Coachella Valley Extreme Area Plan for 1997 8-hour Ozone Standard

Public Consultation Meeting

September 25, 2020

South Coast Air Quality Management District

- Local air pollution control agency
  - Largest of the 35 local air agencies in CA and in the U.S.
  - 10,743 square miles
  - 17 million residents

- Responsibilities
  - Regulate emissions from stationary sources
  - Develop and implement plans to meet national air quality standards
  - Permit and inspect 28,400 affected businesses
  - Administer over $100 million of incentive funding annually
Air Basins under South Coast AQMD

Ozone National Ambient Air Quality Standards

Coachella Valley Attainment Status

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Averaging Time</th>
<th>Designation</th>
<th>Attainment Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ozone (O₃)</td>
<td>(1979) 1-Hour (0.12 ppm)</td>
<td>Attainment</td>
<td>11/15/2007 (attained 12/31/2013)</td>
</tr>
<tr>
<td></td>
<td>(1997) 8-Hour (0.08 ppm)</td>
<td>Nonattainment (Extreme)</td>
<td>6/15/2024</td>
</tr>
<tr>
<td></td>
<td>(2008) 8-Hour (0.075 ppm)</td>
<td>Nonattainment (Severe)</td>
<td>7/20/2027</td>
</tr>
<tr>
<td></td>
<td>(2015) 8-Hour (0.070 ppm)</td>
<td>Nonattainment (Severe)</td>
<td>8/3/2033</td>
</tr>
</tbody>
</table>
Ozone Formation

**VOC + NOx → Ozone**

Temperature & Humidity

Mixing with Upper Atmosphere

VOC, NOx, and Ozone transport into CV

VOC, NOx, and Ozone transport out of CV

Factors that Influence Ozone Levels

**NOx & VOC Emissions**

Adapted from epa.gov

NOx & VOC Emissions

Mixing and Ventilation

Season

https://sparetheairofs.weebly.com/inversions.html

Temperature

National Weather Service San Diego Office

VOC = Volatile Organic Compounds; NOx = Oxides of Nitrogen
Air Quality Setting

- Ozone exceedances in Coachella Valley are primarily due to the direct transport of ozone and its precursors from the South Coast Air Basin.

![Diagram showing transport of pollutants from South Coast Air Basin to Coachella Valley](image)

Attainment Determination Based on Design Value

- Ozone design value is the average of each year’s 99th percentile over a three year period.

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>99th percentile (4th highest) 8-hr daily max</td>
<td>99th percentile (4th highest) 8-hr daily max</td>
<td>99th percentile (4th highest) 8-hr daily max</td>
</tr>
</tbody>
</table>

Average = Design value
Ozone Trend in Coachella Valley (Design Value)

The 1997 standard of 0.08 ppm becomes 0.084 ppm or 84 ppb when rounding.

Ozone Trend in Coachella Valley (Number of Exceedance Days)

In 2019, 4th high is below the standard (99th percentile).
1997 8-hour Ozone Attainment Status

• Coachella Valley was previously classified as a “Severe” nonattainment area, with an attainment date of June 15, 2019
  • Monitoring data (2016-2018) showed that the area did not attain the standard by the deadline
• On July 10, 2019, Coachella Valley was granted a voluntary reclassification from “Severe” to “Extreme” by the U.S. EPA
  • New attainment date is June 15, 2024
  • A revision to the State Implementation Plan (SIP) is required (due February 2021)
  • Stricter permitting requirements on stationary sources (lower major source threshold)

Local Emissions Trends in Coachella Valley

<table>
<thead>
<tr>
<th></th>
<th>NOX</th>
<th>VOC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>point</td>
<td>area</td>
</tr>
<tr>
<td>2018</td>
<td>0.7</td>
<td>0.9</td>
</tr>
<tr>
<td>2023</td>
<td>0.2</td>
<td>0.9</td>
</tr>
</tbody>
</table>
Emissions in South Coast Air Basin and Coachella Valley

2018 summer planning emission inventory for South Coast Air Basin and Coachella Valley

South Coast Air Basin
- VOC: 204.8 Tons per Day
- NOx: 144.2 Tons per Day

Coachella Valley
- VOC: 165.4 Tons per Day
- NOx: 11.2 Tons per Day

Stationary and Area Sources
- On-Road Vehicles
- Off-Road Mobile Sources

Impact of Local and Regional Emissions on Coachella Valley Ozone Levels

Simulated Ozone Design Value in Coachella Valley in 2018
- Business As Usual: 89.3 ppb
- Remove All Large Facilities in CV: 89.2 ppb
- Remove All Man-made Sources in CV: 86.9 ppb
- Remove All Man-made Sources in SCAB: 71.3 ppb

1997 8-hour Ozone Standard: 71.3 ppb

ppb: part per billion.
Base and Future Year Design Values

<table>
<thead>
<tr>
<th>Station</th>
<th>2018 Base Year Design Values (ppb)</th>
<th>2023 Future Year Design value (ppb)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palm Springs</td>
<td>89.3</td>
<td>83.2</td>
</tr>
<tr>
<td>Indio</td>
<td>84.3</td>
<td>79.1</td>
</tr>
</tbody>
</table>

* Based on preliminary modeling, 2022 design value is also expected to be below the standard.

Pathway to Attainment

- Attainment is expected to be achieved by 2023 based on emission reductions from existing regulations and programs
- Recently adopted regulations since 2016 AQMP provide further assurance for attainment by 2023
- Earlier attainment was evaluated; however not considered since no additional feasible measures were identified which could be adopted and implemented in time to accelerate attainment date
- Based on preliminary modeling, attainment may be earlier by 2022
### Extreme Area Plan – Key Requirements

**Emission Inventory and Attainment Demonstration**
- Updated emissions inventory;
- Expeditious attainment expected by 2023 based on baseline emissions (existing regulations)

**Control Strategy Analysis**
- Continued implementation of control strategy in 2016 Air Quality Management Plan
- Analysis of Reasonably Available Control Technology / Reasonably Available Control Measures (RACT/RACM)

**Reasonable Further Progress**
- Achieved based on reductions in baseline emissions

**Change Major Source and Major Modification Thresholds for Both NOx and VOC**
- Amendments to New Source Review, RECLAIM, and Title V Programs underway

**Contingency Measures**
- Contingency provisions to be included in a rule

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### Public Process

**Summer**
- Aug 26 – AB 617 East Coachella Valley Community Steering Committee
- Sep 3 – AQMP Advisory Group
- Sep 11 – Release Draft Plan

**Fall**
- Sep 18 – South Coast AQMD Mobile Source Committee
- Sep 25 – Public Consultation Meeting
- Oct 13 – Public Comments Due
- Nov 3 – Release Draft Final Plan
- Nov 20 – South Coast AQMD Mobile Source Committee

**Winter**
- Dec 4 – South Coast AQMD Board Consideration
- Submittal to CARB/U.S. EPA following Board Approval
Supporting Documents Available

- Draft Coachella Valley Extreme Area Ozone Plan
- Notice of Public Consultation Meeting for Coachella Valley Extreme Area Ozone Plan for 1997 8-Hour Ozone Standard and Public Workshop for Proposed Amended Regulations XIII, XX, and XXX
- Fact Sheet for Coachella Valley Extreme Area Ozone Plan


Submission of Documents or Comments

Please address questions, comments, documents or other relevant information to:

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South Coast Air Quality Management District
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Phone: (909) 396-3281

Written comments should be submitted no later than Tuesday, October 13, 2020