

Reducing Marine Shipping Emissions

In January, APCD Board Chair DeWayne Holmdahl, APCD Director Doug Allard, and Kathy Patton, Manager of APCD's Technology and Environmental Assessment Division, traveled to Washington, D.C. to urge federal agencies and governmental representatives to work to reduce marine shipping emissions. Emissions of nitrogen oxides (NOx) in the county from large ships traveling through the Santa Barbara Channel are already equivalent to emissions onshore from cars and trucks and other on-road mobile sources combined, and are expected to increase by 67 percent by 2015. If marine shipping emissions are not reduced, it could be difficult for our county and many other areas to stay in compliance with federal ozone standards.

Holmdahl, Allard, and Patton attended a conference sponsored by the U.S. Maritime Administration at which Transportation Secretary Norman Mineta told the attendees that "the spotlight is on all of us in the maritime sector" to reduce emissions and improve energy efficiency. The APCD staff met with Margo Oge, Director of the Office of



From left: Jack Broadbent, Director of the Air Division at U.S. EPA Region IX, APCD Director Doug Allard, Margo Oge, Director of the Office of Transportation and Air Quality in the U.S. EPA Office of Air and Radiation, and Kathy Patton, Manager of APCD's Technology and Environmental Assessment Division.

Transportation and Air Quality in the U.S. Environmental Protection Agency (U.S. EPA) Office of Air and Radiation, and Jack Broadbent, Director of the Air Division at U.S. EPA Region IX. The APCD asked U.S. EPA to take a leadership role in the effort to reduce these emissions, and to set aggressive international standards, establish low-sulfur fuel areas, and implement incentive-based programs. U.S. EPA was receptive to this message and quite surprised at

the impact of these marine vessels on the California coast.

APCD staff also met with U. S. Maritime Administration representatives from the Office of Ship Building and Marine Technology and from the Office of Environmental Activities, who showed interest in exploring voluntary incentives to implement technologies to control emissions from existing vessels. Finally, APCD staff and Board Chair Holmdahl met with U.S. Congressional Representative Lois Capps, and with representatives from other involved organizations.

Said APCD Director Doug Allard: "I was surprised at the level of support for reducing emissions from this important

source of pollution, both from high-ranking federal officials and international representatives. I am optimistic that the results will be not only tougher emission standards for new vessels, but programs to reduce emissions from existing vessels, as well."



Teixeira Farms and Cleaner Engines
Norm Teixeira Starts a Solar Energy Company
...see articles inside.

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Creative Strategies for Clean Air and Less Traffic

Our transportation choices affect our air quality—and our quality of life. Cars and trucks produce more than half of onshore smog-forming pollutants in our county, and traffic takes hours out of our weeks. Studies show adults are driving more and more—and kids are biking and walking to school less and less. APCD and other agencies and organizations work together to help people make different transportation choices, using a variety of approaches.

The 2002 *Kids Care for Clean Air*

Calendar, a joint project by APCD and Traffic Solutions, draws on the creative abilities of kids to highlight clean air and alternative transportation. Twelve winning pictures selected through a countywide contest illustrate the calendar months, and one grand prize picture illustrates the calendar cover. Kids who won range in age from 6 to 11, and come from Santa Maria, Lompoc, Goleta, Solvang, Guadalupe, and Santa Barbara. APCD's Board at its January

meeting honored them with Certificates of Achievement.

Grand Prize Winner Noelle Crandall from Battles School in Santa Maria used a puzzle theme for the cover picture. She says clean air is important

the theme "Pollution is weighing us down." Says Smith, "We were studying weights in school, and I thought about pollution and came up with the

with the City of Santa Barbara, notes that the benefits from the project range from reduced traffic, to improved health, safety—and self-reliance—for kids.



North County calendar contest winners were recognized at APCD's January Board meeting (South County winners were honored via video conferencing). Pictured, from left to right: Bradford Smith, Margot Robohn, Noelle Crandall, Dylan Tarrant, Julio Solorio, Vanessa Styles, Victor Gomez. Winners not pictured: Karen Rios, Jeffrey Sloan, Jessica Holbrook, Camille Ripple, Joie Coxon, and Jessie Davidson.

"because it keeps me healthy so I can do the things I like to do, like skating, bike riding, and rollerblading."

Another winner from Battles School, Julio Solorio, was selected for the month of June for his picture of a skate park. Remarks Battles Principal Ed Cora, "I'm proud of my students whenever they put an effort forward, whether they win something or not. And I'm especially proud when they excel!"

Jessica Holbrook of Ballard School in Buellton drew a picture with the message "If you care about the air, ride to work or school in your wheelchair," because, she explains, "someone in my class can't walk, and I wanted to do a picture for her." Bradford Smith of Alice Shaw Elementary School in Santa Maria designed a picture around

idea." Other pictures feature bicyclists, carpoolers—and hang gliders—to highlight fun transportation choices.

Another area program also involves kids. The *Safe Routes to Schools* project works to create safer routes for kids to take to school, and to promote safety education, and awareness of the benefits of walking and biking to school. The program is led by a coalition that includes city and county agencies and organizations, including the APCD, school representatives, parents, and police and safety officials. Activities include: publicizing the importance of wearing bike helmets; bike safety instruction at schools; upgrading of school crossing signs and crosswalks; and traffic calming measures around schools that are in areas with heavy traffic. Coalition Co-Director Dru van Hengel, Mobility Coordinator

Traffic Solutions' new program *200 Clams a Day*, developed with the City of Santa Barbara, is designed to reach a different group: commuters. Downtown workers can enter a drawing to win \$200 for each workday they use alternative transportation to get to work. Traffic Solutions Administrator Mindy Norris notes, "We're trying to find the magic recipe that will work for us—and it's going very well. We had a lot of different goals for this program, and it's meeting them all." In addition to encouraging workers to use alternate modes of transportation, the program is helping Norris expand her database of information about downtown employers, and commuting habits of employees.

The City's parking department funds the six-month pilot program. Remarks Victor Garza, Parking/Transportation Management Program Superintendent: "Most people like money. If you have a chance to win \$200 every time you walk, bike, ride the bus, carpool, or telecommute to work, you're just more likely to do it." The City Parking Department is also supporting a free bus pass for downtown workers, and helping to fund operation of the MTD Crosstown electric shuttle. "It will take some time, but I'm convinced these programs will alleviate some of the traffic problems downtown," says Garza.

(Continued on page three)



Jeffrey Sloan

New and Revised APCD Rules Adopted in 2001



APCD Board Roundup

Following are the highlights of the December 2001 and January 2002 Board meetings.

December 2001

- ✓ Approved up to \$200,000 in additional Carl Moyer Program Funds and Innovative Technologies Group funds for an ongoing Agriculture Pump Repower Program.
- ✓ Executed a grant agreement for the purchase of two new low-NOx natural gas engines with catalytic converters and two new low-NOx diesel engines for agricultural use.
- ✓ Executed a grant agreement for the purchase of a low-emissions main engine for a fishing vessel.
- ✓ Adopted a Resolution of Appreciation recognizing Gil Garcia for his years of service on the APCD Board.

January 2002

- ✓ Elected DeWayne Holmdahl Board Chair, and Naomi Schwartz Vice-Chair for 2002.
- ✓ Executed a Grant Agreement with Channel Islands National Park for the purchase of five new low-emissions engines for a Park Service boat.
- ✓ Authorized the Air Pollution Control Officer to renew insurance contracts effective January 1, 2002, and adopted a resolution amending APCD's Classification and Salary Plan.
- ✓ Presented Certificates of Achievement to the winners of the Kids Care for Clean Air 2002 calendar contest.
- ✓ Appointed five members of the APCD Board of Directors to serve as the 2002 APCD Hearing Board Nominating Committee.
- ✓ Executed a Grant Agreement with Orcutt Union School District for the purchase of two new low-emissions school buses (propane-powered).

Rule 209, Appeals

Rule was revised January 18 to allow appeals to be governed by sections of the state Health and Safety Code.

Rule 325, Crude Oil Production and Separation; Rule 326, Storage of Reactive Organic Liquids; Rule 346, Loading of Cargo Vessels

Rules were revised January 18 to incorporate the vapor pressure test method specified for heavy oil. The Lawrence Berkeley National Laboratory developed the new test method through the Heavy Oil Storage Tank industry/agency working group. Rule 325 was revised again on July 19 to correct a test method for wastewater tank liquids.

Rule 370, Potential to Emit Limitations for Part 70 Sources; Rule 1301, General Information; Rule 1303, Permits; Rule 1304, Issuance, Renewal, Modification and Reopening

Rules were revised January 18 to: address interim approval issues noted by USEPA; change the term of the federal Part 70 operating permit to be consistent with the term of the APCD permit; and add language to clarify emission thresholds for changes in federal air quality designation.

Rule 107, Emergencies

New rule was adopted April 19 to give the APCD Director the ability to suspend certain APCD rules, regulations, or

orders during a local, state, or federally declared State of Emergency.

Rule 323, Architectural Coatings

Rule was amended November 15 to incorporate the Suggested Control Measure for Architectural Coatings approved by the California Air Resources Board on June 22, 2000.

For more information on APCD rules, visit: www.sbapcd.org/rules/rules.htm, or email rules@sbapcd.org.

Clean Air Strategies (cont'd from page two)

APCD's *Santa Barbara Car Free* program, also known as the *Take a Vacation from Your Car* project, targets a different audience: visitors. The project encourages visitors to use car-free, carefree transportation to and around Santa Barbara. A new website, www.santabarbaracarfree.org, features self-guided walking tours; links to bike maps and tours, and boat expeditions; information about area bus and train service; and links and information on how to enjoy the wine country and Channel Islands, and other parts of the region without a car. Upcoming promotions will provide incentives for visitors to discover Santa Barbara car free.

A number of other projects are working for clean air and less traffic in the county, using

creative strategies and partnerships. Perhaps Dylan Tarrant, calendar contest winner from Miller School in Santa Maria, who drew a picture of hang gliders, sums it up best: "With a little imagination, the sky's the limit for other means of transportation."

To receive a free copy of the *2002 Kids Care for Clean Air* calendar (while supplies last), call APCD at 961-8800.

For more information on the *200 Clams a Day* promotion, see www.sbapcd.org/clams.htm
For more information on the *Safe Routes to School Project*, call 564-5544.

For more information on *Santa Barbara Car Free*, visit www.santabarbaracarfree.org, or call 961-8833.





Air Pollution Control District Board

Supervisor Naomi Schwartz

First District

Santa Barbara County

Supervisor Susan Rose

Second District

Santa Barbara County

Supervisor Gail Marshall

Third District

Santa Barbara County

Supervisor Joni Gray

Fourth District

Santa Barbara County

Supervisor Tom Urbanske

Fifth District

Santa Barbara County

Councilmember Russ Hicks

City of Buellton

Councilmember Dick Weinberg

City of Carpinteria

Mayor Sam Arca

City of Guadalupe

Councilmember DeWayne Holmdahl

City of Lompoc

Councilmember Gregg Hart

City of Santa Barbara

Councilmember Larry Lavagnino

City of Santa Maria

Councilmember Ed Andrisek

City of Solvang

APCD Board Calendar

*All meetings start at 2 p.m.
For final meeting agendas,
call the APCD Board Clerk,
961-8853.*

March 21

Board of Supervisors
Hearing Room
511 East Lakeside Parkway
Santa Maria, CA 93455

April 18

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

May 16

Board of Supervisors
Hearing Room
511 East Lakeside Parkway
Santa Maria, CA 93455

June 20

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

Community Advisory Council

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

Celebrate Earth Day in April

Earth Day celebrations will be held around the county in April.

Santa Barbara: Sunday, April 21, at the County Courthouse Sunken Gardens, event coordinated by the Community Environmental Council. For more information, call 963-0583 ext. 107.

Santa Maria: Saturday, April 20, at the Santa Maria Natural History Museum. For more information, call 614-0806.

For more information about celebrations at other county locations, contact your local city, or visit: www.sbcapcd.org/apcd/earthday.htm.



New Website Format

Check out www.sbcapcd.org for information on county air quality and our programs, in a new format with improved navigation.



Santa Barbara County
Air Pollution Control District

Main Office

26 Castilian Drive
Goleta, CA 93117
(805) 961-8800

Business Assistance

(805) 961-8868

Daily Air Quality Report

(805) 961-8802

Complaints/Public Information

(805) 961-8800

World Wide Web

www.sbcapcd.org

E-Mail

apcd@sbcapcd.org

On the Air is a bimonthly newsletter 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.

Our Vision: Clean Air



Teixeira Farms Leads the Way with Cleaner Engines

Teixeira Farms, Inc., of Santa Maria, one of the largest agricultural packaging concerns in the U.S., uses propane engines in many of its farm operations. Propane engines create much less particulate matter pollution than diesel engines. Recent health studies have identified the toxic air contaminants found in particulates in diesel exhaust to be particularly harmful.

The company grows and packages various crops, including lettuce, cauliflower, celery, broccoli and cabbage. Cliff Dugger, Fleet Maintenance Manager for Teixeira Farms, reports that thirty of the Farms' forklifts are propane powered (ten are electric powered), and forty of their trucks are propane

powered, representing about one-third of the truck fleet. The trucks vary in size, and are used for a variety of jobs, ranging from trucking fertilizer to hauling tractors. Propane trucks are used to haul loads of up to 30,000 pounds (diesel trucks are used for heavier loads).

Teixeira Farms first started purchasing propane-powered equipment in the 1980s, when a propane forklift was much cheaper than a gasoline-powered one. As time went on, the Farms began buying used gasoline-powered trucks and retrofitting them to run on propane, and installed a 30,000-gallon propane storage tank.

Recently, Teixeira Farms received funding from APCD to replace an older diesel-powered



A propane truck hauls 23,000 pounds at Teixeira Farms.

water pump engine with a new propane-powered pump engine outfitted with a catalytic converter. The new engine is producing much less particulate matter pollution and nitrogen oxides (NOx) pollution than the diesel engine it replaced. APCD Engineer Gary Hoffman recently tested the new engine and found it was producing less than one gram of NOx per brake horsepower-hour, more than a ten-fold decrease in NOx over the old diesel engine. "The testing demonstrated that the engine and the catalytic converter are working well," notes Hoffman. The 200-horse-

power engine pumps irrigation water at 2,000 gallons a minute to fields almost a mile way.

Dugger expects fewer maintenance problems, and a longer service life with the new engine. His records on fuel use also show the engine to be fuel efficient, and he is consistently paying less per gallon for propane than he pays for diesel fuel, "Last summer when diesel went to \$1.80 a gallon, propane was only at \$1.10 a gallon," he remarks.

Dugger finds the propane engines run well in general and require less maintenance: "Propane runs a lot cleaner, and it's a lot easier for the guys in the field. We're going to continue to buy propane engines. They've worked well for us."



Cliff Dugger of Teixeira Farms demonstrates the new propane-powered water pump engine, equipped with a catalytic converter, purchased with funding from APCD.

New Solar Company Targets California Agriculture

Norm Teixeira is a man with a mission: to bring solar energy systems to the agricultural industry in California. “The key is to make it possible for farmers to go to solar energy without being out-of-pocket for the capital cost. In the agricultural community especially, they’re not working with a large margin—and they’re hurting right now. So what we’re saying to this industry is, we’ll cut your energy bill in half and install solar,” says Teixeira.

Six months ago, Teixeira, retired from management of Teixeira Farms, started Distributive Power Systems LLC (DPS), with two partners. The company, based in Santa Maria, is a distributor for MegaWatt Energy Corporation, a manufacturer of high concentration photovoltaic solar electric-thermal energy generators.

Engineer Daniel Ringstmeyer, one of Teixeira’s partners, explains that electronic tracking systems rotate the solar cells as the sun moves, so the cells receive the maximum perpendicular radiation throughout the day. This tracking feature allows the equipment to generate at least 30 percent more power than traditional solar systems, according to MegaWatt Energy Corporation. Water is used to cool the system components, and hot water is a by-product of the generation process. If the customer does not need the hot water it can be used to generate more electric power using a

turbine. In the future, the hot water could be used to produce hydrogen to run a fuel cell.

The solar energy customer can lease the equipment, lease-to-own, or simply pay a monthly bill for the electric power used. Agricultural operations use power in cooling plants, and to run water pumps and irrigation systems. “Cooling plants use a lot of electric power—we’re talking about monthly electric bills of \$25,000 or more. These plants also have a lot of roof space, or large open parking lots where the equipment can be installed,” says Teixeira. DPS is currently in negotiations with Teixeira Farms and Frontier Cooling for solar energy contracts.

DPS has also received interest from dairy farmers in Northern California, who use power to heat buildings, run milking equipment, and to heat water to wash livestock and barns. In addition, DPS expects interest from other industries, and large facilities, such as hospitals.

When all the elements are put together, including the increased efficiency of these systems, the fact that the systems can be connected to the grid and used to run electric meters backwards, and the solar energy incentives and rebates currently available from the state, “it pencils out,” says Teixeira.

His goal is to make Santa Barbara County a showcase for agricultural use of solar power: “The way we figure it, if we can

make this work in this county, we can make it work in the state. And if we can save the California farmer some of the money he spends on power, that will go right to his bottom line at a critical time.”

For more information, contact DPS at 805-614-0336.



Daniel Ringstmeyer (left) and Norm Teixeira, two of the partners in a new solar energy company.