Proposed Amended Rule 360

Boilers, Water Heaters, and Process Heaters
(0.075 – 2 MMBtu/hr)

Public Workshop
Santa Barbara County
Air Pollution Control District

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Air Quality Engineer
November 1, 2017
Rule 360 Background

- Rule 360 was adopted in October 2002
- Applicable to units that have a heat input of 0.075 – 2 MMBtu/hr

- Estimated 1,885 units in the District
  - Located at restaurants, laundromats, office buildings, etc.
  - Most units are not permitted by the District. [Rule 202.G.1]

- “Point of Sale” rule
- Manufacturer certifies a model to meet a NOx emission limit
  - Most models already have South Coast AQMD certification
  - Alternatively, may request Santa Barbara APCD certification
Recent History

• Since 2002, there have been improvements in burner technologies that can reduce NOx emissions even further.

• SCAQMD revised their equivalent Rule 1146.2 in 2006
  – Many other Air Districts have lowered their NOx limits as well

• The District’s 2016 Ozone Plan had a commitment to further reduce NOx emissions from these Rule 360 units.
Proposed Changes

• Lowering the NOx emission limit for natural gas units from 55 or 30 ppm down to 20 ppm.

• Adding exemptions for:
  – recreational vehicles,
  – manufactured homes,
  – hot water pressure washers, and
  – portable water heaters used for underwater diving activities.
Proposed Changes

- **Definition of “Modify”**
  - Replacing a burner or burners on a unit; or
  - Removing a unit from the site of its original installation and installing it at a different location. A unit that is reinstalled within the same stationary source is not modified.

- Clarifying that we accept the SCAQMD certifications

- Clarifying the applicable testing requirements.
## Table 1: Emission Limits Effective 10/17/2003 Until 12/31/2018

<table>
<thead>
<tr>
<th>Type and Size of Unit</th>
<th>NOx Limit</th>
<th>CO Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>All units: 75,000 – 400,000 Btu/hr</td>
<td>55 ppm</td>
<td>N/A</td>
</tr>
<tr>
<td>All units: &gt;400,000 – 2,000,000 Btu/hr</td>
<td>30 ppm</td>
<td>400 ppm</td>
</tr>
</tbody>
</table>

## Table 2: Emission Limits Effective On or After 1/1/2019

<table>
<thead>
<tr>
<th>Type and Size of Unit</th>
<th>NOx Limit</th>
<th>CO Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pool heaters: 75,000 – 400,000 Btu/hr</td>
<td>55 ppm</td>
<td>55 ppm</td>
</tr>
<tr>
<td>All units, except pool heaters: 75,000 – 400,000 Btu/hr</td>
<td>20 ppm</td>
<td>55 ppm</td>
</tr>
<tr>
<td>All units: &gt;400,000 – 2,000,000 Btu/hr</td>
<td>20 ppm</td>
<td>30 ppm</td>
</tr>
</tbody>
</table>
Cost Effectiveness

<table>
<thead>
<tr>
<th>Unit Size</th>
<th>Capital Cost</th>
<th>Incremental Cost</th>
<th>New Cost: Post-Revision</th>
<th>Cost Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.075 MMBtu/hr</td>
<td>$1,500</td>
<td>$100</td>
<td>$1,600</td>
<td>$2,800/ton</td>
</tr>
<tr>
<td>2 MMBtu/hr</td>
<td>$18,000</td>
<td>$3,000</td>
<td>$21,000</td>
<td>$11,300/ton</td>
</tr>
</tbody>
</table>

- **Rule 360 Emission Inventory**
  - Reduces NOx from 45 tpy to 24 tpy at full implementation
  - Reductions will occur over the next 20 years.
Rule Development Timeline

• **11/1/2017**: Public Workshop
  – We are looking for written comments by 11/15/2017

• **December 2017**: Community Advisory Council (CAC)
  – Held at the Santa Ynez Valley Marriott in Buellton

• **March 2018**: Board Hearing
Questions?

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