

**LOCATION (In-Person)**

San Joaquin Valley Unified Air Pollution Control District  
1990 East Gettysburg Avenue, Fresno, California 93726

**or Via Video Conference (2 Locations)**

District Northern Region Office  
4800 Enterprise Way, Modesto, California 95356

District Southern Region Office  
2700 M Street, Suite 275, Bakersfield, California 93301

## Public Meeting Agenda

**REVISED**  
(5/13/08)

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ADVANCE OF THE MEETING GO TO:  
<http://www.arb.ca.gov/lispub/comm/bclist.php>**

**May 22, 2008**  
**8:30 a.m.**

**Item #**

**08-5-1: Presentation by the San Joaquin Valley Air Pollution Control District on Healthy Air Living Initiative**

*The Board will hear a presentation on actions that individuals and businesses can take to reduce air pollution.*

**08-5-2: Public Meeting to Consider Approval of the San Joaquin Valley 2008 PM2.5 State Implementation Plan and Provide an Update on the Valley's Ozone Plan Progress**

*The Board will consider approval of the San Joaquin Valley Air Pollution District's federal attainment plan for the PM2.5 standard. This plan identifies the strategies that will bring the region into attainment by the 2014 deadline. Staff will also present an update to the Board on the Valley's ozone plan progress.*

**08-5-3: Public Hearing to Consider Approval of Proposition 1B: Grants for FY 2007-08 Funds to Reduce Emissions from Goods Movement**

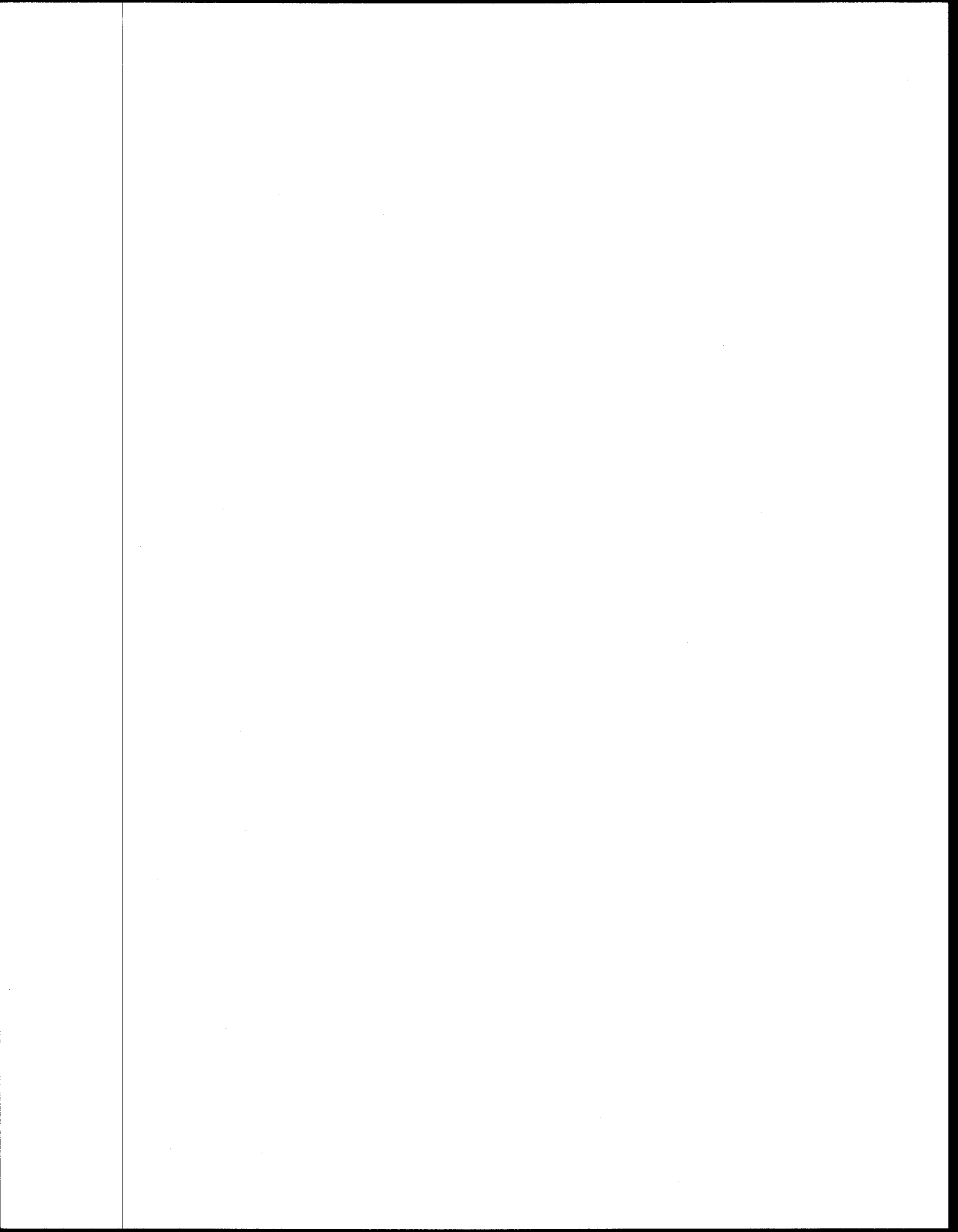
*The Board will consider approval of a list of grant awards totaling up to \$225 million in incentive funding for specific local agency projects to reduce freight-related emissions in the four trade corridors.*

**08-5-4: Public Meeting to Consider a Research Proposal**

*"Systemic Platelet Activation in Mice Exposed to Fine Particulate Matter," University of California, Davis, \$300,000, Proposal No. 2658-260.*

**08-5-5: Report to the Board on a Draft Report on New Estimates of Premature Deaths Associated with Long-Term Exposures to PM2.5 in California**

*Staff will report to the Board on the methodology which provides improved estimates of premature deaths associated with PM2.5 exposures. Staff has developed a revised relationship between long-term exposures to PM2.5 and premature deaths based on the latest literature review. The new methodology used in calculating the estimated deaths has undergone peer review by outside experts. The draft report will be released for public comment following the Board meeting.*



**08-5-6: Report to the Board on AB 32 Implementation: Update on Land Use, Transportation, and Vehicle Travel**

*In one of a series of briefings on AB 32 Implementation, staff will brief the Board on the impact of land use and transportation planning on the State's greenhouse gas emissions. Staff will discuss the status of recent efforts to develop a framework for integrating land use and transportation decisions into the State's climate change efforts.*

**08-5-7: THIS ITEM WILL BE RECALENDARER AT A LATER DATE:  
Report to the Board on the Strategic Plan for Enforcement of Diesel Emission Control Regulations Pursuant to AB 233, Jones (Chapter 592, Statutes of 2007)**

*AB 233, Jones requires ARB to review its enforcement of diesel emission control regulations and develop a strategic plan for consistent, comprehensive, and fair enforcement of these regulations. The bill requires that the plan be developed in conjunction with local air districts and the public and be reviewed by the Board in a public hearing. ARB is required to submit this plan to the California Legislature by January 1, 2009, and every 3 years thereafter.*

**CLOSED SESSION – LITIGATION**

*The Board will hold a closed session as authorized by Government Code section 11126(e) to confer with, and receive advice from, its legal counsel regarding the following pending litigation:*

*Central Valley Chrysler-Jeep, Inc. et al. v. Goldstene, U.S. District Court (E.D. Cal. - Fresno) Case No. 1:04-CV-06663-AWI-GWA.*

*Fresno Dodge, Inc. et. al. v. California Air Resources Board and Goldstene, Superior Court of California (Fresno County), Case No. 04CE CG03498, consolidated with General Motors Corp. et. al. v. California Air Resources Board and Goldstene, Superior Court of California (Fresno County), Case No. 05CE CG02787.*

*State of California by and through Arnold Schwarzenegger, Governor of the State of California, the California Air Resources Board, and Edmund G. Brown, Jr., Attorney General of the State of California v. U.S. Environmental Protection Agency and Stephen L. Johnson, Administrator, U.S. Court of Appeals (D.C. Cir.) Case No. 07-1457.*

*State of California by and through Arnold Schwarzenegger, Governor of the State of California, the California Air Resources Board, and Edmund G. Brown, Jr., Attorney General of the State of California v. U.S. Environmental Protection Agency and Stephen L. Johnson, Administrator, U.S. District Court (D.C.) Case No. 07-CV-o2024-RCL.*

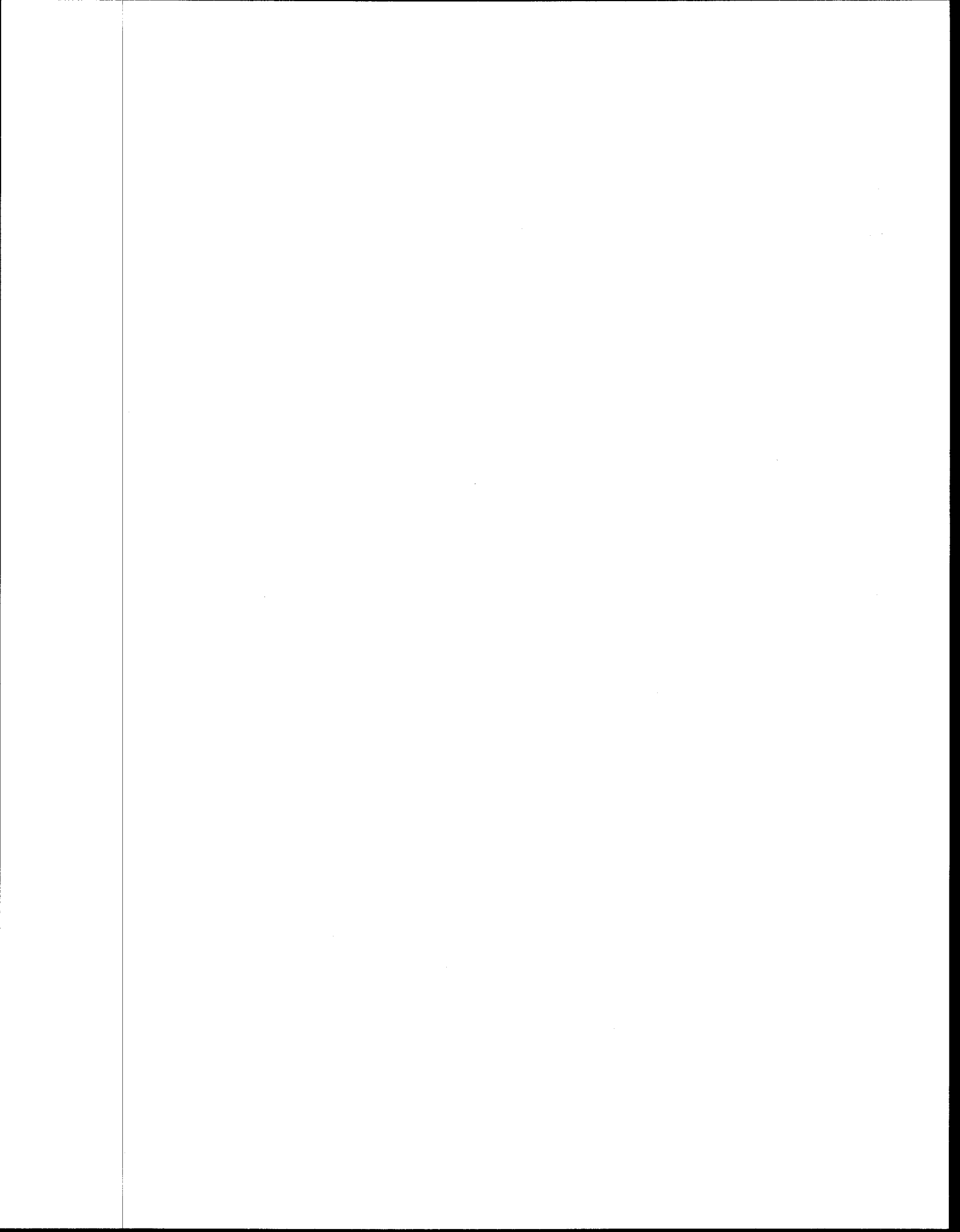
*State of California by and through Arnold Schwarzenegger, Governor, and the California Air Resources Board v. U.S. Environmental Protection Agency, and Stephen L. Johnson, Administrator, U.S. Court of Appeals (9th Cir.) Case No. 08-70011.*

*State of California by and through Arnold Schwarzenegger, Governor of the State of California, the California Air Resources Board, and Edmund G. Brown, Jr., Attorney General of the State of California v. U.S. Environmental Protection Agency, U.S. Court of Appeals (D.C. Cir.) Case No. 08-1178.*

*Green Mountain Chrysler-Plymouth-Dodge-Jeep, et al. v. Crombie, 508 F.Supp.2d 295, U.S. District Court (Vermont) (2007), appeal to 2nd Circuit Court of Appeals pending, Docket Nos. 07-4342-cv(L) and 07-4360-cv(CON).*

*Association of International Automobile Manufacturers v. Sullivan, U.S. District Court (Rhode Island), C.A. No. 06-69T, consolidated with Lincoln Dodge, Inc. et al., U.S. District Court (Rhode Island), C.A. No. 06-70T.*

*Zangara Dodge, Inc. et al. v. Curry et al., U.S. District Court (New Mexico) Case No. CIV 07-1305 ACT/LFG.*



**OPPORTUNITY FOR MEMBERS OF THE BOARD TO COMMENT ON MATTERS OF INTEREST.**

*Board members may identify matters they would like to have noticed for consideration at future meetings and comment on topics of interest; no formal action on these topics will be taken without further notice.*

**OPEN SESSION TO PROVIDE AN OPPORTUNITY FOR MEMBERS OF THE PUBLIC TO ADDRESS THE BOARD ON SUBJECT MATTERS WITHIN THE JURISDICTION OF THE BOARD.**

*Although no formal Board action may be taken, the Board is allowing an opportunity to interested members of the public to address the Board on items of interest that are within the Board's jurisdiction, but that do not specifically appear on the agenda. Each person will be allowed a maximum of three minutes to ensure that everyone has a chance to speak.*

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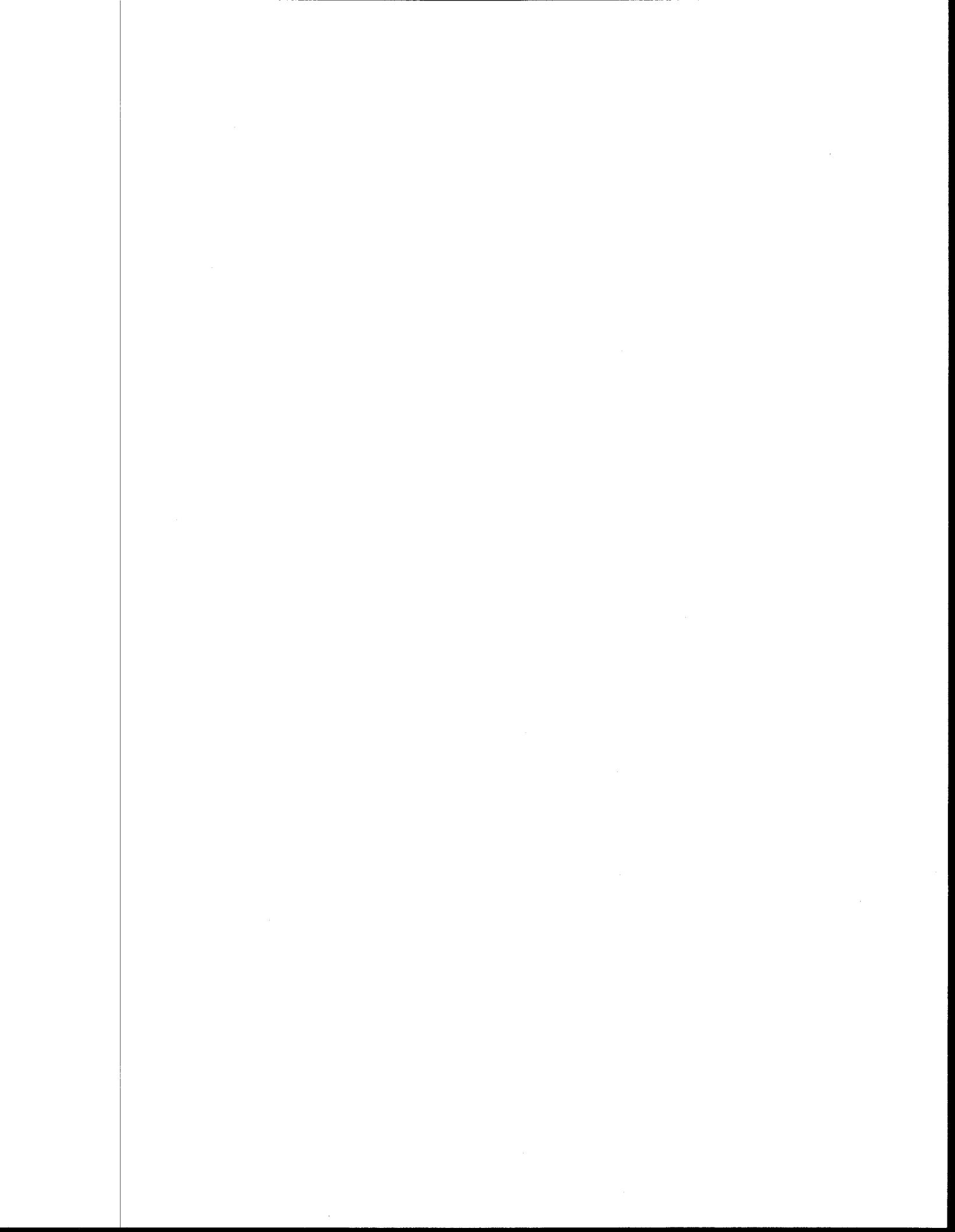
**IF YOU HAVE ANY QUESTIONS,  
PLEASE CONTACT THE CLERK OF THE BOARD  
1001 I Street, 23<sup>rd</sup> Floor, Sacramento, CA 95814**

**(916) 322-5594  
FAX: (916) 322-3928  
ARB Homepage: [www.arb.ca.gov](http://www.arb.ca.gov)**

***To request special accommodation or language needs, please contact the following:***

- **For individuals with sensory disabilities, this document is available in Braille, large print, audiocassette or computer disk. Please contact ARB's Disability Coordinator at 916-323-4916 by voice or through the California Relay Services at 711, to place your request for disability services.**
- **If you are a person with limited English and would like to request interpreter services to be available at the Board meeting, please contact ARB's Bilingual Manager at 916-323-7053.**

**THE AGENDA ITEMS LISTED ABOVE MAY BE CONSIDERED IN A DIFFERENT ORDER AT THE BOARD MEETING.**



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2700 M Street, Suite 275, Bakersfield, California 93301

**PUBLIC MEETING AGENDA**

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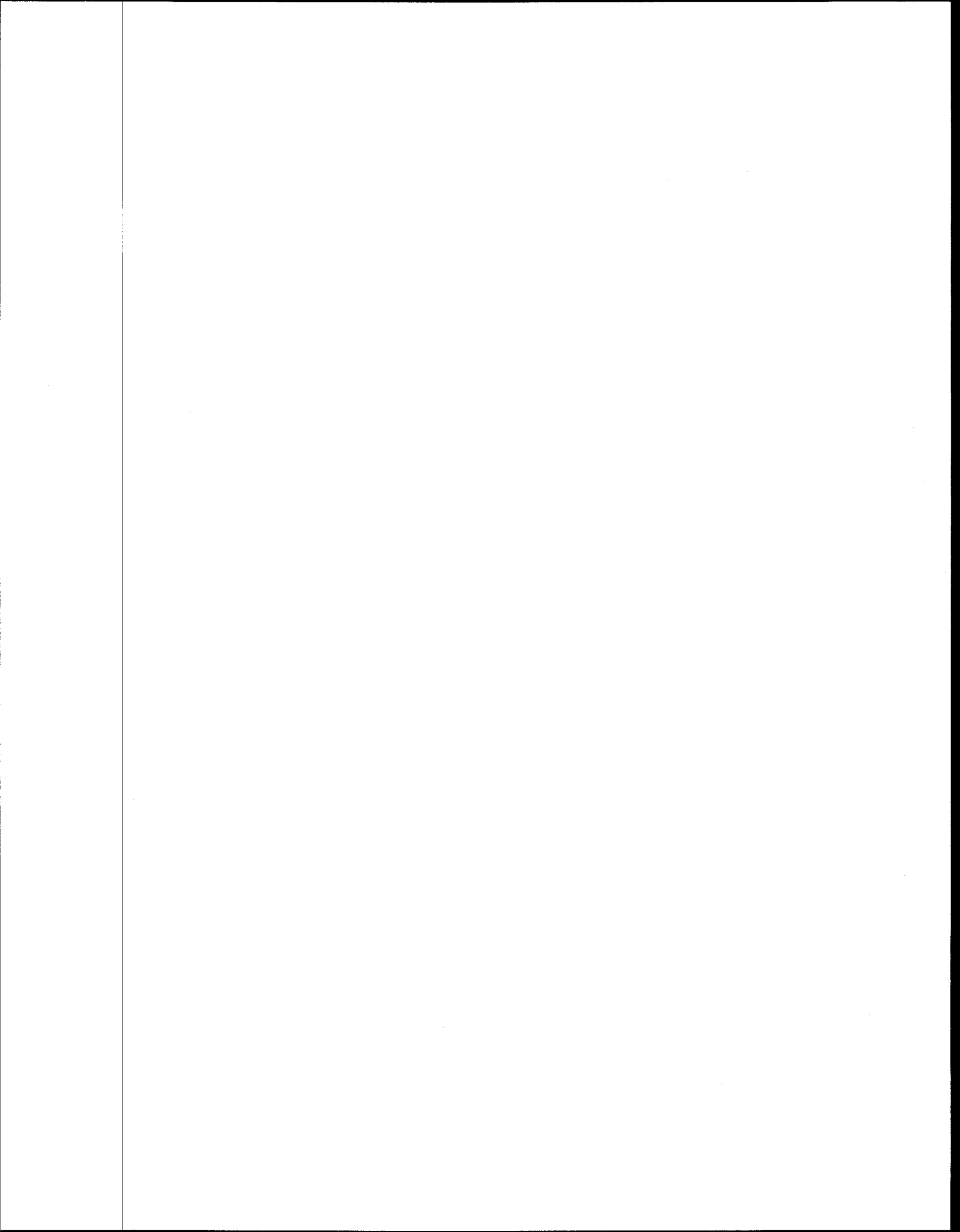
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**May 22, 2008  
8:30 a.m.**

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## CALIFORNIA AIR RESOURCES BOARD

### NOTICE OF PUBLIC MEETING TO CONSIDER THE APPROVAL OF THE SAN JOAQUIN VALLEY 2008 PM2.5 STATE IMPLEMENTATION PLAN AND PROVIDE AN UPDATE ON OZONE

The Air Resources Board (the Board or ARB) will conduct a public meeting at the time and place noted below to consider the approval of the proposed San Joaquin Valley 2008 PM2.5 State Implementation Plan (2008 PM2.5 Plan) to attain the federal standards for fine particulate matter (PM2.5). If approved, ARB will submit these elements to the United States Environmental Protection Agency (U.S. EPA) for its approval as a revision to the California State Implementation Plan (SIP). In this item, the Board will also hear a short update on the San Joaquin Valley's Ozone SIP.

DATE: May 22, 2008

TIME: 8:30 a.m.

PLACE: San Joaquin Valley Air Pollution Control District  
1990 East Gettysburg Avenue  
Fresno, California 93726

Or Via Videoconference (2 Locations)

District Northern Region Office  
4800 Enterprise Way  
Modesto, California 95356

District Southern Region Office  
2700 M Street, Suite 275  
Bakersfield, California 93301

This item will be considered at an one-day meeting of the Board, which will commence at 8:30 a.m., May 22, 2008. Please consult the agenda for the meeting, which will be available at least ten (10) days before May 22, 2008, to determine the schedule on which this item will be considered.

For individuals with sensory disabilities, this document is available in Braille, large print, audiocassette or computer disk. Please contact ARB's Disability Coordinator at (916) 323-4916 by voice or through the California Relay Services at 711, to place your request for disability services. If you are a person with limited English and would like to request interpreter services, please contact ARB's Bilingual Manager at (916) 323-7053.



## **BACKGROUND**

The federal Clean Air Act (the Act) establishes planning requirements for those areas that exceed the health-based National Ambient Air Quality Standards (NAAQS). These nonattainment areas must develop and implement a SIP that demonstrates how they will attain the standards by specified dates.

In July 1997, U.S. EPA promulgated new PM2.5 NAAQS, both an annual and a 24-hour standard. On April 5, 2005, the San Joaquin Valley Unified Air Pollution Control District (District or Valley) was designated nonattainment for the federal PM2.5 standards based on violations of both the annual and 24-hour standards. The Valley is required to submit a SIP demonstrating attainment will occur as expeditiously as practicable, but no later than April 2015. The Act also requires that the SIP include reasonable further progress, reasonably available control measures and technologies, contingency measures, comprehensive emissions inventories, and transportation conformity budgets. The District prepared the 2008 PM2.5 Plan to address these requirements and to attain the PM2.5 standard as expeditiously as practicable. The District Governing Board adopted the 2008 PM2.5 Plan on April 30, 2008.

The 2008 PM2.5 Plan relies on both District and ARB measures to demonstrate attainment. The ARB measures were adopted at the September 2007 Board hearing and include commitments to reduce nitrogen oxides and direct PM2.5 by 76 tons per day and 5 tons per day, respectively, in 2014. In addition, the 2008 PM2.5 Plan establishes county-level on-road motor vehicle emission transportation conformity budgets for each milestone year, as well as for the attainment year. The emissions budgets in the 2008 PM2.5 Plan reflect the latest planning assumptions and were developed with EMFAC2007.

Regarding the ozone update, at the November 15, 2007 ARB meeting, the Board directed staff to provide an update to the Board, by June 2008 at a meeting held in the Valley, on recent activities that may accelerate attainment of the federal ozone standard in the San Joaquin Valley. ARB staff will provide an update as an element of staff's presentation to the Board on this item.

## **PROPOSED ACTION**

ARB staff has reviewed the District's 2008 PM2.5 Plan and concluded that it meets applicable federal requirements. ARB staff has also concluded that the implementation of the 2008 PM2.5 Plan would reduce PM2.5 levels throughout the San Joaquin Valley and result in attainment of the 1997 PM2.5 standards by April 2015. Staff is recommending that the Board approve the 2008 PM2.5 Plan, as well as the transportation conformity budgets, emission inventory, reasonable further progress, reasonably available control measures and technologies demonstration, contingency measures, and attainment demonstration as a revision to the California SIP, and to direct staff forward the 2008 PM2.5 Plan to U.S. EPA.



## AVAILABILITY OF DOCUMENTS

ARB staff has prepared a written Staff Report. Copies of the Staff Report may be obtained from the Board's Public Information Office, 1001 "I" Street, 1<sup>st</sup> Floor, Environmental Services Center, Sacramento, California 95814, (916) 322-2990. This notice, the Staff Report, and the District's 2008 PM2.5 Plan may also be obtained from ARB's internet site <http://www.arb.ca.gov/planning/sip/sjvpm25/sjvpm25.htm>.

## SUBMITTAL OF COMMENTS

Interested members of the public may also present comments orally or in writing at the meeting, and in writing or by e-mail before the meeting. To be considered by the Board, written comment submissions not physically submitted at the meeting must be received **no later than 12:00 noon, May 21, 2008**, and addressed to the following:

Postal mail: Clerk of the Board, Air Resources Board  
1001 I Street, Sacramento, California 95814

Electronic submittal: <http://www.arb.ca.gov/lispub/comm/bclist.php>

Facsimile submittal: (916) 322-3928

The Board requests, but does not require that 30 copies of any written statement be submitted and that written and e-mail statements be filed at least ten (10) days prior to the meeting so that ARB staff and Board members have time to fully consider each comment.

Please note that under the California Public Records Act (Government Code Section 6250 et seq.), your written and oral comments, attachments, and associated contact information (e.g., your address, phone, email, etc.) become part of the public record and can be released to the public upon request. Additionally, this information may become available via Google, Yahoo, and any other search engines.



Further inquiries regarding this matter should be directed to Ms. Sylvia Zulawnick, Manager of the Particulate Matter Analysis Section, Planning and Technical Support Division, 1001 I Street, Sacramento, California 95814 or by e-mail at [szulawni@arb.ca.gov](mailto:szulawni@arb.ca.gov), or Dr. Patricia Velasco, Staff Air Pollution Specialist, Planning and Technical Support Division at (916) 323-7560, 1001 I Street, Sacramento, California 95814 or by e-mail at [pvelasco@arb.ca.gov](mailto:pvelasco@arb.ca.gov).

CALIFORNIA AIR RESOURCES BOARD



James N. Goldstene  
Executive Officer

Date: 4/25/08





**State of California**



**California Environmental Protection Agency**

**AIR RESOURCES BOARD**

**Staff Report**

**Analysis of the San Joaquin Valley  
2008 PM2.5 Plan**

Release Date: May 7, 2008

Scheduled for Consideration: May 22-23, 2008

This document has been reviewed by the staff of the California Air Resources Board and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Air Resources Board, nor does the mention of trade names or commercial products constitute endorsement or recommendation for use.

Electronic copies from this document are available for download from the Air Resources Board's Internet site at: <http://www.arb.ca.gov/planning/sip/sjvpm25/sjvpm25.htm>. In addition, written copies may be obtained from the Public Information Office, Air Resources Board, 1001 I Street, 1<sup>st</sup> Floor, Visitors and Environmental Services Center, Sacramento, California 95814, (916) 322-2990.

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**For questions, contact:**

Ms. Sylvia Zulawnick  
Manager, PM Analysis Section  
Phone: (916) 324-7163  
Email: [szulawni@arb.ca.gov](mailto:szulawni@arb.ca.gov)

or

Patricia Velasco, Ph.D.  
Project Lead  
Phone: (916) 323-7560  
Email: [pvelasco@arb.ca.gov](mailto:pvelasco@arb.ca.gov)

P.O. Box 2815  
Sacramento, California 95812

## **PRINCIPAL AUTHOR**

Patricia Velasco, Ph.D., Project Lead

## **PROJECT MANAGERS**

Sylvia Zulawnick, Manager, Particulate Matter Analysis Section

Karen Magliano, Chief, Air Quality Data Branch

## **CONTRIBUTORS**

### Air Quality and Transportation Planning

Kurt Karperos, P.E., Chief, Air Quality and Transportation Planning Branch

Ravi Ramalingam, P.E., Manager, Transportation Strategies Section

Jeff Lindberg, Planning Liaison to the San Joaquin Valley Air Pollution Control District

Kyriacos Kyriacou, Ph.D., Air Resources Engineer

### Air Quality Data Branch

Katazyna Turkiewicz, Air Pollution Specialist

Eugene Kim, Ph.D., Air Resources Engineer

### Air Quality Modeling

John DaMassa, Chief, Modeling and Meteorology Branch

Vernon Hughes, Manager, Atmospheric Modeling and Support Section

Ajith Kaduwela, Ph.D., Manager, Regional Air Quality Modeling Section

Kathleen Fahey, Ph.D., Air Pollution Specialist

Cheryl Taylor, Air Resources Engineer

### Emission Inventory

Karen Buckley, Manager, Emission Inventory Systems Section

Martin Johnson, P.E., Staff Air Pollution Specialist

## ACKNOWLEDGMENT

ARB staff thanks the staff of the San Joaquin Valley Unified Air Pollution Control District for the high level of coordination between the agencies in the development of the technical elements of this plan.

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## EXECUTIVE SUMMARY

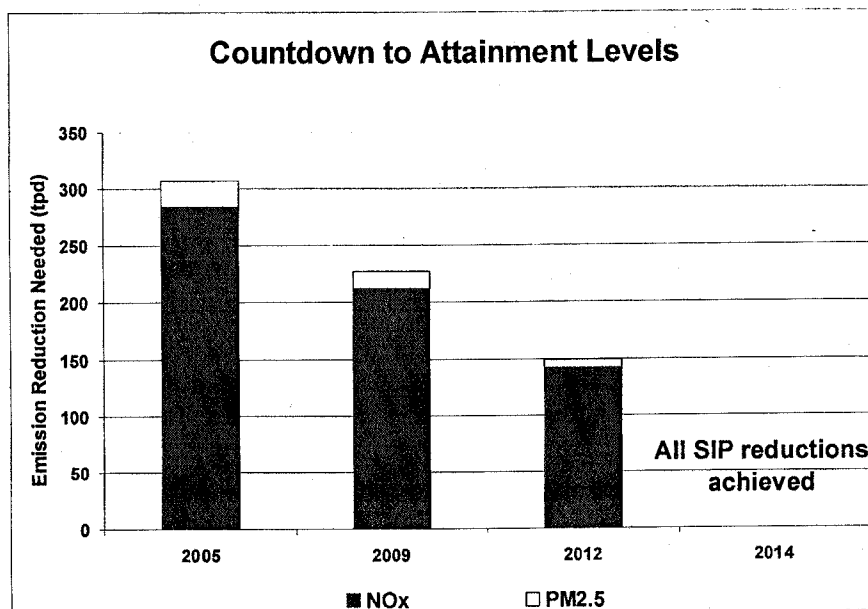
On April 30, 2008, the San Joaquin Valley Air Pollution Control District (District) adopted a PM2.5 Attainment Plan showing how the region will comply with the federal PM2.5 air quality standards set by the U.S. Environmental Protection Agency (U.S. EPA) in 1997. The staff of the Air Resources Board (ARB or Board) has reviewed the Plan and recommends that the Board approve it as a State Implementation Plan (SIP) revision to be submitted to U.S. EPA. The Plan shows that the region now meets the daily (24-hour) standard, and demonstrates how the more challenging annual standard will be met by 2014. The Plan documents that emissions of PM2.5 particles, and the pollutants that form PM2.5, are decreasing each year. A mid-course review of plan implementation will be done in 2011 as required by U.S. EPA

The Plan consists of adopted measures that provide increasing benefits each year, along with new emission reduction commitments from both ARB and the District. The Valley's particle pollution problem is well studied as a result of the \$27 million invested in the California Regional Particulate Matter Study. This study provides the scientific foundation for the PM2.5 SIP by identifying the pollutants most important to formation of PM2.5 pollution. The results indicate that the key pollutants to reduce are NOx, SOx, and directly emitted PM2.5 particles. The Plan addresses these three pollutants consistent with U.S. EPA guidance. Emissions of VOC are also being reduced in the region as part of the ozone attainment strategy but are not required to be included in this SIP.

Overall, between 2005 and 2014, NOx emissions will decrease by almost 300 tons per day (tpd), direct PM2.5 emissions by over 20 tpd, and SOx by almost 3 tpd. Two thirds of the NOx and SOx reductions and one half of the PM2.5 reductions come from already adopted measures. A significant portion of the new commitments come from the ARB's State Strategy that was adopted in September 2007. The State Strategy provides an additional 76 tons of NOx reductions and 5 tons of PM2.5 reductions in 2014. The District has accelerated several measures in its 2007 Ozone Plan that are also part of the PM2.5 attainment strategy, and targeted a number of categories of PM2.5 for additional emission reductions, including residential wood burning and commercial cooking. Past District efforts to reduce impacts from residential wood burning have proven to be very effective, and continued reductions in this source category are expected to contribute significantly to further progress.

As emissions have decreased each year, parts of the Valley are already meeting the annual standard. The air quality modeling indicates that attaining the annual standard in the southern Valley is the biggest challenge, but all areas are projected to attain the standard by 2014. The Plan will also bring the region much closer to meeting a new federal PM2.5 standard that will apply to future SIP planning efforts. SIP planning for the newer standard will occur after U.S. EPA designates nonattainment areas and develops implementation rules.

The Plan demonstrates the rate of emission reductions that will occur between now and the attainment year. As shown below 307 tons per day of reductions are needed between 2005 and 2014. The Plan outlines how these reductions will be achieved. While the majority of the reductions are NOx, it is important to recognize that the PM2.5 reductions are also essential because air quality modeling shows each ton of direct PM2.5 is approximately nine times more effective ton per ton in the attainment year.



Staff's review indicates that the Plan meets the requirements of the Clean Air Act (Act) and U.S. EPA's PM2.5 implementation rule. The SJV 2008 PM2.5 Plan demonstrates attainment as expeditiously as practicable, no later than 2014, as required by the Act. The Plan also includes reasonable further progress calculations, reasonably available control measures and technologies, contingency measures, emission inventories, transportation conformity budgets, and a commitment for a SIP update in 2011. Additional reductions from adopted ARB measures will provide NOx reductions for contingency purposes should the region not attain in 2014.

The PM2.5 Plan is the result of a two year effort to update the emission inventories for each mobile, stationary, and area source category, conduct air quality modeling and data analysis, and to develop new control strategies. The 2011 SIP update will provide an important opportunity to assess air quality progress, update emission inventories, and check on the progress in achieving emission reductions.

Recommendations: Staff recommends that the Board approve the District's 2008 PM2.5 attainment Plan.

## **I. BACKGROUND**

### **A. Profile of the San Joaquin Valley**

Covering nearly 25,000 square miles, the San Joaquin Valley is one of the dominant features in California's landscape. One of the fastest growing regions in the State, the Valley is home to more than 3.6 million people. The Valley has four large cities, Stockton, Modesto, Fresno, and Bakersfield, each with a population greater than 200,000. Numerous smaller cities and towns in the Valley are separated by large expanses of agricultural lands. With urbanization, agricultural lands continue to be converted to non-agricultural uses.

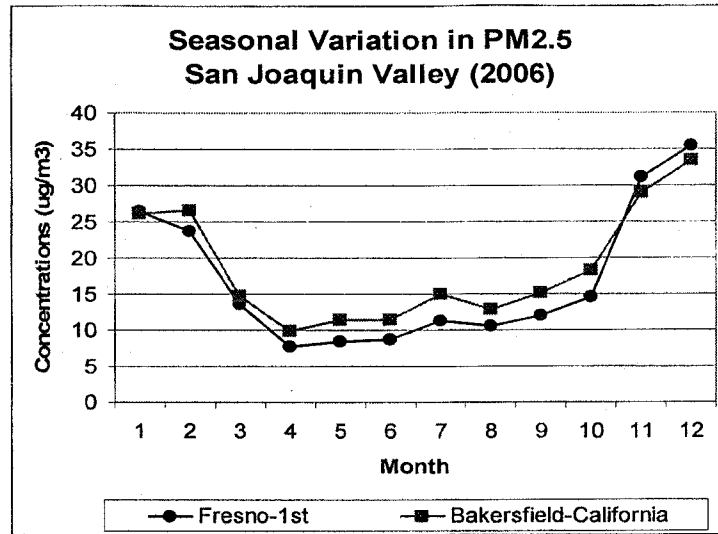
The San Joaquin Valley Air Basin is a lowland area bordered by the Sierra Nevada Mountains to the east, the Pacific Coast range to the west, and the Tehachapi Mountains to the south. The mountains act as air flow barriers, with the resulting stagnant conditions favoring the accumulation of emissions and pollutants. As a result, PM<sub>2.5</sub> concentrations are higher in the southern and central portions of the Valley, where geography, emissions, and climate pose significant challenges to air quality progress.

PM<sub>2.5</sub> is a complex mixture of many different species generated from a wide array of sources. PM<sub>2.5</sub> can be either emitted directly into the air (primary particles) in forms such as soot, smoke, and the tiniest specs of dust, or it can be formed in the atmosphere (secondary particles or aerosol droplets) from the reactions of precursor gases, nitrogen oxides (NO<sub>x</sub>), sulfur oxides (SO<sub>x</sub>), reactive organic gases (ROG), and ammonia. NO<sub>x</sub> and ROG are also precursors of ozone pollution. Understanding the nature of the PM<sub>2.5</sub> problem is key to designing an effective control strategy.

In the Valley, the levels and nature of PM<sub>2.5</sub> concentrations typically differ by season (Figure 1). Higher PM<sub>2.5</sub> concentrations occur during the winter, between late November and February during extended periods of stagnant weather with cold, damp, foggy conditions, which are conducive to the formation of secondary ammonium nitrate particulates. At these times, PM<sub>2.5</sub> is dominated by ammonium nitrate formed from NO<sub>x</sub> and ammonia emissions, and directly emitted particles, such as wood smoke and other combustion sources.

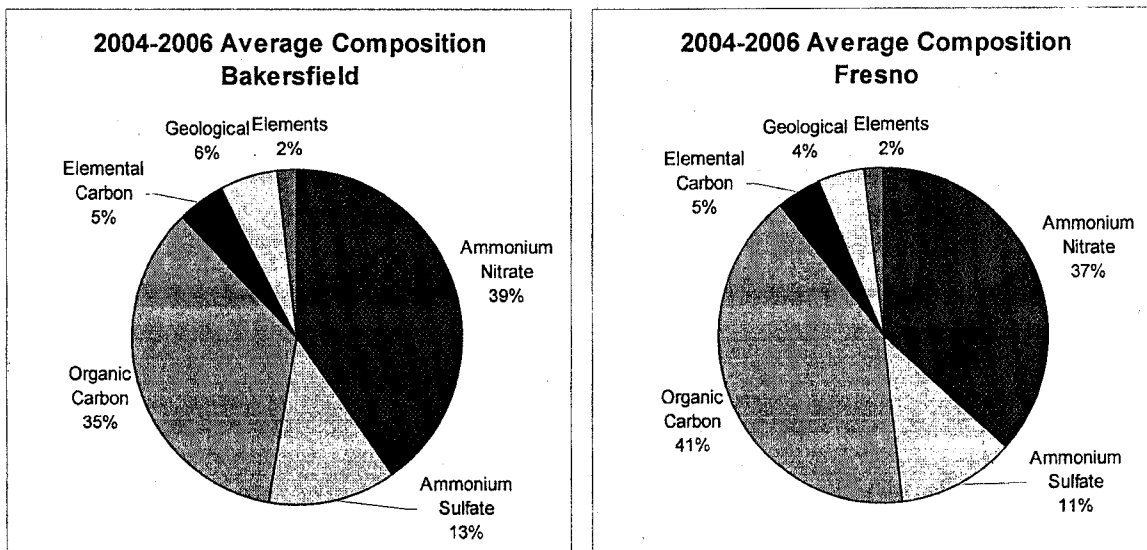


Figure 1. Seasonal Variation in PM2.5 Concentrations in the San Joaquin Valley.



The elevated winter PM2.5 concentrations drive the annual average PM2.5 levels. On an annual basis, PM2.5 in the Valley consists mostly of ammonium nitrate, organic carbon, and ammonium sulfate (Figure 2). Ammonium nitrate is formed from chemical reactions of NOx emitted from motor vehicles and stationary combustion sources with ammonia. Burning activities, such as residential wood combustion, cooking, and direct tailpipe emissions from mobile sources are major sources of organic carbon. Ammonium sulfate is also formed in the atmosphere from chemical reactions of SOx emitted from combustion sources and ammonia. To a lesser extent, elemental carbon resulting from mobile and stationary combustion sources, and geological material from roads and other dust producing activities also contribute to PM2.5.

Figure 2. PM2.5 Composition in the San Joaquin Valley



## **B. PM2.5 Health Effects and Federal Air Quality Standards**

Extensive research over the last two decades has investigated the effects that breathing PM2.5 has on people's health. Research studies have consistently found a link between PM2.5 exposure and premature death in people with existing cardiac or respiratory disease. Studies of large populations have found that exposure to PM2.5 is associated with increased hospital admissions and emergency room visits due to frequent and severe asthma attacks, pneumonia, and acute and chronic bronchitis, primarily in people with chronic heart or lung diseases. Long-term exposure to PM2.5 has also been linked to an increase in lung cancer mortality risk. Those most at risk of experiencing adverse effects with PM2.5 exposure include infants, children, the elderly, and persons with pre-existing cardiopulmonary disease.

U.S. Environmental Protection Agency (U.S. EPA) adopted national ambient air quality standards (NAAQS) for PM2.5 in 1997, with a 24-hour PM2.5 standard of 65 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) and an annual standard of 15  $\mu\text{g}/\text{m}^3$ . State Implementation Plans (SIPs) for areas designated nonattainment for these standards are due to U.S. EPA in 2008. The San Joaquin Valley is currently designated as nonattainment for the 1997 PM2.5 standards and the 2008 SJV PM2.5 Plan addresses these standards. In 2006, U.S. EPA adopted a new 24-hour PM2.5 standard that will apply to future SIP planning efforts. SIP planning for the newer standard will occur after U.S. EPA designates nonattainment areas and develops implementation rules

## **C. Air Quality**

While the San Joaquin Valley has one of the most severe PM2.5 problems in the nation, PM2.5 air quality has shown considerable improvement. Initial efforts to monitor PM2.5 began in 1990. Annual average PM2.5 concentrations decreased between 20 to 30 percent during the period of 1990 through 2001. Due to the marked and complex variability in the Valley's meteorological conditions, some years are far more conducive to PM2.5 formation and accumulation than others. However, overall concentrations show a downward long-term trend (Figure 3).