

AB 617 – BARCT Implementation Schedule

Community Advisory Council & Workshop

Santa Barbara County

Air Pollution Control District

Our Mission: To protect the people and the environment of Santa Barbara County from the effects of air pollution.

Aeron Arlin Genet
Director / APCO

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Air Quality Engineer
November 7, 2018



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Air Pollution Control District

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Presentation Overview

- Best Available Retrofit Control Technology (BARCT) Overview
- Assembly Bill (AB) 617
- AB 617 Industrial Sources
- Draft BARCT Implementation Schedule
- Questions and Discussion

BARCT Overview

- “BARCT” means an emission limitation that is based on the **maximum degree** of reduction achievable, taking into account environmental, energy, and economic impacts.
[California Health and Safety Code §40406]
- Air Districts in Serious, Severe, or Extreme nonattainment areas have been adopting BARCT standards for their stationary sources for the last 30 years.
- BARCT is a moving target. As technology progresses, so does the **maximum degree** of reductions achievable.

Assembly Bill (AB) 617

- **January 1, 2019:** All districts that are nonattainment for any pollutant shall adopt an expedited BARCT implementation schedule.
- Santa Barbara County Attainment Status:
 - Nonattainment-Transitional for the state Ozone standard.
 - Nonattainment for the state PM₁₀ standard (particulate matter < 10 microns).
- Implementation Schedule applies to each Industrial Source subject to the state Cap & Trade program.
 - Greater than 25,000 metric tons of greenhouse gases (GHGs).
 - There are six Industrial Sources located in Santa Barbara County.
- **December 31, 2023:** Industrial Sources implement BARCT.

AB 617 Industrial Sources



CARB Tools

- **Pollution Mapping Tool:**

- Allows users to view GHG, criteria and toxic air pollutant emissions from facilities in California.
- Data can be downloaded.
- https://www.arb.ca.gov/ei/tools/pollution_map/pollution_map.htm

- **Technology Clearinghouse:**

- Contains BACT and BARCT determinations from various air districts.
- Each air district able to make its own BARCT determinations.
- <https://www.arb.ca.gov/techclearinghouse/>

Various Source Categories

Internal Combustion Engines



Steam Generators



Oil & Gas Components



Particulate Matter Emissions



Categories That Meet BARCT

Source Category	District Rule #	Meets BARCT?	Limits in Place?	Rule Change Needed?
Boilers (0.075 – 2 MMBtu/hr)	360	Yes	---	No
Oil & Gas Flares and Thermal Oxidizers	359	Yes	---	No
Oil & Gas Storage Tanks and Loading Racks	325-326, 346	Yes	---	No
Oil & Gas Sumps, Pits, and Well Cellars	344	Yes	---	No
Oil & Gas Fugitive ROC Emissions	331	Yes	---	No
Sulfur Oxide Emission Sources	309-311	No	Yes	No

Categories That Don't Meet BARCT

Source Category	District Rule #	Meets BARCT?	Limits in Place?	Rule Change Needed?
Boilers (2 – 5 MMBtu/hr)	361	No	No	Yes
Boilers (5+ MMBtu/hr)	342	No	No	Yes
Reciprocating Internal Combustion Engines	333	No	No	Yes
PM – Process/Fugitive Emissions	302, 304-307	No	No	Yes
Turbines	---	---	No	Yes
Miscellaneous Combustion Sources	---	---	No	Yes

Proposed Implementation Schedule

Rule #	Rule Name	2016 Ozone Plan Schedule	AB 617 Implementation Schedule
361	Boilers, Steam Generators and Process Heaters (Between 2-5 MMBtu/hr)	2018	2019
342	Boilers, Steam Generators and Process Heaters (5 MMBtu/hr and greater)	2018	2019
333	Control of Emissions from Reciprocating Internal Combustion Engines	N/A	2020
363 *	Particulate Matter (PM) Control Devices	N/A	2020
358 *	Stationary Gas Turbines	N/A	2021
362 *	Nitrogen Oxides (NOx) from Miscellaneous Combustion Sources	N/A	2021

* Denotes a new rule.

Rule 361 – Boilers (2-5 MMBtu/hr)

Rule #	Guiding Document	Emission Limits	Equipment Replacement Schedule	Affected Facilities
361	Ozone Plan	9-12 ppm NOx	On install/ modification	All
	AB 617 Schedule	9-12 ppm NOx	1/1/2020	AB 617 only

- Proposed amendments would require AB 617 units to meet the BARCT standard by January 1, 2020.
- Primarily affects ERG and Imerys.
 - Existing compliance date of January 1, 2020 to meet 30 ppm NOx.
 - Not cost-effective to retrofit the units in 2020, and retrofit again in 2023.

Rule 342 – Boilers (5+ MMBtu/hr)

Rule #	Guiding Document	Emission Limits	Equipment Replacement Schedule	Affected Facilities
342	Ozone Plan	5-20 MMBtu/hr: 15 ppm NO _x 20+ MMBtu/hr: 9 ppm NO _x	On install/ modification	All
	AB 617 Schedule	5-20 MMBtu/hr: 15 ppm or lower; 20+ MMBtu/hr: 9 ppm or lower;	12/31/2023	AB 617 only

- Proposed amendments would require AB 617 units to meet the BARCT standard by December 31, 2023.
 - The District will evaluate whether lower limits, such as 9/7 ppm, are feasible.
- Primarily affects ExxonMobil – POPCO, Imerys, and Windset Farms.

Rule 333 – Reciprocating Internal Combustion Engines

Rule #	Guiding Document	Emission Limits	Equipment Replacement Schedule	Affected Facilities
333	Rule 333 (1991)	Rich Burn engines: 50 ppm NO _x	N/A	All
	AB 617 Schedule	Rich Burn engines: 25 ppm NO _x	12/31/2023 or sooner	AB 617 only

- Proposed amendments would:
 - 1) Revise the emission limit to the BARCT standard of 25 ppm NO_x, and
 - 2) Remove the derating exemption for AB 617 facilities.
- Primarily affects PCEC – Orcutt Hill.
 - Engines can achieve 95% NO_x control efficiency or higher using Non-Selective Catalytic Reduction and Air/Fuel Ratio controllers.
 - Amendments wouldn't affect Low-use or Emergency engines.

Rule 363: Particulate Matter (PM) Control Devices

- Proposed amendments would require:
 - 1) A Bag Leak Detection System (BLDS) and a lower emission limit on large baghouses.
 - 2) Best Management Practices on all units.
- Primarily affects Imerys.
 - Does not apply to a unit that has implemented BACT since 2007.
- Additional research during the rule development phase.

Baghouse



Rule 358 - Turbines

- Proposed amendments would require affected units to meet the BARCT standard of 5 ppm NO_x at 15% O₂.
- Primarily affects ExxonMobil – Las Flores Canyon.
 - Gas Turbine and Heat Recovery Steam Generator (HRSG) use Selective Catalytic Reduction (SCR) with ammonia injection.
 - Permit limit allows up to 7.4 ppm NO_x at 15% O₂.
 - Source tests and Continuous Emissions Monitoring Systems (CEMS) demonstrate equipment is capable of achieving 5 ppm NO_x.
- Rule is necessary to enforce the BARCT emission standard.

Rule 362: NO_x from Miscellaneous Combustion Sources

- Proposed amendments would require kilns and dryers to meet the BARCT standard of 60 ppm NO_x at 3% O₂.
 - Rule is applicable to units where the flame or products of combustion come into contact with the process material.
 - Rule is not applicable to emission control equipment. (i.e. Thermal oxidizers, flares, etc.)
- Primarily affects Imerys.
- Additional research during the rule development phase.

Proposed Implementation Schedule

Rule #	Rule Name	AB 617 Schedule	Rationale for Placement in Schedule
361	Boilers, Steam Generators and Process Heaters (Between 2-5 MMBtu/hr)	2019	<ul style="list-style-type: none"> • Ozone Plan commitment • Rule 361: Jan 1, 2020 compliance date
342	Boilers, Steam Generators and Process Heaters (5 MMBtu/hr and greater)	2019	
333	Control of Emissions from Reciprocating Internal Combustion Engines	2020	<ul style="list-style-type: none"> • Prioritize units that have not been modified for greatest period of time • Facilities have multiple units
363	Particulate Matter (PM) Control Devices	2020	
358	Stationary Gas Turbines	2021	<ul style="list-style-type: none"> • Anticipated to have less emission reductions
362	Nitrogen Oxides (NOx) from Miscellaneous Combustion Sources	2021	

Written Comments

- Please submit any written comments by **November 22, 2018**.
- Written comments and responses will be included in the package brought to the Board of Directors.

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