

CALIFORNIA AIR RESOURCES BOARD**NOTICE OF PUBLIC MEETING TO UPDATE THE BOARD ON THE STATUS OF
OZONE TRANSPORT MITIGATION IN CALIFORNIA**

The Air Resources Board (the Board or ARB) will conduct a public meeting at the time and place noted below to consider a status report on ozone transport mitigation in California. This item is informational only, and no regulatory action will be taken.

DATE: April 22, 2004

TIME: 9:00 a.m.

PLACE: California Environmental Protection Agency
Air Resources Board
Central Valley Auditorium
1001 I Street
Sacramento, California 95814

This item will be considered at a two-day meeting of the Board, which will commence at 9:00 a.m., April 22, 2004, and may continue at 8:30 a.m., April 23, 2004. This item may not be considered until April 23. Please consult the agenda for the meeting, which will be available at least 10 days before April 22, 2004, to determine the day on which this item will be considered.

If you have special accommodation or language needs, please contact ARB's Clerk of the Board at (916) 322-5594 or landreon@arb.ca.gov as soon as possible. TTY/TDD/Speech-to-Speech users may dial 7-1-1 for the California Relay Service.

Unhealthy ozone levels in a particular area often result from a combination of emissions generated by local sources and pollution blown in or transported from other regions of the State. Upwind areas contribute transported pollution; downwind areas receive transported pollution. Many regions are both contributors and recipients of transport. ARB has identified regions linked by transport and characterized the impact of transport on the downwind area as inconsequential, significant or overwhelming on some days. The transport relationships are complex -- a downwind area can experience different impacts on different days, depending on the weather pattern.

The California Clean Air Act directs upwind air districts to mitigate ozone transport to help their downwind neighbors attain the State ambient air quality standard. State law gives ARB the responsibility to establish specific ozone transport mitigation requirements to be implemented by local air districts. In addition to the oversight role, ARB directly reduces ozone transport through statewide control programs for sources like vehicles, fuels, and consumer products.

The Board adopted the first transport mitigation regulation in 1990 and strengthened it in May 2003. The 2003 amendments added two significant requirements for upwind districts: (1) continue adopting all feasible control measures for ozone precursors until the downwind area attains the State ozone standard and (2) use emission thresholds for permitting new or modified stationary sources at least as stringent as those of downwind districts. With its action to adopt these amendments, the Board asked staff to report back with an update on transport mitigation in a year.

Staff will report on the significant progress made in addressing transport issues over the last year. The breadth of activities include: a Northern California coordination group with governing board members and top management from ARB and local air districts, an ARB-district staff effort to identify opportunities for additional emission reductions based on the most stringent district rules in place, and a framework developed by the California Air Pollution Control Officers Association to facilitate consideration of transport in local air quality plans. ARB staff will also summarize the status of its work to understand transport relationships and briefly describe the future direction of these assessments.

ARB staff will present a written status report at the meeting. Copies of the report may be obtained from the Board's Public Information Office, 1001 I Street, 1st Floor, Environmental Visitors and Services Center, Sacramento, CA 95814, (916) 322-2990, after April 8, 2004. The report may also be obtained from ARB's internet site at <http://www.arb.ca.gov/aqd/transport/mitigation/mitigation.htm>.

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 comments submissions not physically submitted at the meeting must be received **no later than 12:00 noon, April 21, 2004**, and addressed to the following:

Postal mail is to be sent to:

Clerk of the Board
Air Resources Board
1001 I Street, 23rd Floor
Sacramento, California 95814

Electronic mail is to be sent to tranmit@listserv.arb.ca.gov and received at the ARB **no later than 12:00 noon, April 21, 2004**.

Facsimile submissions are to be transmitted to the Clerk of the Board at (916) 322-3928 and received at the ARB **no later than 12:00 noon April 21, 2004**.

The Board requests, but does not require 30 copies of any written submission. Also, the ARB requests that written and e-mail statements be filed at least 10 days prior to the meeting so that ARB staff and Board members have time to fully consider each comment. Further inquiries regarding this matter should be directed to Ms. Kim-Heroy Rogalski, Staff Air Pollution Specialist, Air Quality and Transportation Planning Branch, at (916) 327-2200, or kheroyro@arb.ca.gov.

CALIFORNIA AIR RESOURCES BOARD



Catherine Witherspoon
Executive Officer

Date: April 1, 2004

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at www.arb.ca.gov.

**State of California
AIR RESOURCES BOARD**

STATUS REPORT

**OZONE TRANSPORT MITIGATION
IN CALIFORNIA**

**Release Date: April 8, 2004
Meeting Date: April 22-23, 2004**

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Website: <http://www.arb.ca.gov>.

State of California
California Environmental Protection Agency
AIR RESOURCES BOARD

Staff Report

OZONE TRANSPORT MITIGATION IN CALIFORNIA

Air Resources Board Meeting
Begins April 22, 2004 at 9:00 a.m.
and may continue April 23, 2004 at 8:30 a.m.
Air Resources Board
Central Valley Auditorium
1001 I Street
Sacramento, California 95814

Meeting notice available at
<http://www.arb.ca.gov/aqd/transport/mitigation/mitigation.htm>.

This report has been reviewed by the staff of the 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 mention of trade names or commercial products constitute endorsement or recommendation for use.

This report and related materials are available for downloading from the Air Resources Board's Internet site at <http://www.arb.ca.gov/aqd/transport/mitigation/mitigation.htm>. In addition, written copies may be obtained from the Board's Public Information Office, 1001 I Street, 1st Floor, Environmental Services Center, Sacramento, California 95814, (916) 322-2990.

If you are a person with a disability and desire to obtain this document in an alternative format, please contact the Americans with Disabilities Act Coordinator at (916) 323-4916, or TDD (916) 324-9531, or (800) 700-8326 for TDD calls from outside the Sacramento area.

QUESTIONS

If you have questions concerning this report, please contact:

Ms. Kim Heroy-Rogalski, P.E.
Staff Air Pollution Specialist
Phone: (916) 327-2200
Email: kheroyro@arb.ca.gov

INTRODUCTION

Unhealthy ozone levels in an area often result from a combination of emissions generated by local sources and pollution blown in or transported from other regions of the State. Consequently, mitigating the transport of ozone and ozone-forming pollutants within California is an important part of the State's efforts to achieve health-based ambient air quality standards.

Over the last decade, California has continued to strengthen both the science of pollution transport and the regulatory framework to reduce transport. In the last year, the Air Resources Board (ARB or Board) and the local air pollution control and air quality management districts (districts) have focused on improving coordination between regions and identifying feasible emission controls to further cut ozone levels.

This status report on ozone transport mitigation does the following:

- Reviews how transport of ozone pollution is addressed in California law,
- Identifies the transport relationships among California regions,
- Summarizes changes made in 2003 to the transport mitigation regulation,
- Provides an update on the status of transport mitigation,
- Describes the regional coordination activities underway, and
- Discusses the direction staff expects to take in the next few years to further understand, characterize, and mitigate ozone pollution transport.

Transport in California State Law

An "upwind" area is a generator of transported emissions, while a "downwind" area is a receptor of transported emissions. The California Clean Air Act (the Act) directs the ARB to periodically assess transport in terms of the contribution of ozone and ozone precursors in upwind regions to ozone concentrations in downwind regions. In addition, the Act directs ARB to establish mitigation requirements for upwind districts commensurate with their contributions to downwind air quality problems. The laws on transport are found in section 39610 of the California Health and Safety Code (H&SC). The regulations relating to transport are in title 17 of the California Code of Regulations (CCR) sections 70500, 70600, and 70601.

The Act requires districts to develop plans to attain the State ambient ozone standard and update the plans every three years (H&SC sections 40911 and 40925). The Act also requires that the combination of plans for upwind and downwind districts provide for attainment and maintenance of the ozone standard in both regions (H&SC section 40912). While there are no deadlines for attainment, the Act requires steady progress by either reducing emissions of each ozone precursor (i.e., reactive organic gases and oxides of nitrogen) by five percent per year or by adopting all feasible measures (H&SC section 40914). Districts subject to this requirement are pursuing the all feasible

measures path. Finally, each upwind district's plan must satisfy the mitigation requirements established by ARB pursuant to H&SC section 39610.

Transport Assessments

Over the last decade, ARB has done a series of technical assessments of transport relationships between air basins in California. The assessments identify transport couples consisting of an upwind and a downwind area. ARB also characterizes the contribution of transported pollutants as overwhelming, significant, or inconsequential. The influence of transport on a downwind area can vary widely day by day, depending mostly on the weather. As a result, a transport couple can have multiple characterizations. ARB approved the initial assessment in 1990, and updated the assessment in 1993, 1996, and 2001. Table 1 lists the identified transport couples within California.

**TABLE 1
CALIFORNIA TRANSPORT COUPLES**

Air Basin Impacted by Transport (Downwind Area)	Origin of Transport (Upwind Area)
Broader Sacramento Area	San Francisco Bay Area San Joaquin Valley
Great Basin Valleys	San Joaquin Valley
Mountain Counties	Broader Sacramento Area San Joaquin Valley San Francisco Bay Area
North Central Coast	San Francisco Bay Area San Joaquin Valley
North Coast	San Francisco Bay Area
Salton Sea	South Coast Mexico
San Diego	South Coast Mexico
San Francisco Bay Area	Broader Sacramento Area
San Joaquin Valley	San Francisco Bay Area Broader Sacramento Area
South Central Coast	South Coast California Coastal Waters San Joaquin Valley San Francisco Bay Area
South Coast	South Central Coast
Southeast Desert	South Coast San Joaquin Valley Mexico
Upper Sacramento Valley	Broader Sacramento Area

From title 17 California Code of Regulations, section 70500(c) Transport Identification Table

The body of knowledge developed through the assessments has yielded a practical understanding of the fundamental transport relationships among California regions. We know that urbanized areas largely cause their own air pollution. We know under what weather conditions these urban areas can receive pollution from their upwind neighbors and under what conditions they can transport pollution to their downwind neighbors. And finally, we know that depending on the weather patterns, the magnitude of the impact on the same downwind area can change substantially depending on the day.

In addition to the established practice of examining weather patterns, air flow, and pollution levels to identify transport couples, staff is developing additional modeling tools as part of the Central California Ozone Study and the Southern California Ozone Study to apply to future transport analyses. This work is the next step in the evolution of transport assessment—integrated evaluation of control strategies and pollution transport across air basins within the same modeling domain. The work is beginning to enhance our understanding of the fundamental transport relationships already identified. Thus, ARB staff is not proposing any new transport couples.

TRANSPORT MITIGATION REQUIREMENTS AND IMPLEMENTATION STATUS

ARB first adopted transport mitigation regulations in 1990. The 1990 regulations established mitigation requirements for upwind areas found to have either overwhelming or significant impacts on downwind areas. The primary mitigation requirement was to accelerate application of best available retrofit control technology (BARCT) to major stationary sources in upwind districts.

The Board amended its transport regulations in 1993 and further strengthened the regulations in May 2003. The 2003 amendments require each upwind district to: (1) adopt all feasible measures for ozone precursors until the downwind region attains the State ozone standard, regardless of the upwind district's attainment status and (2) adjust its no net increase thresholds for requiring offsets to be at least as stringent as those of its downwind district. No net increase thresholds are part of a district's stationary source permitting program; new or modified stationary sources with emissions or the potential to emit above the threshold must offset their emissions increase with greater-than-required emission reductions from elsewhere at the source or from other sources. The end result is no net increase in emissions within the district.

ARB staff is monitoring district compliance with the new requirements for all feasible measures and adjusted no net increase thresholds through review of district triennial California Clean Air Act plans (required by H&SC section 40925) and rulemaking activities.

The two new transport mitigation requirements are described in further detail below, along with a summary of recent district actions to comply.

All Feasible Measures

Districts that violate the State ozone standard are already required to adopt and implement all feasible measures unless they can demonstrate a five percent annual reduction in emissions. The 2003 amendments establish a continuing obligation for upwind districts to pursue these measures, regardless of their attainment status, until their downwind neighbors attain the State ozone standard. The amendments also require each upwind district to review its list of control measures in consultation with its downwind neighbor district and make a finding as to whether the list of control measures meets the all feasible measures requirement.

Districts can opt out of the all feasible measures requirement under certain conditions. For example, a district need not require all feasible measures if emissions from a source do not contribute to ozone violations in any downwind area, or if the most recent transport assessment demonstrates that the district's transport impact is inconsequential.

ARB has defined all feasible measures in title 17, CCR, section 70600(a)(1) as:

...air pollution control measures, including but not limited to emissions standards and limitations, applicable to all air pollution source categories under a district's authority that are based on the maximum degree of reduction achievable for emissions of ozone precursors, taking into account technological, social, environmental, energy and economic factors, including cost-effectiveness.

The all feasible measures benchmark evolves over time as new technology is developed to reduce emissions and districts adopt more effective rules in response. While each district is responsible for doing its own analysis of all feasible measures, it is useful to compile references to the most stringent district rule within the State for common source categories with significant emissions. These reference documents can aid each district's assessment of its own rules and comparison to the California benchmark. ARB and district staffs have typically worked together to evaluate rules and develop these references. In 1999, ARB staff released a comprehensive list of all feasible measures entitled Identification of Performance Standards for Existing Stationary Sources: A Resource Document.

In the past year, the districts, under the auspices of the California Air Pollution Control Officers Association (CAPCOA), and ARB have made noteworthy progress in updating this document and other resources to identify what the all feasible measures are for the current round of California Clean Air Act plans. Together, we have also conducted a direct rule comparison among the transport-coupled air basins for the San Francisco Bay Area, the Broader Sacramento Area, and San Joaquin Valley.

CAPCOA Potential All Feasible Measures List for Stationary Sources CAPCOA has responded vigorously to the all feasible measures and consultation requirements for upwind areas. The Rules Subcommittee of CAPCOA's Engineering Managers

Committee developed a list of potential all feasible measures meant to supplement the 1999 ARB document. The Rules Subcommittee solicited stationary source rules from each district that they believed would qualify as an all feasible measure. With participation from ARB staff, the Rules Subcommittee then evaluated the stringency of the rules submitted and culled them into a list of potential all feasible measures. Table 2 describes the source categories included in the CAPCOA potential all feasible measures list. At its December 2003 meeting, the CAPCOA Board approved the Potential All Feasible Measures List for Stationary Sources for distribution to districts and ARB.

The Rules Subcommittee also prepared a list of measures that districts had submitted but which did not meet the all feasible measures criteria and an explanation of why they did not qualify. This list will also help support the all feasible measures analyses. Finally, the Rules Subcommittee prepared a summary of the various factors that a district should evaluate when determining whether a certain rule is a feasible measure for that particular district. The factors included cost-effectiveness, socioeconomic impacts, public acceptability, the number and age of affected sources in the district, and the existing level of control.

We appreciate the level of district commitment and resources invested in developing CAPCOA's Potential All Feasible Measures List. The document is an important tool for district staffs to use in preparation of California Clean Air Act plans. We look forward to working with CAPCOA to revisit and update the list periodically to reflect control technology advances as new rules are implemented around the State.

Some districts have already submitted their 2003 California Clean Air Act ozone plans to ARB. Other districts are still working on their plans. As ARB staff reviews the plans, staff will look at the district rulemaking commitments with respect to the all feasible measures requirement to determine if the districts have identified all opportunities for emission reductions. Staff expects to provide feedback to districts when there appear to be opportunities for additional rulemaking commitments.

**TABLE 2
SOURCE CATEGORIES IN
2003 CAPCOA POTENTIAL ALL FEASIBLE MEASURES LIST**

Adhesives and sealants
 Aerospace assembly and component manufacturing
 Architectural coatings
 Boilers, steam generators, and process heaters
 Commercial charbroiling
 Degreasing operations
 Equipment leaks (valves and flanges)
 Food product manufacturing and processing
 Gasoline transfer and dispensing
 Glass coatings
 Graphic arts
 High volume spray booths
 Hydrogen plant vents
 Large water heaters and small boilers
 Lime kilns
 Metal parts and products coatings
 Organic liquids
 Polyester resin operations
 Polystyrene, polyethylene, and propylene foam products
 Residential water heaters
 Soil decontamination
 Solid waste disposal
 Solvent cleaning operations
 Solvent use
 Storage tanks
 Vehicle refinishing
 Wood coatings
 Wood flat stock coatings

No Net Increase Thresholds

The 2003 amendments to the transport mitigation regulation also require upwind districts to update their no net increase thresholds by December 31, 2004, to be as stringent as the threshold for their downwind district(s). The purpose is to ensure that upwind and downwind couples are taking comparable actions in their permitting programs. As shown in Table 3, the Bay Area Air Quality Management District and the five districts located in the Broader Sacramento Area must amend their new source

review (NSR) rules to lower their no net increase emission thresholds to the level used by the San Joaquin Valley Unified Air Pollution Control District. All have indicated their intention to make the needed changes by the end of this year.

**TABLE 3
DISTRICTS THAT NEED TO LOWER
THEIR NEW SOURCE REVIEW NO NET INCREASE THRESHOLDS**

District	No net increase threshold [tons per year]	
	Current	Required
Bay Area Air Quality Management District	15	10
El Dorado County Air Quality Management District	15	10
Feather River Air Quality Management District*	25	10
Placer County Air Pollution Control District	15	10
Sacramento Metropolitan Air Quality Management District	15	10
Yolo-Solano Air Quality Management District	15	10

* The Feather River District may choose to limit the 10 tons per year threshold to just the portion of Southern Sutter County within the Broader Sacramento Area.

REGIONAL COORDINATION

There has also been tremendous progress over the last year in improving coordination between districts affected by transport as they seek to meet both federal and State ambient air quality standards. CAPCOA successfully crafted a procedural framework that districts may use to address planning and rulemaking issues related to transport. Specific to Northern California, Air Resources Board Members are leading an air agency group focused on exploring and resolving long-standing transport issues.

CAPCOA Transport Protocol

In December 2002, with ARB's transport mitigation regulation update underway, the CAPCOA Board set a goal to achieve consensus on a protocol for districts to use in dealing with transport issues. Over the course of 2003, participating districts developed the CAPCOA Pollution Transport Protocol (see Appendix A). The focus of this protocol is two-fold. First, the protocol outlines a process for districts to coordinate with each other and ARB staff on transport-related technical work for plans to meet federal and State air quality standards. Second, it acknowledges that disputes over pollutant transport can occur, and sets up a process to resolve disputes between districts at the local level. The protocol is designed to provide more detail on how districts can manage transport issues, consistent with the requirements of ARB's transport mitigation

regulation. Individual districts may choose to use the protocol as developed or adapt it for their specific situations.

Although the protocol is voluntary and not legally binding, ARB staff believes that it sets up a useful and workable framework for addressing transport. We are optimistic that the protocol will facilitate districts working together to resolve pollution transport issues.

The contents of the CAPCOA protocol are summarized below:

- **Upwind districts should adopt all feasible measures for stationary sources.** If any district in California has a rule limiting emissions of ozone precursors for a source category, the protocol states that all upwind districts should adopt a rule for that source category designed to achieve at least the same percentage control of emissions within the same time frame. Exceptions include if (a) the rule would cost more than \$15,000 per ton to implement, (b) the rule would provide de minimis benefits, (c) there is implementation uncertainty for the previously adopted rule, or (d) the district board determines that the rule is infeasible based on technological, social, environmental, economic, or energy factors.
- **Upwind districts should consider transportation control measures (TCMs) adopted by other air districts.** TCMs are strategies designed to reduce vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, or traffic congestion. The protocol calls on districts to make a good faith effort to implement TCMs designed to achieve the same percentage control of the same activity as TCMs adopted by other California districts. CAPCOA has undertaken a complementary new effort to develop a reference document for districts on transportation-related strategies (such as TCMs and clean fleet incentives) being implemented around California. Such local strategies can complement the State's actions to reduce transportation emissions.
- **Upwind and downwind districts should engage in a cooperative process to allocate emission control responsibilities.** The protocol encourages district executive, modeling, and planning staffs to meet periodically. Upwind and downwind district staff and ARB staff should participate in modeling coordination working groups. Upwind districts should show that their air quality plans contain sufficient measures to eliminate transport that by itself can cause an exceedance of the federal ambient air quality standards in a downwind district.
- **Disputes among districts related to pollution transport should be resolved at the lowest level possible.** CAPCOA supports a hierarchy of meetings, first among district management and then among district board members, using a mediator if necessary.

Northern California Air Quality Coordinating Group

Over the past year, Air Resources Board Members have been leading meetings with elected officials and district executive staff from the Bay Area, Sacramento, Yolo-Solano, and San Joaquin Valley air districts to discuss transport-related issues. These meetings represent a constructive model for the kind of cooperation that is essential to evaluate the facts relative to transport concerns and to build consensus on how to resolve them.

In response to these discussions, the staffs of the Sacramento, San Joaquin, Bay Area, and Yolo-Solano air districts have been working cooperatively with the ARB staff to evaluate and compare rules for a number of source categories. For each category examined, staff prepared a detailed comparison of each rule element – emission limits, applicability, exemptions, inspection requirements, etc. In addition to comparing the rules among the participating districts, the technical group identified the most effective rule in California for each source category. District and ARB staff reached consensus on analyses for the following source categories:

- Adhesives
- Boilers
- Can and coil coating
- Degreasing
- Graphic arts
- Internal combustion engines
- Solvent cleaning
- Storage of organic liquids
- Turbines
- Valves and flanges
- Vehicle refinishing

Where differences among rules were identified, the Northern California district staff reached consensus on which districts had the potential to achieve additional emission reductions through a rule revision. District staffs made commitments to undertake rule development and/or further evaluations to see if rule revisions were justified. The districts are folding the results of the rule comparison effort into their upcoming California Clean Air Act plans.

THE FUTURE OF TRANSPORT ASSESSMENT AND MITIGATION

Over a decade of technical work has provided a good understanding of the fundamentals of pollutant transport statewide, including the basic transport relationships among air basins. With much more extensive air quality and meteorological data becoming available from field studies, ARB staff has begun to take the next step in transport analyses. Future transport analyses will take advantage of two regional field studies that together cover nearly all of the State—the 1997 Southern California Ozone Study (SCOS) and the 2000 Central California Ozone Study (CCOS).

The vast size of the domains studied under both CCOS and SCOS will significantly improve our ability to understand transport phenomena. These studies will allow for better three-dimensional characterization of transport. In addition, the regional air quality models developed as part of the studies will provide tools to examine transport from a broader regional, rather than transport couple, perspective.

The regional models are already being used to develop clean air plans to meet the federal one-hour ozone standard. These tools are helping us assess the benefits of existing and new control strategies in both upwind and downwind regions throughout the modeled domains. ARB and districts are developing ozone episodes for modeling that involve meteorological conditions conducive to transport. This modeling should help us fine tune our understanding of how changes in upwind and downwind emissions affect ozone levels downwind for use in future State Implementation Plans and California Clean Air Act plans. The next steps are to project the level of control needed to attain the federal eight-hour ozone standard and ultimately the State ozone standard.

As this status report has described, the last year has seen considerable progress in mitigating the transport of ozone pollution throughout California. The districts and ARB together have focused renewed attention on defining all feasible measures, comparing rules among districts, and handling transport disputes among districts. The key to the future is maintaining this momentum.

ARB staff expects that the rule comparison work of the Northern California Air Quality Coordinating Group will translate into rulemaking commitments in the Northern California districts' plans. We are optimistic that other districts will embrace the all feasible measures process described in the new CAPCOA Pollution Transport Protocol to find additional emission reduction ideas from an innovative or more effective rule in another district. Both upwind and downwind districts will reap air quality benefits from such efforts.

As districts are working to find and implement every feasible measure, ARB continues to identify and develop new strategies to achieve cost-effective emission reductions from sources under our jurisdiction. In addition to the Board's existing programs, ARB has an ambitious rulemaking calendar set forward as part of the 2003 State and Federal Strategy of the California State Implementation Plan. As these measures take effect, emissions all across the State will be reduced, and thus transport of pollution among all regions will be further decreased.

Appendix A
CAPCOA Transport Protocol

CAPCOA

POLLUTION TRANSPORT PROTOCOL

*(Approved by the CAPCOA Board on 1/22/04 and 2/26/04
for use as an instrument to develop
Memoranda of Understanding among Air Districts)*

- § 1. All Feasible Measures
- § 2. Emission Reductions Based on Modeling
- § 3. Dispute Resolution
- § 4. Coordination of Planning and Modeling

SECTION 1. ALL FEASIBLE MEASURES

(a) **Supplemental AFMs Provisions for Ozone.** Every district that is subject to a requirement in the California Air Resources Board ozone transport mitigation regulations (title 17, Cal. Code Regs. §70600, 70601) to adopt "All Feasible Measures" (AFMs) shall comply with the following Supplemental AFMs Provisions:

- (1) **Consideration and Adoption of Rules From Other Districts.** The district shall adopt a rule based upon each rule limiting emissions of ozone precursors that has been adopted by another California air district, except as provided in paragraph (3) below (Exceptions Due to Infeasibility). In complying with this requirement, the district need not adopt the specific language of a rule adopted in another district, but shall adopt a rule that is designed to achieve, at a minimum, substantially the same percentage control of emissions from substantially the same source category, within the amount time from rule adoption allowed by such other district, and with comparable enforceability.
- (2) **Time of Rule Adoption.** Rules required by paragraph (1) above shall be adopted no later than two years after initial adoption of a rule by another air district, or two years after approval of this protocol, whichever is later. A district may delay adoption of a rule beyond such times to the extent necessary to avoid delaying adoption of another rule or rules that will achieve greater emission reductions within the same time.
- (3) **Exceptions Due to Infeasibility.** A district is not required to adopt a rule pursuant to this section if any of the following exceptions apply—
 - (A) **Not Cost-Effective.** The governing board of the district subject to the AFMs requirement finds that implementation of the rule would not be cost-effective in that district. Cost-effectiveness of the rule in the

district subject to the AFMs requirement shall be calculated based on the circumstances and types of sources in that district. A rule shall be considered cost-effective if it is no more expensive to implement than the most expensive cost-effectiveness determined for such a rule by another district, except that a district may determine a rule to be not cost-effective if it will cost more than \$15,000 per ton to implement. This cost level will adjust based on the CPI change from 2003.

- (B) **De Minimis Benefits.** The governing board of the district subject to the AFMs requirement finds that implementation of the rule would not produce emission reductions in that district exceeding a level that the board determines to be de minimis. A district may not use this exception to reject adoption of a rule unless the district adopts an alternative rule or other enforceable strategy. The alternative rule shall be adopted within 18 months and shall achieve surplus emission reductions that are equivalent to, and in the same time as, mass emission reductions that the rejected rule would have achieved.
- (C) **Implementation Uncertainty.** The previously-adopted rule—
- (i) was determined by the district that adopted it to be technology-forcing, and has not yet been implemented, or
 - (ii) is subject to a condition precedent to implementation such as a feasibility assessment, and such condition has not yet been satisfied, or
 - (iii) was not submitted for inclusion in the SIP because the air district desired to avoid the need to obtain EPA approval to modify the rule, or
 - (iv) has not been implemented by 25% or more of the sources affected by such rule, because such sources are under variance.
- (D) **Infeasibility Due To Other Factors.** The governing board of the district subject to the AFMs requirement finds that the rule is infeasible in that district based on technological, social, environmental, economic or energy factors specified by the board. This exception is subject to the following limitations:
- (i) A rule that would be cost-effective as defined in subparagraph (A) above may not be determined to be infeasible under this subparagraph based on inadequate cost-effectiveness.
 - (ii) A district may not use this exception to reject adoption of a rule that was adopted by a transport-coupled district with an “overwhelming” designation, unless the district adopts an alternative rule or other enforceable strategy. The alternative rule

shall be adopted within 18 months and shall achieve surplus emission reductions that are equivalent to, and in the same time as, mass emission reductions that the rejected rule would have achieved. This requirement to adopt an alternative rule does not apply to a district that is downwind of, and has a lower attainment classification (e.g. "serious," "severe") than, the transport-coupled district.

(4) Transportation Control Measures.

- (A) **Compliance With Applicable Laws.** The district shall include TCMs in its state and federal ozone air quality plans that are sufficient to comply with applicable requirements of state and federal law.
- (B) **Consideration and Implementation of TCMs From Other Districts.** The district shall make a good faith effort to achieve implementation within its jurisdiction of TCMs that are based on each TCM that is included in a plan adopted by another California air district, except as provided in subparagraph (C) below (Exceptions Due to Infeasibility). In complying with this subparagraph, the district need not attempt to achieve implementation of the specific language of a TCM from another district, but shall attempt to achieve implementation of a TCM that is designed to achieve, at a minimum, substantially the same percentage control of emissions from the same activity, within the amount time from plan adoption allowed by such other district plan, and with comparable enforceability.
- (C) **Exceptions Due to Infeasibility.** A district shall not be required to make a good faith effort to achieve implementation of a TCM if any of the Exceptions Due to Infeasibility described in paragraph (3) above apply. For purposes of this provision, any reference to "rule" in paragraph (3) shall also mean "TCM," and the \$15,000 per ton maximum cost-effectiveness value specified in subparagraph (3)(A) shall not apply.
- (D) **Definition.** As used in this paragraph, the terms "transportation control measures" and "TCMs" means strategies other than air district rules that are designed to reduce vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, or traffic congestion for the purpose of reducing motor vehicle emissions.
- (5) **Rule Implementation.** The triennial plan update pursuant to Health & Safety Code Section 40925 shall include: (1) a comparison of how each adopted rule compares to the to the commitments in the plan in terms of emission reductions and implementation timing; (2) for rules with compliance deadlines that have passed, a description of how compliance has

been achieved (i.e., periodic inspections, complaints, industry outreach); and
(3) a description of any violations and penalties associated with the rule.

- (b) **AFMs for Particulate Matter.** Every District that has been determined by CARB to be the source of emissions that have the potential to cause an “overwhelming” impact on attainment of air quality standards for particulates in a downwind district shall adopt AFMs to reduce such emissions. For such an upwind district, the requirements of subsection (a) shall apply to rules to reduce the types of particulate and/or particulate precursor emissions that contribute to exceedances of air quality standards in the downwind district.
- (c) **Burden of Proof.** A district seeking to invoke any exception specified in this section to a requirement to adopt a rule shall substantiate that the exception is applicable.
- (d) **Dispute Resolution.** The Dispute Resolution Procedure set forth in section 3 below shall be invoked in the event of a disagreement between districts regarding compliance with this section.

SECTION 2. EMISSION REDUCTIONS BASED ON MODELING

- (a) **Transport—NAAQS.** Each air district that has been identified by CARB as part of on upwind portion of a transport couple shall include in every air quality plan revision an analysis, based upon the best available modeling or other data, showing that the plan contains sufficient measures to eliminate transport that, by itself, can cause an exceedance of the federal ambient air quality standards for ozone or particulate matter in a downwind district. This analysis shall show that such exceedances will not occur on and after the date that the downwind district must attain the federal ambient air quality standards. The analysis shall be conducted with input from downwind districts, as described in section 4 below (Coordination of Planning and Modeling).
- (b) **Significant Transport.** Each district that is part of a transport-couple designated by CARB as “significant” or “overwhelming” shall engage in a cooperative process to allocate emission control responsibilities between the upwind and downwind districts to achieve the federal and state ambient air quality standards for ozone and particulate matter. As part of this process, downwind and upwind districts shall attempt to quantify—
 - (1) the amount of additional reductions in transported emissions that will be needed in the downwind district after the downwind district applies all feasible controls to sources within its jurisdiction,
 - (2) the amount of additional reductions that the upwind district can feasibly contribute to satisfy such need, and

- (3) the amount of any remaining shortfall, and the emission reductions needed from sources within the regulatory jurisdiction of the state and federal governments to eliminate that shortfall.

At a minimum, such process shall include periodic meetings and exchange of information between APCOs and modeling and planning staffs according to schedules consistent with federal plan submission deadlines.

- (c) **Downwind Plan Allocation for Transport Reductions.** Upwind districts shall assist downwind districts to include, in their attainment plans for state and federal ozone and particulate matter standards, allocations for pollutant reductions that will occur through implementation of the adopted upwind district plan. As part of such assistance, upwind districts shall attempt to quantify the pollutant reductions that will be achieved in the downwind district by implementation of the adopted upwind district plans. Upwind districts shall, if requested, assist downwind districts in obtaining CARB and EPA approval for such plan allocations.
- (d) **Dispute Resolution.** If, after a good faith effort, it appears to any party that the process described in subsection (b) above will not achieve consensus in time to comply with deadlines for submission of plans, or if there is any other disagreement between districts regarding implementation of this section, the dispute resolution procedure specified in section 3 below shall be invoked.

SECTION 3. DISPUTE RESOLUTION

It is intended that disputes among districts related to issues within air pollution transport should be solved at the lowest levels. Of course, this depends on the nature of the difference and where it may occur in the process. Generally, CAPCOA supports a hierarchy of meetings, first between APCOs, then between APCOs with representatives of their boards. The procedure could provide that meetings will take place with a mediator.

This protocol is intended to serve as an essential structure for MOUs between districts to address air pollution transport issues. In this sense, those districts should be encouraged to expand procedures as needed so as to address issues related to the specific districts signing the MOU.

SECTION 4. COORDINATION OF PLANNING AND MODELING

- (a) **General.** Because planning and modeling efforts are currently underway or nearing completion in both the SCOS and CCOS domains for the purpose of current 1-hr ozone plans, and CRPAQS for the purpose of current PM10 and future PM_{2.5} plans, structures for coordination are currently in place. The

proposed approaches for a more integrated and participatory process are set forth below in two parts: (1) a long-term approach for subsequent modeling and coordination needs in support of 8-hr ozone and particulate matter planning efforts; and (2) a short-term approach under the existing structures.

(b) Long-Term Approach

- (1) **Transport-Coupled Modeling Coordination Working Groups.** There shall be established appropriate Modeling Coordination Working Groups (MCWGs) which shall be comprised of one member representing each district which is part of a "significant" or "overwhelming" transport couple as determined by CARB; and one representative from CARB. There shall be one MCWG for the central/northern California transport couples as delineated by the CCOS domain; and one MCWG for the southern California transport couples, as delineated by the SCOS domain. Each MCWG shall elect a chairperson who must be from a district. The purpose of the MCWG is to make recommendations for:
- (A) coordinating the timing and scheduling of planning/modeling efforts needed to support federal and/or state planning requirements for ozone and particulate matter,
 - (B) optimizing coordinated efforts for all districts affected by such modeling,
 - (C) establishing protocols prior to undertaking modeling efforts which would include, but not be limited to, the:
 - (i) establishment of modeling domain,
 - (ii) selection of appropriate models and submodels,
 - (iii) determination of validation criteria,
 - (iv) identification of needed inputs and timelines for inputs,
 - (v) criteria for selection of episodes days to be modeled; selection of appropriate year, if annual conditions are to be modeled,
 - (vi) determination of future year scenarios to be modeled, e.g., "what if" conditions,
 - (vii) process for making model/model input adjustments.
 - (D) determining, to the degree possible, the criteria for quantitative assessments for emissions reductions necessary to attain federal and state ozone and particulate matter standards in all transport-coupled upwind and downwind districts.

(E) new studies designed to quantify transport.

(2) Combined Coordination Meeting

At least once per year, there shall be a combined meeting of MCWGs. The purpose of this meeting is to promote reasonable consistency among the districts in modeling efforts through exchanges of technical information.

(3) Responsibilities. Each participating agency agrees to:

- (A) regularly participate in scheduled meetings and/or conference calls,
- (B) provide key dates and timelines with respect to its federal or state plan development,
- (C) work constructively toward an acceptable model protocol by providing input to and/or commenting on model protocol development,
- (D) provide model inputs with respect to local parameters, such as base and future year emissions inventories, within the time frames established in the protocol,

(4) Differences in District Capabilities. It is recognized that smaller districts have less technical capabilities with respect to modeling than the larger districts. If any eligible district so requests, and if adequate funding is available, each applicable MCWG may select an independent modeling expert to provide advice to the MCWG and/or local districts regarding protocol development and evaluation of results. If the applicable MCWG cannot agree on a specific expert, the MCWG shall recommend two or more candidates to the CAPCOA Board, which shall make a final decision. If the costs for such expert participation cannot be agreed upon among the agencies participating in the applicable MCWG, this situation shall be referred to the CAPCOA Board.

(5) Meetings. Each MCWG shall meet as frequently as necessary to meet its objectives, but not less frequently than once every six months. Meeting locations shall be determined by each MCWG. Pursuant to Section 4(b)(2), the annual combined meeting shall reasonably attempt to accommodate both northern and southern venues.

(6) Reporting. Each MCWG shall provide a summary report of activities to the CAPCOA President once every six months, or more frequently if deemed appropriate by the CAPCOA Board.

(c) Short-Term Approach; Involvement in Existing Process. Because of the extent of modeling processes underway for the current round of SIP development, districts shall recognize that the CAPCOA Board may request that its Technical Consultant participate in ongoing model working group meetings

and conference calls to maintain currency in modeling efforts, including timelines, model validation processes, input data, episodic scenarios, model adjustments, model output, and other factors as appropriate.