Recent Update to BACT Guidelines & Webpage

Approved @ February 1, 2019 Board Meeting

- Overview, Parts A, B, C, and D
- Maintained consistency with recent changes to SCAQMD rules, State and Federal requirements
- BACT webpage (interactive and User Friendly)
- Referenced Engineering & Permitting policy preventing circumvention of BACT requirement for emission increase of any nonattainment air contaminant, any ozone depleting compound, or ammonia ≥ 1 lb/day within a 5-year period
Proposed Updates to BACT Guidelines

• Administratively change SCAQMD to South Coast AQMD in:
  ➢ Table of Contents, Overview, Parts A, C, D, and E
• Part B, Major Polluting Facilities (LAER/BACT) – Section I
  ➢ New Listings & Updated Listing
• Part C, Policy and Procedures for Non-major Polluting Facilities
  ➢ Update Maximum Cost Effectiveness Criteria in Table 5
• Part D, Non-Major Polluting Facilities (BACT
  ➢ New Listings & Updated Listing
  ➢ Clarification/updates to existing Listings
Part B- LAER/BACT Determination
Section I: New Proposed Listing

Regenerative Thermal Oxidizer, Natural Gas Fired (burner only)

- Achieved In Practice: 1 example
- Source Test showing emission limits compliance
- Control set point for retention chamber at 1400°F
- NOx limit: 30 ppmv on a dry basis @ 3% O2
Part B- LAER/BACT Determination
Section I: New Proposed Listing

Recuperative Thermal Oxidizer, Natural Gas Fired (burner only)

- Achieved In Practice: 1 example
- Source Test showing emission limits compliance
- Control set point for retention chamber at 1400 °F
- NOx limit: 30 ppmv / CO limit: 250 ppmv on a dry basis @ 3% O₂
Part B- LAER/BACT Determination
Section I: New Proposed Listing

Flare - Liquid Transfer and Handling
Marine Loading

Achieved In Practice: 1 example

Source Test showing emission limits compliance

Control set point for retention chamber at 1400 °F

NOx limit: 30 ppmv and CO limit: 10 ppmv on a dry basis @ 3% O₂
Part B- LAER/BACT Determination
Section I: New Proposed Listing

Process Heater – Non-Refinery, Thermal Fluid Heater, Natural Gas Fired

Achieved In Practice: 2 examples

Source Test showing emission limits compliance

NOx limit: 9 ppmv and CO limit: 100 ppmv on a dry basis @ 3% O₂
Part B- LAER/BACT Determination
Section I: New Proposed Listing

I.C. Engine, Stationary, 147 & 385 BHP, Non-Emergency, Electrical Generation with SCR

Achieved In Practice: 2 examples

Source Test showing emission limits compliance

NOx limit: 0.07 lb/MW-hr, VOC limit: 0.10 lb/MW-hr and CO limit: 0.20 lb/MW-hr
Part B- LAER/BACT Determination
Section I: New Proposed Listing

Duct Burner – Refinery Fuel Gas

Achieved In Practice: 1 example

CEMS data showing emission limits compliance

Sulfur limit: 40 ppm, rolling 1-hr avg. period and 30 ppm, rolling 24-hr avg. period
Part B- LAER/BACT Determination
Section I: New Proposed Listing

Aluminum Heat Treating Oven
5.47 MM Btu/hr, Billet Temp < 970°F

Achieved In Practice: 1 example

Source Test showing emission limits compliance

NOx limit: 25 ppmv @ 3% O₂
Part B- LAER/BACT Determination
Section I: Proposed Listing Update

Gas Turbine – Simple Cycle, Natural Gas

Achieved In Practice: 1 example

Source Test showing emission limits compliance

Update NOx limit from 2.5 ppmv to 2.3 ppmv

CO limit: 4 ppmv and NH₃ slip limit: 5 ppmv on a dry basis @ 15% O₂
Part D- BACT Determination
New Proposed Listing

Stationary Non-Emergency Electrical and non-Electrical Engines

Achieved In Practice: examples

Source Test showing emission limits compliance

Ammonia Slip limit: 10 ppm → PM
Baseline → 10 ppm

Cost-effectiveness Evaluation
Part D- BACT Determination
New Proposed Listing

Fermentation, Beer and Wine - Tanks
Closed-Top ≤ 30,000 gallons

- Achieved In Practice: 1 example
  *Santa Barbara APCD*

- Source Test showing emission limits compliance

- For VOC: Water Scrubber or Chiller Condenser with 67% overall control eff. averaged over length of fermentation season

- Cost-effectiveness Evaluation
Part D - BACT Determination
New Proposed Listing

Glass Screen Printing – Flat Glass

Achieved In Practice: 1 example

Source Test showing emission limits compliance

For VOC: Compliance with Rule 1145 or use of Rule 1145 compliant UV/EB or water-based coatings
Part D- BACT Determination
New Proposed Listing

Spray Booth – Wood Cabinets
Encl. with automated spray nozzles

For wood cabinets, < 1170 lbs VOC/month

Achieved In Practice: 1 example

Source Test showing emission limits compliance

For VOC: compliance with Rule 1136 or use of Rule 1136 compliant UV/EB or water-based coatings
Part D- BACT Determination
New Proposed Listing

Regenerative Thermal Oxidizer
Natural Gas Fired (burner only)

- Achieved In Practice: 1 example
- Source Test showing emission limits compliance
- Control set point for retention chamber at 1500 °F
- NOx limit: 30 ppmv and CO limit: 400 ppmv on a dry basis @ 3% O₂
- Cost-effectiveness Evaluation
Part D- BACT Determination
New Proposed Listing

Cannabis Extraction/Processing
Butane and Ethanol

- Achieved In Practice: 2 examples
- Source Test showing emission limits compliance
- For VOC: ≥ 95% recovery {preliminary work in progress}
- Cost-effectiveness Evaluation
Part D- BACT Determination

Updates for Consistency with Rules and Regulations

- **Flare – Produced Gas, Landfill Gas, Organic Liq. Handling & Other Flare Gas**
  - Compliance with Rule 1118.1 for NOx, CO and VOC

- **Fish Reduction – Cooker, Dryer, Digestor, Evaporator and Acidulation Tank**
  - Exempt from Rule 1147
  - Remove NOx requirement

- **Coffee Roasting – Food Oven/Roaster**
  - Exempt from Rule 1147
  - Remove NOx requirement
BACT Technical Assessment

Rule 1118.1 - Control of Emissions from Non-Refinery Flares > Biogas Flares

Rule 1118.1 adopted on January 2019

Resolution directed staff to conduct a BACT Technical Assessment of flares receiving biogas derived from digestion and/or organic waste digestion or co-digestion

Report to Stationary Source Committee within 12 months

Continue to monitor new/existing organic and food waste digestion projects for ammonia NOx impacts

Hold discussions with POTWs on future proposed projects
Thank You.

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