

Proposed Amended Rules

**Rule 361: Boilers, Steam Generators, and Process Heaters
(Between 2 – 5 MMBtu/hr)**

**Rule 342: Boilers, Steam Generators, and Process Heaters
(5 MMBtu/hr and greater)**

**Community Advisory Council
Santa Barbara County
Air Pollution Control District**

**Timothy Mitro
Air Quality Engineer
May 1, 2019**



Outline of the Presentation

- 1) Amendments to the Rules per the 2016 Ozone Plan**
 - Ozone Plan Rule Schedule
 - Rule 361 Proposed Changes
 - Rule 342 Proposed Changes
 - Emission Reductions and Cost-Effectiveness

- 2) Amendments to the Rules per Assembly Bill 617 – BARCT (Best Available Retrofit Control Technology)**

- 3) Rule Development Timeline**

Boiler Source Category

“**Boiler**” means any external combustion equipment that is used to produce steam or to heat water.

Rule 361: 2 – 5 MMBtu/hr



Rule 342: 5+ MMBtu/hr



2016 Ozone Plan



- Santa Barbara County is Nonattainment-Transitional for the state ozone standard.
 - District is required to adopt all feasible measures.
 - The 2016 Ozone Plan has a commitment to amend Rule 361 and Rule 342.
 - Rules were expected to be adopted in 2018.
 - Delayed due to adoption of AB 617 and impact to rules.



2016 OZONE PLAN October 2016

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Aeron Arlin Genet
Air Pollution Control Officer

Rule 361 – Background

- Adopted in January 2008
- Rule 361 applies to units rated between 2 – 5 MMBtu/hr
- Approximately 150 units in the District at 45 stationary sources
 - Located at hospitals, schools, oil & gas facilities
- Current Emission Standards
 - New or modified units: 30 ppm NO_x
 - Existing units: 30 ppm NO_x by January 2020

Rule 361 – Proposed Amendments

Emission Limits for Units Installed On or After January 1, 2020

Fuel Type	NO _x Limit (ppm at 3% O ₂)	CO Limit (ppm at 3% O ₂)
Natural Gas or Field Gas: non-atmospheric	9	400
Natural Gas or Field Gas: atmospheric	12	400
Landfill Gas	25	400
Digester Gas	15	400
Liquefied Petroleum Gas	20	400
All other fuels	30	400

- Required upon installation – not a retrofit requirement.
- Limits are comparable to:
 - South Coast AQMD Rule 1146.1 Adopted in 2008
 - San Joaquin Valley APCD Rule 4307 Adopted in 2008
 - Ventura County APCD Rule 74.15.1 Adopted in 2015

Rule 342 – Background

- Adopted in March 1992
- Rule 342 applies to units rated at 5 MMBtu/hr and greater
- Approximately 60 units in the District at 22 stationary sources
 - Located at hospitals, oil & gas facilities, and manufacturing facilities
- Current Emission Standards
 - Gaseous fired units: 30 ppm NO_x
 - Non-gaseous fired units: 40 ppm NO_x

Rule 342 – Proposed Amendments

Emission Limits for Units Installed On or After January 1, 2020

Rated Heat Input (million Btu/hr)	Fuel Type	NO _x Limit (ppm at 3% O ₂)	CO Limit (ppm at 3% O ₂)
5 - 20	Gaseous, except LFG/digester	9	400
> 20	Gaseous, except LFG/digester	7	400
≥ 5	Landfill Gas	25	400
≥ 5	Digester Gas	15	400
≥ 5	Non-gaseous	40	400
≥ 5	Multiple Fuels	weighted avg	400

- Required upon installation - not a retrofit requirement.
- Limits are comparable to:
 - South Coast AQMD Rule 1146 Adopted in 2008
 - San Joaquin Valley APCD Rule 4320 Adopted in 2008

Rule 361 & 342 – Other Changes

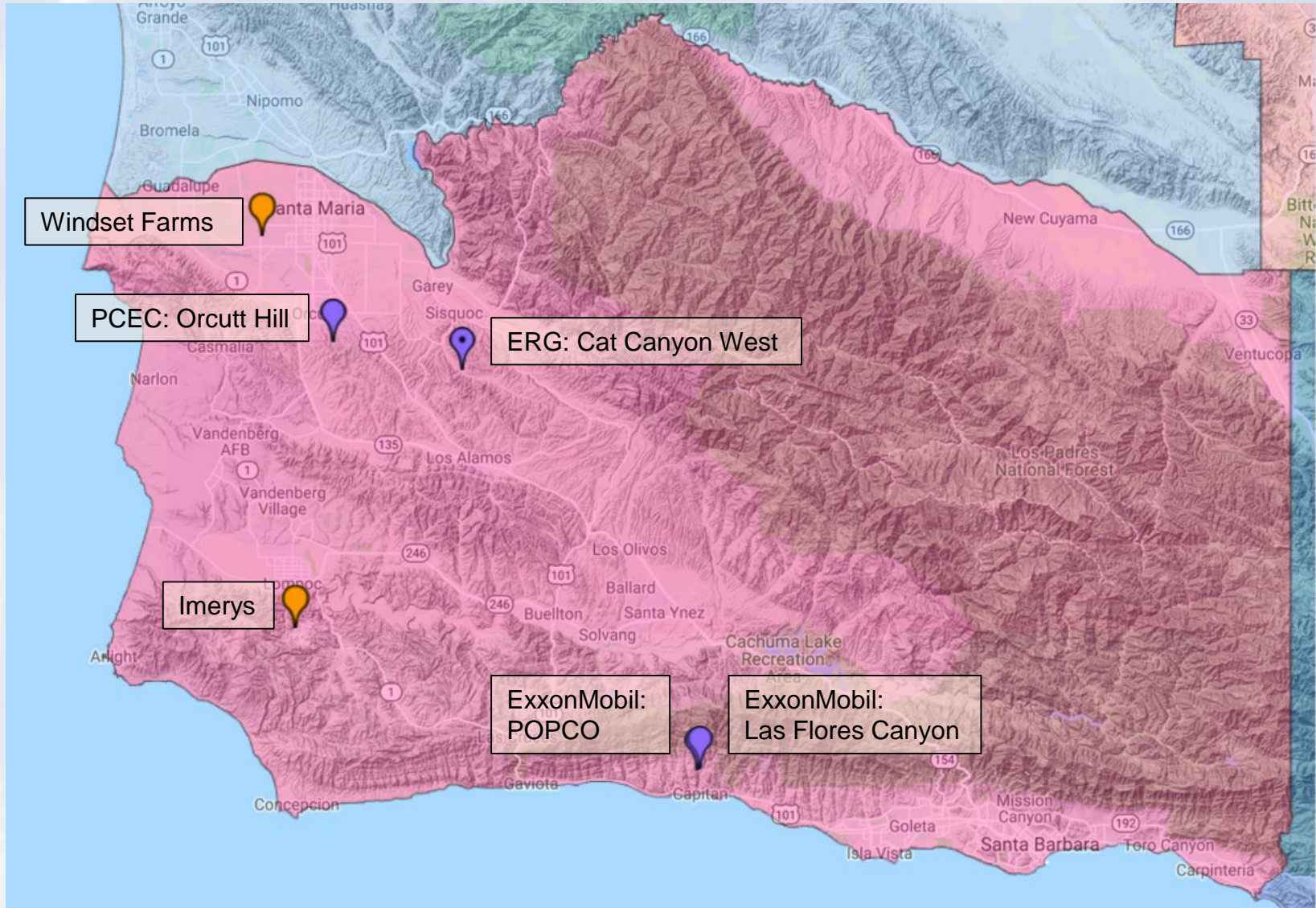
- Added new definitions
 - **Rule 361:** Fuel Types, Startup and Shutdown, Atmospheric Unit
 - **Rule 342:** Fuel Types, Startup and Shutdown, Modification
- Reorganized sections and removed obsolete language
- Tune-up Procedures
 - **Rule 361:** References the South Coast AQMD Combustion Gas Periodic Monitoring Protocol (May 1, 2009)
 - **Rule 342:** Added Natural Draft tune-up procedure

Rule 361 & Rule 342

- **Emission Reductions**
 - Reduces NO_x by approx. 16 tons per year at full implementation.
 - Reductions will occur with unit turnover.
- **Cost-Effectiveness**
 - Includes capital costs and operation & maintenance costs

Unit Size (MMBtu/hr)	Cost-Effectiveness (\$/ton NO_x)
2	\$20,800
5	\$14,700
10	\$19,700
20	\$16,000
50	\$12,000

AB 617 Industrial Sources



AB 617 BARCT Rule Schedule

- **January 1, 2019:** All districts that are nonattainment need to adopt an expedited rule development schedule that implements Best Available Retrofit Control Technology (BARCT) by the earliest feasible date.
- BARCT requirements apply to each Industrial Source subject to the state Cap & Trade program.
 - Greater than 25,000 metric tons of greenhouse gases (GHGs).
 - There are six AB 617 Industrial Sources located in SB County.
- Rule 361 and Rule 342 identified on the District's BARCT rule development schedule, as adopted in Dec. 2018.

AB 617 BARCT Emission Limits

- “BARCT” means an emission limitation that is based on the **maximum degree** of reduction achievable, taking into account environmental, energy, and economic impacts.

Rule 361 & Rule 342 – BARCT

Rated Heat Input (million Btu/hr)	Fuel Type	NO _x Limit (ppm at 3% O ₂)
Between 2 – 5	Natural Gas/Field Gas: atmospheric	12
Between 2 – 5	Natural Gas/Field Gas: non-atmospheric	9
5 – 20	Gaseous, except LFG/digester	9
> 20	Gaseous, except LFG/digester	7

Meeting these standards will require some units to be retrofitted.

Rule 361 – BARCT Amendments

- Affected units:

AB 617 Industrial Source	Device Name	Rated Heat Input (MMBtu/hr)
ERG	Process Heater #1 & #2	4.8
	Heater Treater	4.9
Imerys	Package Boiler	3.8

- Existing requirement: 30 ppm NO_x by January 1, 2020
- Proposed revisions require BARCT (9 or 12 ppm NO_x) no later than 1 year after rule adoption.
- ATC permit required 3 months after rule adoption.

Rule 342 – BARCT Amendments

- Affected units:

AB 617 Industrial Source	Device Name	Rated Heat Input (MMBtu/hr)
Windset Farms	Boilers #1 - 6	38.4 - 42.7
Imerys	Main Boiler	23
	Standby Boiler	15.5
POPCO	Boiler A & B	41
PCEC	Portable Steam Generator	23
	SG-100, 300, 400	62.5
ERG	Steam Generator #1 & 2	85

- Proposed revisions require BARCT (9 or 7 ppm NO_x) no later than Dec 31, 2023.
- Windset Farms' CO₂ dosing process
 - Alternative emission limits: 30 ppm NO_x & 10 ppm CO at 3% O₂

Rule Development Timeline

- **March 14, 2019:** Public Workshop
- **March 28, 2019:** Provide written comments
- **May 1, 2019:** Community Advisory Council
- **Tentative - June 20, 2019:** Board Hearing
 - 30-day public notice required prior to the Board Hearing
 - Public comments can be submitted prior to or at the hearing

Next Steps

- **Questions and Discussion**
- **CAC Consideration and Recommendation**
- **Bring the Rule Package to the District Board**