2023 PM2.5 Plan for Attainment of the Federal 2012 Annual PM2.5 Standard

Public Workshop

May 11, 2023

webcast@valleyair.org
Cómo Escuchar la Interpretación Español

**En Una Computadora**
1. En los controles de la reunión o el seminario web, seleccione el **icono de interpretación**, que parece a un mundo en la parte debajo de la pantalla.
2. Seleccione español y silencie el audio original.

**En Un Teléfono o Tableta**
1. Seleccione los tres puntos para ver más opciones, seleccione interpretación y siga las mismas instrucciones de arriba.

**Para Hacer una Pregunta o un Comentario**
1. Seleccione el icono de reacciones para levantar su mano.
2012 PM2.5 Standard

- EPA established 2012 PM2.5 standard January 15, 2013 (12 µg/m³)
- District designated Moderate nonattainment in 2015
- District submitted 2016 PM2.5 Plan with request for reclassification to Serious
- EPA approved Moderate Plan and reclassified District to Serious effective Dec. 2021
- Serious Plan due to EPA Dec. 31, 2023

2018 PM2.5 Plan addressed 1997, 2006 and 2012 PM2.5 standards, earlier than required for 2012 standard
- EPA proposed full approval of Serious Plan for 2012 PM2.5 standard in Dec. 2021
- However, EPA reversed decision and proposed disapproval in Oct. 2022
- In response to EPA reversal, CARB withdrew Plan with District concurrence in Oct. 2022

District/CARB updating Plan for 2012 standard
- Updated Plan will rely on 2018 PM2.5 Plan, and include revisions as necessary incorporating latest guidance, feedback from EPA in latest proposals, and meet federal Clean Air Act requirements
- Plan may also include additional analyses for 2006 PM2.5 standard to address EPA comments
Valley’s Air Quality Challenges

• Valley’s challenges in meeting federal air quality standards unmatched due to unique combination of topography and meteorology
• Valley faced with variety of challenges including role as major goods movement corridor, high population growth, pollution transport from other areas, wildfires, drought
• Conditions require substantially greater emissions reductions in Valley to meet clean air targets than other regions
What is PM2.5?

Particles with a diameter of 2.5 microns and smaller

A mixture of solid particles and liquid droplets in the air

Emitted directly or formed indirectly through chemical reactions between gases
Health Effects of PM2.5

- Premature death in people with heart or lung disease
- Aggravated asthma
- Increased respiratory symptoms – irritation of the airways, coughing, difficulty breathing
- Decreased lung function in children
- Irregular heartbeat and nonfatal heart attacks
- Increased respiratory and cardiovascular hospitalizations
- Chronic bronchitis
- Lung cancer
Protecting Public Health

- The District’s mission is to improve health and quality of life for all Valley residents through efficient, effective and entrepreneurial air quality management strategies

- District shall continue to strive to protect health of Valley residents through efforts to meet health-based state and federal ambient air-quality standards, based on science and prioritized where possible using health-risk reduction strategies
- 2023 PM2.5 Plan will demonstrate District/CARB’s ongoing efforts to improve air quality in Valley through a comprehensive strategy
- Through this public process, District and CARB will evaluate health benefits of Plan strategy
Foundation for 2023 PM2.5 Plan to Build On Strategies Already in Place

- **2022 Ozone Plan**  
  (2015 8-hour Ozone Standard)

- **2016 Ozone Plan**  
  (2008 8-hour Ozone Standard)

- **2016 PM2.5 Plan**  
  (2012 PM2.5 Standard)

- **2018 PM2.5 Plan**  
  (1997, 2006, and 2012 PM2.5 Standards)

- **2012 PM2.5 Plan**  
  (2006 PM2.5 Standard)

- **2013 Plan for the Revoked 1-hour Ozone Standard**  
  (1979 1-hour Ozone Standard)

- **2015 PM2.5 Plan**  
  (1997 PM2.5 Standard)

- **2004 Extreme Ozone Attainment Demonstration Plan**  
  (Revoked 1-hour Ozone Standard)

- **2007 PM10 Maintenance Plan**  
  (1987 PM10 Standard)

- **2007 Ozone Plan**  
  (1997 8-hour Ozone Standard)

- **2008 PM2.5 Plan**  
  (1997 PM2.5 Standard)

San Joaquin Valley Air Pollution Control District
Adopted Controls Are Improving Air Quality

• District has adopted numerous attainment plans and air quality control strategies to address federal standards
  – Stationary source ozone and PM-forming NOx emissions reduced by over 90% through hundreds of regulatory actions
• CARB has adopted numerous mobile source emissions controls
• District/CARB combined efforts represent nation’s toughest emissions control program
• Strong incentive programs ($5 billion in public/private investment)
• Through significant clean air investments, Valley continues to make major improvements with respect to air quality
• While significant improvements have been made, more reductions needed
Progress in Improving Valley PM2.5


24-hour Average Design Value (µg/m³)

Annual Average Design Value (µg/m³)

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT
Progress Toward Attainment of 2012 Standard

2022 PM2.5 Annual Average by Site

2020-22 PM2.5 Design Value by Site

Impacts from 2020-2022 wildfires removed
## Recent Regulatory Actions Under Plan Commitments

<table>
<thead>
<tr>
<th>Measure</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rule 4901 (Wood Burning Fireplaces and Wood Burning Heaters)</td>
<td>Adopted Jun. 2019</td>
</tr>
<tr>
<td>Rule 4311 (Flares)</td>
<td>Adopted Dec. 2020</td>
</tr>
<tr>
<td>Rules 4306/4320 (Boilers, Steam Generators, Process Heaters)</td>
<td>Adopted Dec. 2020</td>
</tr>
<tr>
<td>Rule 4692 (Commercial Underfired Charbroiling)</td>
<td>Strategy Adopted Dec. 2020</td>
</tr>
<tr>
<td>Rule 4103 (Ag Burn Phase-out)</td>
<td>Adopted Jun. 2021</td>
</tr>
<tr>
<td>Rule 4702 (Internal Combustion Engines)</td>
<td>Adopted Aug. 2021</td>
</tr>
<tr>
<td>Burn Cleaner Incentive SIP Measure</td>
<td>Adopted Nov. 2021</td>
</tr>
<tr>
<td>Rule 4354 (Glass Melting Furnaces)</td>
<td>Adopted Dec. 2021</td>
</tr>
<tr>
<td>Rule 4550 (Conservation Management Practices)</td>
<td>Rule development ongoing</td>
</tr>
<tr>
<td>Rule 4401 (Steam-Enhanced Crude Oil Production Wells)</td>
<td>Rule development ongoing</td>
</tr>
<tr>
<td>Rule 4409 (Components at Light Crude Oil Production Facilities, Natural Gas Production Facilities, and Natural Gas Processing Facilities)</td>
<td>Rule development ongoing</td>
</tr>
<tr>
<td>Rule 4455 (Components at Petroleum Refineries, Gas Liquids, Processing Facilities, and Chemical Plants)</td>
<td>Rule development ongoing</td>
</tr>
<tr>
<td>Rule 4623 (Storage of Organic Liquids)</td>
<td>Rule development ongoing</td>
</tr>
<tr>
<td>Rule 4624 (Transfer of Organic Liquid)</td>
<td>Rule development ongoing</td>
</tr>
<tr>
<td>Rule 4402 (Crude Oil Production Sumps)</td>
<td>Rule development ongoing</td>
</tr>
</tbody>
</table>
Example: Significant Emissions Reductions from Industrial Boilers

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>% NOx Emission Limit Decrease</td>
<td>-80%</td>
<td>-94%</td>
<td>-96%</td>
<td>-98%</td>
<td></td>
</tr>
</tbody>
</table>

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT
Federal Clean Air Act Requirements

- Attainment Demonstration
- Reasonable Further Progress (RFP)
- Quantitative milestones
- Contingency Measures
- Precursor Demonstration
- Requirements for Major Sources
- Emissions Inventory
- Best Available Control Measures (BACM)/Most Stringent Measures (MSM)
CARB SIP Elements
Soil NOx Emission Estimate Update

- CARB plans to update the category ensuring specificity to California agriculture
- Process to be kicked off shortly
- Goal for independent Peer-Review contract by end of 2023
  - State of the science on nitrogenous emissions from soils
  - Future research recommendations
- Updated emissions available for new PM standard SIPs
CARB Precursor Modeling
Bakersfield – California Ave Base Year PM$_{2.5}$ Composition

- **Dust**
- **EC**
- **NH$_3$**
- **SO$_x$**
- **NO$_x$**

- **Crustal**
- **Salt**
- **AmNitrate**
- **AmSulfate**
- **OC**

**Chemical Reactions:**
- $\text{NO}_x + \text{NH}_3 \rightarrow \text{AmNitrate}$
- $\text{SO}_x + \text{NH}_3 \rightarrow \text{AmSulfate}$
Air Quality Modeling

Air Quality (PM$_{2.5}$)

Meteorology/Transport

Emissions/Boundary Conditions

Chemistry

Precursor Sensitivity Analysis:
- Reduce precursor emissions in the SJV by 30%
- Calculate how PM$_{2.5}$ changes from emission reductions

Sample air quality model output
Preliminary sensitivity analysis results based on 30% anthropogenic emission reductions in SJV

PM$_{2.5}$  NO$_x$  NH$_3$  ROG  SO$_x$

- Sites with change of DV $\geq 0.2$ ug/m$^3$
- Sites with change of DV $< 0.2$ ug/m$^3$
- The biggest change of DV in each case is labeled next to the site
CARB MSM Analysis
Shared Responsibility

**FEDERAL**

**US EPA**

**STATE**

**CALIFORNIA AIR RESOURCES BOARD**
Regulates mobile sources of air pollution, greenhouse gases & consumer products.

**LOCAL**

**Local Air Districts**
Regulates stationary & local sources of air pollution.

- **FIREPLACES**
- **Factories**
- **Refineries**
- **Power plants**

Develops State SIP Strategy, and works with local air districts to develop & adopt SIPs for all nonattainment areas. Develops & adopts State Implementation Plans for nonattainment areas within their District.
State Control Measure Analysis

- Analysis of CARB’s measures for the Most Stringent Measure (MSM) requirements
  - Currently being implemented in other States
  - Includes measure suggestions during public process
  - Assesses stringency and feasibility of control measures
- CARB has previously demonstrated MSM
- Complements District MSM Analysis
California’s Unique Authority

• The Clean Air Act gives CARB unique authority to regulate mobile sources beyond EPA
• Other states can elect to adopt California standards
• CARB continues to adopt more stringent rules
• California’s mobile emissions standards and overall mobile source program are MSM
MSM Requirements

Step 1
• Identify the sources of direct PM2.5 emissions and PM2.5 precursor emissions (emissions inventory)

Step 2
• Identify all potential control measures for the sources identified in Step 1 (CARB current/proposed measures & measures in other States)

Step 3
• Assess the stringency and feasibility of the potential control measures identified in Step 2, and public measure suggestions

Step 4
• Adopt and implement feasible control measures identified in Step 3 to satisfy MSM requirements

Requirements per 40 CFR § 51.1010
## Step 1: Identify Sources

<table>
<thead>
<tr>
<th>Mobile Source Emissions Inventory</th>
<th>2017</th>
<th></th>
<th>2030</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NOx</td>
<td>Direct PM2.5</td>
<td>NOx</td>
<td>Direct PM2.5</td>
</tr>
<tr>
<td>On-Road Light-Duty Vehicles</td>
<td>13.7</td>
<td>1.2</td>
<td>4.1</td>
<td>1.3</td>
</tr>
<tr>
<td>On-Road Heavy-Duty Vehicles</td>
<td>84.4</td>
<td>3.7</td>
<td>16.6</td>
<td>2.3</td>
</tr>
<tr>
<td>Off-Road Equipment</td>
<td>83.9</td>
<td>4.8</td>
<td>38.0</td>
<td>2.2</td>
</tr>
<tr>
<td>Primarily Federal and International</td>
<td>15.7</td>
<td>1.6</td>
<td>21.2</td>
<td>2.1</td>
</tr>
<tr>
<td>Aircraft</td>
<td></td>
<td>2.5</td>
<td>1.3</td>
<td>4.6</td>
</tr>
<tr>
<td>Railroad</td>
<td>13.1</td>
<td>0.3</td>
<td>16.5</td>
<td>0.4</td>
</tr>
<tr>
<td>Mobile Source Total</td>
<td>197.7</td>
<td>11.3</td>
<td>79.8</td>
<td>7.9</td>
</tr>
</tbody>
</table>
## Step 2: Identify Control Measures

### Example: On-Road Heavy-Duty Vehicles

<table>
<thead>
<tr>
<th>In-Use Controls - Fleet Rules</th>
<th>Most Stringent Program</th>
<th>Summary of Findings</th>
<th>Other Jurisdictions Analyzed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CARB Truck &amp; Bus</td>
<td>MSM: Most comprehensive and stringent mandatory heavy-duty fleet turnover rule in the nation</td>
<td>No other state requires diesel particulate filters (DPF) and MY 2010+ equivalent engines</td>
</tr>
<tr>
<td></td>
<td>CARB Advanced Clean Fleets</td>
<td>MSM: Accelerates ZEV adoption by setting zero-emission requirements for fleets</td>
<td>No other state has zero-emission requirements for HD vehicle fleets</td>
</tr>
<tr>
<td></td>
<td>CARB Zero-Emission Trucks</td>
<td>MSM: Would accelerate the number of ZE trucks beyond existing measures (including the ACF regulation)</td>
<td>No other state has zero-emission requirements for HD vehicle fleets</td>
</tr>
<tr>
<td></td>
<td>CARB Solid Waste Collection Vehicle</td>
<td>MSM: Limits PM emissions at appx the same level of stringency. CARB is overall more stringent because SWCV's with 2007-2009 engines were also subject to 2010 engine requirements under Truck and Bus</td>
<td>NYC requires that at least 90% of the ~8,300 SWCVs meet EPA's 2007 diesel standard for PM</td>
</tr>
</tbody>
</table>
### Step 3(a): Evaluate Stringency

**Example: On-Road Heavy-Duty Vehicles**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Implementation Begins</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARB Truck &amp; Bus</td>
<td>Ongoing</td>
<td>MSM</td>
</tr>
<tr>
<td>CARB Advanced Clean Fleets</td>
<td>2024</td>
<td>MSM</td>
</tr>
<tr>
<td>CARB Zero-Emissions Truck (Future measure)</td>
<td>2030</td>
<td>MSM</td>
</tr>
<tr>
<td>CARB Solid Waste Collection Vehicle</td>
<td>Ongoing</td>
<td>MSM</td>
</tr>
<tr>
<td>CARB Public Agency/Utility</td>
<td>Ongoing</td>
<td>MSM</td>
</tr>
<tr>
<td>CARB Innovative Clean Transit</td>
<td>2023</td>
<td>MSM</td>
</tr>
<tr>
<td>CARB ZE Airport Shuttle</td>
<td>2027</td>
<td>MSM</td>
</tr>
</tbody>
</table>
# Step 3(b): Evaluate Feasibility

**Example: On-Road Heavy-Duty Vehicles**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Summary of Feasibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-Road Heavy-Duty Vehicle Useful Life Regulation (Public Measure Suggestion)</td>
<td>Developed into Zero Emission Trucks measure, which would similarly target the increase in the number of heavy-duty ZEVs and cleaner engines as soon as possible, and reduce emissions from fleets not affected by ACF</td>
</tr>
<tr>
<td>Additional Incentive Programs: Zero-Emissions Trucks (Public Measure Suggestion)</td>
<td>Developed into a potential element of the Zero Emission Trucks measure (incentive programs such as supporting local zero-emission zones and/or differentiated registration fees)</td>
</tr>
<tr>
<td>Indirect Source Rule (Public Measure Suggestion)</td>
<td>CARB staff have included as a potential element of the Zero Emission Trucks measure, but due to feasibility and approvability issues, this suggestion has not yet been formally organized into a SIP control measure</td>
</tr>
</tbody>
</table>
Step 4: Adopt & Implement Controls

CARB’s control program includes all measures identified as MSM

- Most measures are adopted and being implemented, or will soon begin implementation
- Remaining measures were included in the 2022 State SIP Strategy with commitments to propose to CARB Board for consideration prior to 2030
## Preliminary Conclusion

CARB control program meets MSM requirements for the Valley

<table>
<thead>
<tr>
<th>Category</th>
<th>Type of Controls</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-road Light-Duty</td>
<td>New Vehicle/Engine Standard</td>
<td>MSM</td>
</tr>
<tr>
<td></td>
<td>In-use Emissions Control (fleet/testing/idling)</td>
<td>MSM</td>
</tr>
<tr>
<td></td>
<td>Fuels</td>
<td>MSM</td>
</tr>
<tr>
<td>On-road Medium &amp; Heavy-Duty</td>
<td>New Vehicle/Engine Standard</td>
<td>MSM</td>
</tr>
<tr>
<td></td>
<td>In-use Emissions Control (fleet/testing/idling)</td>
<td>MSM</td>
</tr>
<tr>
<td></td>
<td>Fuels</td>
<td>MSM</td>
</tr>
<tr>
<td>Off-Road</td>
<td>New Vehicle/Engine Standard</td>
<td>MSM</td>
</tr>
<tr>
<td></td>
<td>In-use Emissions Control (fleet/testing/idling)</td>
<td>MSM</td>
</tr>
<tr>
<td></td>
<td>Fuels</td>
<td>MSM</td>
</tr>
<tr>
<td>Space/Water Heaters</td>
<td>Emissions Standard</td>
<td>MSM</td>
</tr>
</tbody>
</table>
Next Steps on State Analysis

• CARB continues to seek comments
  • Contact information: SIPPlanning@arb.ca.gov
• Incorporate comments received
• Release draft MSM analysis for review
District BACM/MSM Control Measure Analyses

- Plan must provide for implementation of all BACM, including best available control technologies (BACT), plus MSM included in attainment plan of any state that can be feasibly implemented in the area
- District conducting robust analyses for all PM2.5 and NOx rules
- Ensures implementation of maximum degree of emissions reductions achievable, considering technological and economic feasibility
- EPA has previously approved that District measures meet MSM
- Preliminary analysis shows that District measures continue to meet MSM
# Step 1: District Rules Under BACM/MSM Evaluation

<table>
<thead>
<tr>
<th>District Rule</th>
<th>PM</th>
<th>NOx</th>
<th>Adopted/Last Amended</th>
</tr>
</thead>
<tbody>
<tr>
<td>4103 Open Burning</td>
<td>x</td>
<td>x</td>
<td>6/17/2021</td>
</tr>
<tr>
<td>4104 Reduction of Animal Matter</td>
<td>x</td>
<td></td>
<td>12/17/1992</td>
</tr>
<tr>
<td>4106 Prescribed Burning and Hazard Reduction Burning</td>
<td>x</td>
<td>x</td>
<td>6/21/2001</td>
</tr>
<tr>
<td>4203 PM Emissions from Incineration of Combustible Refuse</td>
<td>x</td>
<td></td>
<td>12/17/1992</td>
</tr>
<tr>
<td>4204 Cotton Gins</td>
<td>x</td>
<td></td>
<td>2/17/2005</td>
</tr>
<tr>
<td>4301 Fuel Burning Equipment</td>
<td>x</td>
<td>x</td>
<td>12/17/1992</td>
</tr>
<tr>
<td>4306 Boilers, Steam Generators, and Process Heaters – Phase 3</td>
<td>x</td>
<td>x</td>
<td>12/17/2020</td>
</tr>
<tr>
<td>4307 Boilers, Steam Generators, and Process Heaters 2.0 to 5.0 MMBtu/hr</td>
<td>x</td>
<td>x</td>
<td>4/21/2016</td>
</tr>
<tr>
<td>4308 Boilers, Steam Generators, and Process Heaters 0.075 to &lt;2.0 MMBtu/hr</td>
<td>x</td>
<td>x</td>
<td>11/14/2013</td>
</tr>
<tr>
<td>4309 Dryers, Dehydrators, and Ovens</td>
<td>x</td>
<td>x</td>
<td>12/15/2005</td>
</tr>
<tr>
<td>4311 Flares</td>
<td>x</td>
<td>x</td>
<td>12/17/2020</td>
</tr>
</tbody>
</table>
### Step 1: District Rules Under BACM/MSM Evaluation (cont’d)

<table>
<thead>
<tr>
<th>District Rule</th>
<th>PM</th>
<th>NOx</th>
<th>Adopted/Amended</th>
</tr>
</thead>
<tbody>
<tr>
<td>4313 Lime Kilns</td>
<td></td>
<td>x</td>
<td>3/27/2003</td>
</tr>
<tr>
<td>4320 Boilers, Steam Generators, and Process Heaters &gt;5.0 MMBtu/hr</td>
<td>x</td>
<td>x</td>
<td>12/17/2020</td>
</tr>
<tr>
<td>4352 Solid Fuel Fired Boilers, Steam Generators, and Process Heaters</td>
<td>x</td>
<td>x</td>
<td>12/16/2021</td>
</tr>
<tr>
<td>4354 Glass Melting Furnaces</td>
<td>x</td>
<td>x</td>
<td>12/16/2021</td>
</tr>
<tr>
<td>4550 Conservation Management Practices</td>
<td>x</td>
<td></td>
<td>8/19/2004</td>
</tr>
<tr>
<td>4692 Commercial Charbroiling</td>
<td>x</td>
<td></td>
<td>6/21/2018</td>
</tr>
<tr>
<td>4702 Internal Combustion Engines</td>
<td>x</td>
<td>x</td>
<td>8/19/2021</td>
</tr>
<tr>
<td>4703 Stationary Gas Turbines</td>
<td>x</td>
<td>x</td>
<td>9/20/2007</td>
</tr>
<tr>
<td>4901 Wood Burning Fireplaces and Wood Burning Heaters</td>
<td>x</td>
<td>x</td>
<td>6/20/2019</td>
</tr>
<tr>
<td>4902 Residential Water Heaters</td>
<td>x</td>
<td>x</td>
<td>3/19/2009</td>
</tr>
<tr>
<td>4905 Natural Gas-Fired, Fan-Type Central Furnaces</td>
<td>x</td>
<td>x</td>
<td>12/16/2021</td>
</tr>
</tbody>
</table>
### Step 1: District Rules Under BACM/MSM Evaluation (cont’d)

<table>
<thead>
<tr>
<th>District Rule</th>
<th>PM</th>
<th>NOx</th>
<th>Adopted/Last Amended</th>
</tr>
</thead>
<tbody>
<tr>
<td>8011 General Requirements</td>
<td></td>
<td>x</td>
<td>8/19/2004</td>
</tr>
<tr>
<td>8021 Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities</td>
<td></td>
<td>x</td>
<td>8/19/2004</td>
</tr>
<tr>
<td>8031 Bulk Materials</td>
<td></td>
<td>x</td>
<td>8/19/2004</td>
</tr>
<tr>
<td>8041 Carryout and Trackout</td>
<td></td>
<td>x</td>
<td>8/19/2004</td>
</tr>
<tr>
<td>8051 Open Areas</td>
<td></td>
<td>x</td>
<td>8/19/2004</td>
</tr>
<tr>
<td>8061 Paved and Unpaved Roads</td>
<td></td>
<td>x</td>
<td>8/19/2004</td>
</tr>
<tr>
<td>8071 Unpaved Vehicle/Equipment Traffic Areas</td>
<td></td>
<td>x</td>
<td>9/16/2004</td>
</tr>
<tr>
<td>8081 Agricultural Sources</td>
<td></td>
<td>x</td>
<td>9/16/2004</td>
</tr>
<tr>
<td>9510 Indirect Source Review</td>
<td></td>
<td>x</td>
<td>12/21/2017</td>
</tr>
</tbody>
</table>
Step 2: State and Federal Regulations

- As part of the BACM/MSM Analysis, District rules and source categories are compared to federal and state air quality regulations and standards

**Federal Regulations**
- Control Techniques Guidelines (CTG)
- Alternative Control Techniques (ACT)
- New Source Performance Standards (NSPS)

**State Regulations**
- California Health and Safety Code (CH&SC) requirements
- CARB Airborne Toxic Control Measures (ATCM)
Step 3: Rules from Other Regions

• District compares control measures to analogous regulations adopted by agencies across nation/in California, including, but not limited to:
  – Bay Area Air Quality Management District (BAAQMD)
  – South Coast Air Quality Management District (SCAQMD)
  – Sacramento Metropolitan Air Quality Management District (SMAQMD)
  – Ventura County Air Pollution Control District (VCAPCD)

• District carefully reviews differences between rules with focus on requirements as a whole, while acknowledging differences in regional situations

• All potential BACM/MSM identified thoroughly evaluated using key factors identified in EPA’s 2016 Implementation Rule, to determine if potential opportunities qualify as BACM/MSM for the Valley
Step 4: Technological and Economic Feasibility

**Technological Feasibility**
Analysis determines if a potential opportunity to reduce emissions is viable for existing facilities and operators in the Valley, given operating needs and restrictions. Review of BACT guidelines; District permits; environmental and technological studies; EPA and CARB guideline documents; and other air districts’ rules, regulations, and guidelines.

**Economic Feasibility**
Cost effectiveness analysis conducted to evaluate the economic reasonableness of an air pollution control measure or technology as it applies to operators in the Valley. Examines added cost, in dollars per year, of control technology or technique, divided by the emissions reductions achieved, in tons per year.
Step 5: Potential Contingency Provisions

• District considers whether a contingency measure component would be feasible for each control measure
• This requirement will be addressed in upcoming 2023 PM2.5 plan workshops
  – District currently working on contingency package to address multiple PM standards
• A contingency measure must be:
  – (1) Economically and technologically feasible
  – (2) Feasible for a contingency trigger, and
  – (3) Beyond what is needed to achieve attainment
Next Steps

Spring/Summer 2023
- Final BACM/MSM Evaluation
- Additional Public Workshop(s)
- 30-day Publication of Initial SIP Elements

Public Participation and Comment Invited throughout Process

Summer 2023
- Governing Board Public Hearing for Initial SIP Elements
- Submit Initial SIP Elements to EPA

3rd Quarter 2023
- Public Workshops
- 30-day Publication of 2023 PM2.5 Plan
- Governing Board Public Hearing for 2023 PM2.5 Plan

4th Quarter 2023
- Submit 2023 PM2.5 Plan to EPA
KEY QUESTIONS

As District conducts this BACM/MSM evaluation of sources identified, seeking input on the following:

- Sources of interest
- Potential emission reduction opportunities
- Identification of cutting edge technologies
Contact

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