

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)**

Public Workshop Santa Barbara County Air Pollution Control District

Timothy Mitro
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March 14, 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
- Rule Development Timeline

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

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



2016 OZONE PLAN October 2016

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Air Pollution Control Officer

- 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.

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 Changes

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 361 – Proposed Changes

- Added new definitions
 - Fuel Types, Atmospheric Unit, Startup and Shutdown
- Removed obsolete language
- Reorganization
 - Reformatted the emission requirements in D.1 into a Table
 - Moved Recordkeeping and Reporting closer to the end
- Tune-up Procedures
 - References the South Coast AQMD Combustion Gas Periodic Monitoring Protocol (May 1, 2009)

Rule 361 – Question Break

Question Break

???

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 Changes

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 342 – Proposed Changes

- Added new definitions
 - Fuel Types, Modification, Startup and Shutdown
- Removed obsolete language
- Updated the Recordkeeping and Reporting sections to be similar to Rule 361
- Tune-up Procedures
 - Added Natural Draft tune-up procedure

Rule 361 & Rule 342

- **Emission Reductions**
 - Reduces NO_x by approx. 17 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 |

Rule Development Timeline

- **March 14, 2019:** Public Workshop
- **March 28, 2019:** Provide written comments
- **Tentative - Late April 2019:** Community Advisory Council
 - Typically held in Buellton
 - Staff Report will be released prior to the event
- **Tentative - June 20, 2019:** Board Hearing

Ozone Plan – Questions?

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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 Santa Barbara County.
- Rule 361 and Rule 342 identified on the District's BARCT rule development schedule, which was 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 – Proposed Changes

- 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 requirements: 30 ppm NOx by January 1, 2020
- Proposed revisions require BARCT no later than 1 year after rule adoption.
- ATC permit required 3 months after rule adoption.

Rule 342 – Proposed Changes

- 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 no later than Dec 31, 2023.
- ATC permit will be required by January 30, 2023.
- Windset Farms will have to submit a Rule 342 Compliance Plan.

AB 617 BARCT – Questions?

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Written comments requested by **March 28, 2019.**