to a baghouse.

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BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION

DETERMINATION NO.: 97
DATE: December 1, 2014
ENGINEER: Michelle Joe

Category/General Equip Description: Miscellaneous
Equipment Specific Description: Gypsum Handling
Equipment Size/Rating: Small Emitter (< 10 lb/day) and Minor Source BACT
Previous BACT Det. No.: 68

This BACT determination will update BACT determination no. 68 for Miscellaneous – Gypsum Handling which was made on November 7, 2013. This category involves the screening, conveying, and stockpiling of gypsum material.

BACT ANALYSIS

Step 1: Identify All Control Technologies

The following control technologies are currently employed as BACT for Miscellaneous – Gypsum Handling by the following BACT Clearinghouses:

BACT Clearinghouse	(A)	Best Available Control Technology (BACT)
SMAQMD	AP	For PM10: Water spray assuming 70% control.
EPA RBLC	AP	For PM10 & PM2.5 from Limestone, Gypsum, and Hydrated Lime Handling Activities: Fabric filters with 99% control efficiency for PM10 & PM2.5, 0.0040 gr/dscf PM10 & PM2.5 emission limit and fugitive dust control plan.
CARB	---	For PM10: A BACT standard has not been established.
South Coast AQMD	AP	For PM10 from Bulk Solid Material Handling of Dry Materials: Enclosed conveyors and baghouse. For PM10 from Bulk Solid Material Storage of White Commodities

BACT Clearinghouse	(A)	Best Available Control Technology (BACT)
	AP	<u>(including cement, gypsum, lime, soda ash, borax, and flour):</u> Enclosed storage and baghouse.
Bay Area AQMD	AP	<u>For PM10 from Solid Material Handling – Dry:</u> Enclosure of size reduction and classification equipment; conveyors and associated material transfer points vented to baghouse(s) with 0.01 gr/dscf emission limit; typical technology is BAAQMD approved design and operation.
	TF	<u>For PM10 from Bulk Solid Material Storage – White Commodities (dry commodities such as cement, gypsum, lime, soda ash, salt cake, potash, borax, and flour):</u> 1. Enclosed storage vented to a baghouse with ≤ 0.0013 gr/dscf PM10 emission limit; typical technology is BAAQMD approved design and operation.
	AP	2. Enclosed storage vented to a baghouse with ≤ 0.01 gr/dscf PM10 emission limit; typical technology is BAAQMD approved design and operation.
San Joaquin Valley APCD	AP	<u>For PM10 from Dry Material Storage and Conveying Operation:</u> Storage, augers, elevators, conveyors all enclosed and vented to a fabric filter baghouse

(A) AP = Achieved in Practice, TF = Technologically Feasible

(B) Emissions limit was not specified because a limit that applies to all equipment within the category is not possible. Refer to discussion (below).

The following control technologies have been identified:

Note: for the purposes of this BACT determination, the control technologies for PM10 and PM2.5 are considered similar and will be evaluated together.

For PM10 & PM2.5 from Gypsum Handling:

1. Water spray assuming 70% control.
2. Fabric filters with 99% control efficiency for PM10 & PM2.5, 0.0040 gr/dscf PM10 & PM2.5 emission limit and fugitive dust control plan.
3. Enclosed conveyors and baghouse.
4. Enclosure of size reduction and classification equipment; conveyors and associated material transfer points vented to baghouse(s) with 0.01 gr/dscf emission limit; typical technology is BAAQMD approved design and operation.
5. Storage, augers, elevators, conveyors all enclosed and vented to a fabric filter baghouse.

For PM10 & PM2.5 from Gypsum Storage:

1. Water spray assuming 70% control.
2. Enclosed storage and baghouse.
3. Enclosed storage vented to a baghouse with ≤ 0.0013 gr/dscf PM10 emission limit; typical technology is BAAQMD approved design and operation.

4. Enclosed storage vented to a baghouse with ≤ 0.01 gr/dscf PM10 emission limit; typical technology is BAAQMD approved design and operation.
5. Storage, augers, elevators, conveyors all enclosed and vented to a fabric filter baghouse.

Step 2: Eliminate Technologically Infeasible Options

All identified technologies are feasible.

Step 3: Rank Remaining Control Technologies by Control Effectiveness

For PM10 & PM2.5 from Gypsum Handling:

1. Fabric filters with 99% control efficiency for PM10 & PM2.5, 0.0040 gr/dscf PM10 & PM2.5 emission limit and fugitive dust control plan.
2. Enclosure of size reduction and classification equipment; conveyors and associated material transfer points vented to baghouse(s) with 0.01 gr/dscf emission limit; typical technology is BAAQMD approved design and operation.
3. Storage, augers, elevators, conveyors all enclosed and vented to a fabric filter baghouse.
4. Enclosed conveyors and baghouse.
5. Water spray assuming 70% control.

For PM10 & PM2.5 from Gypsum Storage:

1. Enclosed storage vented to a baghouse with ≤ 0.0013 gr/dscf PM10 emission limit; typical technology is BAAQMD approved design and operation.
2. Enclosed storage vented to a baghouse with ≤ 0.01 gr/dscf PM10 emission limit; typical technology is BAAQMD approved design and operation.
3. Storage, augers, elevators, conveyors all enclosed and vented to a fabric filter baghouse.
4. Enclosed storage and baghouse.
5. Water spray assuming 70% control.

For PM10 & PM2.5 from Gypsum Handling:

The most effective control technology listed above is [enclosure to a baghouse equipped with] fabric filters with 99% control efficiency for PM10 & PM2.5, 0.0040 gr/dscf PM10 & PM2.5 emissions limit and fugitive dust control plan. However, it was noted in the EPA RBLC that compliance has not been verified for this control technology, and therefore may be uncertain if this technology has been achieved in practice. The next most effective control technology that has been achieved in practice for solid material handling is enclosure of size reduction and classification equipment, and conveyors and associated material transfer points vented to baghouse(s) with 0.01 gr/dscf emission limit.

For PM10 & PM2.5 from Gypsum Storage

The most effective control technology listed above is enclosed storage vented to a baghouse with ≤ 0.0013 gr/dscf PM10 emission limit. However, this technology is only listed as technologically feasible and has not been achieved in practice. The next most effective control technology that has been achieved in practice for white commodities (dry commodities such as cement, gypsum, lime, soda ash, salt cake, potash, borax, and flour) is enclosed storage vented to a baghouse with ≤ 0.01 gr/dscf PM10 emission limit.

Step 4: Select BACT

BACT for the control of PM10 & PM2.5 for Miscellaneous – Gypsum Handling is the following:

For PM10 & PM2.5 from Gypsum Handling:

Enclosure of size reduction and classification equipment, and conveyors and associated material transfer points vented to baghouse(s) with 0.01 gr/dscf emission limit.

For PM10 & PM2.5 from Gypsum Storage:

Enclosed storage vented to a baghouse with ≤ 0.01 gr/dscf PM10 emission limit.

REVIEWED BY: Brian F. Kurl DATE: 12-1-14

APPROVED BY: [Signature] DATE: 12-15-2014