SUMMARY OF BOARD ITEM

ITEM NO. 01-6-5: **PUBLIC MEETING TO CONSIDER A STATUS REPORT ON OZONE TRANSPORT MITIGATION STRATEGIES**

STAFF RECOMMENDATION: Staff proposes to initiate a public process to develop amendments to the Air Resources Board's (ARB or Board) transport mitigation regulations.

DISCUSSION: State law directs the Air Resources Board to assess the relative contribution of upwind emissions to downwind ozone levels and to establish mitigation requirements commensurate with the level of contribution.

At the April 2001, Board hearing, the Board adopted changes to the current list of identified transport couples. During that hearing, the Board expressed interest in enhancing the requirements for upwind districts to mitigate their impacts on downwind districts. The Board directed the staff to explore four concepts that might be incorporated into the mitigation regulation at some future date and to report back to the Board at its July meeting.

Specifically, the Board asked the staff to evaluate the concepts of expanding all feasible measures, implementing Smog Check II in the San Francisco Bay Area, making new source review thresholds in upwind areas at least as stringent as those in downwind areas, and establishing a mitigation fee bank.

This status report provides background on how each concept relates to transport mitigation and some of the issues that will need to be addressed in the process of developing proposed amendments for the Board's future consideration.

SUMMARY AND IMPACTS: None. This status report is an informational item only.

CALIFORNIA AIR RESOURCES BOARD

NOTICE OF PUBLIC MEETING TO CONSIDER A STATUS REPORT ON OZONE TRANSPORT MITIGATION STRATEGIES

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 strategies.

DATE: July 26, 2001

TIME: 9:00 a.m.

PLACE: Ramada Plaza Hotel
Whitcomb Ballroom
1231 Market Street
San Francisco, CA 94103

This item will be considered at a two-day meeting of the Board, which will commence at 9:00 a.m., July 26, 2001, and may continue at 8:30 a.m., July 27, 2001. This item may not be considered until July 27, 2001. Please consult the agenda for the meeting, which will be available at least 10 days before July 26, 2001, to determine the day on which this item will be considered.

This facility is accessible to persons with disabilities. If accommodation is needed, please contact ARB's Clerk of the Board by July 12, 2001, at (916) 322-5594, or TDD (916) 324-9531, or (800) 700-8326 for TDD calls outside the Sacramento area.

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

Under State law, the ARB identifies upwind areas that contribute to violations of the State ozone standard in downwind areas and establishes mitigation measures to reduce the impacts of transported pollutants. At the April 2001 Board hearing, the Board adopted changes to the current list of identified transport couples. During that hearing, the Board expressed interest in enhancing the requirements for upwind districts to mitigate their impacts on downwind districts. The Board directed the staff to report back to the Board at its July meeting on their evaluation of four concepts, among others that the staff might generate: an all feasible measures requirement, implementing Smog Check II in the San Francisco Bay Area, making new source review thresholds equal in cases where the downwind area has a more severe classification than the upwind area, and establishing a mitigation fee bank.

All upwind areas are currently implementing "all feasible measures" as a result of their nonattainment designations. However, each district, with the ARB's concurrence, is allowed to determine what is feasible for their district. Consequently, what is considered feasible differs by district due to technical, environmental, economic, and energy factors, and district resources to implement and enforce measures. The ARB staff will report to the Board on the potential effects of requiring upwind areas to adopt and implement stationary source control rules at least as effective as their corresponding downwind area's rules.

The San Francisco Bay Area is the only major urban area that does not implement the enhanced inspection and maintenance program (Smog Check II). All other major urban areas are currently in the program. The ARB staff will provide information to the Board regarding the feasibility of implementing Smog Check II in the Bay Area.

Some upwind districts have less stringent permitting requirements for new and modified stationary sources under the district's new source review (NSR) program. The primary concern relates to threshold levels that trigger the need for emission reduction offsets. These threshold levels are based on the severity of the ozone classification. Upwind areas with less severe classifications than their downwind neighbors have higher threshold levels. These upwind districts are able to permit larger sources than downwind districts before emission reduction offsets are required. Requiring upwind areas to have threshold levels as stringent as their downwind area could be considered as an additional transport mitigation requirement. The ARB staff will report to the Board the benefits of requiring upwind areas to implement the same NSR thresholds as the most stringent downwind area.

A mitigation fee bank is a concept in which fees would be assessed on upwind areas to help mitigate downwind impacts. Most areas are both contributors to and receptors of transported pollutants. As such, most downwind areas would both contribute to and potentially benefit from a mitigation bank. The ARB staff will describe the pros and cons of implementing such a concept.

This meeting is informational only. No regulatory action is being proposed at this time. The 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 Services Center, Sacramento, CA 95814, (916) 322-2990, at least 21 days prior to the scheduled meeting. The report may also be obtained from ARB's transport webpage at http://www.arb.ca.gov/aqd/transport/transport.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, July 25, 2001,** 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 trans2@listserv.arb.ca.gov and received at the ARB **no later than 12:00 noon, July 25, 2001.**

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 July 25, 2001.**

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 Debora Popejoy, Manager of the Air Quality Analysis Section, at (916) 323-5123.

CALIFORNIA AIR RESOURCES BOARD

Michael P. Kenny
Executive Officer

Date: June 26, 2001

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
California Environmental Protection Agency
Air Resources Board

STATUS REPORT ON

OZONE TRANSPORT MITIGATION

JULY 2001

780

INTRODUCTION

One of the Air Resources Board's (ARB or Board) responsibilities under the California Clean Air Act (CCAA or Act) is to assess ozone air pollution transport and establish mitigation requirements for upwind air districts. The Board initially identified transport relationships and established mitigation requirements in 1990. This provided a mechanism for transport to be taken into account when districts prepared the first State ozone attainment plans required by the Act in 1991-92. The Board has updated the assessments on a triennial basis, most recently on April 26, 2001. At that meeting, the Board asked staff to review the existing mitigation requirements and provide a status report in July 2001.

The 1990 transport mitigation regulation had three key provisions — (1) expeditious implementation of best available retrofit control technology (BARCT); (2) a "no net increase" requirement for district permitting of *all* new or modified stationary sources; and (3) a requirement that upwind districts include sufficient measures in their CCAA ozone attainment plan to mitigate their impact on downwind areas. At a minimum, upwind areas were required to include sufficient measures to address any exceedances of the ozone standard dominated by overwhelming transport.

These mitigation requirements remain in place today with the exception of the "no net increase" requirement. That requirement was removed in 1993. As a result, the only current requirements regarding district "no net increase" programs are those in State law which allow districts to exclude some sources based on specified emission thresholds. These thresholds are applied based on a district's classification (a measure of the severity of its own air pollution problem) but do not take into account transport mitigation. The "no net increase" requirements are implemented through districts' New Source Review (NSR) programs for new and modified stationary sources.

In terms of implementing the Board's mitigation requirements, upwind districts complied with the requirement for expeditious BARCT application by no later than January 1, 1994. The requirement for including "sufficient measures" in attainment plans to mitigate transport has been addressed qualitatively based on the limitations of our technical tools.

Since we have historically lacked adequate modeling capability to do attainment demonstrations for the State standard, the focus of the ARB's review of district CCAA plans has been whether they include "all feasible measures" and provide for expeditious clean air progress. These criteria were applied in lieu of determining whether a plan has sufficient measures to demonstrate attainment in its own region and to mitigate its impacts in downwind areas. However, with the results of recent ozone field studies, we expect districts to prepare attainment demonstrations in the 2003 plan update cycle – this will include assessments of transport impacts.

During the discussion on April 26, 2001, the Board asked staff to look at the following four issues related to transport mitigation – (1) the CCAA all feasible measures requirement; (2) requiring Smog Check II; (3) requiring the upwind districts to have permitting thresholds as stringent as downwind districts; and (4) establishing a mitigation fee bank.

On June 13, 2001, we held a workshop to solicit public comment on these concepts and any other potential mitigation approaches. Most comments received at the workshop or in writing addressed the four concepts. The two new ideas raised related to jobs and housing balance and transportation control measures.

Based on our review of these concepts in the context of the existing requirements, as well as public comments, we propose to initiate a public process to amend the ARB's transport mitigation regulation following our status report to the Board at the July 26-27 meeting. The public process will include further discussion of the initial four concepts as well as other ideas raised by the public. The transport mitigation regulation has not been revisited for several years so we believe it is appropriate to look at its effectiveness both now and for the future.

We briefly discuss the four concepts and some related issues below. The discussion is intended to provide background on how each concept relates to transport mitigation – substantial public input is needed before staff brings a regulatory proposal to the Board for consideration.

ALL FEASIBLE MEASURES

The CCAA requires each nonattainment district to have a clean air plan that achieves at least a five percent annual reduction in ozone precursor emissions. If the district demonstrates it cannot achieve the five percent reduction, and the ARB concurs, the plan may be approved if it includes all feasible measures and an expeditious adoption schedule. As districts prepare the required triennial plan updates, the ARB staff reviews and provides comment on local measures, and at a public meeting, the Board determines whether these criteria are met.

To assist districts in identifying feasible measures, the ARB provides guidance as well as suggested control measures (SCMs). For example, in 1999, the Board approved a guidance document for this purpose – "*Identification of Performance Standards for Existing Stationary Sources: A Resource Document*". As this report discusses, the determination of all feasible measures includes technical feasibility, cost, and district resource considerations. These factors may differ among districts depending on the nature of the emission sources in the area. Districts are expected to prioritize their rulemaking to make the most effective use of their resources in terms of achieving emission reductions. This means that a rule may be extremely important in some districts but less so in others if there are few emissions sources in that category.

Feasibility and rulemaking priorities are evaluated for each three-year planning cycle. New rulemaking commitments are added during each planning cycle reflecting new

technologies, improved cost-effectiveness, and the need to continue to achieve additional emission reductions from all source categories. New rulemaking priorities are established and become commitments for the next three-year planning cycle.

The ARB also develops SCMs to assist districts in adopting all feasible measures. These SCMs help districts from a resource standpoint as well as ensuring statewide progress on major emission source categories under district jurisdiction. One example is the collaboration between the ARB and districts on the architectural coatings SCM.

The Board has acknowledged (by approval of their clean air plans) that upwind nonattainment districts have met the all feasible measures requirement for the previous three-year planning cycles. Emissions have decreased and ozone air quality has improved in the upwind and downwind districts, for the most part. While this mechanism ensures that nonattainment districts do all that they can to meet the State standard as expeditiously as possible, downwind regions also benefit.

As long as upwind areas continue to implement all feasible measures for ozone precursors, transported pollutants will continue to decrease. This serves as a direct form of transport mitigation. However, if upwind districts were to forego adoption of feasible new measures because they are close to attaining the State standard or for other reasons, the downwind areas would see less benefit. This is a concern from a mitigation standpoint if downwind areas exceed health-based air quality standards and continue to be impacted by transport.

The current process for evaluating all feasible measures does not directly address the issue of mitigation nor does the ARB's mitigation regulation. Also, the CCAA allows a district to use an alternative emission reduction strategy (other than a five percent per year reduction in ozone precursors) if it is equal to, or more effective than, district-wide emission reductions in improving air quality. This does not address the issue of emission reductions needed to mitigate downwind impacts.

Since the all feasible measures assessment may result in different rulemaking outcomes among districts, downwind areas are concerned that upwind districts may have less stringent rules. Examples where rules may be less stringent include exemption levels and permit requirements. While these emission reduction impacts may be relatively small, this is viewed by downwind areas as an equity issue.

SMOG CHECK II

Smog Check II is mandatory for vehicles registered in the urbanized portion of federal ozone nonattainment areas classified as serious, severe, or extreme. This program is an important strategy for achieving near-term emission reductions needed to attain air quality standards. State and federal air quality plans for the South Coast, the desert regions, the San Joaquin Valley, the Sacramento region, Ventura County, and San Diego County include the benefits of this program.

Due to the need for emission reductions, most of these regions have implemented or are opting into programs that are more comprehensive than the minimum federal requirement. The San Francisco Bay Area is the only major urban area that does not have Smog Check II. However, the Bay Area's new federal ozone attainment plan (State Implementation Plan or SIP) proposed for adoption by local agencies on July 18, 2001, includes a commitment to partially opt into the program. The plan includes an additional 4.5 tons per day reduction of reactive organic gases (ROG) through implementation of several program components.

The San Francisco Bay Area currently participates in the Basic Smog Check program. The Basic Smog Check program measures carbon monoxide (CO) and hydrocarbons (HC) using a two-speed idle test and is implemented in areas with somewhat less serious air pollution problems.

In contrast, Smog Check II (Enhanced Inspection and Maintenance) uses a more rigorous test (with stricter emission limits) using a treadmill-like machine called a dynamometer that allows vehicles to be tested under simulated driving conditions to more accurately measure CO, HC, and oxides of nitrogen (NOx). State law allows areas to opt-in to all aspects of the Smog Check II program except the "test-only" station provision which directs a certain percentage of vehicles to Smog Check stations which can inspect and certify vehicles but are prohibited from performing any repair services.

The Bureau of Automotive Repair (BAR) is planning several enhancements to Smog Check II to achieve further ROG reductions needed for a number of SIPs and clean air plans. These improvements include a liquid leak check, evaporative emissions testing, and other approaches. The proposed 2001 Bay Area ozone SIP includes a commitment for liquid leak checks and evaporative testing. The ARB staff has recommended that the Bay Area SIP expand the mechanism to achieve the 4.5 tons per day emission reductions to include not only the liquid leak check and improved evaporative test, but also other ROG reduction elements.

In evaluating this concept for the Bay Area, the ARB staff looked at the emissions reductions expected under the following three scenarios: (1) ROG reduction commitment in the proposed SIP; (2) implementing Smog Check II without the test-only stations; and (3) implementing the full Smog Check II program. The table below shows the expected emission reductions from each scenario.

Estimated 2005 Emission Reductions for San Francisco Bay Area With Various Smog Check Program Enhancements

Scenario	ROG (tons/day)	NOx (tons/day)
Bay Area AQMD SIP Proposal	4.5	---
Smog Check II (without test-only stations)	9	9
Smog Check II (full program)	11	13

Implementing ROG components necessary to meet the Bay Area's proposed SIP commitment, although a positive step, would not achieve the full ROG (and NOx) reductions possible with a complete opt-in to the Smog Check II program. Implementation of the full program could benefit overall air quality in the Bay Area and in downwind areas.

Implementing Smog Check II in the Bay Area (without the test-only stations aspect) could be considered as an additional transport mitigation requirement. Both the district and the ARB have the authority to request that BAR implement this change. However, we believe a change in State law would be needed to allow the Bay Area to implement the test-only stations provision of Smog Check II.

Additionally, other upwind areas like the Sacramento region could expand the Smog Check II program within the nonattainment area to achieve the maximum local benefit as well as mitigating downwind impacts. The San Joaquin Valley recently requested that BAR expand Smog Check II to six additional cities and adjacent areas. This will provide benefits in both the Valley and in neighboring downwind districts.

NEW SOURCE REVIEW OFFSET THRESHOLDS

Currently, a district's "no net increase" offset threshold for permitting new and modified stationary sources is determined by its classification for the State ozone standard. Areas classified as serious have an offset threshold of 15 tons/year (t/y), areas classified as severe have an offset threshold of 10 t/y, and areas classified as extreme have no threshold (i.e., all sources are subject to the "no net increase" requirement). In a few cases, the upwind area has a lesser classification than the downwind area. This means fewer sources are subject to New Source Review (NSR) requirements in the upwind area than the downwind area. Requiring thresholds in the upwind area to be at least as stringent as those in the downwind area could be considered as an additional transport mitigation requirement. Districts would need to amend their rules to implement such a mitigation requirement.

There are only four upwind areas that have less stringent thresholds than downwind areas. The San Francisco Bay Area and Sacramento Area are classified as "serious" while the San Joaquin is classified as "severe". The other two districts are Ventura and Santa Barbara in the South Central Coast. However, emissions and pollutants from the

Santa Barbara/Ventura area impact a very limited area in the far northwestern portion of the South Coast. This localized impact does not contribute to the high ozone concentrations that make the South Coast an extreme area. We do not believe it is reasonable to expect these upwind areas to meet the same requirement as an extreme area (i.e., no threshold).

We asked the Bay Area and Sacramento air districts to estimate the number of additional sources that would be subject to the NSR program if the thresholds were changed from 15 tons per year to 10 tons per year. It appears that on average 10-20 sources might be affected in these districts. For both ROG and NOx, the Bay Area estimated emission impacts of less than 0.10 tons per day. Sacramento estimated maximum potential impacts of 0.20 tons per day NOx and 0.30 tons per day ROG. The emission reduction benefit of equalizing the thresholds may be relatively small compared to other district rules, however, it raises the same equity issue as the all feasible measures discussion.

MITIGATION FEE BANK

A mitigation fee bank could be funded with money from fees levied on an upwind area's sources to mitigate downwind impacts. In concept, the amount that the upwind district would contribute to the mitigation fee bank and the amount the downwind area would receive would be commensurate with the degree of transport that occurs between the areas.

How the accounting would be accomplished is a key question that would have to be answered in order to implement this concept. To be equitable, the degree of transport contribution from upwind areas would need to be quantified on some basis taking into account magnitude, frequency, and location. The ARB's transport findings are day-specific, but are limited to a few days that have been studied in depth. We have found transport ranging mostly from inconsequential to significant, with overwhelming transport on some days in some locations. These assessments are qualitative in nature.

A mitigation fee program could potentially cover a wide variety of sources that contribute to air pollution -- cars, trucks, off-road mobile equipment, industrial and commercial facilities, consumer products, and others. Additional questions are who would pay the fees and who has authority to impose such fees for the wide variety of emission sources in upwind areas.

Thought would need to be given as to whether a fee would be flat or be graduated based on the location relative to the downwind impact area. Also, some downwind districts would have few local sources to control with mitigation fees. This could lead to negative fund balances in upwind areas that have substantial local emissions sources and unused funds in more rural downwind areas.

Most upwind areas are both transport contributors and recipients. This makes the accounting mechanism essential. Substantial effort would be required to develop the fee bank concept and determine the impacts on various districts. For example, the San Joaquin Valley is downwind of the Bay Area and Sacramento region and would receive mitigation payments from these areas. However, the Valley also transports pollution to the North Central Coast, South Central Coast, Sacramento Area, Great Basin Valleys, Mojave Desert, and Mountain Counties. Under the mitigation fee concept, the Valley would be obligated to pay mitigation fees to these six downwind areas.

In the workshop discussion most participants commented that the concept would be very complicated to implement and difficult to develop from an equity standpoint. The impact of any fee proposal would have to be assessed in detail to determine the net air quality impact in each downwind area.