Update on the 2018 PM2.5 SIP for the San Joaquin Valley

September 19, 2019
San Joaquin Valley 2018 PM2.5 SIP

Comprehensive strategy to address PM2.5 air quality in the Valley

Adopted January 2019
SIP Addresses Four PM2.5 Standards

24-Hour PM2.5 Standards
- 65 µg/m³
- 35 µg/m³

Annual PM2.5 Standards
- 15 µg/m³
- 12 µg/m³
First checkpoint in a multi-year process
PM2.5 Composition in the Valley

- 51% Ammonium Nitrate
- 38% Carbon
- 5% Dust
- 5% Ammonium Sulfate
- 1% Elements
Today’s Update

- Regulatory Actions
- Implementation Highlight: Agriculture
- Implementation Highlight: Trucks and Buses
- Implementation Highlight: Residential Wood-Burning
- Air Quality & Emissions Trends
- Emission Reduction Credit Program Review
- Next Steps
Regulatory Actions
# Measures in the PM2.5 SIP

<table>
<thead>
<tr>
<th>Agency</th>
<th>Adopted</th>
<th>Scheduled for Board Consideration</th>
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| **CARB** | ✓ May 2018: Lower Opacity Limits for Heavy-Duty Vehicles  
✓ June 2018: Amended Warranty Requirements for Heavy-Duty Vehicles  
✓ December 2018: Innovative Clean Transit  
✓ June 2019: Zero-Emission Airport Shuttle Buses | 2020  
• Low-NOx Engine Standard  
• Heavy-Duty Vehicle Inspection and Maintenance Program  
2021  
• Advanced Clean Cars 2  
• Low-Emission Diesel Fuel Requirement |
| **District** | ✓ June 2019: Residential Wood-Burning Emission Reduction Strategy | 2020  
• Flares  
• Internal Combustion Engines  
• Boilers, Steam Generators, and Process Heaters  
• Commercial Underfired Charbroilers  
2021  
• Glass Melting Furnaces  
• Solid Fuel-Fired Boilers, Steam Generators, and Process Heaters |
Incentive-based measures are critical for the last increment of emissions reductions.

Regulations form the base of the PM2.5 SIP:
90 percent of emissions reductions from regulations.
Implementation
Highlight:
Agriculture
Agricultural Equipment Replacement

- Over 4,000 pieces of agricultural equipment replaced since January 2015
- District has contracted all first-year FARMER funding
- More projects in the pipeline
Agricultural Equipment Incentive Measure

- SIP credit for agricultural equipment emissions reductions
- Board consideration: November 2019
- Halfway to SIP target for agricultural equipment

**Over 5 tpd NOx**
Reductions from completed projects

**About 5 tpd NOx**
Need approximately $150 million/year from 2020 through 2023
Incentive Funds for Agricultural Equipment

Funding sources and programs specific to agriculture include:

- **NRCS (USDA):**
  - $37.5 million **nationwide** annually for FYs 2019-2023

- **FARMER:**
  - $65 million **statewide** for FY 2019-2020

- **U.S. EPA grants:**
  - $15 million **for the Valley** for FY 2019-2020
Other Programs

Three other District ag programs successful and oversubscribed

- Funded 1,550 all-electric ag UTVs, demand for 500 more
- $2 million for alternatives to open agricultural burning
- $2 million for low-dust nut harvesting
Implementation Highlight: Trucks and Buses
Truck and Bus Incentive Measure

- SIP credit for surplus emissions reductions from trucks and buses
- Board consideration in 2021
- Refining estimates of incentive funding needed through 2024
Funding sources and programs available for trucks and buses include:

- Low Carbon Transportation: $455 million statewide for FY 2018-2019
- Carl Moyer: $78 million statewide for FY 2018-2019
- AB 617: $245 million statewide for FY 2018-2019
- Prop 1B: Already awarded
Implementation Highlight:
Residential Wood-Burning
Curtailment Levels

- District strengthened residential burning rule
- Lower curtailment levels in “hot spot areas” of Kern, Fresno, and Madera Counties take effect this winter
- Includes contingency element
Wood Stove Replacement

• District replaced 1,300 wood-burning devices during winter 2018-2019 with $2.2 million
• Over 16,000 total replacements in the Valley
• Almost 80 percent are wood-to-natural gas
• Reduces near source exposure
Air Quality & Emissions Trends
24-Hour Design Value Trends

All sites meet 65 µg/m³

Reductions needed to attain 35 µg/m³ by 2024
Annual Design Value Trends

Six sites in south Valley above 15 µg/m³ in 2018; challenge to attain by 2020

Reductions needed to attain 12 µg/m³ by 2025
NOx Emissions Trends

Ongoing steep mobile source NOx reductions
PM2.5 Emissions Trends

Need to continue direct PM2.5 reductions
Emission Reduction Credit Program Review
Goals

- Review the ERC system and evaluate whether the program is meeting legal requirements
- Determine if there are ways the system might be improved
Elements of Review

- Explanation of the ERC program
- Evaluation of ERC banking actions
- Evaluation of the Federal Offset Equivalency Demonstration
- Analysis of the use of offsets in permitting
Status and Next Steps

- Held two workshops
- Released progress report
- Requesting and analyzing information from the District
- Developing findings and recommendations
- Public workshop in early spring 2020
- Board meeting in spring 2020
Next Steps
Three-Part Strategy

1. Keep on track with ambitious rulemaking calendar
2. Continue pushing for incentive dollars
3. Continue looking for additional opportunities for emissions reductions
Implementation Working Group

- Formed working group to provide venue for stakeholders to collaboratively facilitate SIP implementation
- CARB and District will discuss opportunities for additional measures
- Held first meeting August 2019
Next Update

- Regulatory actions
- Incentive funds
- Grant programs
- Research findings
- Additional emission reduction opportunities