

2016 AQMP PM White Paper – Draft Outline

1. Introduction (Brief Overview)
 - a. Introduction to PM White Paper – purpose and scope
 - b. Summary of Federal and State PM standards and deadlines, including the federal annual PM_{2.5} standard of 12 µg/m³
 - c. Importance of the 2016 AQMP to achieve overall reductions for attainment (Ozone and PM_{2.5}) and co-benefits from the ozone strategy to the PM_{2.5} strategy
2. Background (Brief Summary)
 - i. Sources of PM_{2.5}
 1. PM_{2.5} and precursors – sources, atmospheric chemistry, relative importance
 2. Sources contributing to PM_{2.5} levels – breakdown of individual sources included in major categories (stationary, mobile, and area sources)
 3. Regulatory responsibility for PM_{2.5} reductions (USEPA, CARB, SCAQMD)
 - ii. Strategy and progress in PM (and ozone) controls in past reduction efforts
 1. Reduction in PM_{2.5} concentration in spite of growth
 - a. Reduction in number of days exceeding the standard (table/chart)
 2. Emission reductions achieved to meet the former annual standard of 15 µg/m³ and demonstrate attainment of 24-hr PM_{2.5} standard
 - a. ozone attainment strategies co-benefit PM_{2.5} reductions
 - b. in-use on- and off-road rules by CARB
 - c. fireplace
 - d. ammonia reductions at greenwaste composting facilities
 3. Other direct PM reductions associated with past efforts from the 2007 and 2012 AQMPs
3. 2016 AQMP (Brief Overview)
 - a. Attainment requirements
 - i. 2012 annual PM_{2.5} standard : 12 µg/m³
 1. SIP submittal 2016; demonstrate attainment by 2020 to 2025
Mention status of 24-hour std non-attainment
 - ii. 2008 8-hour ozone standard: 75 ppb
 1. SIP submittal July 2016; demonstrate attainment by 2032
 - b. Additional AQMP components
 - i. Update to previous 1997 8-hour ozone (80 ppb) SIP (*reductions by 2023*)
 - ii. Update to 1-hour ozone SIP (*reductions by 2022*)
 - c. Will PM approach only get us there?
 - d. PM_{2.5} reduction co-benefits associated with meeting the ozone standards
 - e. Consideration of co-benefit reductions from measures implemented to address climate change (i.e., black carbon, energy efficiency, SB375)
 - f. Black Box discussion
 - i. Meeting the ozone standards allows for “black box” reductions

- ii. Federal CAA “black box” provisions are not applicable to PM; so no credit allowed for those PM_{2.5} co-benefit reductions
 - iii. Therefore, back-up control measures may need to be developed to cover co-benefit reductions that would be achieved by “black box” measures
 - iv. Even then, additional PM_{2.5} control measures may be needed
4. Key Policy Challenges
- a. Most significant sources already well controlled
 - b. Reductions may still be needed, pending ozone co-benefits, to achieve PM_{2.5} standards
 - i. Back-up measures may need to be developed
 - c. Technology development/deployment
 - d. Localized vs. regional control approaches to target key areas contributing to non-attainment
 - e. Seasonal or episodic control approaches
 - f. Cost-effectiveness vs. affordability
 - g. More reductions from area source-type (small but numerous) emission sources
 - h. Measuring co-benefits from climate change strategies
 - i. EJ considerations / toxics
5. Emissions sources for potential control
- a. Direct PM source controls
 - i. Restaurants – under-fired charbroilers
 - ii. Fugitive dust – sweeping of paved roads
 - iii. Wood/open burning
 - b. Ammonia controls
 - i. Dairies
 - ii. composting (use of digesters)
 - c. Seasonal or episodic controls
 - i. Ammonia controls
 - ii. Wood/open burning
 - d. Geographical controls
 - i. Wood/open burning
 - ii. Focused incentives (residential indoor/outdoor wood burning devices, clean vehicles)
6. Findings (will provide answers to the questions below to inform the 2016 AQMP)
- a. If ozone strategy fully implemented, what else would be required?
 - b. How do we craft back-up measures to black box ozone reductions?
 - c. What strategies maximize toxics and climate co-benefits?
 - d. Need for coordination with other agencies at all levels of government
 - e. Need for integrated planning process with full consideration of co-benefit reductions
 - f. Need for collaboration with stakeholders – business, environmental/community, academic; health, agencies, etc.
 - g. How do we further the advancement/deployment of new and existing control technologies for stationary and area sources?
 - h. Funding – public and private to incentivize reductions by small area-source type emitters