

On the Air

Summer is Smog Season – and Fire Season

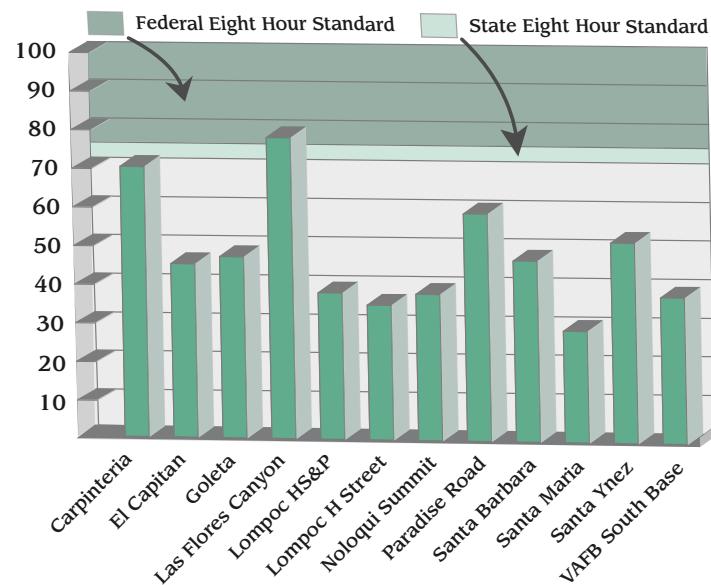
The high temperatures of summer often bring spikes in levels of ozone, a principal component of smog, and heat and dry conditions also increase the risk of wildfires.

Smog season began this year with four days in April and two days in May when District monitoring stations recorded exceedances of the state eight-hour ozone standard. On May 17, ozone levels at the Las Flores Canyon station also exceeded the state one-hour ozone standard, and the new federal eight-hour ozone standard (effective in March of this year).

Ozone is formed when nitrogen oxides and reactive organic compounds react chemically in the presence of sunlight and heat. Ozone causes a range of respiratory symptoms, affects lung development in children, and can help cause early childhood asthma. Recent studies have confirmed serious health effects caused by ozone (see article below).

County fire officials announced the official start of the fire season

Ozone Daily Eight Hour Maximums May 17, 2008



The graph above shows eight-hour average ozone levels recorded at District monitoring stations on May 17. Levels at the Las Flores Canyon station (near El Capitan State Beach) exceeded both the state and federal eight-hour standards. This station also recorded levels exceeding the state one-hour ozone standard on that day, and exceeded the state eight-hour standard on one other day in May. Monitoring stations located in Carpinteria and at Vandenberg Air Force Base near Lompoc recorded exceedances of the state eight-hour standard in April.

May 12. Wildfires can create high levels of particle pollution, which are associated with a range of health effects. Last year, the Zaca Fire, the second largest wildfire in California history, burned more than 240,000 acres, and

the county's air was impacted by smoke during the fire and by blown ash and soot during high wind events even after the fire was out.

The District issues advisories

New Reports on Health Effects of Ozone and Fine Particles

New reports in April and May confirmed the serious health impacts that can result from exposure to ozone and fine particles.

In May, California Air Resources Board researchers noted that

long-term exposure to fine particle pollution poses a greater health threat than was previously projected. Researchers estimated that every year 14,000 to 24,000 premature deaths are associated with exposures to particulate matter less than 2.5 microns in

size (PM2.5). Hospitalizations, emergency room visits and doctor visits for respiratory illnesses or heart disease have been associated with PM2.5 exposure. Other studies suggest that PM2.5 exposure may influence asthma

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with the County Public Health Department warning residents to stay indoors and avoid outdoor exercise when smoke or ash are affecting the county's air. It is also important to try to keep indoor air as clean as possible, closing windows (unless it's extremely hot), running air conditioners with the outdoor air intake closed, and avoiding activities such as dusting or vacuuming that will increase particles in the indoor air. To clean up ash and soot it is best to use a vacuum with a HEPA filter, sweep gently with a broom, or wipe with a damp cloth; use of leaf blowers is discouraged.

To see hourly levels of ozone go to www.OurAir.org, check "Today's Air Quality," and select a monitoring station from the "Station Data" link. Hourly levels of particulate matter are also shown for the Santa Maria, Santa Barbara, and Lompoc stations. Also check the website to view any air quality advisories in effect, and for more information on wildfires and air pollution.

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Farewell to Peter Cantle

Peter Cantle, Manager of the Engineering and Compliance Division, left the District in March to work as a consultant in new energy development with a firm in Ojai, where he lives. Cantle had been a Division Manager since 1988, managing several programs including permitting, compliance, enforcement, innovative technologies, and air toxics, and helping the agency transition through enormous changes in that twenty-year period.

A native Californian, Cantle received his B.S. and M.S. in ecology from Texas A&M University, then worked for the Hydrol Company and Shell Mining Company for seven years. In 1985, he joined Santa Barbara County's Energy Division, managing the permitting and compliance of major oil and gas development projects. When he came to the agency in 1988, the District was just entering a period of growth and new challenges,



facing the need to permit large new oil and gas facilities, and to implement new rules covering engines used in a range of industries.

Meeting the challenges of this period laid the groundwork for later progress. Tackling a backlog of permits from the 1980s meant instituting processes that became

part of an overall permit streamlining effort at the agency in the 1990s. The fund of mitigation monies established in the late 1980s in connection with permitting of large projects evolved into the District's award-winning Innovative Technologies Group program, which over the years has funded cleaner engines in boats, school buses, greenhouse boiler equipment, farm

water pumps, and multiple other types of vehicles and equipment. "I've always had a keen interest in advancing new and cleaner technologies, so the opportunity to lead the Innovative Technologies Group was one of the big attractions for joining the District. Many of these clean technology programs have been implemented elsewhere in the

country, and it's gratifying to have played a role in getting them off the ground," said Cantle.

In addition, the past twenty years saw significant milestones in the improvement in air quality. In 1988, county air monitoring stations recorded 42 days when levels of ozone, a principal component of smog, exceeded the state one-hour ozone standard—on three of these days, the federal one-hour ozone standard was exceeded as well. In 2000, the District announced that county air had officially met the federal one-hour ozone standard, and, in 2007, the state one-hour standard. Said Cantle, "We are one of very few agencies in the state or nation that can say we have gone from not complying with these health-based standards to actually attaining them. We can all be proud of this accomplishment. It took a lot of work and buy-in from regulated businesses, and a lot of support from the citizens of Santa Barbara County."

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Reports on Health Effects (cont'd)

symptoms and acute and chronic bronchitis. Children, seniors, and people with health problems are most at risk. The researchers found that even relatively small increases in levels were associated with health effects.

Combustion processes typically produce particle pollution; major sources of PM2.5 include cars and trucks, off-road equipment, electric power generation, industrial processes, residential wood burning, and forest and agricultural burning.

In April, a National Research Council report concluded that short-term exposure to ozone in

many areas is likely to contribute to premature deaths. The U.S. Environmental Protection Agency (USEPA) asked the Council to determine whether ozone-related mortality should be included in analyses that the USEPA is required to do to assess costs and benefits of reducing air pollution to meet standards. A committee of experts reviewed the evidence and determined that USEPA should use ozone-related mortality in cost-benefit analyses. The committee found that deaths related to ozone exposure are more likely among individuals with pre-existing diseases and other factors that could increase their susceptibility, but also

determined that premature deaths are not limited to people who are already within a few days of dying.

The committee tried to determine whether there is a threshold ozone level below which exposure is not associated with a risk of premature death, and concluded that if a threshold exists, it is probably at a concentration below the current health-based ozone standard.

The committee called for additional research on how individual differences can affect susceptibility to changes in ozone levels, and on how

longer-term exposure to ozone could affect life expectancy. The committee also made a series of recommendations for ways USEPA should quantify benefits associated with reducing risk of mortality from exposure to ozone.

For more information on the PM2.5 research results, see:
<http://www.arb.ca.gov/research/health/pm-mort/pm-mort.htm>; *copies of the report on ozone are available at the National Academies Press,*
<http://www.nap.edu>.

Retirements

APCD Board Roundup

Following are the highlights of the March and May Board meetings.

March

- Adopted and presented Resolutions of Appreciation to Lillian Coony and Susan Norton for their service as Office Technicians.
- Approved and signed letters of appreciation to Director Elliot Schulman of the Public Health Department and Fire Chief John Scherrei of the County Fire Department.
- Approved the District's continued participation in the Carl Moyer program and allocated local matching funds of up to \$123,457, for total program funding of \$800,00, including annual state funding.

May

- Increased funding for the Old Car Buy Back Program by \$150,000 with the option of an additional \$100,000 increase if needed.
- Considered Fiscal Year 2007-08 Proposed Budget, held a public hearing to receive comments, and scheduled a budget adoption hearing for June 19.
- Presented Resolution of Appreciation to Peter Cantle upon his retirement as Division Manager of the Engineering and Compliance Division.
- Delegated to California Air Resources Board the Lower Emission School Bus Program in Santa Barbara County with \$1,600,000 in state funds.

Two employees retired in March and will be much missed.

Susan Norton has been the smiling face—and voice—of the agency as the front desk receptionist for the past ten years. She's known for her ready chuckle, dry sense of humor, and uncanny ability to find exactly the right person to answer a question. She's also known for the beautiful and fragrant roses she brought in from her garden at home for display at the front desk. Native to the area, she grew up in Goleta among orange and lemon groves, and was in the first graduating class of San Marcos High School. She's looking forward to having more time for her garden, and to taking some trips.

In contrast to Norton, **Lillian Coony** grew up abroad. Born in Darjeeling, India, she spent her childhood in Hertfordshire,



Lillian Coony (left) and Susan Norton

a county just north of London, England, and then moved to Sydney, Australia when she was twenty-one. She came to the U.S. in 1981, and has worked for the District for almost eleven years as an Office Technician, dealing with public notices, checking permits, and performing multiple support tasks for engineers. She is known for her cheerful and friendly manner and "eagle eye" double-checking documents and finding

places that need corrections, and for the jewelry she wears that she designs herself. She's looking forward to having more time for jewelry making, hiking, and sailing, and to moving back to Australia with her husband in the near future to be with family and friends.

We will be missing their voices and smiles for awhile, and wish them both well in retirement.

Peter Cantle (cont'd)

Cantle also pointed to progress in reducing toxic air pollutants. The District is responsible for implementing the state's Air Toxics "Hot Spots" program, which identifies significant risk facilities by their emissions of toxic air pollutants. In 1991, 51 sources subject to the Air Toxics "Hot Spots" Program exceeded the significant health risk thresholds. Currently, only two sources exceed the significant health risk thresholds, a 96% reduction.

The past two decades saw changes in the District's approach to the job of pollution regulation. "When the agency began growing in the late 80s, we developed a strong esprit de corps, and a powerful belief in the mission.

Over the years, as the agency has contracted, we've kept those strengths, and continued to be technically rigorous, and we've necessarily become more customer-service oriented," remarked Cantle. "The District's strength has always been its remarkable core group of really dedicated people. Throughout my tenure here, I have worked with excellent individuals."

Cantle is looking forward to new challenges as an energy consultant, and to having more time for other pursuits with the elimination of his daily commute. He has always had many interests outside his work at the agency—composing and performing music on a variety of instruments, fly fishing, birding,

sailing and other ocean sports, and enjoying family life with his wife and two adult sons.

He will miss his co-workers and many friends and colleagues in the regulated community and general public, but intends to stay in touch. He remarked, "Public service and good governance is honorable work, and it has been my great honor to have served the County of Santa Barbara. The fact is, everything we do here works toward the protection of public health, and, more broadly, the protection of our quality of life in this most beautiful area of a most beautiful state. That's a very important mission, don't you think?"



APCD Board Calendar

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Second District

Santa Barbara County

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Third District

Santa Barbara County

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City of Santa Barbara

Mayor Larry Lavagnino

City of Santa Maria

Mayor Pro Tem Edwin Skytt

City of Solvang

Councilmember Eric Onnen

City of Goleta

*All meetings start at 1:30 p.m.
For final meeting agendas, call the
APCD Board Clerk, 961-8853.*

June 19

Board of Supervisors'
Hearing Room
105 East Anapamu Street
Santa Barbara, California 93101

August 21

Board of Supervisors'
Hearing Room
105 East Anapamu Street
Santa Barbara, California 93101

October 16

Board of Supervisors'
Hearing Room
105 East Anapamu Street
Santa Barbara, California 93101

December 18

Board of Supervisors'
Hearing Room
105 East Anapamu Street
Santa Barbara, California 93101

Community Advisory Council

The APCD Community Advisory Council meets the fourth Wednesday of most months at the Days Motor Inn in Buellton. The public is welcome. For more information, call Linda Beard, 961-8853.

Energy Challenges and Community Solutions

Tri-county area leaders gathered in May to hear experts speak about peak oil, energy security, transportation, and community solutions. Speakers at the event organized by the Community Environmental Council offered different perspectives; some points from the summit follow.

- In the short term, the reliance on liquid fuels for transportation coupled with declining oil production pose a serious challenge. The electrification of the transportation sector, and generation of electric power using wind, solar, and nuclear energy, will provide solutions in the longer term (but perhaps not until 2050, according to one speaker).

- Balancing economics and energy supply with concerns about air pollution and global climate change will be difficult, although some solutions address both. For example, carbon dioxide, a greenhouse gas, can be injected into older oil wells. This allows for enhanced oil recovery, and at the same time removes the carbon dioxide from the atmosphere.

- While some speakers addressed the challenges on the energy supply side, others described success in addressing the demand side on the local level. For example, Portland, Oregon, has reduced energy costs significantly, and positioned Portland businesses to be leaders in providing innovative energy-saving solutions to other areas—all while reducing the city's greenhouse gas emissions down to 1990 levels. Some communities such as Ventura are transforming zoning and planning processes to encourage design of neighborhoods where walking, biking and taking the bus are more convenient.

*To view some of the presentations from the summit, see
www.communityenvironmentalcouncil.org/links/EnergySummit.cfm*



Office

260 N. San Antonio Rd. Suite A
Santa Barbara, CA 93110-1315

Business Assistance

(805) 961-8868

Daily Air Quality Report

www.sbcapcd.org

Complaints/Public Information

(805) 961-8800

World Wide Web

www.OurAir.org

E-Mail

apcd@sbcapcd.org

On the Air is a quarterly newsletter written by Mary Byrd, published by the Community Programs Section of the Santa Barbara County Air Pollution Control District.

For further information on items in this newsletter, or to be added to our subscription list, please call Bobbie Bratz, 961-8890 or Email bratzb@sbcapcd.org.



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Business Focus

How Clean is this Car? Testing Fuels and Vehicles

Sooner or later many of the world's cars will make a pilgrimage to a group of buildings in a quiet, unassuming business park in El Monte California, home of the California Air Resources Board's Haagen-Smit Laboratory. This is where the state tests vehicles and fuels to determine emissions of smog-forming pollutants, particle pollution, toxic compounds, and soon, greenhouse gases. The lab tests new car models to determine whether they meet California's Low Emission Vehicle standards, and tests older models that are representative samples of the state's vehicle fleet to assess the pollution produced by the cars and trucks currently on the road in California.

John Swanton of the Air Resources Board took members of the Public Outreach Committee of the California Air Pollution Control Officers Association on a tour of the lab recently. In what looks like an

elaborate video game, a human tester drives a full-size vehicle that's held stationary on equipment that allows the wheels to move. The tester accelerates and brakes in response to a video of a road trip, while equipment samples the vehicle exhaust. This test allows researchers to determine how the vehicle operates under real-world conditions given typical human driving patterns. Robot



Bags may look empty, but are filled with air and pollutants from vehicle exhaust.



John Swanton of California Air Resources Board in the test bay. Variations in temperature can affect the engine operation and the levels of pollutants in the exhaust. Vehicles are designed to take advantage of the cooling of air blowing through as they are moving, and the fan in front of the vehicle in the test bay replicates the wind-cooling effect.

testers take vehicles through pre-programmed paces, to assess performance with the human variables eliminated.

A bin in the lab holds plastic bags of air—samples from vehicle exhaust filled with air pollutants. On another table, vials of gasoline taken from gas stations in various locations await testing to determine whether the stations are selling gas that meets the state's specifications. A fuel tank in a sealed shed will stay there for several days so researchers can see if vapors are leaking from the gas tank. Motorcycles, boats, gas mowers, and even leaf blowers are also tested.

Data from the lab are used to refine the state's vehicle and fuel regulations. Results also point the

(continued on back)

Revisions on Rules for Engines

On June 19, the District Board will consider adoption of revisions to several rules that cover engines. If the Board adopts the revisions, certain types of portable construction equipment, including air compressors, generators, concrete pumps, abrasive blasting equipment, pile drivers, welders, and construction drill rigs will no longer be exempt

from permits. Engines rated 50 brake horsepower (bhp) and above that are operated in Santa Barbara County will be required to be either: 1) registered in the statewide portable equipment registration program, or 2) permitted by the District.

If the Board adopts the revisions on June 19, failure to either register or permit

an engine by September 18, 2008 may result in significant penalties.

For additional information see the APCD website: www.OurAir.org or call John Garnett at 805-961-8835. For details on the California Portable Equipment Registration Program see the Air Resources Board website: www.arb.ca.gov/portable/perp/information.htm.

Business Focus

New Scorecard for California Vehicles

Starting with the 2009 model year, auto manufacturers selling cars in California will be required to transition to a new "Environmental Performance" label. Some automakers have indicated that they will be using this label nationally. The new label was designed to incorporate a score for global warming, and also provide for a more standardized format than the

previous label. A comparison appears below.

For more information on cleaner cars, see the state's Drive Clean California website <http://www.driveclean.ca.gov> and the US Environmental Protection Agency's Green Vehicle Guide <http://www.epa.gov/greenvehicles>.

Environmental Performance

Protect the environment, choose vehicles with higher scores:

Global Warming Score



Smog Score



Using alternative fuels may improve scores. See www.DriveClean.ca.gov

Vehicle emissions are a primary contributor to global warming and smog. Scores are determined by the California Air Resources Board based on this vehicle's measured emissions. Please visit www.DriveClean.ca.gov for more information.

California Environmental Protection Agency

AIR RESOURCES BOARD

Sample Environmental Performance Label.

Old Smog Index Label (up to and including 2008 models)	New Environmental Performance Label (starts with 2009 models)
Smog score only	Two scores: one for smog, one for global warming.
The lower the score, the better. Low score means less smog pollution.	The higher the score the better. High score means better environmental performance.
Scale can be presented differently, for example a scale from 0 to 2 on some vehicles, a scale from 0 to 3 on others, resulting in a different visual impact. At first glance a 1.5 score on a 0 to 3 scale will look better than a 1.5 score on a 0 to 2 scale.	Same scale 1 to 10 presented on all vehicle labels.
The Smog Index for an average new vehicle changes from year to year. For example, the Smog Index for the average new 2007 vehicle was 0.40, the Index for the average new 2008 vehicle is 0.38.	The scale is defined so the average new vehicle for that model year has a score of 5. The new scales also identify the best and worst available.

Testing Fuels and Vehicles (cont'd)

way for research in new areas. Said Swanton, "When we've tested exhaust from gas-powered vehicles in the past, typically we've been looking for ozone-forming pollutants. We've thought of particle pollution as more of an issue with diesel-powered vehicles. But recently we've been looking more at the ultra-fine particles in exhaust from

gas-powered vehicles. And I suspect we may find some significant results here."

Swanton with fuel samples tested to ensure stations are selling fuel that meets the state's specifications.



APCD Grants for Local Businesses

Funds for Cleaner Engines

Equipment that may be eligible for grants to repower or retrofit includes:

On-Road and Off-Road Vehicles/ Equipment, Agricultural Water Pumps, School Buses, Marine Engines, and Other.

For applications & more info visit: www.sbcapcd.org/itg/itg.htm.

Contact Information:

Ron Tan at 961-8812 or itg@sbcapcd.org.