



Proposed Updates to BACT Guidelines

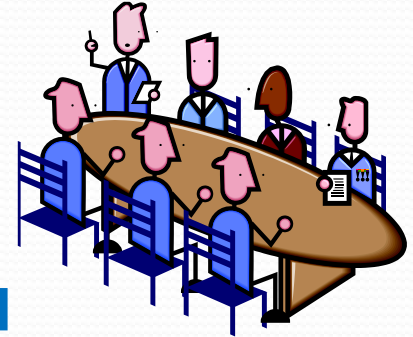
BACT Scientific Review Committee
December 12, 2017

Background

- **Updated BACT Guidelines and established Charter for BACT SRC at December 2016 Board meeting**
- **Board directed staff to continue work on updating BACT Guidelines, reviewing BACT determinations done by other air districts with an emphasis on UV/EB inks and coatings technology and report back to Stationary Source Committee by June 2017 on proposed updates**
- **Held four public BACT SRC meetings, April 4, May 24, Oct. 26 & Dec. 12, 2017 with two 30-Day Comment periods**

Proposed Updates to BACT Guidelines

- Parts B and D (major & minor source BACT)
- Reviewed achieved in practice BACT for UV/EB and water-based inks and coatings, Food Ovens, Engines and other equipment categories
- Reviewed BACT determinations from SCAQMD Engineering & Permitting and other Air Districts
- Conducted site visits to facilities (Printing, Food Oven, APC mfg.) and worked with printing industry trade organizations.
- Maintain consistency with recent changes to SCAQMD rules, State and Federal requirements
- Make BACT webpage interactive and User Friendly



Received four Comments Letters

- **Part B, Major Source**

- **Section I**

- Flare (Biogas-EMWD) – Section 1.L – change “achieve reliable operation” to “improve reliable operation”. Section 6.E – add “@3% O₂”. Add “Wastewater” to Equipment Subcategory.
- IC Engine (Digester Gas Fired-OCSD) – Section 1.L – add need for fuel pretreatment; add info regarding max inlet siloxane levels based on control system specifications; Include inlet siloxane loading levels of less than 1 ppmv for D4 and less than 5 ppmv for D5.

- **Section III**

- IC Engine, Stat., Emergency w/ SCR & DPF – Section 4.D – should indicate that engine is a Tier 2 certified engine.

Comments Letters (cont'd)

- **Part B, Major Source**

- **Section I**

- Boiler (39.9 MMBtu/hr w/ SCR) – Section 4.A & B – averaging time for NO_x should be 1 hr. or multi-hour as specified in EPA NSPS 40 CFR Part 60 Subpart D and/or NESHAPS standards.

- **Part D, Non-Major Source**

- Printing (Graphic Arts) – Flexographic & Screen Printing: Compliant UV/EB and water-based inks/coatings should be recognized as alternative BACT compliance option; Replace use of super compliant cleanup solvent with Rule 1171 compliance.

Part B, Section I, SCAQMD LAER/BACT



New Listings

Furnace

(Heat Treating Aluminum $\leq 900^{\circ}\text{F}$)

5MMBtu/hr, Low NOx burner, NOx=30ppm



Food Oven- Bakery

Four ovens: 3.2, 2.8, 3.2 & 5.4MMBtu/hr vented to 4MMBtu/hr CatOx @ 95% control & $\geq 600^{\circ}\text{F}$ inlet temp & ceramic pre filter, R1147 compliant, Ovens - R1153.1 compliant



Food Oven- Tortilla Chip

5.774MMBtu/hr, IR & Ribbon burners, NOx=54ppm @ 1 hr. avg., CO=2000ppm, @ 15 min. avg.



Food Oven- Snack Food

1.6MMBtu/hr, Maxon Low NOx burner, NOx=25ppm, CO=75ppm, both @ 1 hr. avg. 3% O₂



Flare- Biogas

12MMBtu/hr, Bekaert, NOx=0.025 lb/MMBtu, CO=0.06 & VOC=0.038
39.3MMBtu/hr, John Zink, ZULE, NOx=0.025 lb/MMBtu, CO=0.06, VOC=5.5 lb/day, PM=14.2 lb PM10/hr



Flare- Landfill Gas

120MMBtu/hr, Zink ultra Low NOx, NOx=0.025 lb/MMBtu, CO=0.06; VOC=1.33 lb/hr, PM=1.4 lb/hr & SOx=2.5 lb/hr



Part B, Section I, SCAQMD LAER/BACT



Listing Updates

Boiler

39.9 MMBtu/hr, Low NO_x burner with SCR
NO_x=5ppm, CO=100ppm & NH₃=5ppm



I.C. Engine – Digester Gas-Fired

Compliance with Rule 1110.2(d)(1)(C);
NO_x=11ppm, VOC=30ppm & CO=250ppm



Part B, Section III, Other Technologies



Emerging Technologies

I.C. Engine- Emergency Compression Ignition with PM Trap and SCR

Tier 2 Engine with Tier 4 Final aftertreatment at permitted emission limits: NMHC=0.14 g/bhp-hr, NO_x=0.5 g/bhp-hr, CO=2.61 and PM=0.022 g/bhp-hr



Distributed Generation Fuel Cell with digester gas clean up system

1.4MW Fuel Cell equipped with 2.5 MMBtu/hr heater fired on digester gas used for start up, cool down and low power operation. Rule 222 registration per Rule 219(b)(5). NO_x=0.07, VOC=CO=0.10 lb/MW-hr



- ***These are emerging technologies which have been in operation with an air quality permit, however do not yet qualify as LAER***
- ***Proposed new section in BACT Determination form titled “7. Pending Considerations”***

Part D, BACT for Non-Major Facilities



New Listings

Printing (Graphic Arts) Flexographic

Inks with ≤ 1.5 lb VOC/gal, Less Water and Exempt Compounds; or UV/EB or water-based inks/coatings ≤ 180 g VOC/L.
Compliance with SCAQMD Rules 1130 and 1171.



Printing (Graphic Arts) Flexographic

Add-on control venting to Regenerative Thermal Oxidizer, 95% destruction eff. and $\geq 1500^\circ\text{F}$ operating temp with total enclosure. *{cost effectiveness}*



Printing (Graphic Arts) Lithographic or Offset, Heatset

Low VOC Fountain Solution ($\leq 8\%$ by Vol. VOC); Low Vapor Pressure (≤ 10 mm Hg VOC Composite Partial Pressure¹) ~~or~~ Low VOC (≤ 100 g/l) Blanket and Roller Washes; Oil-Based or UV-Curable Inks; and Compliance with SCAQMD Rules 1130 and 1171 (7-14-2006).



Printing (Graphic Arts) Lithographic or Offset, Heatset

Correct listing of oven venting to afterburner from PM_{10} column to VOC column. Removed previously proposed 99% control with RTO.



Part D, BACT for Non-Major Facilities



New Listings

Printing (Graphic Arts) Screen Printing and Drying

Compliance with SCAQMD Rules 1130.1 and 1171; or use of Rule 1130,1 compliant UV/EB or water-based inks/coatings.



Part D, BACT for Non-Major Facilities



New Listings

Food Oven

– Ribbon burner

>500°F: NO_x = 60 ppm, CO= Rule 407/1153.1, PM₁₀=SO_x= Nat Gas

≤500°F: NO_x = 30ppm CO = Rule 407/1153.1, PM₁₀=SO_x=
Nat Gas

– Other Direct fired

NO_x = 30 ppm, CO=Rule 407/1153.1, PM₁₀=SO_x= Nat Gas

– Infrared

NO_x = 30 ppm, CO=Rule 407/1153.1, PM₁₀=SO_x= Nat Gas

– Other

Compliance with Rule 1147/1153.1, PM₁₀=SO_x= Nat Gas

– Bakery Oven with Yeast Leavened Products ≥30 lb VOC/day

CatOx @ 95% overall control, ≥600°F inlet temp &
ceramic pre filter *{cost effectiveness}*



Part D, BACT for Non-Major Facilities



New Listing/Updates

**I.C. Engine, Stationary,
Non-Emergency,
Electrical Generators**

Compliance with Rule 1110.2



**I.C. Engine, Stationary,
Non-Emergency**

Delete listing. Being replaced by BACT determinations I.C. Engine, Stationary, Non-Emergency, Electrical and Non-Electrical Generators



**I.C. Engine, Stationary,
Non-Emergency, Non-
Electrical Generators**

Delete footnote #1 consistent with proposed listing of new BACT determination for "I.C. Engine, Stationary, Non-Emergency, Electrical Generator"



I.C. Engine, Portable

75 ≤ HP < 175, Tier 4 Final – Consistent with CARB



Dryer or Oven

Footnote of non-applicability to food oven



Part D, BACT for Non-Major Facilities



Addition of omitted text

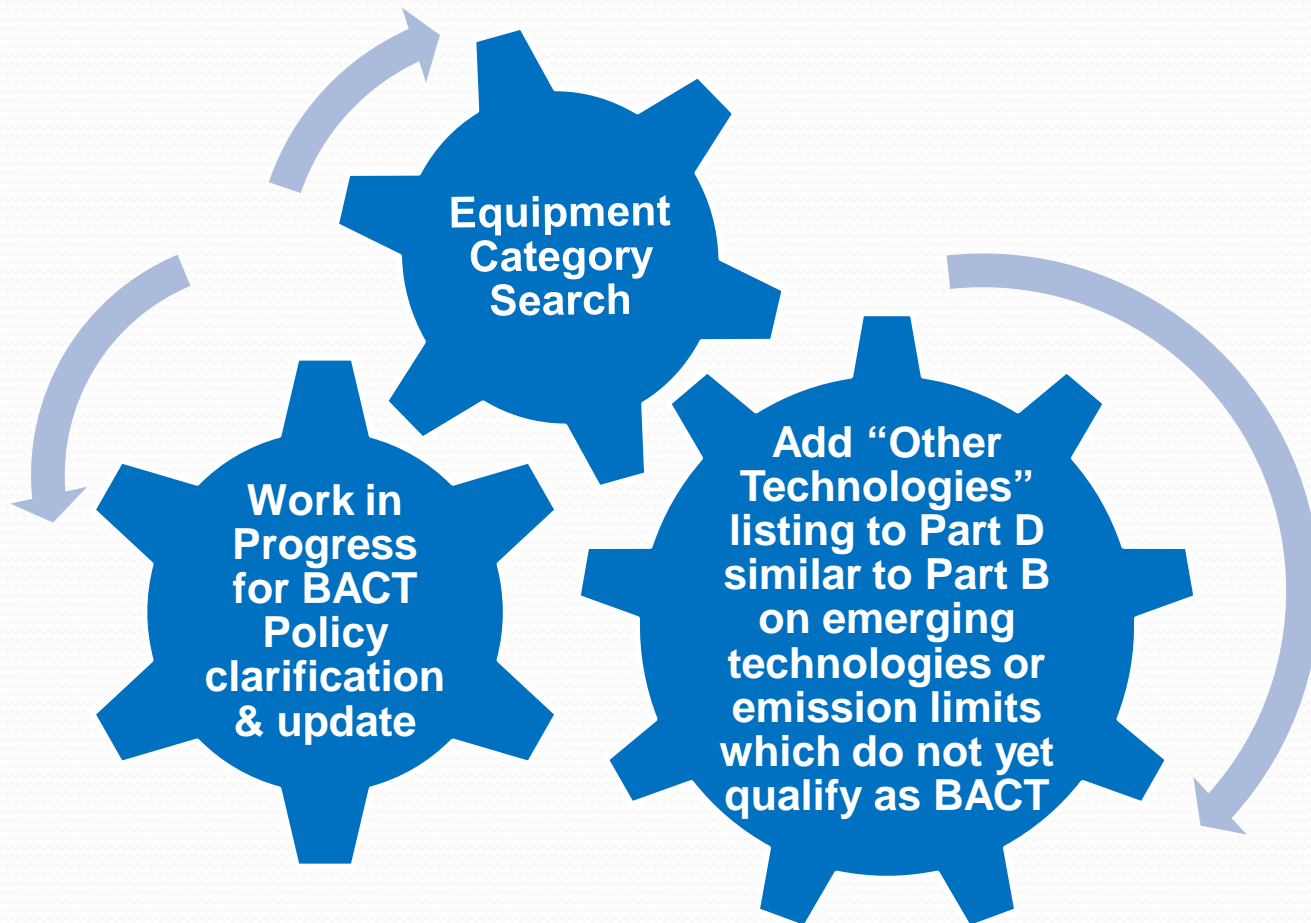
Equipment Not Identified in the MSBACT Guidelines



Although the BACT Guidelines contains an extensive listing of practically everything the SCAQMD permits, occasionally applications will be received for equipment not identified in the Guidelines. As required by Rule 1303, MSBACT for equipment category not listed in the MSBACT Guidelines must be determined on a case-by-case basis using the definition of BACT in Rule 1302 and the general procedures in these MSBACT Guidelines, as shown in Chapter 1 and the previous sections of this chapter.

Applicants whose equipment is not listed in Part D of the MSBACT Guidelines should contact the SCAQMD and arrange a pre-application conference. MSBACT issues can be discussed in the conference for leading to a MSBACT determination. Applicants are not required to conduct the MSBACT evaluation but the application may be processed more quickly if the applicant provides a MSBACT evaluation with the application for a permit to construct.

Making BACT Guidelines User Friendly



Equipment Category Search

The screenshot shows a web browser window displaying the South Coast Air Quality Management District website. The browser's address bar shows the URL: <http://sfdev.aqmd.gov/home/permits/bact/guidelines/Action/Preview>. The website header includes the South Coast Air Quality Management District logo and name, a search bar, and social media icons for Facebook, Twitter, Email, RSS, and YouTube. The main content area is titled "BACT Guidelines" and features a navigation menu on the left with items like About, Governing Board, Calendar, Programs, Library, Permits, Forms, Tools, and Regulations. The main text area contains the heading "Best Available Control Technology Guidelines" and a sub-heading "EQUIPMENT CATEGORY SEARCH" in red, which is highlighted by a green arrow and the text "New proposed link". Below this, there is a list of elements that the BACT Guidelines consist of, including an Overview, Part A (Policy and Procedures for Major Polluting Facilities), and Part B (LAER/BACT Determinations for Major Polluting Facilities). A "Trending" sidebar on the right lists items such as "Torrance Refinery SCAQMD Rule Book Rules" and "Special Meeting of the SCAQMD Governing Board: March 9, 2017 Proposed Rules". A "More Information" sidebar on the right provides contact information for the BACT Team, including a phone number (909-396-2516) and a fax number (909-396-2491).

South Coast Air Quality Management District

Home / Permits / Best Available Control Tech. / Guidelines

BACT Guidelines

[New proposed link](#)

Best Available Control Technology Guidelines

EQUIPMENT CATEGORY SEARCH

The BACT Guidelines consist of the following elements:

- [Overview](#) (PDF, 557kb)
- [PART A: POLICY AND PROCEDURES FOR MAJOR POLLUTING FACILITIES](#) (PDF, 557kb)
Part A of the BACT Guidelines explains what BACT is, why it is required, when it is required, and how it is determined for major polluting facilities. Persons who want to learn about BACT and the BACT process for major polluting facilities should start by reading Part A.
- [PART B: LAER/BACT DETERMINATIONS FOR MAJOR POLLUTING FACILITIES](#)
The current Part B began in March 1999 with listings for only boilers, degreasers, and spray booths. As new permits are issued, they will be added to the current Part B, which includes three sections:
 - [Section I - SCAQMD LAER/BACT Determinations](#), provides information on LAER/BACT determinations contained in permits issued by SCAQMD.
 - [Section II - Other LAER/BACT Determinations](#), provides information about LAER/BACT requirements in permits or guidelines issued by other agencies.
 - [Section III - Other Technologies](#), provides information on technologies which have been achieved in practice but are not reflected in a permit limit, and information on emerging technologies or emission limits which have not yet been achieved in practice and do not yet qualify as LAER.
- [PART C: POLICY AND PROCEDURES FOR NON-MAJOR POLLUTING FACILITIES](#) (PDF, 557kb)

Trending

- [Torrance Refinery SCAQMD Rule Book Rules](#)
- [Special Meeting of the SCAQMD Governing Board: March 9, 2017 Proposed Rules](#)

More Information

Contact

[BACT Team](#)
Ph: 909-396-2516
909-396-2491

EQUIPMENT CATEGORIES

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Index of Equipment Categories

A

Abrasive Blasting Room

Absorption Chiller

Air Start Unit

Air Stripper – Ground Water Treatment

Aluminum Mating Furnace

Ammonium Bisulfate and Thiosulfate Production

Asbestos Machining Equipment

Asphalt Batch Plant


Asphaltic Day Tanker

Auto Body Shredder

EQUIPMENT CATEGORIES

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Index of Equipment Categories

Search 

Abrasive Blasting Room

Part D- Minor Source

1. Abrasive Blasting - Enclosed

Part B- Major Source - LAER

I. SCAQMD Listings

[Abrasive Blasting Room, Rohr, Ind. A/N 391420 12/6/02](#)

II. Other Districts

TBD

III. Other/Potential Technologies

TBD

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
Best Available Control Technology (BACT) Guidelines for Non-Major Polluting Facilities*
10-20-2000 Rev. 0

Equipment or Process: Abrasive Blasting - Enclosed

Rating/Size	Criteria Pollutants					Inorganic
	VOC	NOx	SOx	CO	PM ₁₀	
All					(Baghouse or Cartridge Dust Collector (07-11-97))	

Section I. AQMD BACT Determination *
Application No.: 391420
Equipment Category - Abrasive Blasting Room

1. GENERAL INFORMATION DATE: 11/14/2002

A. MANUFACTURER: Cimenco Industries

B. TYPE: Constarach C. MODEL:

D. SERIAL:

E. APPLICABLE AQMD RULES: 1146, 401, 402, 404, 405, 1403

F. COORD. S: (NA) SOURCE OF OSE/GATE:

G. OPERATING SCHEDULE: 24 HRS/DAY 8 DAYS/WK 52 WKS/YR

2. EQUIPMENT INFORMATION APP. NO.: 391420

A. FUNCTION: Facility manufactures aircraft parts. This abrasive blasting room (RECLAIM device No. D214) is used to remove excess adhesive materials from parts. Constarach particles are used as the abrasive medium. Blasting is done by hand using a 1/2" high velocity air nozzle. After contacting the part, the particles drop through a floor grate and are recovered to a cyclone for recovery. Air from the cyclone is filtered prior to exhaust.

B. INTERCOMING CAPACITY: 12'0" W x 8'6" x 17'4"

C. ROOMS: D. TOTAL FLOOR RATE: acftm

E. MATERIAL STORAGE/PROCESSING HOLD: Constarach

F. THROUGHPUT/PROCESS RATE/USAGE RATE:

Next Steps

- **Stationary Source Committee meeting 1/19/18**
- **Governing Board Meeting 2/2/18**