



AIR CURRENTS

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Ozone Attainment Plan Sent to EPA

In late June, the *San Francisco Bay Area Ozone Attainment Plan*, designed to bring the Bay Area back into compliance with federal ozone standards, was approved by the governing bodies of the Air District, the Metropolitan Transportation Commission (MTC), and the Association of Bay Area Governments (ABAG). The California Air Resources Board approved the Plan in July, and it has been forwarded to the EPA for final approval.

Although the EPA designated the Bay Area in attainment of the federal one-hour ozone standard in 1995, making it the largest region in the country to achieve this clean air goal, two subsequent years of violations led to revocation of the region's clean air status in 1998. As a result, the three lead regional agencies for clean air planning (the Air District, MTC, and ABAG) were directed

by EPA to formulate a new plan to reduce emissions and bring the region back into attainment.

The new *San Francisco Bay Area Ozone Attainment Plan* contains three elements required by EPA:

Emissions Inventory. A 1995 emissions inventory for the two pollutants that react to form ozone: volatile organic compounds (VOCs) and nitrogen oxides (NOx).

Attainment Assessment. An assessment of the emission reductions needed to re-attain the ozone standard by the year 2000, based on the 1995 emissions inventory.

Control Strategies. Control strategies for achieving these emission reductions.

1998 Bay Area
Air Pollution
Summary
inside

Emissions Inventory

The 1995 emissions inventory identified the amount of emissions for the two source categories on a "typical" summer day. These were estimated at 562 tons per day of VOCs and 626 tons per day of NOx.

Attainment Assessment

Existing analysis based on the EPA-approved Urban Airshed Model was used for the attainment assessment. This model was devised for studying the pollutant mixtures and photochemical reactions involved in ozone formation.

Data for the analysis came from a high-ozone episode day at the Livermore monitor site in 1989. Results indicated that, between the years 1995 and 2000, a 128-ton per day reduction in VOCs and a 92-ton per day reduction in NOx would be necessary to bring the region back into attainment.

Of this amount, emission reductions of 117 tons per day of VOCs and 92 tons per day of NOx *are already anticipated* by 2000 as the result of adopted stationary source control measures, cleaner fuels, and changeover in the motor vehicle fleet. To reach the attainment goal, a further reduction of 11 tons per day of VOCs is necessary. NOx emissions are expected to be reduced to attainment levels under current conditions.

Control Strategies

The *San Francisco Bay Area Ozone Attainment Plan* includes 11 new regulatory

Spare the Air Season Well Underway

The Bay Area's summertime smog season began in late June, when a high pressure system brought warm temperatures and elevated pollution levels to the inland valleys.

The Air District declared June 29 and 30 as the first two *Spare the Air* days of 1999, for which air quality was expected to exceed the federal ozone standard. On *Spare the Air* days, the public is asked to curtail or eliminate driving, operating gasoline-powered lawn equipment, or using consumer products that pollute. Cumulatively, these activities can emit more than 250 tons per day of volatile organic compounds (VOCs) into the air.

The news media were alerted to the *Spare the Air* advisory, and the 1,100 participating *Spare the Air* employers were mobilized to get the word out to their employees. The 5,000 individuals who registered to receive e-mail notification of *Spare the Air* days were also alerted. While three excesses of the more stringent State ozone standard were recorded on June 27, 28, and 30, it turned out there were no violations of either the one-hour or eight-hour federal ozone standards.

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Ozone Plan

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control measures designed to reduce VOC emissions from polystyrene manufacturing plants, gasoline dispensing facilities, floating roof supports on organic liquid storage tanks, and the handling of petroleum-contaminated soil. The plan includes two voluntary control measures—the Spare the Air program and the Low Emission Alternately Fueled Vehicles program—as well as some additional contingency measures that might become necessary for attaining the standard.

For a copy of the Attainment Plan, call the Air District's Public Information Office at **(415) 749-4900**, or download the plan from the web site at www.baaqmd.gov.

—Teresa Lee

Daily Ozone "Movies" Premier on the Internet

Visitors to the *Spare the Air* website this summer will discover a new feature: *Ozone Movies*. These "movies" are near real-time animations showing the buildup of ozone concentrations over a map of the Bay Area.

Ground-level ozone, or smog, is continuously monitored at 22 Air District stations located throughout the nine-county basin. As soon as it is collected, the ozone data gets relayed to Sonoma Technology, a Santa Rosa firm that contracts with US EPA to produce the movies. The data is transformed into animations that show concentrations in colors ranging from green (*good*) to purple (*very unhealthy*). With a time delay of less than 90 minutes, one can observe the creep of ozone concentrations building and falling over the course of daylight hours as pollution from motor vehicles, industry, and other sources interacts with heat and sunlight.

Anyone wishing to observe the present state of ozone in their neighborhood need only point their internet browser to www.sparetheair.org and follow the link for "Ozone Movies." Links are also provided to EPA archives where previous animated maps can be retrieved by date.

Board Adopts Guiding Principles of Environmental Justice

The Board of Directors adopted a set of guiding principles of environmental justice at its August 4 meeting. The four environmental justice principles were formulated by the Air District's Advisory Council.

The environmental justice guidelines are as follows:

It is the Bay Area Air Quality Management District's intent to achieve clean and healthful air for all who live and work in the Bay Area, so that no segment of the population, regardless of race, national origin or income, bears disproportionately high and adverse health impacts of air pollution. To that end, the District will:

- Continue to ensure equal access to complaint resolution, rule and permit evaluation, and public resources, and assure equal enforcement activities.
- Continue outreach and education programs to strengthen the public's ability to participate in the District's Plan and rule development, and in community and individual activities for clean air.
- Solicit concerns and ideas from communities where there may be disproportionately high and adverse health effects.
- Work proactively to improve air quality for those disproportionately impacted communities through such actions as appropriate, including implementation of activities pertaining to pollution prevention; implementation of less-polluting alternative technologies; data collection and analysis; technical assistance; CEQA comments on project reviews; and support of state legislation and local ordinances as appropriate.

—Lucia Libretti

Spare the Air

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The second series of *Spare the Air* advisories were issued on July 12 and 13 when a strong high-pressure system over the Pacific Northwest and a low pressure system near the central California coast nearly eliminated the Bay Area's onshore sea breeze. Temperatures soared above 100 °F in several Bay Area locations for a few days, leading to excesses of both federal and State air quality standards.

In Concord, a one-hour ozone reading of 156 parts per billion (ppb) and an eight-hour reading of 122 ppb were recorded. Livermore recorded an eight-hour ozone concentration of 116 ppb on July 11 and 12. Fremont and San Martin also measured ozone readings above the national one-hour standard on July 11.

By July 13, however, the high-pressure system had weakened and clean air returned to the Bay Area.

As of mid-August, there have been no further *Spare the Air* requests.

Changes in the weather pattern, however, can occur at any time, with District meteorologists predicting warmer, stagnant weather as the Bay Area transitions from Summer to Fall.

—Teresa Lee

At press date, high pressure, high temperatures, and low winds caused ozone levels to exceed the State standard on August 21 and 22. Three consecutive Spare the Air days were called on August 24, 25, and 26, with ozone levels exceeding the federal standard on August 25. The high reading for that date was 129 ppb in Fairfield.

GRANT PROGRAMS

Charge! It Up: New Funds for EV Stations Available

The Air District now offers several programs to stimulate the market for electrical vehicles (EVs) in the Bay Area. One of the strongest is the new *Charge!* program.

EVs

The past several years have seen exciting progress in the development of electric vehicles. For the first time, major motor vehicle manufacturers—including Ford, GM, Toyota, and Honda—have introduced EV models in California. The new EVs are clean, quiet, and comfortable—and compared to gasoline vehicles they're cheap to operate!

Thanks to new nickel metal-hydrate batteries, today's EVs can typically travel 80 miles or more on a full charge at an electricity cost of about one dollar. This means that EVs are now practical and economical for the vast majority of trips.

The number of electrical vehicles on the road is still very small, and their produc-

tion cost is high. But EVs offer tremendous potential benefits in terms of clean air and water, reduced emissions of greenhouse gases, and reduced dependence on imported fossil fuels.

Charge! Program

One major impediment to EV proliferation in the US is the lack of a national infrastructure of recharging stations. For this reason, the Air District has become a key player in a new partnership called *Charge!* that is helping to establish a convenient network of publicly accessible sites where EV owners can recharge their vehicles while conducting their normal business, running errands, or shopping.

The *Charge!* program provides subsidies to offset up to 40 percent of charging station installation costs. In July 1999, the program awarded grants totaling over \$150,000 toward the installation of stations at 26 sites within the Air District, including shopping malls, civic

centers, airports, transit stations, and college campuses. The first EV charging station funded by a *Charge!* grant opened just this August at the Bank of Alameda in the City of Alameda. More charging stations will be coming on line in the near future, and additional grants will be provided to further expand the network in the coming months.

Charge! is a partnership between the Air District, the City and County of San Francisco, and the three Clean Cities Coalitions (South Bay, East Bay, and North Bay) in the region, which are administered by the US Department of Energy. It is funded with a grant of \$250,000 from the Air District's Transportation Fund for Clean Air, plus \$100,000 that the Department of Energy awarded to the City and County of San Francisco.

For More Information

Maps of electric vehicle charging sites in the Bay Area are available on several websites, including www.calstart.org (just click on "Fleets" or "Cool Sites" and then hit "Refuel Maps.") For more information on the *Charge!* program, please see the Air District's website at www.baaqmd.gov, or contact David Burch at dburch@baaqmd.gov or 415-749-4641.

—Dave Burch

Moyer Program Allocates \$2.5 Million

Cleaner Heavy-Duty Engines to Receive Funds

The Air District is now accepting requests for funding assistance from the State of California's new *Carl Moyer Memorial Air Quality Standards Attainment Program*. This program, named in honor of the recently deceased air quality consultant who championed it, was established by former Governor Wilson and the legislature to promote industry changeover to cleaner heavy-duty diesel engines.

The Carl Moyer Program is administered by local air districts, which must provide one dollar in match funding for every two dollars of State monies they receive. The Bay Area Air District now has \$2,500,000 in grants available to cover the incremental cost of:

- (1) purchasing new equipment with emissions below applicable state and federal standards;

- (2) retrofitting older diesel engines with emission control devices, or

- (3) replacing older diesel engines with new, lower emission engines.

(Generally speaking, "incremental cost" is the difference between the cost of conventional equipment and that of purchasing or retrofitting for lower emissions engines.)

Heavy-duty diesel engines are significant sources of oxides of nitrogen, a smog-forming pollutant. The fine

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Moyer Program

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particulate matter exhaust from these engines is also categorized as a toxic air contaminant.

The State has recently adopted stringent emission standards for *new* heavy-duty engines, which should result in significant emission reductions as these new engines are brought into service. The turnover to cleaner engines will take years, however, since older engines are usually rebuilt two or three times over a long service lifetime.

Grant requests during the initial funding phase are for projects involving marine vessels, locomotives, off-road mobile agricultural equipment, and stationary agricultural pumps. The deadline is 5 pm, Thursday, September 30, 1999. *Awards are granted on a competitive basis and are open to private sector companies as well as public agencies.*

The Program Guidelines and applications forms are available from the Air District's web site, www.baaqmd.gov/planning/plntrns/moyer.htm, from the California Air Resources Board's web site, www.arb.ca.gov/msprog/moyer/moyer.htm, or by contacting Michael Murphy at 415/749-4644 or mmurphy@baaqmd.gov.

—Lucia Libretti



3rd Annual
Conference

Partners
for Smart Growth

Nov. 17 - 19
Hotel del Coronado
San Diego

Registration brochure available in early September. For your copy call the Local Government Commission (800) 290-8202 and leave your name and mailing address.

Two New Directors Named to Board

Two new members were recently appointed to the Air District Board of Directors, bringing the board to its full complement of twenty members.

Dena Mossar

Palo Alto City Council member Dena Mossar replaces Gillian Moran as a representative of Santa Clara County. Mossar has served on numerous governmental transportation and pollution prevention committees, including the Policy Advisory Committee of the Santa Clara Valley Transportation Authority. She has been a Palo Alto councilwoman since 1998.

Pamela Torliatt

Pamela Torliatt replaces Patricia Hilligoss as Sonoma County's representative to the Board. She has been a member of the Petaluma City Council for three years, and currently serves as an alternate for the Sonoma County Transportation Authority as well as the ABAG executive committee. She is also a member of the ABAG regional planning committee.

Toni Stein Joins Hearing Board

Toni Stein has been appointed as a public member of the Hearing Board, replacing Craig Philpott. Stein has extensive academic and work experience as an engineer, and holds several patents. She is currently finishing her dissertation on Environmental Engineering Air Quality Control to complete her Ph.D. in Engineering from the University of Cincinnati.

1999 Clean Air Champs Chosen

The Air District—along with co-sponsors the American Lung Association of the Bay Area, RIDES for Bay Area Commuters, and the US EPA—has announced the winners of the 1999 Clean Air Champions contest. These clean air advocates are honored for their exceptional efforts to clean up the Bay Area's air—in their work, at home or both. The winners include:

- Teen champions **Erin Seymour** and **Michelle Rosaschi**, who organized a Clean Air Challenge at Montgomery High School in Santa Rosa. On May 18, Erin and Michelle challenged fellow students and school personnel to arrive at school in a way that reduced air pollution, such as carpooling, cycling, rollerblading, skateboarding, riding transit, or walking. Over 1,000 people participated in this event, which Erin and Michelle single-handedly organized.
- **David Coale**, a clean air advocate who works at an electric car parts company

and commutes to work either by electric car or bike. David is also the leader of the Green Teams Project in Mountain View and is active on the Transportation and Land Use Coalition.

- Clean Air Champion **Karin Dowdy**, who helped find funding and sponsors to build a compressed natural gas (CNG) fueling station in Saratoga, which now supports 50 CNG vehicles. Building the infrastructure to support alternative fuel vehicles, like CNG, is a key to getting more clean air vehicles on the road. Karin also helped form the South Bay Clean Cities Coalition, which advocates the use of CNG in municipal fleets.

The Clean Air Champions contest has been an annual event since 1992. It was created to acknowledge inspirational champions committed to the clean air ethic. This year's winners were presented to the Air District's Board of Directors on September 1, and will receive mountain bikes donated by *Voodoo Cycles* of Sunnyvale.

—Teresa Lee

SUMMARY OF AIR POLLUTION IN THE BAY AREA - 1998

MONITORING STATIONS	OZONE				CARBON MONOXIDE		NITROGEN DIOXIDE		SULFUR DIOXIDE		PM ₁₀		
	MAX HR	NAT'L DAYS	CAL DAYS	3-YR AVG	MAX 8-HR	NAT'L DAYS	MAX HR	CAL DAYS	MAX 24-HR	CAL DAYS	ANN GEO MEAN	NAT'L DAYS	CAL DAYS
North Counties	(pphm)				(ppm)		(pphm)		(ppb)		($\mu\text{g}/\text{m}^3$)		
Napa	13	1	3	0.3	3.9	0	6	0	-	-	15.6	0	1
San Rafael	7	0	0	0.0	3.3	0	6	0	-	-	18.7	0	1
Santa Rosa	7	0	0	0.0	3.2	0	6	0	-	-	16.6	0	1
Vallejo	12	0	3	0.0	5.3	0	6	0	6	0	15.0	0	1
Coast & Central Bay													
Oakland	6	0	0	0.0	4.6	0	-	-	-	-	-	-	-
San Francisco	5	0	0	0.0	4.0	0	8	0	6	0	20.1	0	1
San Pablo	7	0	0	0.0	2.4	0	6	0	8	0	-	-	0
Eastern District													
Bethel Island	12	0	10	0.3	1.6	0	5	0	9	0	17.5	0	2
Concord	15	2	13	1.0	3.8	0	7	0	9	0	16.6	0	1
Fairfield	12	0	9	0.0	-	-	-	-	-	-	-	-	-
Livermore	15	6	21	4.7	2.4	0	7	0	-	-	19.4	0	2
Martinez	-	-	-	-	-	-	-	-	7	0	-	-	-
Pittsburg	10	0	4	0.0	2.7	0	6	0	14	0	-	-	-
South Central Bay													
Fremont	12	0	7	0.0	2.8	0	10	0	-	-	20.2	0	1
Hayward	10	0	4	0.0	-	-	-	-	-	-	-	-	-
Mountain View	10	0	2	0.0	-	-	-	-	-	-	-	-	-
Redwood City	7	0	0	0.0	4.1	0	6	0	-	-	20.7	0	0
San Leandro	11	0	2	0.0	-	-	-	-	-	-	-	0	0
Santa Clara Valley													
Gilroy	14	2	10	0.7	-	-	-	-	-	-	-	-	-
Los Gatos	13	1	5	0.7	-	-	-	-	-	-	-	-	-
San Jose, 4th Street	15	1	4	0.3	6.0	0	8	0	-	-	22.5	0	3
San Jose East	13	1	5	0.3	-	-	-	-	-	-	-	0	1
San Jose, Tully Road	-	-	-	-	-	-	-	-	-	-	19.6	0	1
San Martin	14	3	15	1.0	-	-	-	-	-	-	-	-	-
Bay Area Calendar Days over Standard			8	29			0	0			0	0	5

Explanation of Terms

MAX HR / MAX 8-HR / MAX 24-HR

The highest average contaminant concentration over a one-hour period, an eight-hour period, or a 24-hour period.

NAT'L DAYS

The number of days during the year for which the monitoring station recorded contaminant concentration levels in excess of the national standard.

CAL DAYS

The number of days during the year for which the station recorded contaminant levels in excess of the California standard.

3-YR AVG

The average number of days per year in excess of the national ozone standard, based on the previous three-year period. *An average higher than 1.0 means the region will be considered out of attainment by the EPA.*

PM₁₀

Particulate matter under ten microns in size. (PM₁₀ is only sampled every sixth day. *Actual* days over standard can be estimated as six times the number shown.)

ANN GEO MEAN

The annual geometric mean concentration level for PM₁₀.

Concentrations

ppm = parts per million

pphm = parts per hundred million

ppb = parts per billion

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

HEALTH-BASED AMBIENT AIR QUALITY STANDARDS

	California Standard	National Standard
Ozone	9 pphm (1-hour avg.)	12 pphm (1-hour avg.)
Carbon Monoxide	9 ppm (8-hour avg.)	9 ppm (8-hour avg.)
Nitrogen Dioxide	25 pphm (1-hour avg.)	—
Sulfur Dioxide	50 ppb (24-hour avg.)	140 ppb (24-hour avg.)
Particulates < 10 microns	30 $\mu\text{g}/\text{m}^3$ (ann. geo. mean) 50 $\mu\text{g}/\text{m}^3$ (24-hour avg.)	— 150 $\mu\text{g}/\text{m}^3$ (24-hour avg.)

PUBLIC HEARINGS

Wednesday, October 6

Published bimonthly
B.A.A.Q.M.D.
 939 Ellis Street
 San Francisco, CA 94109

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Newsletter Production

Teresa Lee, Director of
 Public Information

Aaron Richardson, Editor

A public hearing is scheduled to begin at 9:30 AM in the 7th floor Board Room, 939 Ellis Street, San Francisco, to consider amendments to:

Regulation 8, Rule 34: Solid Waste Disposal Sites, to implement federal regulations and guidelines for municipal solid waste disposal sites and resolve compliance issues for disposal sites that are subject to federal Title V permitting requirements.

Regulation 3: Fees—Schedule K: Solid Waste Disposal Sites, to recover District staff costs associated with processing federally mandated reports.

Regulation 9, Rule 2: Hydrogen Sulfide, to amend the ground level monitoring requirement for hydrogen sulfide, so that monitoring will be required at the discretion of the Air Pollution Control Officer.

To our readers:
 As this year began, *Air Currents* had run continuously for 40 years of publication without missing an issue. Unfortunately, due to circumstances more or less beyond our control, there were no March/April or May/June issues for 1999.

We'd like to apologize for this regrettable and undoubtedly confusing hiatus. We have recently hired new staff, and they've pledged to put their shoulders to the print roller and get things back on track so that we can break our own record for uninterrupted service in the next 40-plus years.

BAAQMD ACTIVITIES

ENFORCEMENT	JUN	JUL
Total Inspections	2,191	1,759
Complaints Processed	284	297
Violation Notices	194	188

LEGAL		
Cases Resolved	42	220
Mutual Settlement	\$ 13,066	\$ 56,030
Civil Penalties	\$ 29,500	\$ 32,351

PERMIT SERVICES		
Authorities to Construct Granted	37	35
Permits to Operate Granted	104	87

TECHNICAL		
Highest Ozone PSI	90	140
Highest CO PSI	17	20
Highest Particulates PSI	36	42
State Excess Days	3	3
Source Tests	41	90

Pollutant values are expressed according to the Air Quality Index Scale: 0-50 Good; 51-100 Moderate; 101-150 Unhealthy for Sensitive Groups; 151- 200 Unhealthy; 201-300 Very Unhealthy; over-300 Hazardous. The District issues "Spare the Air" requests when air quality forecasts predict concentrations of ozone exceeding the national health standard.

YEAR TO DATE (8/24/99)	
State Ozone Violations	8
Federal Ozone Violations	4
Carbon Monoxide Violations	0

DAILY AIR QUALITY COMPLAINT LINE	1-800-HELP AIR
SMOKING VEHICLES	1-800-334-ODOR
	1-800-EXHAUST