

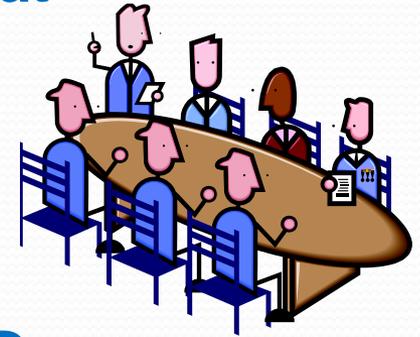


Proposed Updates to BACT Guidelines

BACT Scientific Review Committee
April 24, 2018

Proposed Updates to BACT Guidelines

- Latest updates to BACT Guidelines approved at February 2, 2018 Board meeting
- Part A Policy, Parts B and D (major & minor source BACT)
- Reviewed BACT determinations from SCAQMD and other Air Districts
- Plan to conduct site visits to facilities
- Maintain consistency with recent changes to SCAQMD rules, State and Federal requirements
- Make BACT webpage interactive and User Friendly



Part A – Policy and Procedures for Major Polluting Facilities

- **SCAQMD Air Quality-Related Energy Policy established on September 2011**
- **Requires any new/repowered in-Basin fossil-fueled plant to incorporate BACT**
- **Include in BACT Guidelines by reference**



<http://www.aqmd.gov/nav/about/policies/aqmd-air-quality-related-energy-policy>

New Proposed Part B, Section I, SCAQMD LAER/BACT Determination



External Floating Roof Storage Tank

- Add new category
- Many AIP examples
- Installation of Dome Cover

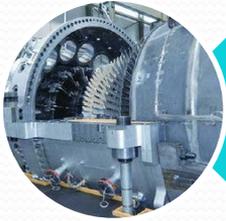
Proposed Part B, Section I, SCAQMD LAER/BACT Determination Update



Gas Turbine

- Combined Cycle & Simple Cycle; natural gas
- 3 AIP, Source Test and CEMS data
- CC: 2 ppm NO_x/2 ppm CO/5 ppm NH₃
- SC: 2.5 ppm NO_x/2.9 ppm CO/5 ppm NH₃
- Excludes start-up & shutdown

Proposed Part B, Section I, SCAQMD LAER/BACT Determination Update



Gas Turbine

- Landfill gas fired Gas Turbine – 2 AIP
- Digester gas fired Gas Turbine – 1 AIP
- Source Test and CEMS data
- 12 ppm NO_x(100% LFG), 6 ppm NO_x (5% LFG)
- 18.8 ppm NO_x (Digester gas)

Proposed Part B, Section I, SCAQMD LAER/BACT Determination Update



Soil Vapor Extraction

- 1 AIP – Source Tested
- Direct Flame Thermal Oxidizer
- 4 MM Btu/hr rating
- 30 ppm NO_x

Proposed Part B, Section I, SCAQMD LAER/BACT Determination Update



Tank Degassing

- Various Location Permits/Mostly Portable Units
- Carbon Adsorbers/Catalytic/Thermal Oxidizer
- Do they belong in LAER?
- Compliance with Rule 1147 60 ppm NO_x if Oxidizer

New Proposed Part B, Section II, Other LAER/BACT Determination



Gas Turbine

- 1 AIP example: Virginia State APCB
- Three natural gas-fired gas turbines generators (3,227MM Btu/hr ea) with duct-fired HRSG (500MM Btu/hr) providing steam to common steam turbine generator
- Source Test & CEMS data with emission limit compliance
- 2ppm NO_x 1 hr. avg. / 1ppm CO 3 hr. avg. w/o duct burner / 1.6ppm CO with duct burner

New Proposed Part D, Minor Source, BACT Determination



Thermal Oxidizer

- Many AIP examples
- Cat Ox / RTO / Direct Fired Afterburner
- Source Test with emission limit compliance
- 30ppm NOx limit for burner only
- Cost-effectiveness

New Proposed Part D, Minor Source, BACT Determination



Fryer – Deep Fat

- 2 AIP examples
- Integrated (30ppm NO_x) and Non-Integrated (60ppm NO_x Rule 1147) afterburner oil heater
- Source Test with emission limit compliance
- Cost-effectiveness

New Proposed Part D, Minor Source, BACT Determination



Flare

- Outdated Part D data on Flares
- Update to current Permit/AIP limits
- Separate Landfill/Digester Gas/Oil & Gas
- Cost-effectiveness for each category

New Proposed Part D, Minor Source, BACT Determination



Composting Green Waste Operations

- Add Subcategory under Composting
- Fugitive VOC and NH₃ emissions
- Compliance with Rule 1133.3

New Proposed Part D, Minor Source, BACT Determination



Dryer or Oven - Tenter Frame Fabric Dryer

- 2 AIP examples
- To reflect more stringent rule limit
- Compliance with Rule 1147 30ppm NOx burner only

New Proposed Part D, Minor Source, BACT Determination



Soil Vapor Extraction

- Many AIP examples
- Compliance with Rule 1147 60ppm NO_x
- Source Test with emission limit compliance

Proposed Part D, Minor Source, BACT Determination Update



**Boiler ≥ 20 and < 75 MM
Btu/hr**

- Existing Boiler BACT Determination
- Subcategory Natural Gas or Propane Fired ≥ 20 and < 75 MM Btu/hr
- For NO_x compliance with Rule 1146 5ppm

Proposed Part D, Minor Source, BACT Determination Update Correction



Process Heater – Non-Refinery

- Correction of Rule 1146, 1146.1 and 1146.2 applicability in NO_x column

Proposed Part D, Minor Source, BACT Determination Update Correction



**Printing (Graphic Arts)-
Lithographic or Offset,
Heatset**

- Previously deleted in error, include venting to afterburner in PM10 column and “Same As Above” for Non-Heatset should refer to Low VOC Fountain Solution not Venting to afterburner

Proposed Part D, Minor Source, BACT Determination Update Correction



Spray Booth

- Correction from 660 lbs/month VOC limit to 667 lbs/month to be consistent with permit condition for exemption from offsets

User-Friendly Search Features

- Search by Publish Date
- Search by Equipment Category Pulldown
- Search by Freeform Text
- MSBACT Completed - Deploy on May 1
- LAER Data - Deploy on June 1

SEARCH – BY PUBLISH DATE

South Coast AQMD

Select Search Type
 BACT Determinations

Search BACT Guidelines for Major Source LAER or Minor Source BACT determinations using publish date and equipment/process type

Dates
 Start: 2/1/2018
 End: [Empty]

Equipment/Process Type

Equipment/Process Type Detail

Search Clear

Search Results

Publication Date	Equipment/Process Type	Part B or D	Equipment/Process Type Detail
2/2/2018	Dryer or Oven	Minor Source BACT (Part D)	CARPET OVEN, ROTARY DRYER, SPRAY DRYER, FLASH DRYER, TRAY, AGITATED PAN, VACUUM DRYER, TENTER FRAME FABRIC DRYER, I
2/2/2018	Food Oven	Minor Source BACT (Part D)	RIBBON BURNER, INFRARED BURNER, DIRECT FIRED, BAKERY OVEN, YEAST, ADD ON CONTROL, OTHER BURNER
2/2/2018	I.C. Engine - Portable	Minor Source BACT (Part D)	COMPRESSION IGNITION, SPARK IGNITION
2/2/2018	I.C. Engine Stationary, Non.Emergency/Non	Minor Source BACT (Part D)	NON.EMERGENCY/NON.ELECTRICAL GENERATORS, LANDFILL OR DIGESTER GAS FIRED
2/2/2018	Printing (Graphic Arts)	Minor Source BACT (Part D)	

Search by Category - Pulldown

- Large Pulldown but manageable
- Users also have keyword option

The screenshot displays the South Coast AQMD search interface. On the left, a blue sidebar contains the search form. At the top left of the sidebar is the South Coast AQMD logo. Below it, the text reads "Select Search Type" with a dropdown menu currently set to "BACT Determinations". Underneath, instructions state: "Search BACT Guidelines for Major Source LAER or Minor Source BACT determinations using publish date and equipment/process type". Below this are "Dates" fields for "Start" and "End", each with a calendar icon. The "Equipment/Process Type" section features a large, scrollable pulldown menu listing various equipment types. The main content area on the right has a light blue background with a magnifying glass icon and the text "Search Results". Below this, a message box says: "To perform a search, please fill out and submit the search form". The background of the entire interface is a scenic view of mountains and a city skyline.

South Coast AQMD

Select Search Type
BACT Determinations

Search BACT Guidelines for Major Source LAER or Minor Source BACT determinations using publish date and equipment/process type

Dates
Start End

Equipment/Process Type

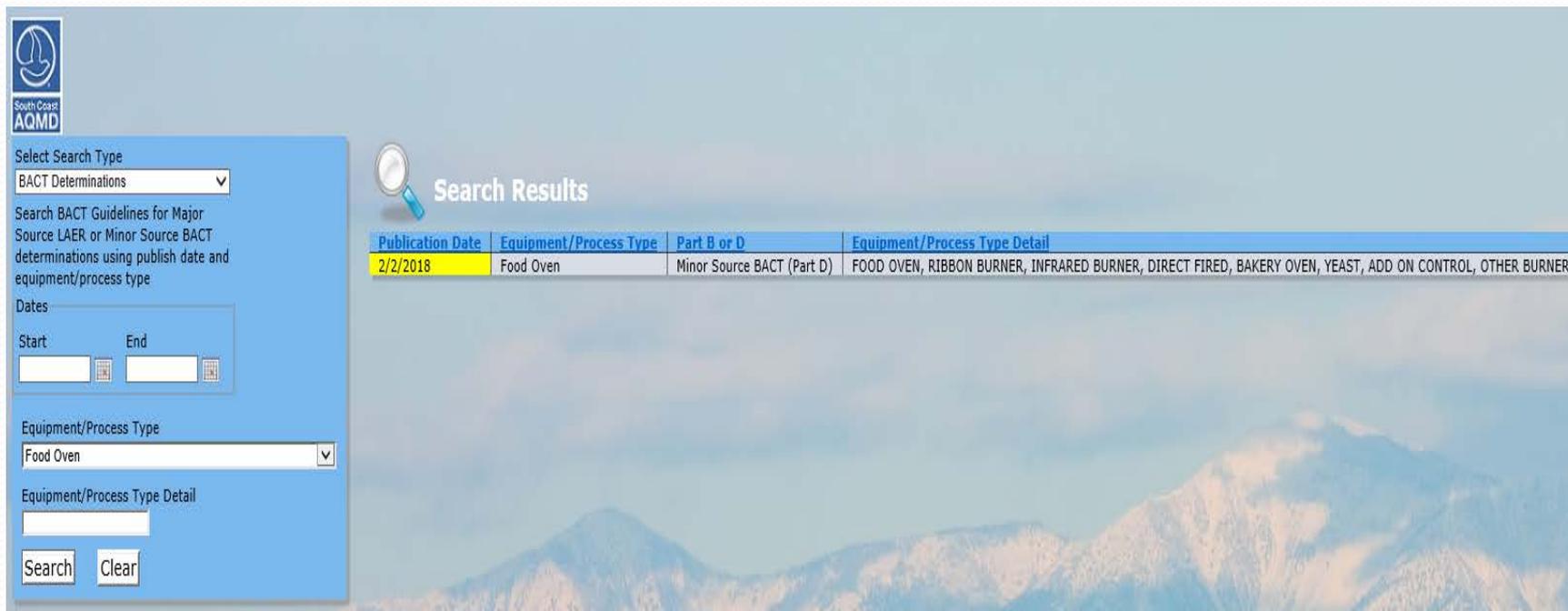
- Abrasive Blasting – Enclosed
- Absorption Chiller
- Air Stripper – Ground Water Treatment
- Aluminum Melting Furnace
- Ammonium Bisulfate and Thiosulfate Production
- Asbestos Machining Equipment
- Asphalt Batch Plant
- Asphalt Roofing Line
- Asphaltic Day Tanker
- Auto Body Shredder
- Ball Mill
- Beryllium Machining Equipment
- Boiler
- Brakeshoe Debonder
- Brass Melting Furnace
- Bulk Solid Material Handling – Other
- Bulk Solid Material Ship Loading
- Bulk Solid Material Ship Unloading
- Bulk Solid Material Storage
- Burnoff or Burnout Furnace (Excluding Wax Furnace)
- Calcliner
- Carpet Beating and Shearing
- Catalyst Manufacturing and Regeneration
- Charbroiler, Chain-driven (conveyorized)
- Chemical Milling Tanks
- Chip Dryer
- Chrome Plating
- Circuit Board Etcher
- Cleaning Compound Blender

Search Results

To perform a search, please fill out and submit the search form

Search by Category - Pulldown

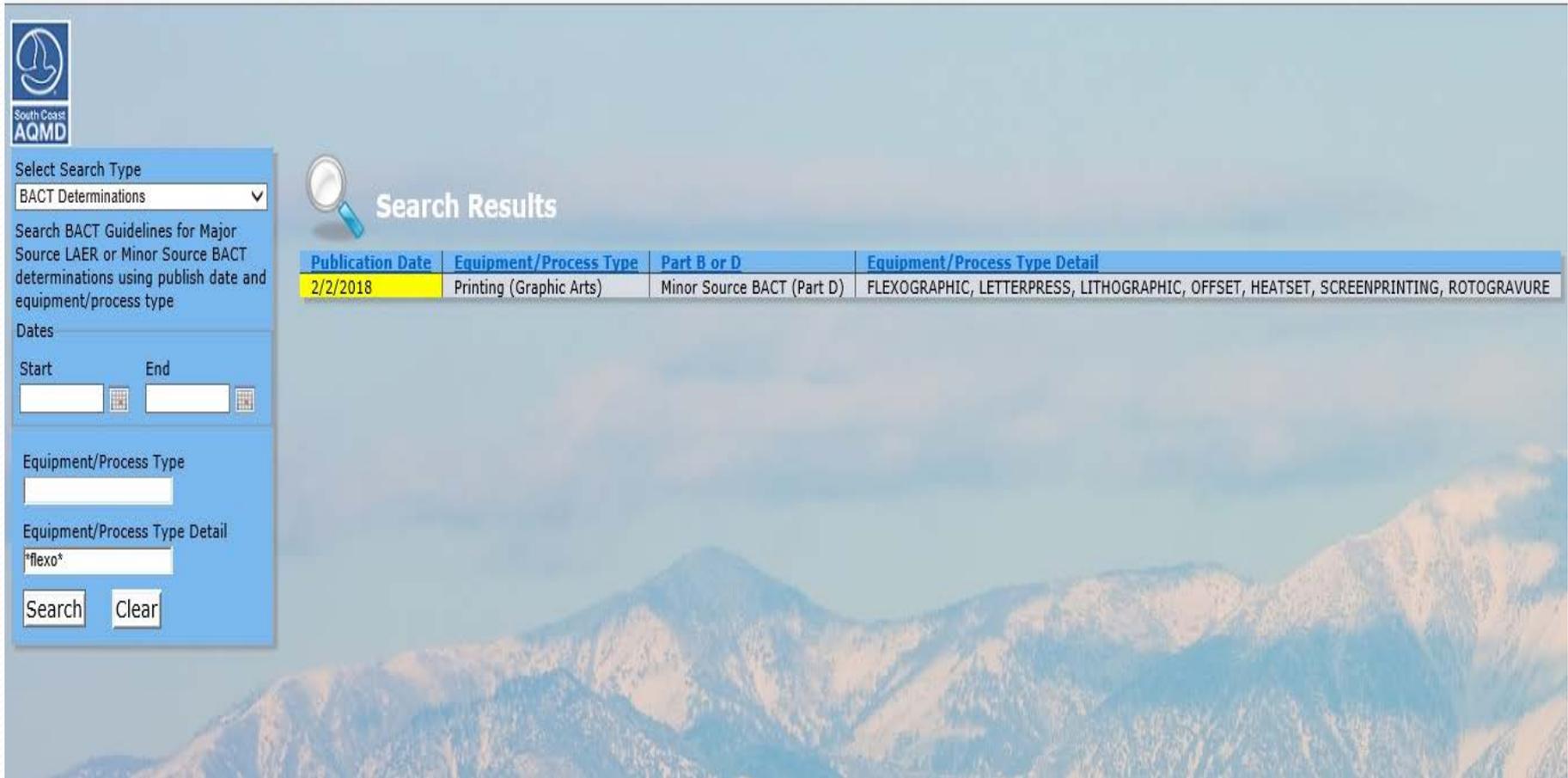
- Matched result on the right
- Click to show determination



The screenshot displays the South Coast AQMD search interface. On the left, a search filter panel includes a logo, a 'Select Search Type' dropdown menu set to 'BACT Determinations', a search instruction, date selection fields for 'Start' and 'End', an 'Equipment/Process Type' dropdown menu set to 'Food Oven', and an 'Equipment/Process Type Detail' input field. Below these are 'Search' and 'Clear' buttons. The main area shows a 'Search Results' section with a magnifying glass icon and a table of results. The table has four columns: 'Publication Date', 'Equipment/Process Type', 'Part B or D', and 'Equipment/Process Type Detail'. A single result is shown with a yellow background for the date '2/2/2018'.

Publication Date	Equipment/Process Type	Part B or D	Equipment/Process Type Detail
2/2/2018	Food Oven	Minor Source BACT (Part D)	FOOD OVEN, RIBBON BURNER, INFRARED BURNER, DIRECT FIRED, BAKERY OVEN, YEAST, ADD ON CONTROL, OTHER BURNER

Search by Category – Text Search



The screenshot displays the South Coast AQMD search interface. On the left, there is a search filter panel with the following sections:

- Select Search Type:** A dropdown menu set to "BACT Determinations".
- Search BACT Guidelines for Major Source LAER or Minor Source BACT determinations using publish date and equipment/process type:** A descriptive text.
- Dates:** Fields for "Start" and "End" with calendar icons.
- Equipment/Process Type:** A text input field.
- Equipment/Process Type Detail:** A text input field containing the search term "*flexo*".
- Search and Clear buttons:** Located at the bottom of the filter panel.

The main area shows the search results, titled "Search Results" with a magnifying glass icon. The results are presented in a table with the following columns:

Publication Date	Equipment/Process Type	Part B or D	Equipment/Process Type Detail
2/2/2018	Printing (Graphic Arts)	Minor Source BACT (Part D)	FLEXOGRAPHIC, LETTERPRESS, LITHOGRAPHIC, OFFSET, HEATSET, SCREENPRINTING, ROTOGRAVURE

Add a Work in Progress Section?

Place on AQMD.GOV BACT/SRC Section

Working Progress on Proposed Updates

Major Source BACT/LAER Section I Updates

Category: Gas Turbine - Combined Cycle

- draft determination of AIP #1, 1,769 mmBtu/hr
- draft determination of AIP #2, 680 mmBtu/hr

Category: Gas Turbine- Simple Cycle

- draft determination of AIP, 1,212 mmBtu/hr

Category: Gas Turbine - Landfill Gas Fired

- draft determination of AIP #1, 545 mmBtu/hr

Next Steps

- **Schedule follow up BACT SRC meeting**
- **Continue developing proposed BACT updates**
- **Site visits**