EPA’s Proposed New Ozone Standards and Planning Requirements

Pima Association of Government’s Air Quality Forum

June 23, 2015
Proposed new 8-hour ozone standard
- Background
- Proposed NAAQS
- Final NAAQS
- National and Regional Maps

Planning or Implementation Requirements
- Designations
- Boundary Guidance
- Planning Requirements
- Planning Timelines

Ozone Management in Pima County
Background: National Ambient Air Quality Standards (NAAQS)

- Federal Clean Air Act requires U.S. EPA to set NAAQS for air pollutants considered harmful to public health & environment.

- Primary standards protect public health including sensitive populations such as asthmatics, the elderly and children.

- Secondary standards also set to protect public welfare including decreased visibility and damage to animals, crops, vegetation, and buildings.

- EPA has set NAAQS for 6 air pollutants: airborne lead, carbon monoxide, sulfur dioxide, nitrogen dioxide, particulate matter, and ozone.
Proposed Ozone NAAQS

• On November 25, 2014, EPA proposed to strengthen the standard based on extensive scientific evidence about ozone’s effects on public health from existing level of 75 parts per billion (ppb).

• Proposed primary and secondary standard range: 65 – 70 ppb for both
  • Primary “health-based” standard and
  • Secondary “welfare-based” standard (remanded)

• Science advisors (CASAC) recommended:
  • 60 – 70 ppb for primary
  • “W-126” seasonal metric for secondary

• Taking comment on levels as low as 60 ppb
Timeline for Finalizing the NAAQS

- Proposal signed November 25, published December 17, 2014
  - 90-day public comment period ended, March 17, 2015
  - Three hearings nationally, one in Sacramento
  - EPA received a significant number of comments that are being considered as the rule is being finalized

- Final rule court-ordered deadline: October 1, 2015
2011-2013 COUNTY-LEVEL 8-HOUR OZONE DESIGN VALUES COMPARED TO PROJECTED 65 PPB AND 70 PPB PRIMARY 8-HOUR OZONE STANDARDS

- County above 70 parts per billion (ppb)
- County between 66 and 70 ppb
- County between 61 and 65 ppb
- County at/below 60 ppb
- No monitoring data available
- 2008 8-hour ozone NAAQS nonattainment area

Note: All regionally concurrent exceptional event data have been excluded. Alaska not to scale.
8-HOUR OZONE DESIGN VALUES IN ARIZONA BY DESIGNATED AREA AND COUNTY, 2003-2013

Source: US EPA's Air Quality Systems (AQS) database (November 18, 2014). The 2008 national ambient air quality standard (NAAQS) for 8-hour ozone is 0.075 parts per million (ppm), or 75 parts per billion (ppb). The design value is a calculation of each year’s 4th-highest day’s recorded values, averaged over a 3-year period at an air quality monitor. The air quality monitor that has the highest design value for each year in a nonattainment area is shown here. X-axis labels represent the last year of a monitor’s 3-year time period. All exceptional event data (e.g., high winds and wildfires) that EPA has concurred on have been excluded from design value calculations. Not all design values are valid due to incomplete data.
National Measures

• Clean Power Plan to cut carbon emissions from existing power plants
  • Estimated to reduce NOx emissions by ~ 400000 tons

• Tier 3 Vehicle Emissions and Fuel Standards
  • Targets tailpipe and evaporative emissions from passenger cars, light-duty trucks, medium-duty passenger vehicles, and some heavy-duty vehicles
  • From 2018-2030, estimated to reduce NOx>260000-328,500 tons, and VOC>47500-168000 tons

• Regional Haze Rules
  • Targets sources that contribute to air pollution and visibility impairment in National Parks (Class I Areas)
  • Estimated to reduce significantly emissions of NOx significantly
EPA Projects Most Counties Would Meet the Proposed Range of Standards in 2025

- 9 counties outside of California would violate 70 parts per billion (ppb)
- 59 additional counties outside of California would violate 65 ppb for a total of 68

Because several areas in California are not required to meet the existing standard by 2025 and may not be required to meet a revised standard until sometime between 2032 and 2037, EPA analyzed California separately. Details are available in the Regulatory Impact Analysis for this proposal.
Planning Requirements

Designations
Infrastructure Plans
Attainment Plans
Designations

• Within two years of promulgation of a new or revised NAAQS, EPA must list and designate all areas in the country as:
  • Attainment - areas that meet the standard
  • Nonattainment - areas that either do not meet the standard, or are contributing to a nearby area that does not meet the standard
  • Unclassifiable - areas where there is insufficient information to make a determination as to attainment

• Designations are based on current air quality information, recommendations from state governors and tribal leaders, and other relevant information.
Designations Guidance

- Designations guidance will not be issued until a final standard is promulgated.
- Region 9 anticipates that it will be similar to the guidance issued for the 2012 PM2.5 NAAQS:
  - Factor 1: Air Quality Data
  - Factor 2: Emissions and Emissions-Related Data
  - Factor 3: Meteorology
  - Factor 4: Geography/Topography
  - Factor 5: Jurisdictional Boundaries
Timeline for Implementing Proposed Standard

- **By October 1, 2016**: States recommend to EPA the designation for all areas of the state and the boundaries for those areas.

- **By October 1, 2017**: EPA issues final area designations; those designations likely based on 2014-2016 air quality data.

- **October 2018**: Infrastructure SIPs—within 3 years of NAAQS promulgation

- **October 2020-October 2021**: States complete development of implementation plans, outlining how they will reduce pollution to meet the standards.

- **2020 to 2037**: States are required to meet the health standard, with deadlines depending on the severity of an area’s ozone problem.

### Attainment Schedule by Classifications

<table>
<thead>
<tr>
<th>Classification</th>
<th>Schedule</th>
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<tbody>
<tr>
<td>marginal</td>
<td>3 years to attain</td>
</tr>
<tr>
<td>moderate</td>
<td>6 years to attain</td>
</tr>
<tr>
<td>serious</td>
<td>9 years to attain</td>
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<tr>
<td>severe</td>
<td>15-17 years to attain</td>
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<tr>
<td>extreme</td>
<td>20 years to attain</td>
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</tbody>
</table>

*Areas must attain as expeditiously as practicable, but not later than the schedule in the table. Two one-year extensions are available in certain circumstances based on air quality.*
SIP Basics – CAA sections 172 and 182

• Basic SIP components:
  • Emissions Inventory
  • Reasonable further progress (RFP)
  • Reasonably available control measures/reasonably available control technology (RACM/RACT)
  • Attainment demonstration
  • New source review (NSR) program
  • Permits for new and modified major stationary sources
  • Contingency measures
## SIP Basics

Overview of CAA Ozone Nonattainment Area Planning & Control Mandates by Classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>NSR offset ratio</th>
<th>Major source threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extreme</td>
<td>1.5 : 1</td>
<td>10</td>
</tr>
<tr>
<td>Severe</td>
<td>1.3 : 1</td>
<td>25</td>
</tr>
<tr>
<td>Serious</td>
<td>1.2 : 1</td>
<td>50</td>
</tr>
<tr>
<td>Moderate</td>
<td>1.15 : 1</td>
<td>100</td>
</tr>
<tr>
<td>Marginal</td>
<td>1.1 : 1</td>
<td>100</td>
</tr>
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### Mandates by Classification

- **EXEMPLARY** (20 years to attain)
  - Traffic Controls During Congestion
  - Clean Fuels Requirement for Boilers

- **Severe** (15/17 years to attain)
  - Penalty Fee Program for Major Sources
  - Low VOC Reformulated Gas
  - VMT Growth Offset
  - VMT Demonstration (& TCMs if needed)
  - NSR Requirements for Existing Source Mods
  - Enhanced Vehicle I/M
  - Clean Fuels Program (if applicable)
  - Modeled Demo of Attainment
  - Milestone Contingency Measures for RFP
  - 3% Annual RFP Until Attainment
  - Enhanced Monitoring Plan

- **Serious** (9 years to attain)
  - Stage II Gasoline Vapor Recovery
  - Basic Vehicle I/M
  - Contingency Measures for Failure to Attain
  - ROP (15% RFP over 6 years)
  - VOC/NOx RACT for Major/CTG Sources
  - Attainment Demonstration

- **Moderate** (6 years to attain)
  - Transportation Conformity Demonstration
  - Contingency Measures for Failure to Attain
  - VOC/NOx RACT for Major/CTG Sources
  - Attainment Demonstration

- **Marginal** (3 years to attain)
  - New Source Review Program
  - Major Source Emission Statements
  - Baseline Emission Inventory (EI)
  - Periodic Emission Inventory Updates
Other Planning Provisions

- **CAA section 179B (a)** “...[a state] implementation plan...shall be approved by the Administrator if
  - (1) [the implementation plan meets all the requirements other than the attainment demonstration requirement], and
  - (2) the submitting state establishes...that the implementation plan...would be adequate to attain and maintain the NAAQS by the attainment date, but for emissions emanating outside the US.”

- Exceptional Events are unusual or naturally occurring events that can affect air quality but are not reasonably controllable using techniques that tribal, state or local air agencies may implement in order to attain and maintain the NAAQS.

- Allows for more basic air quality planning obligations in “...an ozone nonattainment area that does not include, and is not adjacent to, a MSA or CMSA...if the area is treated by the Administrator...as a rural transport area”
  - In this area, only the planning requirements of “marginal” classification apply