

Update on San Joaquin Valley Air Pollution Control District's PM2.5 Attainment Strategy

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Valley's Challenges are Unmatched by Any Other Region

- More than 600 rules adopted by Governing Board since 1992
- Most effective and efficient incentive grants program
 - Investing over \$1.7 billion in public/private funding
 - Achieved over 140,000 tons of emissions reductions
- Valley's ozone and PM2.5 precursor emissions at historically low levels
 - Significant investments made by Valley businesses and residents
 - Stringent regulatory programs by District and ARB
- 85% of Valley's NOx emissions (key precursor for ozone and PM2.5) now come from mobile sources
- Significant reductions in emissions needed to attain the latest PM2.5 standards



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Extensive Public Process for New PM2.5 Attainment Strategy

- Public process provided multiple opportunities for public and stakeholders to offer comments for refining strategy
 - Monthly updates at Governing Board, Citizens Advisory Committee, & Environmental Justice Advisory Group meetings
 - 7 Public Workshops
 - 4 Public Advisory Workgroup (PAW) Meetings
- Input and comments received have been integral to development of PM2.5 attainment strategy and have been incorporated as appropriate



Attainment Strategy Objectives

- Submit single document addressing all pending federal requirements for PM_{2.5}
- 5% reduction in NO_x annually until Valley attains 1997 annual PM_{2.5} standard of 15 µg/m³
 - District, ARB, EPA, and stakeholders believe it would be prudent to include 5% Plan in attainment strategy addressing all PM_{2.5} standards
- Attain 2006 24-hour PM_{2.5} standard of 35 µg/m³ by December 31, 2024
 - To get 5-year extension to 2024, must demonstrate Most Stringent Measures and expeditious attainment in proposed attainment strategy
- Attain 2012 annual PM_{2.5} standard of 12 µg/m³ by December 31, 2025
 - Must submit plan requesting reclassification to Serious non-attainment



Pursuing Expeditious Attainment

- District committed to leaving no stone unturned to find additional reductions from sources under our jurisdiction
- Working with ARB to ensure that State provides all possible mobile source control strategies that result in additional reductions in emissions
- District and ARB have conducted extensive review of emission reduction opportunities through public process
- Final scope, design and effectiveness of measures subject to comments from Valley businesses and residents through the public participation process



Proposed Attainment Strategy

- Will contain new measures that apply valleywide
- Will contain new measures focused on reducing emissions in “hot-spot” regions with most difficult attainment challenge
 - Targeted use of incentive grants
 - Targeted regulations
 - Reduced future regulatory burden for specific regions
 - Reduced overall cost to all regions by achieving attainment of federal standards more expeditiously
 - For regions that may face more stringent future measures, added regulatory cost will be mitigated by added incentives



Need for Hot-Spot Strategy

- Under federal Clean Air Act, entire Valley is designated as not meeting standard if only handful of high concentrations occur at a monitor at the worst location, at the worst time
- Traditional Approach:
 - Quantify reductions needed at worst locations
 - Identify measures needed to bring worst locations into attainment
 - Impose same controls throughout entire Valley
- Hot-Spot Strategy:
 - Focus strategies on hot-spot regions
 - Facilitate greater cost-effectiveness (reduce overall costs)
 - May be the only path available to reach attainment without imposition of draconian measures valleywide



New Stationary Source Control Measures

- Building off existing stringent requirements, new potential stationary source measures
 - Lower NO_x requirements for boilers, steam generators and process heaters
 - Lower NO_x requirements for glass manufacturing facilities
 - Lower NO_x requirements for non-agricultural engines
 - Electrify agricultural pump engines in areas impacting peak PM_{2.5} sites where access to electricity is available (incentive-based)
 - Require ultra low-NO_x flares for flaring activities and enhance flare minimization practices
 - Additional reductions of fugitive dust (directly emitted PM) from cropland tilling and fallow lands through new enhanced conservation management practices
- Each measure will undergo technological and economic feasibility analysis



Burn Cleaner Program Offering Enhanced Incentives in Hot-Spot Areas and Current Levels of Incentives in Rest of Valley

- Enhanced levels of incentives provided in hot-spot areas
 - Kern County, Fresno County, City of Visalia, City of Madera, and City of Corcoran
- Program would replace wood burning devices with only natural gas or propane units in hot-spot areas
- Program would continue to offer current level of incentives Valleywide
- \$80 million estimated total cost, with \$60 million dedicated to hot-spot areas
- Exact funding levels and incentive program details to be finalized pending results of residential wood burning survey currently under way



More Stringent Residential Wood Burning Curtailments ($12 \mu\text{g}/\text{m}^3$ and $35 \mu\text{g}/\text{m}^3$) in Hot-Spot Areas

- In order to encourage participation in enhanced Burn Cleaner program, could implement more stringent wood burning curtailment program in hot-spot areas
 - Burn prohibitions for non-registered units at $12 \mu\text{g}/\text{m}^3$
 - Burn prohibitions for all devices at $35 \mu\text{g}/\text{m}^3$
- Measure suggested for Valley floor locations
 - Counties of Fresno and Kern
 - Cities of Madera, Corcoran, Visalia



Underfired Charbroiler Hot-Spot Strategy

- Provide incentives for installation of controls and related modifications for existing under-fired charbroilers within urban boundaries of hot-spots
 - Kern County, Fresno County, and cities of Visalia, Madera, and Corcoran
 - Provide funding to deploy control technologies at 40% of underfired charbroilers within urban boundaries in hot-spot areas
 - Average cost estimated at \$150,000 (capital plus 1st year maintenance)
 - Incentive cost estimated at \$30 million (covering 100% of costs)
 - To ensure early and robust use of District incentives, this measure may need to be supplemented with a regulatory backstop to encourage participation
- Adopt a rule requiring installation of PM controls on large new charbroilers within urban boundaries of hot-spot areas
 - Require installation of control technologies at new larger restaurants
 - May only be feasible with incentives to help restaurants offset cost
 - Incentive cost estimated at \$5 million (50% of costs)



Underfired Charbroiler Hot-Spot Strategy

- Current incentive revenue sources primarily directed by state or federal statute for use on mobile source projects
- Emissions from majority of regulated stationary sources in Valley have already been reduced by over 90%
 - Additional emissions reductions will be difficult and more costly than requiring controls on under-fired charbroilers
- Facilitate efficient and cost-effective expenditure of resources by all parties involved
 - To achieve the same design value benefits possible through \$35 million investment in charbroiler PM reductions, businesses would have to incur \$14 billion in cost for NO_x reductions



Attainment Requires Additional Reductions by 2025

- With ARB's proposed measures to reduce an additional 30 tpd of NOx from heavy-duty trucks and agricultural equipment, this proposed strategy demonstrates attainment of 24-hr standard and close to attainment for annual standard
- Gap in remaining emissions reductions required for attainment of annual standard may be filled with:
 - Use of existing local funds, including DMV funds, for incentive programs aimed at reducing emissions with a focus on remaining hot-spot areas
 - New funding from EPA, NRCS, and other federal agencies aimed at reducing emissions with focus on hot-spot areas
 - New funding from recent state Cap and Trade expenditure plan, Moyer, AB 118, and other state funds
 - Commitments by state and federal government for additional mobile source reductions if necessary



Next Steps

- Complete residential wood burning survey
- Central Valley Summit on Alternatives to Open Burning of Ag Waste
- Complete underfired charbroiling technology assessment
- Work with ARB to complete air quality modeling
- Refine boundaries of hot-spot regions for each of the targeted strategies
- Conduct additional public workshops on proposed strategy with input from Valley businesses and other stakeholders
- Assess technological and economical feasibility of proposed measures
- Attainment plan to District Governing Board anticipated by December 2017
- ARB consideration of SIP in March 2018

