PROPOSED AMENDED RULE 1111
PUBLIC WORKSHOP

NOVEMBER 14, 2019
SOUTH COAST AQMD
DIAMOND BAR, CA
During the November 1, 2019 Board meeting, concerns were raised by installers from the San Bernardino Mountain area regarding:

- Limited availability of compliant (14 ng/J NOx) furnaces for high altitude applications
- Potential public health and safety issues resulting from the lack of available compliant furnaces

To develop proposed amendments to Rule 1111 - Reduction of NOx Emissions from Natural Gas-Fired Fan-Type Central Furnaces in order to allow additional time for furnace manufacturers to develop high altitude kits and guidance for compliant 14 ng/J units.

Enforcement discretion and interim product variances were put in place to ensure no gap in availability of high altitude furnaces during rulemaking.
PAR 1111 - Background

Rule applies to manufacturers, distributors, sellers, and installers of residential and commercial natural gas-fired fan-type central furnaces

- First adopted and established **40 ng/J NOx** emission limit
- Technology development prototype furnaces demonstrated **14 ng/J NOx** limit is feasible
- Extended and increased mitigation fee to allow manufacturers additional time
- Final compliance date for condensing and noncondensing furnaces

**Timeline:**
- **Dec 1978**: Initial adoption
- **Nov 2009**: Period of technology development
- **2010 to 2013**: Demonstrated feasibility
- **Sept 2014**: Rule amended to delay compliance date and added mitigation fee
- **Mar 2018**: Extended and increased mitigation fee
- **Oct 2019**: Final compliance date for condensing and noncondensing furnaces

**Amendments:**
- **Amended R1111**: Required **14 ng/J NOx** emission limit by 2014
- **Rule 1111 amended**: to delay compliance date and added mitigation fee
- **Monthly calls with manufacturers**: to discuss any issues with Oct. 1, 2019 compliance date
High Altitude Installations

2nd Week of Sept
- Staff was informed that compliant (14 ng/J NOx) units for high altitude areas (≥4,500 feet) may not be available
- Staff called furnace manufacturers to confirm

3rd Week of Sept
- Confirmed no compliant (14 ng/J NOx) furnaces for high altitude (≥4,500 feet) areas
- Two manufacturers were scheduling high altitude testing

4th Week of Sept
- Staff developed interim process to provide temporary relief
  - High altitude installation request form
  - Discussed Product Variance with furnace manufacturers for high altitude areas

1st Week of Oct
- 40 ng/J furnaces could be installed in high altitude areas using the interim process (no gap in availability of high altitude furnaces)
- Staff continued working with manufacturers to encourage petitioning for a product variance

Final Compliance Date for Condensing and Noncondensing Furnaces
### Current Status of Product Variances

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Interim Product Variance Granted</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrier Corporation</td>
<td>Interim Product Variance</td>
<td>Oct. 24, 2019</td>
</tr>
<tr>
<td>Goodman Manufacturing</td>
<td>Interim Product Variance</td>
<td>Oct. 23, 2019</td>
</tr>
<tr>
<td>Trane Inc.</td>
<td>Interim Product Variance</td>
<td>Oct. 23, 2019</td>
</tr>
<tr>
<td>Johnson Controls, Inc</td>
<td>Interim Product Variance</td>
<td>Nov. 12, 2019</td>
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</tbody>
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No high altitude installation requests were received for these three manufacturers during interim process.
## Comparison of Proposed Amended Rule 1111 and Variance

<table>
<thead>
<tr>
<th></th>
<th>Rule Amendment</th>
<th>Variance</th>
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</thead>
<tbody>
<tr>
<td><strong>Manufacturer Applicability</strong></td>
<td>✓ All furnace manufacturers</td>
<td>✓ Only those manufacturers who are granted a product variance</td>
</tr>
<tr>
<td><strong>Supply Chain Applicability</strong></td>
<td>✓ Relief for entire supply chain</td>
<td></td>
</tr>
<tr>
<td><strong>Mitigation Fee</strong></td>
<td>✓ No Mitigation Fee</td>
<td>✓ Mitigation fee applies to those with product variance</td>
</tr>
<tr>
<td><strong>Elevation</strong></td>
<td>✓ ≥4,200 feet above sea level</td>
<td>✓ ≥4,500 feet above sea level*</td>
</tr>
<tr>
<td><strong>Recordkeeping</strong></td>
<td>✓ Required from manufacturer, distributor, and installer</td>
<td>✓ Required from manufacturer (to obtain from distributor and installer)</td>
</tr>
<tr>
<td><strong>Duration of Relief</strong></td>
<td>✓ October 1, 2020</td>
<td>✓ Different for each manufacturer or when there is a comparable available compliant (14 ng/J NOx) unit</td>
</tr>
<tr>
<td><strong>Approval</strong></td>
<td>✓ Governing Board</td>
<td>✓ Hearing Board</td>
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* Additional conditions for units between 4,500 and 5,000 feet above sea level
Status of High Altitude Kits and Guidance for Compliant Furnaces (14 ng/J)

- Process for high altitude furnaces
  - Test 14 ng/J furnaces at high altitudes (same units available at lower elevations)
  - Develop guidance for high altitude operation
  - Develop high altitude kits (e.g., gas valves for fuel/air ratio), if needed

- Four manufacturers testified during variance hearings that anticipate guidance/kits to be available between February to September 2020
Proposed Amended Rule 1111

- Allow all manufacturers to sell non-compliant (40 ng/J NOx) units in high altitude (≥4,200 feet above sea level) areas until October 1, 2020
- Require manufacturers, distributors, and installers to track and report the sales and installations of 40 ng/J furnaces
Future Assessments

- Spring 2020, staff will hold a public meeting to gather input on development of:
  - Compliant 14 ng/J high altitude furnaces
  - Weatherized furnaces – compliance date October 1, 2020
  - Overall implementation of Rule 1111
- May 2020 provide an update to the Stationary Source Committee on information gathered from public meetings
Upcoming Public Meetings

- Stationary Source Committee: November 15, 2019
- Public Consultation (Lake Arrowhead): November 21, 2019
- End of Public Workshop Comment Period: November 22, 2019
- Public Hearing: December 6, 2019
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