AQMP Advisory Group

November 21, 2019

Cleaning The Air That We Breathe...
Agenda

1. Welcome, Introductions, Minutes, and 2016 AQMP Updates
2. Contingency Measure Plan for the 1997 8-Hour Ozone Standard in the South Coast Air Basin
3. Overview of Draft Connect SoCal – 2020 Regional Transportation Plan/Sustainable Communities Strategy
Welcome, Introductions, Minutes, and 2016 AQMP Updates
2016 Air Quality Management Plan (AQMP)

- Approved by the South Coast AQMD Governing Board in March 2017
- Integrated plan addressing multiple National Ambient Air Quality Standards (NAAQS)

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Standard</th>
<th>South Coast Classification</th>
<th>Coachella Valley Classification</th>
<th>SIP Submittal Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008 8-hour Ozone</td>
<td>75 ppb</td>
<td>Extreme</td>
<td>Severe</td>
<td>July 20, 2016</td>
</tr>
<tr>
<td>2012 Annual PM2.5</td>
<td>12 µg/m³</td>
<td>Serious</td>
<td>Unclassifiable/Attainment</td>
<td>October 15, 2016</td>
</tr>
<tr>
<td>2006 24-hour PM2.5</td>
<td>35 µg/m³</td>
<td>Serious</td>
<td>Unclassifiable/Attainment</td>
<td>August 12, 2017</td>
</tr>
<tr>
<td>1997 8-hour Ozone</td>
<td>80 ppb</td>
<td>Extreme</td>
<td>Extreme*</td>
<td>SIP Update to 2007 AQMP</td>
</tr>
<tr>
<td>1979 1-hour Ozone</td>
<td>120 ppb</td>
<td>Extreme</td>
<td>Attainment</td>
<td>SIP Update to 2003 AQMP</td>
</tr>
</tbody>
</table>

*Voluntary reclassification from severe to extreme in September 2019*
### 2016 AQMP - EPA Actions for the South Coast Air Basin

<table>
<thead>
<tr>
<th>Standards</th>
<th>EPA Actions</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1979 1-hour Ozone (120 ppb)</td>
<td>• Approved most plan elements;</td>
<td>Effective Oct. 31, 2019; 84 FR 52005</td>
</tr>
<tr>
<td></td>
<td>• Conditional approval* for the reasonable further progress contingency measure requirement</td>
<td></td>
</tr>
<tr>
<td>1997 8-hour Ozone (80 ppb)</td>
<td>• Approved most plan elements;</td>
<td>Effective Mar. 14, 2019; 84 FR 3305</td>
</tr>
<tr>
<td></td>
<td>• Did not propose any action on the attainment contingency component</td>
<td></td>
</tr>
<tr>
<td>2008 8-hour Ozone (75 ppb)</td>
<td>• No actions yet; deemed complete by default</td>
<td></td>
</tr>
<tr>
<td>2006 24-hour PM2.5 (35 µg/m3)</td>
<td>• Approved most plan elements;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Did not propose any action on the attainment contingency component</td>
<td></td>
</tr>
<tr>
<td>2012 Annual PM2.5 (12 µg/m3)</td>
<td>• No actions yet; deemed complete by default</td>
<td></td>
</tr>
</tbody>
</table>

*Relied on South Coast AQMD’s commitment to modify an existing rule or rules, or adopt a new rule(s), that would provide for additional emissions reductions.*
Agenda Item #2

Contingency Measure Plan for the 1997 8-Hour Ozone Standard in the South Coast Air Basin
South Coast Air Basin – Extreme nonattainment area with an attainment date of June 15, 2024

- 2007 AQMP - Initial submission of State Implementation Plan (SIP)
- 2016 AQMP Control Strategy Update
  - Defined measures
  - Further Deployment of Cleaner Technologies measures
    - Approved by U.S. EPA under section 182(e)(5) (i.e. black box)
- Contingency measures required for section 182(e)(5) reductions three years prior to implementation of plan provisions (i.e., 2023 attainment date)
- Draft Final Contingency Measure Plan prepared by South Coast AQMD and CARB
Progress in Overall NOx Reductions Since 1997

- 1997 Baseline - 1144 tons per day
- 2012 Baseline - 524 tons per day
- 2023 Baseline – 269 tons per day
- 2023 Carrying Capacity – 141 tons per day

Last remaining 11% reductions needed
### 2016 AQMP - Overall Control Strategy (NOx)

<table>
<thead>
<tr>
<th>Sources</th>
<th>NOx (tpd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 2023 Baseline(^1)</td>
<td>269</td>
</tr>
<tr>
<td>Carrying Capacity</td>
<td>141</td>
</tr>
<tr>
<td><strong>Total Emission Reductions (All Measures):</strong></td>
<td>135</td>
</tr>
<tr>
<td>Defined Measures:</td>
<td>27</td>
</tr>
<tr>
<td>South Coast AQMD Stationary Source Control Measures</td>
<td>7</td>
</tr>
<tr>
<td>South Coast AQMD Additional Mobile Source Control Measures</td>
<td>16</td>
</tr>
<tr>
<td>CARB Defined Measures</td>
<td>4</td>
</tr>
<tr>
<td>Further Deployment of Cleaner Technologies</td>
<td>108</td>
</tr>
<tr>
<td>Set Aside Budget(^2)</td>
<td>3</td>
</tr>
<tr>
<td><strong>2023 Remaining Emissions</strong></td>
<td>137(^3)</td>
</tr>
</tbody>
</table>

\(^1\) Reflects CARB’s 2018 Updates to the California State Implementation Plan  
\(^2\) As SIP reserve for potential technology assessment and for general conformity purposes  
\(^3\) Reflects an additional 4.2 tons per day of NOx emission reductions beyond the projected carrying capacity of 141 tons per day to accommodate changes in ocean-going vessel (OGV) emission inventory and CARB’s SIP strategy for OGV.
CAA Section 182(e)(5) for Extreme Non-Attainment Areas

- Allows for reliance on emission reductions from anticipated new technologies or improvement of existing technologies
- EPA approved Further Deployment measures in the 2016 AQMP under section 182(e)(5) – 108 tpd
- Contingency measures required 3 years prior to implementation of plan provisions (i.e., 2023 attainment date)
  - Provide full reductions assigned to 182(e)(5) measures
Draft Final Contingency Measure Plan

- Identified Emission Reduction Strategies
- Additional Incentive Funding
- Federal Measures/Responsibilities
## Identified Emission Reduction Strategies

<table>
<thead>
<tr>
<th>Measures Description</th>
<th>Agency</th>
<th>NOx Reductions (tpd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECLAIM BARCT Rules</td>
<td>South Coast AQMD</td>
<td>2</td>
</tr>
<tr>
<td>Ports MOU</td>
<td>South Coast AQMD</td>
<td>3.2 – 5.2</td>
</tr>
<tr>
<td>Airports MOU</td>
<td>South Coast AQMD</td>
<td>0.5</td>
</tr>
<tr>
<td>Metrolink Locomotives</td>
<td>South Coast AQMD</td>
<td>3</td>
</tr>
<tr>
<td>Funding Incentives (Expected Future Funding)</td>
<td>South Coast AQMD</td>
<td>1.5</td>
</tr>
<tr>
<td>Low Carbon Fuel Standard and Alternative Diesel Fuels Regulation</td>
<td>CARB</td>
<td>1.7</td>
</tr>
<tr>
<td>ATCM for Portable Engines, and the Statewide Portable Equipment Registration Program</td>
<td>CARB</td>
<td>0.25</td>
</tr>
<tr>
<td>HD Inspection and Maintenance (I/M) program</td>
<td>CARB</td>
<td>4.2</td>
</tr>
<tr>
<td>Innovative New Measures</td>
<td>CARB</td>
<td>3.0</td>
</tr>
</tbody>
</table>

**Total Reductions Towards 182(e)(5) Commitment**

24 – 26 tpd

*Estimated reductions including 4.2 tons per day of reductions associated with updated OGV emissions inventory and CARB’s SIP Strategy for OGV.
CARB’s Innovative New Measures (3 tpd)

- Tier 5 Off-Road Diesel Engine Standard
- State Green Contracting
- Reduction in Single-Occupancy Vehicle Travel Growth
- Locomotive Emission Reduction Measure
- VMT and Land Conservation
- Regional VMT Reductions
- Co-Benefits of Climate Change Scoping Plan Building Electrification
Additional Incentive Funding

- **2016 AQMP**
  - Estimated need over $1 billion per year over 14 years
  - Current effort will update this estimate based on latest information

- **Expected Future Funding (approximately $800 M over 4 years)**
  - AB 617-Related Incentives – $80-90 M/yr.
  - Carl Moyer - $40-50 M/yr.
  - Prop 1B - $30 M
  - VW Settlement - $67 M
  - AB2766 Subvention Fund - $22 M/yr.
  - Mobile Source Air Pollution Reduction Review Committee - $17 M/yr.

- **Additional Funding Needed**
  - Voting District Authorization Legislation - $1.4 B/yr.
  - Other Mechanisms - TBD
  - Expected 2023 NOx Reductions: 15 tons per day
Emission Trends for Major Sources

- Light and Medium Duty Vehicles
- Heavy-Duty Vehicles and Buses
- Commercial Harbor Craft, Recreational Boats, and Off Road
- Stationary and Area Sources
- Aircraft, Ocean Going Vessels and Trains

NOx Emissions (Tons per Day)

- 1997
- 1999
- 2001
- 2003
- 2005
- 2007
- 2009
- 2011
- 2013
- 2015
- 2017
- 2019
- 2021
- 2023
Contribution of Federal Sources (2023 NOx emissions)

Federal Sources 36%*

- California On-Road Mobile Sources 26%
- California Off-Road Mobile Sources 19%
- Stationary 15%
- Areawide 4%
- Aircraft 6%
- Trains 6%
- Federal On-Road Mobile Sources 7%
- Ocean Going Vessels 14%
- Federal Off-Road Mobile Sources 3%

* Includes international sources under the responsibility of federal government
### Potential Federal Measures

<table>
<thead>
<tr>
<th>Measures</th>
<th>Measure Description</th>
<th>2023 NOx Reductions (tpd)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low-NOx Heavy-Duty Vehicles</strong></td>
<td>Heavy-duty vehicles (above 14,000 lbs. GVWR) powered by low-NOx engines in 2023</td>
<td>Up to 35</td>
</tr>
<tr>
<td><strong>Low-NOx Ocean-Going Vessels</strong></td>
<td>Ocean-going vessels coming to California powered by Tier 3 engines in 2023</td>
<td>Up to 28</td>
</tr>
<tr>
<td><strong>Low-NOx Locomotives</strong></td>
<td>Locomotives coming to California powered by Tier 4 engines in 2023</td>
<td>Up to 11</td>
</tr>
<tr>
<td><strong>Low-NOx Aircraft</strong></td>
<td>Aircraft NOx reductions assumption of 20% if emissions are held at 2012 levels.</td>
<td>Up to 4</td>
</tr>
</tbody>
</table>

**Total Possible Reductions Towards Further Deployment Commitment**  
Up to 78
Contingency Measure Plan for Further Deployment Reductions

<table>
<thead>
<tr>
<th>Strategy</th>
<th>2023 Reductions (tpd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identified Emissions Reduction Strategies</td>
<td>24 – 26</td>
</tr>
<tr>
<td>Additional Incentive Funding</td>
<td>15</td>
</tr>
<tr>
<td>Federal Measures and / or Funding</td>
<td>67 – 69</td>
</tr>
<tr>
<td><strong>All Strategies</strong></td>
<td><strong>108</strong></td>
</tr>
</tbody>
</table>
### Key Public Comments

<table>
<thead>
<tr>
<th>Comments</th>
<th>Staff Responses</th>
</tr>
</thead>
</table>
| 1 Concerns about funding availability              | • Staff to continue to pursue funding opportunities locally and with the state legislature  
 • May utilize the remaining reductions from federal measures (a total of 78 tpd) if the anticipated funding does not fully materialize |
| 2 Zero emission technologies for residential sector and co-benefits for climate goals | • Net Emissions Analysis Tool (NEAT) developed to estimate changes in emissions and costs associated with deployment of zero and near-zero emission technologies for residential applications  
 • Continue to implement 2016 AQMP measures through replacing existing appliances with zero or near-zero NOx emissions technologies in residential and commercial sectors  
   ✓ $47 M incentive funding for projects awarded in January 2019  
   ▪ $14 M for 9 projects in residential and commercial sectors  
   ✓ Potential for rulemaking in 2020-2022  
 • CARB is accounting for co-benefits of 2017 Climate Change scoping plan |
### Key Public Comments (cont.)

<table>
<thead>
<tr>
<th>Comment</th>
<th>Staff Responses</th>
</tr>
</thead>
</table>
| **Emissions from transportation sector and transportation planning**    | • Emission benefits for transportation control measures are included in the 2016 AQMP  
• Staff will work with SCAG and other stakeholders on the next Regional Transportation Plan (RTP) for inclusion in the 2022 AQMP                                        |
| **Timing for Sanctions**                                                | • Sanction clock timelines and potential actions provided and summary was posted on AQMP website                                                                                                               |
CAA Statutory Timeline for Sanction Clocks

**Plan due to U.S. EPA**
- Dec. 31, 2019
- Up to 6 Months

**U.S. EPA has 6 months to make completeness finding**
- June 2020

**Up to 12 Months from Completeness Finding**
- July 2021

**Ruling**
- U.S. EPA approves or disapproves plan

**First Sanction**
- U.S. EPA to implement increased offset ratio

**IMPLEMENTED AFTER DISAPPROVAL RULING**
- Dec. 31, 2019 (Up to 18 Months from Disapproval)
- January 2023 (Up to 24 Months from Disapproval)

**Second Sanctions**
- U.S. EPA to impose highway sanctions and implement a Federal Implementation Plan

- July 2023

*Note: Timeline is illustrative and may not represent exact dates or durations.*
### CAA Sanctions

<table>
<thead>
<tr>
<th>Increased Offset Ratio</th>
<th>Federal Implementation Plan (FIP)</th>
<th>Federal measures may include:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>New Source Review:</strong></td>
<td><strong>FIP</strong></td>
<td><strong>No-drive days</strong></td>
</tr>
<tr>
<td>• Current offset ratio is 1.2 to 1</td>
<td><strong>Emission caps for airlines, marine vessels and railroads</strong></td>
<td><strong>Emission caps for airlines, marine vessels and railroads</strong></td>
</tr>
<tr>
<td>• Offset ratio will be increased to 2 to 1 for new and modified major sources of ozone precursors (VOC and NOx)</td>
<td><strong>Gas rationing</strong></td>
<td><strong>Gas rationing</strong></td>
</tr>
</tbody>
</table>

### Federal Implementation Plan (FIP)

- No-drive days
- Emission caps for airlines, marine vessels and railroads
- Gas rationing

### Highway Funding

- Highway funding will be cutoff
- Funds for transit and certain safety projects may continue

- The sanctions and FIP are removed only when plan meets U.S. EPA’s expectations and is subsequently approved
A Call to Action

- California is doing all we can to reduce emissions with current funding and authority
- All levels of government need to take action to reduce emissions
- More incentive funding is needed to accelerate turn over of existing fleet to cleaner technologies to meet air quality standards
- Federal action is absolutely needed on sources California cannot address
Agenda Item #3

Overview of Draft Connect SoCal – 2020 Regional Transportation Plan/Sustainable Communities Strategy