Catching our breath

In the past two years, lawsuits and legislation have endeavored to clean the Valley's skies. But death and dirty air remain as the work continues.

By Mark Grossi / The Fresno Bee

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Dirty air pushed 2,200 people into an early grave during the past two years in the San Joaquin Valley. A chilling statistic, but consider this: It's too low to describe what really happened.

The death figure comes from state research on pollution that doesn't even violate the health standard. Nobody knows how many more people died prematurely from breathing the Valley's chronically unhealthy haze.

"We need to recognize how much air pollution is costing us," says Fresno Metro Ministries spokeswoman Carolina Simunovic, one of many new clean-air advocates to emerge in the past two years. "We have to be ready to make sacrifices and do what is necessary to save lives."

Indeed, death and dirty air continue two years after The Fresno Bee published the "Last Gasp" section to raise awareness of air quality. The air in America's most productive farm belt often remains more dangerous than the nation's two dirtiest metropolitan areas, Los Angeles and Houston.

But, make no mistake, the Valley has changed.

Below the corrosive skyline, it looks as if a 7.0-magnitude earthquake rocked the political landscape.

State lawmakers in 2003 passed landmark reform, bringing air regulation to farms that had been exempt from operating permits for decades. Now everything from cow gases to crop-waste burning is under scrutiny.

Environmentalists won more than a dozen lawsuits against government agencies, revealing 19 missed deadlines.

Frustrated state officials this month junked a sluggish, voluntary diesel-engine cleanup and ordered equipment retrofits for thousands of trucks and other vehicles by the end of next year. For the first time since the local air district formed in the early 1990s, the Valley has federally approved cleanup plans. Many rules now have real bite, such as the one empowering authorities to stop wood burning in fireplaces, inserts or stoves on the dirtiest days.

Polls show air quality is a top concern among the 3.5 million people living in the Valley. Most politicians now understand they need to address air quality, even though their positions might sometimes put them at odds with the $14 billion Valley farm industry.

State Sen. Dean Florez, D-Shafter, became the lightning rod by writing five new air quality laws. He was behind Senate Bill 700, which lifted the long-standing operating permit exemption for farmers.

Another Florez bill, SB 705, will begin phasing out farm-waste burning over five years, starting June 1 next year.

"People said it was really dumb politically for me to take this issue on," Florez says. "But I can't tell you how many times both Republicans and Democrats have stopped me in public to say, 'Keep on pushing it.' "

He says children and those who suffer lung problems motivated him to press on. He says the 25,000-square-mile Valley, the biggest air district in the nation, still is bathed in bad air and booby-trapped for lung-impaired people.

The numbers support Florez.

In the past two summers, the Valley violated the eight-hour or daylong smog standard 240 times, easily the most in the country and wildly beyond any definition of safe air.

Fall and winter bring tons of microscopic soot, ash, dust and chemicals, suspending airborne grit at levels about 40% higher than the annual health standard.

The best evidence shows the tiniest specks are the deadliest, triggering asthma and heart problems. Scientists say it's no coincidence that heart disease increases as you travel south from Stockton in San Joaquin County toward Bakersfield in arid, dusty Kern County.

Two of the biggest headaches come from nature -- topography and meteorology. The Valley's inland bowl forms a perfect cradle for bad air episodes. Hot, windless summers and stagnant, foggy winters hold pollutants for days.

"You are different," says Thomas Cahill, a physics and atmospheric science professor emeritus with the University of California at Davis. "You need to get the science right. You need Valley scientists investigating which sources to control and when. This is too difficult and different for someone from another area to diagnose."

City sprawl is making it tougher, too. Central California is one of the fastest-growing places in the state.

Next year, motorists here will drive more than 90 million miles a day, about a 10% increase from two years ago. More miles mean more pollution from vehicles, which remain the biggest air quality headache.

Far too many hurdles remain for the air to clear up anytime soon, say experts in government and academia. The earliest federal cleanup deadlines have been pushed back to 2010.

New, more stringent pollution standards for ozone began this year. Experts privately say it will take more than a decade to achieve that standard. The same may be true for the tough, new federal particulate matter standard, which was introduced Friday.

In the meantime, thousands more will die, state figures show.

But there is another side to this story, air authorities say. The air is getting cleaner, not dirtier. Look at the one-hour, or highest smog reading of the day in one hour, they say.

In 1988, the Valley had 74 days over the health standard for the one-hour smog readings. Last summer, the Valley had nine violations, the fewest since measurement began in the early 1970s.

Experts say a cooler, breezier summer kept the numbers down statewide.

Dave Jones, director of planning for the San Joaquin Valley Air Pollution Control District, says it wasn't all due to weather.

"We also had a very good year because we're getting reductions in pollution," he says.

So, has the Valley really made progress since December 2002?

"Yes, we've mapped out our future," says Barbara Patrick, air district board chairwoman. "The teamwork with the public, the agencies and industries is coalescing. It's much easier to develop rules when you have the public behind you. I'm optimistic."

No way, environmentalists say. The cleanup is too slow.

"We need to get the political will on the air board to make change," says Fresnan Kevin Hall, a Sierra Club member and activist on air quality issues. "In terms of actual pollution reduction, no, we're not making progress. We won't make the deadlines."

Breathing is the point

People have long discussed air pollution after church, at soccer games or in coffee shops, but cleanup deadlines are not the center of conversation. The main topic is usually breathing "ugly air."

More than 300,000 people, almost 10% of the Valley's population, suffer from a chronic breathing disorder. About 16% of the children in Fresno County have asthma, a higher rate than any other place in California.

A study from California State University, Fresno, this year says this area suffers from an asthma epidemic. More than 150,000 children have asthma, according to the Fresno State study from the Central California Children's Institute.

Have their lives changed in two years?

Ask Kimberly Williams, whose 14-year-old son, Kerry Adaway-Williams, has asthma.

"Two years ago, we had to stash inhalers in hiding places to smuggle them into school because they didn't want to have any drugs in school without a note every day," she says. "Now everything is out in the open. He has just one note with the school, saying he can carry his medication."

Ozone irritates his lungs. So do soot, chemical vapors, dust and diesel exhaust. Kerry's life is strewn with asthma episodes and lung spasms that have sent him to the hospital emergency room.

He often has spent days in the hospital as the muscles squeezing his airways slowly relax. He wheezes and battles for oxygen. He longs to play basketball with his friends and try out for the high school team.

Thankfully, things are looking up. Kerry, a freshman at Clovis West High School, hasn't spent any time in the hospital during the past two years. Could he outgrow his asthma problem? His mother hopes so, but nobody knows for sure.

Kerry tries not to think about it. He keeps inhalers and medication in his room, his backpack, his pockets, his mother's car and even at his cousin's house.

"I have a dream team around me," he says. "My teachers, parents, grandparents, doctor and school nurses. For people who don't understand, I want them to walk a mile in my shoes."

There is no higher priority than helping people such as Kerry, says Dr. David Pepper, who oversees the asthma education and management program at Community Medical Centers.

He says funding is needed for a study called Fresno Regional Area Mapped Environment. The study will find out which pollutants are sending people to the hospital.

"What we are trying to do is link health impacts with the times and place that they occur," he says. "It's the only way we can find out which pollution sources are the most important targets."

Pepper is riding a new wave of medical research that is putting a finer point on the connection between air quality and human suffering.

The University of California has been conducting the Fresno Asthmatic Children's Environmental Study for almost five years, and results are expected next year. It is the first study in the country to identify children vulnerable to air pollution and pollutants causing the reactions.

Three months ago, scientists announced a well-documented study in the New England Journal of Medicine showing air pollution stunts the growth of children's lungs.

Last month, a 14-year study by Yale and Johns Hopkins universities concluded even small elevations in ozone, the main ingredient in smog, raise the number of premature deaths.

Says Josette Merced Bello, president of the American Lung Association of Central California: "This is the proof we needed to convince any remaining skeptics that air pollution isn't a nuisance, it's a killer, and that our situation in the Central Valley isn't just unhealthy, it can be deadly."

The studies add to the established research on particulates -- the pervasive tiny specks of dust and other particles that are to blame in about 1,100 premature deaths annually in the Valley.

There is little doubt that the particles must be further studied, says Dr. John Telles, a Fresno cardiologist.

"It's the real deal," he says. "We tend to see more people in the winter. It's amazing that we don't have more detailed data in our area."

On the legal front

Human health may occupy everyday conversations, but the straw that stirs this debate has been in courtrooms.

When Earthjustice Legal Defense Fund filed suit against the U.S. Environmental Protection Agency over the Valley's air in 2001, it was the first shot in a one-sided legal war. It wasn't long before blood pressures rose, headlines followed and all the political action began.

"The industries are being dragged along, kicking and screaming," says Earthjustice lawyer Anne Harper. "It's push, push, push."

Businesses and industries always have worried about paying for pollution-control technology now and later being forced to invest more money when rules become more stringent. They want to make sure they're getting the most pollution reduction for their dollar.

Petroleum businesses, power plants, glass factories and others that have been regulated for many years have collectively paid millions for mandated advances.

But farming, responsible for half of the Valley's particulate pollution, had not been required to obtain federal air permits, which require fees and accounting for pollution. Farming was accused of flying under the regulation radar for air quality.

Farm officials replied that many parts of their industry have long been under air regulation, such as cotton ginning. Plus, they said they have been working voluntarily on air cleanup plans with the local district for many years before the environmentalists arrived.

"We haven't been good at telling about our efforts," says Debbie Jacobsen, former president of the Fresno County Farm Bureau. "We're doing our part. I think farmers realize what they need to do, but everyone needs to step up. It's not just one industry."

Farmers' voluntary efforts include watering dusty, unpaved roads and replacing many hundreds of dirty diesel engines by using public funds to help pay costs.

That wasn't enough for environmentalists, who came in waving the federal Clean Air Act. They had a long list of priorities, and farming was at the top, they said.

Earthjustice and another legal group, the Center on Race, Poverty and the Environment, filed 15 cases, several dealing with missed deadlines for cleanup plans and rules.

The government generally settles most cases before they go to trial, often giving environmentalists what they want. In one settlement, for instance, a technical exemption from federal jurisdiction was revoked for oil production businesses west of Interstate 5.

"There was a time when EPA just looked the other way when a deficient plan came to them," says Harper. "Now they go to great lengths to analyze these plans."

EPA officials say they always have tried to work with the Valley on air cleanup, but their work is easier and more visible now that more people from the public are involved.

Deborah Jordan, director of EPA's regional air division, says lawsuits over air quality are part of the process.

"The lawsuits are fairly new in the Valley, but we have seen them in Phoenix, South Coast, San Francisco and, to some extent, Las Vegas," she says. "There are hardly any plans that everyone agrees with, so lawsuits are filed. As a result of the lawsuits, air plans are improved and we make more progress."

Lawyer Brent Newell for Race, Poverty and the Environment points out one of the latest legal battlegrounds: EPA allowed the Valley district to extend its particle pollution cleanup deadline from 2006 to 2010. The law doesn't support it, he says. Environmentalists sued this year.

Says Newell: "They just keep pushing off the deadlines. This district does not have the political will to regulate the entrenched interests. They make backroom deals with the industries, and they come unraveled in court."

Newell's group also has filed six cases in four counties, challenging dairies and their impacts on air quality.

Courtroom air battles are increasingly turning to sprawl, which critics say creates more traffic and more air pollution. In Kern County, the Sierra Club has filed several lawsuits against home builders, most of whom have settled out of court.

Nine developers have signed agreements in Kern to pay $1,200 per home into a fund for clean-air projects. Thousands of homes are affected.

Last year in Fresno, the Medical Advocates for Clean Air and the League of Women Voters of Fresno sued developers of Copper River Ranch in north Fresno where the city had approved plans for more than 2,800 homes.

The suit was settled with builders agreeing to make a plan for preserving farm land and rehabilitating 100 homes in downtown Fresno.

A little more than two years ago, activists had just entered the picture after ignoring the Valley for more than a decade. Now their legal action, they believe, is the tip of the spear in the air improvement fight.

"We're not going away," Harper says.

Voluntary vs. regulated

The pollution fight is going voluntary. The public is getting the message. Hybrid gas-electric cars are starting to catch on. School buses at Clovis Unified School District are being converted to run on a cleaner form of diesel fuel.

Business leaders and government officials also are working on cleaner ways of living and growing.

Builders in Copper River Ranch are encouraging the use of electric vehicles. Fresno-area builders have backed off on fireplace construction.

Fresno, Bakersfield, Madera, Tulare and others are converting city fleets to natural gas-powered vehicles.

Some dairies are exploring the construction of a special device called a bio-digester, which captures methane from animal waste for power production and prevents many other polluting gases from going into the air.

Farmers are using Global Positioning Systems to guide tractors for precise plowing, reducing dust on fields.

Utility companies are talking about eliminating extra fees for farmers to encourage the use of electricity instead of diesel for water wells.

Two broad voluntary cleanup efforts have sprung up. They are basically cousins of a similar campaign involving industries, public officials and advocates in Kern County in the 1990s. The new groups are called Clean Air Now and Operation Clean Air.

By no means have such voluntary efforts addressed major problems, environmentalists say. Voluntary campaigns are helping, they say, but the real muscle comes from regulation. And regulation develops slowly.

One reason is the three-headed air quality cop -- federal EPA, California Air Resources Board and the Valley air district. This triumvirate does not make sudden moves. The three agencies handle different parts of enforcement, often at different speeds.

The Valley air district has no control over almost 60% of the air problem. It makes rules for businesses, industrial facilities and other so-called "stationary" sources, though the air district is responsible for plans to clean up all air pollution.

The state and federal agencies focus on pollution from moving sources, such as cars, trucks, boats, trains, planes and land-moving equipment.

An example of the hang-up: While the local air district is clamping down on industrial boilers, a bigger problem festers in "gross polluting" vehicles.

These vehicles usually are poor-running or older cars that produce most of the automobile pollution. They are under the state's jurisdiction.

A system that has been available for years can identify gross polluters by shining a light on vehicle exhaust and measuring how much light is absorbed. From that, officials can tell how much pollution is in the exhaust.

The state Air Resources Board continues to test the system, but the tests won't be complete until next summer. And there is no assurance the system ever will be used.

The system would be important in the Valley where the population is poorer than in most places around the state. People keep their older cars longer, which makes the problem worse.

Still, experts believe that as more cleaner-running, newer vehicles appear on the road, pollution eventually will plummet. Which brings environmentalists to a frontier that they say the three-headed cop has had little success managing: sprawl and additional driving.

As more people move to the Valley, environmentalists believe more people and longer commutes will reverse the pollution reductions from modern vehicles.

Says Sierra Club member Hall: "To really make a difference, we need to plan our transportation network so that it forces urban development to move in tighter in our cities. This is about not subsidizing sprawl and longer driving distances."

Hall opposes the extension of freeways in the area and would prefer to see construction filling in open spaces within cities.

Government officials know they would be tinkering with an already-unsteady economy if they enforced drastic limits on development. They believe the economy does not have to be a casualty in the war against air pollution.

"We not only look at public health, but we're responsible to make the economy as strong as ever," says air board chairwoman Patrick. "You must realize we need the right balance."

Hall and other environmentalists think there has been more of an imbalance toward business. He figures the Valley has no chance to get healthy air for at least 15 years, well beyond the current deadlines.

On the other hand, a deadline-driven approach has not cleared the Valley's air yet, says one state official.

"Let's face it, we don't have a good track record of saying we'll have attainment by a certain date," says Alan Lloyd, state Air Resources Board president. "We can't devastate businesses in the process, and we have to clean this up for public health, not for deadlines."

Agriculture fears onslaught of rules

With new scrutiny and legal action, friction has been unavoidable.

By Mark Grossi
The Fresno Bee

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Cows still are running neck-and-neck with cars in an improbable race: Which one makes more of a smog-forming gas?

In the last two years, that might have been the most incredible of many revelations about San Joaquin Valley agriculture's link to air pollution.

State figures today show that 1.3 million dairy cows daily produce 36 tons of reactive organic gases, one of the building blocks of smog. Cars make about the same amount.

But cow gases are clearly in dispute, as they were two years ago.

They have become a rallying point among dairy advocates, who point out that the state's emission figures are based on 1938 research and badly in need of updating. "We don't know

what part we play, but we want to do our fair share in protecting air quality," says Mike Marsh, chief executive officer of Western United Dairymen. "We just want the science to be correct."

New state research, taking place at California State University, Fresno, and the University of California at Davis, may lower the cow numbers next year.

Environmentalists are intensely interested in the results, but they also have moved on to another dairy issue. They think air officials need to take on ammonia emissions. Dairies put out almost 80,000 tons of ammonia annually, yet there are no plans to control it.

As this and other issues play out, about 300 large dairies stand in line with other large farming operations to get air operating permits.

That is a first for agriculture -- large dairies and farms getting permits as major air pollution sources. Spurred by environmental legal action and legislation, this farm regulation is one of the biggest changes over the past two years.

The Valley's millions of green farmland acres account for half of the particle pollution in the Valley as well as 22% of the smog-making gases.

Farm officials defend the industry, saying agriculture has long been working on air pollution. Over the past several years, farmers voluntarily replaced 2,700 of their 4,500 ground-water-pumping diesel engines with the help of a state program and other funding, which partially pays for cleaner-burning engines.

But regulation costs more money and paperwork while requiring some practices that many farmers say they already perform.

For instance, in addition to operating permits, agriculture must submit plans to hold down dust with such measures as watering unpaved roads and driving slower speeds. Many farmers routinely water roads and curb speed because dust brings damaging mites into their crops.

Other regulated changes may prove more difficult. Farm burning of crop wastes and orchard prunings also is scheduled to end in phases starting next year, although farmers still will need a way to safely dispose of their wastes.

Wood chipping and burning at biomass power plants are two alternatives that need further development.

With the new scrutiny, legal action and rules, friction has been unavoidable. Agriculture has lobbied vigorously against wording in laws and rules that they say would have created unreasonable costs.

At the heart of their disagreements with lawmakers, air agencies and environmentalists, farmers say there still is not enough scientific proof to guide the way they are being regulated.

Farmers have quickly become sensitive about a perception that public opinion is against them, particularly in regard to the operating permits.

Dave Warner, director of permit services with the San Joaquin Valley Air Pollution Control District, says officials are not asking farmers to do more than any other business.

"There are 7,000 other permitted sources that have been doing their part for 30 years," he says. "Ag was just the last one to come on board."

Farmers believe they are being asked to move very quickly compared to other industries. The petroleum industry, for instance, has been regulated with permits for decades while agriculture is being asked to catch up in a matter of months.

Farm officials say scientists need more time to devise pollution-fighting strategies.

"If the law is asking me to do something that doesn't make economic sense and doesn't have solid science behind it, then you're going to hear me complain," says grower Keith Nilmeier, who farms 500 acres east of Fresno.

Air district officials also are getting a taste of the challenges. Of the more than 25,000 Valley farms, few are exactly alike in size and operation. For instance, some have old diesel pumps for ground-water wells, some don't. A one-size-fits-all approach will not work.

The district has struggled for the past year to apply Senate Bill 700, which requires large farms to enter the permit program.

"Last January, we thought about 4,000 farms would need permits," Warner says. "Now we think it's something like 1,000. It's a matter of getting more familiar with farms."

It's also a matter of getting farmers to apply for the permits. Only about 200 had filled out the forms by early December. The deadline is Dec. 31.

Industry groups, such as farm bureaus in Valley counties, as well as the air district, are holding seminars to help farmers sign up. For general farming, the permits focus primarily on diesel engines, thousands of which are used to power ground-water pumps.

The diesel water pumps daily send out almost 17 tons of nitrogen oxides, which combine with reactive organic gases in the air to make smog. That is more than 12% of the nitrogen oxides coming from industry and businesses in the Valley.

"The bulk of the emissions come in summer when the pumps are running," says Stephen Shaw, senior air quality planner.

The permits will assess per-ton charges for pollution, provide rules to trim air pollution and catalog emissions so officials can have more accurate estimates.

Corrected estimates for dairies, however, will wait until next year.

At UC Davis, scientists have isolated some cows in "bovine bubbles" resembling Quonset huts covered with high-tech plastic to sample their emissions.

Even with updated estimates on reactive organic gases, environmentalists say dairies are responsible for 60% of the ammonia in the Valley. In winter, the ammonia bonds with nitrogen oxides to make a potent and dangerous microscopic speck called PM 2.5.

Air officials are trying to control the specks by reducing the amount of nitrogen oxides in the air. Ammonia is not recognized as a pollutant in the same way that ozone or particulate matter are, but environmentalists say the air district needs to control ammonia, too.

One longtime dairy adversary, lawyer Brent Newell of the Center on Race, Poverty and the Environment, says, "There's no way we're going to reach attainment of the health standard by 2010 with this much ammonia in the air. They need to take on this problem."

New developments to face air cleanup fees

By Mark Grossi
The Fresno Bee

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The sparks have slowly subsided in battles over air rules for farms and fireplace wood burning, but another fight waits in the wings.

In January, the public will hear about air quality fees on new construction of houses, commercial centers and industrial developments, and the head-butting will heat up again.

The setting looks pretty familiar. Local officials are compelled by a new state law to enforce the fee. The same was true for new farm rules. Fireplace wood-burning restrictions came as a result of a federal lawsuit.

In any case, local officials have no choice. And developers are nervous.

They fear a train wreck between the economy and this legal push for healthier air. They want to keep house prices down as much as possible.

"We're willing to cooperate, but this fee will be just one more cost of moving here," says Mike Prandini, president of the Building Industry Association in the Fresno-Madera area. "As long as

there is a reasonable tie-in -- a nexus -- between the fee and the construction, developers don't have a problem. But we shouldn't load the whole burden on new home buyers."

Air officials have worked for months on a formula that will determine how much pollution future homes and businesses will make. The anticipated pollution will come from additional vehicle trips, officials say.

The formula will become a major part of the San Joaquin Valley Air Pollution Control District's rationale for setting fees.

Prandini isn't so sure he sees a tie-in between trips in cars and new homes. He said his industry will study the proposals and make comments. District officials say more than 90% of the air pollution from new development will come from motorists in cars and trucks.

The buildings, by comparison, produce a small percentage of the problem. The sources include such emissions as fumes from yard maintenance equipment and gases from color coatings on the buildings.

Smog-making pollution from all kinds of vehicles is the No. 1 contributor to the Valley's summertime smog problems. That is the major reason state Sen. Dean Florez, D-Shafter, last year wrote a law requiring fees on new construction that would be invested in pollution control programs.

In the district's approach to the fees, it won't matter whether you drive a Hummer or a hybrid Toyota Prius. The average vehicle trips for your neighborhood is what will count.

That doesn't sound right to Prandini. "No home is average," he says. "You don't know what kind of vehicle is being driven at each house."

The average number of trips per household is the standard used all over the country for understanding traffic congestion, says Dave Mitchell, air district planning director.

Specifics on individual households become irrelevant, he says, because averages cover the broad spectrum of uses and vehicles in neighborhoods.

And the neighborhood changes over time anyhow.

"You might have a Hummer next door one day and a Toyota Prius the next day when the house is sold," Mitchell says.

But, in the past year, officials also have talked about giving developers credit for environmentally friendly features, such as locating near transit lines and building subdivisions that are more densely populated to avoid sprawl. Fees might be substantially reduced or possibly eliminated for such features.

Though the district has not yet suggested a fee, past estimates have ranged from a few hundred dollars per house all the way up to $5,000. In court settlements over Sierra Club challenges to new developments in Bakersfield, home builders have agreed to pay $1,200 per house.

Sierra Club member Kevin Hall of Fresno says he expects developers to resist the fee. But he says the district must write the strongest rule possible.

"We need to bring down construction impacts on the air to zero," he says. "Long distance driving at high speeds is undermining our efforts. We need to stop sprawl and plan more effectively for our transportation needs in the future."

Ripon weans itself slowly of gasoline for vehicles

By Jason Campbell

Manteca Bulletin, Monday, Dec. 20, 2004

RIPON -- Traditional gas vehicles might soon be a thing of the past for the City of Ripon.

Tuesday, the Ripon City Council will decide whether to install an additional natural gas compressor at the City Hall filling station that is currently the only location for city vehicles to

refuel.
A much larger CNG station on Doak Boulevard is currently in the works, but won't be ready until the winter of 2005 placing severe pressure on the current station at City Hall.

According to the memorandum prepared by City Engineer Matt Machado for the council, any malfunction at the site could be extremely detrimental to departments like Public Works that rely heavily on the CNG vehicles. The additional compressor was originally figured in with the site built at City Hall, and city staffers hope that the additional power will prevent any costly repairs in the future until the Doak Boulevard site is up and running.

Ripon currently operates several CNG powered vehicles including two police cars, two public works pickups, and one garbage truck -- with two additional garbage trucks expected in January and two Honda Civic models expected to arrive this month.

With the rising cost of gasoline, Ripon looked into additional fuel sources months ago and decided that compressed natural gas was not only more cost effective, but created less of an impact on the environment to keeping up with Ripon's plans to cut down on air pollution.

The entire project, which includes the delivery and installation, is being proposed at a cost not-to-exceed $50,000.

Road to hydrogen cars may not be so clean

Environmental peril in making, containing fuel

Keay Davidson, Chronicle Science Writer

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Auto-industry ads depict hydrogen cars as the vehicular route to clean, blue skies.

President Bush and Gov. Arnold Schwarzenegger are among their biggest champions.

The politicians' enthusiasm for the technology -- a leading proposal to solve global warming -- is shared by many scientists.

But reality could prove more complex, some critics say. Among the problems detailed at the American Geophysical Union conference in San Francisco last week:

-- Hydrogen is a very "leaky" gas that could escape from cars and hydrogen plants into the atmosphere. This could set off chemical transformations that generate greenhouse gases that contribute to atmospheric warming.

-- The extraction of hydrogen for cars from methane, which is currently the richest available source of hydrogen, will generate carbon dioxide, a major greenhouse gas.

-- Hydrogen can also be extracted from ordinary water via a process called electrolysis. However, using current technology, mass electrolysis of water would require intense sources of energy. If those energy sources burn fossil fuels, they, too, would generate greenhouse gases.

These problems are not necessarily showstoppers, and they may be overcome by future technical innovations. In any event, many scientists believe the environmental problems posed by hydrogen cars may prove to be less severe than the problems generated by today's fossil-fuel-dependent cars.

But given such issues, some experts are cautioning that much more research is needed before the nation prematurely commits itself to developing the "hydrogen economy."

"I'm supportive of research and development, but we are at least two decades away from (deploying) the vehicles on a mass level," said MIT-educated physicist Joseph J. Romm, a former U.S. Department of Energy official, in an interview. Romm's book, "The Hype About Hydrogen: Fact and Fiction in the Race to Save the Climate," was published earlier this year by Island Press.

"Americans are very much believers in technology and optimism, and yet when you look at the compelling details" about hydrogen cars, Romm said, "it doesn't make bloody much sense."

Economically, hydrogen devices remain highly unattractive: "Fuel cells are very expensive," Romm said. "The demonstration vehicles all cost hundreds of thousands of dollars."

Atmospheric scientists, meanwhile, are trying to figure out how Earth's atmosphere would be affected by leaked hydrogen from cars, hydrogen gas stations, delivery trucks and hydrogen production plants. Unfortunately, the politicians aren't necessarily getting the best scientific advice on the atmospheric issue, said Professor Michael J. Prather of UC Irvine at the geophysics conference on the atmospheric impact of hydrogen cars.

A 2004 National Academy of Sciences report on "The Hydrogen Economy" was prepared by "economists and engineers, remarkably lacking any atmospheric scientist or biogeochemists who understand the natural (atmospheric) cycle of H2," said Prather, a professor of Earth system science and former editor-in- chief of Geophysical Research Letters. "It is surprising that all of these groups examining a hydrogen economy are secure in the belief that H2 is a pure fuel, safe and harmless to the environment," although studies suggest otherwise.

One problem is that hydrogen leaked into the atmosphere binds with oxygen molecules, forming water vapor and clouds. A change in cloud abundance in some regions might alter the local temperature and climate -- for example, the climate might warm if the clouds trap heat like blankets, or the climate might cool if they reflect sunlight back into space.

"The widespread use of hydrogen fuel cells ... would cause stratospheric cooling, enhancement of the heterogeneous chemistry that destroys ozone, an increase in noctilucent clouds, and changes in tropospheric (lower-atmosphere) chemistry and atmosphere-biosphere interactions," scientists from Caltech and Jet Propulsion Laboratory in Pasadena proposed in the journal Science in 2003. Noctilucent clouds are eerie high-altitude clouds whose abundance, some scientists suspect, is influenced by climate change.

Despite the uncertainties about the climatic impact of a hydrogen economy, Prather added sardonically, "The promise of a clean, hydrogen-fueled transportation sector has been waved in front of the nation by the current administration, the governor of California and the technologists."

And even though optimists say hydrogen will be generated via electrolysis without producing greenhouse gases, the reality is that the oil companies are gearing up to generate it from methane -- and the most famous greenhouse gas, carbon dioxide, forms as an unintended byproduct of the methane-treatment process.

Prather cited Shell Oil's online "Answer Man" page, where a customer asked where the hydrogen for hydrogen cars will come from. The Web site's answer: methane. Kenneth S. Deffeyes, a Princeton University geoscientist and former Shell Oil Co. engineer and author "Beyond Oil," to be published in March by Farrar, Strauss and Giroux, also has concerns about hydrogen production.

Although a Shell-pioneered hydrogen filling station in Iceland looks attractive because of its environmental cleanliness, Deffeyes said, Americans need to remember that the much-publicized station is powered by hydroelectric and geothermal electricity, neither of which produces greenhouse gases, "because all the electric power in Iceland is hydroelectric and geothermal."

The National Academy of Sciences report, issued in February and chaired by a retired executive vice president of Exxon/Mobil's research arm, did sound a cautionary note that in a hydrogen economy, "reductions in annual carbon emissions could be achieved ... but ... they would vary greatly depending, for example, on whether hydrogen fuel was generated from fossil fuel resources ... or ... whether electrolysis was used and powered by renewable energy sources, among other factors and choices," the report said.

Skeptics also point out that because of the hydrogen molecule's small size and volatility, it is an extremely leak-prone gas that must be closely monitored.

Scientists must learn the "potential leak points" -- the ways in which hydrogen can leak from cars, plants and other sources -- before there is a major shift to a hydrogen economy, Catherine G.

Padro of Los Alamos National Laboratory said at the same geophysics session. Scientists, she said, "do not want a repeat of CFCs," or chlorofluorocarbons, the industrial pollutants that started the destruction of part of Earth's atmospheric ozone, which shields us from cancer-causing solar radiation.

But other scientists say that even if hydrogen leakage generates a small amount of global warming, that would be a relatively minor problem compared with the advantages of switching from a fossil fuel-based transportation system to a system fueled by hydrogen.

If such a mass switchover to methane-derived hydrogen occurred, the nation's total emission of greenhouse gases could decline between 10 and 50 percent, according to studies by MIT and Argonne National Laboratory near Chicago, Anthony Eggert, associate director for research in the "Hydrogen Pathways" program at UC Davis, said in an interview.

Eggert calls himself a "realistic optimist" about hydrogen cars. On the one hand, he said, "The vehicle itself is not something that you could afford to buy today because the components within the fuel cell system are still very expensive." Also, it wouldn't travel as far on a single "tank" as today's cars: "You'd have to fill up maybe once every 150 to 180 miles."

On the other hand, Eggert said, "The automakers are making incredible progress in reducing costs and increasing reliability and durability."

One problem, skeptics say, is that a switchover to a hydrogen economy may not occur smoothly enough to avoid making environmental troubles in the interim.

"What we cannot do," Deffeyes writes, "is get the electricity (for hydrogen generation) from an existing dirty coal-fired electrical power plant and claim that the environmental bookkeeping begins only after we buy the electricity."

"If (electrolytic) hydrogen is to be an environmental success, expanding the electrical-generating system necessary to produce it has to be an environmental success," too, he said -- which means looking to hydroelectric and geothermal power, as in Iceland, or solar, wind and nuclear power.

The nation's invisible breezes may yet provide a solution.

The United States has enough wind energy -- which produces zero greenhouse gases -- to electrolytically generate enough hydrogen to support the nation's entire vehicular fleet, said atmospheric scientist Mark Z. Jacobson of Stanford at the geophysics session.

Jacobson showed conference attendees a graphic that pinpointed windy places across the United States -- not just in Northern California but also in the Midwest and along the Atlantic coastline -- that could support electrolysis for hydrogen-gas fuel plants.

"There's lots of wind out there," he said.

Asthma hurts academics, school funding in valley

By Anne Dudley Ellis, The Fresno Bee

in the Modesto Bee, Sunday, Dec. 19, 2004

A third of children with asthma in the San Joaquin Valley miss a day or two of school each month, and the valley's asthmatic children combined miss more than 800,000 days a year, according to a report from California State University, Fresno.

Researchers explored a variety of issues linked to asthma, an epidemic affecting school-age children in the eight-county region from Stockton to Bakersfield. Polluted air is a major factor in the frequency and severity of asthma symptoms in children, researchers said.

"I think we're at a place right now where we know what some of the triggers for asthma are," said Virginia Rondero Hernandez. "We know we have an air-quality problem, but we've yet to come up with a set of strategies.

"We need to keep talking about it because our kids are affected by this on a daily basis."

Hernandez was lead investigator on the report, "Struggling to Breathe: The Epidemic of Asthma Among Children and Adolescents in the San Joaquin Valley." She is associate director of research and evaluation at Fresno State's Central California Children's Institute, which issued the report Wednesday.

With an estimated 808,000 absences annually due to asthma, valley school districts lose at least $26 million a year in state attendance money, researchers found. Districts don't get paid for absent students, even if they are sick. In Modesto City Schools, that's about $30 a day per student.

Asthma is the No. 1 reason for school absences in Fresno Unified, said spokeswoman Susan Bedi. About 9,000 students were identified as having asthma last year, Bedi said, with 2,873 taking medication for asthma.

Students on preventive medication miss less school, Bedi said.

Not only is asthma costly to schools, it keeps students from learning and limits social, physical and emotional development.

"I think the effects are profound in the sense that depending on the number of days they miss, they're missing academics they need," Hernandez said.

In turn, parents miss work staying home with children having asthma attacks, she added.

Asthma significantly affects young people throughout the valley, with 15.8 percent of children younger than 17 diagnosed, compared to 13.6 percent diagnosed with asthma statewide.

Valley children and adolescents with asthma visit emergency rooms 25,000 times and are hospitalized 4,000 times a year, the study found. Researchers also found that asthma symptoms were not controlled well, even by medication, in more than 50,000 valley children and adolescents. Out of 87,000 young people taking asthma medicine, 60.6 percent still experience symptoms at least once a month.

Hernandez said she was shocked by the prevalence of asthma in the valley and the number of asthma attacks, despite medication.

Hernandez said she hopes that the institute's report raises awareness of asthma's effect on the valley's young people and the need to find solutions, including better detection and tracking of young people with asthma.

Around the Valley

Valley air district gives out 2005 kids calendars

The Fresno Bee, Sunday, Dec. 19, 2004

The San Joaquin Valley Air Pollution Control District's 2005 Clean Air Kids calendar is available to the public free of charge.

The pages of the calendar feature original artwork by 14 children from throughout the eight-county Valley air district.

Their creative and colorful drawings depict the children's interpretations of a world without air pollution.

The calendar contest was open to all Valley students from kindergarten through high school, and more than 700 entries were received.

This year's winning artists were:

Manuel Cruz, Central West High School, Fresno

Alexi Kimura, Kastner Middle School, Fresno

Sarai Hernandez, Parlier Junior High School

Saira Delgado and Joseph Castillo II, both from Sanger Academy

Danielle Betita, Oak Grove Elementary School, Visalia

Adam Denison, Royal Oaks Elementary School, Visalia

Edgar Saldivar, Coalinga High School

Alexandria Ramirez, Cole Elementary School, Clovis

The air district's educational wall calendar is distributed free to schools, community groups, health-care facilities, churches, civic organizations, nonpolitical groups and individuals on a first-come, first-served basis.

The calendars can be picked up at the regional office, 1990 E. Gettysburg Ave. in Fresno.

Details: (559) 230-5851.

EPA sets a strict new limit

San Joaquin Valley flunks new standard for particles detrimental to health.

By Mark Grossi / The Fresno Bee

Saturday, December 18, 2004
The San Joaquin Valley is on a new short list of places that flunked a clean-air test.

The U.S. Environmental Protection Agency Friday announced a stringent new health standard for dangerous microscopic specks that come from wood fires, diesel exhaust, power plants and chemicals mixing in the moist winter air.

Twenty states violate the new standard. The Valley and the South Coast Air Basin are the worst places in the country.

"It's not unexpected," said Dave Jones, planning director of the San Joaquin Valley Air Pollution Control District. "But we've seen a slight downward trend, so there has been a little improvement."

The Valley is 30% to 40% above the annual health threshold for so-called PM 2.5, which is particulate matter 2.5 microns or less in diameter or about one-thirtieth the width of a human hair. The specks easily lodge deep in human lungs, triggering asthma and bronchitis as well as heart disease and even early death. Some particles are small enough to pass from the lungs into the blood stream, researchers said.

The EPA said meeting the new standard would mean averting 15,000 premature deaths annually across the country. In the Valley, stretching from Stockton to Bakersfield, about 1,100 people die prematurely each year because of exposure to particle pollution, state figures show.

The local air district will have three years to make a cleanup plan, and the deadline to clear the air is 2010. Officials are not certain the Valley can make the deadline, but the Clean Air Act allows an extension of up to five years.

"We've only been monitoring PM 2.5 since 1999," said Jones. "And we didn't have the full monitoring network in until 2001. So it's hard to project at the moment."

The PM 2.5 standard has been around since 1997 during the Clinton administration, but industry lawsuits delayed it. The legal action went to the U.S. Supreme Court, which upheld the standard.

The new standard updates the 17-year-old PM 10 standard, aimed at reducing soot particles 10 micrometers in diameter, or one-seventh the width of a human hair. The older standard focused mainly on dusty air from unpaved roads and windblown dust.

"There is no discussion of revoking the PM 10 standard," said Matt Haber, deputy director of the EPA's division based in San Francisco. "We're going to continue to build on that work."

A Clean Air Act critic said the new standard will have little to do with making the air clean. Joel Schwartz, adjunct fellow with the Reason Foundation, a national Libertarian organization, said there are already requirements for motor vehicles and industrial sources that will eliminate most PM 2.5 over the next several years.

He said, "I think a good way to see the foolishness of the current system is to ask: What would air pollution regulation look like if we paid regulators based on how much they reduced pollution levels, rather than based on writing plans, rules and permits?"

New diesel engine and fuel standards are supposed to help in the next five years. The Valley's new fireplace wood-burning restrictions along with a slow phasing- out of farm waste burning should help as well, officials said.

Environmentalists believe air rules also should address ammonia, especially in the Valley where dairies emit 80,000 tons of ammonia a year. The ammonia combines with oxides of nitrogen from vehicles to form a tiny particle called ammonium nitrate.

These particles appear abundantly in the winter and hang in the moist air, according to research. They are considered to be a bigger problem than the specks directly sent into the air from fires and other sources.

"For the Valley to reach attainment by 2010, I think that would mean regulating ammonia," said Vanessa Stewart, research assistant with Earthjustice, a legal watchdog in Oakland. "The Valley is really different from other places in the country."

Jones of the Valley air district said officials are working on cutting back oxides of nitrogen, which would slow down or stop the creation of the ammonium nitrate. At this point, he said it isn't necessary to work on the ammonia.

Kathryn Phillips of Environmental Defense, an environmental advocacy group, said Valley air officials and others need to look at all opportunities for reductions.

"It's interesting that Sacramento is in attainment for this standard," she said. "Maybe the San Joaquin Valley should think about growing smarter to avoid sprawl, filling in developments in cities and looking at alternatives to diesel."

Two California regions have nation's worst particle air pollution

Brian Melley, Associated Press

in the S.F. Chronicle, the Modesto Bee and other papes, Saturday, December 18, 2004

SACRAMENTO (AP) -- The San Joaquin Valley and the Los Angeles air basin have the highest levels of soot pollution in the nation, according to the Environmental Protection Agency.

The EPA said Friday that it is targeting 13 of the state's counties for failing to meet new air quality standards. San Diego was the only other region out of compliance in the state, but its problems were not nearly as dire as those to its north.

While all three areas violated the amount of soot particles emitted on an annual basis, the valley and the Los Angeles area were the only places in the nation to violate the daily limit.

"The San Joaquin Valley and the Los Angeles area have the most challenging problems in the country," said Matt Haber, deputy air division director for EPA's western region.

In naming the 223 counties in 20 states that fail to meet a stricter new regulation, the EPA gave states three years to develop plans to clean their air and three more years to accomplish the goal. Heavily polluted areas, such as those in California, can have the deadline extended from 2010 to 2015.

The regulation, adopted in 1997 but stalled by court battles, aims to clean up microscopic particles about 30 times smaller than a human hair in diameter. The soot is considered a threat to public health because the particles can penetrate deeply into the lungs and cause respiratory problems, heart ailments and even death.

Some critics of the plan claim that other pollution control measures, such as curbing auto and smokestack emissions, will reduce the particle pollution without another layer of regulation. The EPA said that would be a happy coincidence, but it wasn't enough to rely on.

Environmentalists, meanwhile, said the EPA was not moving fast enough. Coupled with other Bush administration initiatives they claim harm the environment, the effort to reduce particles would prolong the problem.

"The preferred solution is to delay, which will expose people to pollution longer," said Nat Mund of the Sierra Club.

The list provided few surprises as the valley and the areas inland from Los Angeles have suffered from bad air pollution for years.

In addition to soot problems, Californians also breathe the worst smog, due largely to the state's sunny, hot climate, its geography and massive population, with more than 25 million cars clogging its roads. While smog is mostly a summer phenomenon, the fine particles are more of a year-round problem.

Particles can be emitted directly from smoke or fire or can form a chemical cocktail in the atmosphere from sources such as cars, trucks, and power plants.

The direct source of fine particles differed in each region.

In the San Joaquin Valley, the nation's richest agricultural area, burning tree clippings and other farm waste was the top source. In the Los Angeles air basin, where the car is essential to getting around, the main cause was paved road dust, a concoction that includes everything from emissions to pulverized tire scraps to specs of asphalt. In San Diego, the main cause is wood smoke from chimneys.

The new regulation is intended to be tougher than one that currently limits larger particles.

Under the new standards, the limit of fine particles that can be emitted in a 24-hour period are 65 micrograms per cubic meter of air. The San Joaquin Valley hit 76 micrograms on what is considered its worst day and the Los Angeles area hit 73 micrograms -- the only two to exceed the permitted level.

On the annual average, which allows no more than 15 micrograms of soot per cubic meter, Los Angeles was nearly double the limit at 27 micrograms. The valley figure was 22 micrograms. By comparison, San Diego barely exceeded the limit at 15.9 micrograms.

"If you look at the rest of country, most areas are just a bit over the standard and then we have the really serious challenges in those areas," Haber said.

S.J. fails new air standards

By John Heilprin, The Associated Press
Stockton Record, Sat., Dec. 18, 2004

WASHINGTON -- The Environmental Protection Agency announced Friday that San Joaquin County is among 223 counties in 20 states and the District of Columbia that don't meet new air-quality health standards because of microscopic soot from diesel-burning trucks, power plants and other sources.

The regulations will affect an estimated 95 million people in the United States and are meant to help relieve respiratory and heart ailments from breathing fine soot.

All but three of the states -- Missouri, California and Montana -- are east of the Mississippi River. States have until 2008 to come up with new plans for reducing the fine particle pollution and must act quickly to meet the new government standard by 2010.

Their actions could include modifying transportation plans, requiring new pollution controls when factories expand or putting in place stricter vehicle emission and inspection programs.

In severe cases, the EPA could grant five-year extensions, letting states take up to 2015 to comply with the new rule.

The largest concentrations of counties in noncompliance with the new standard are in the Los Angeles basin and Central California; the urban corridor from New York City to Washington, D.C.; the region extending from Cincinnati to Pittsburgh; the Ohio River Valley; Atlanta; St. Louis; Chicago; and Detroit. The only other Western area was a small corner of northwestern Montana, listed because of mining activities near Libby, Mont.

Outgoing EPA Administrator Mike Leavitt announced the list, which included 19 fewer counties than the agency identified in a preliminary report in June.

"This is not a story about the air getting dirtier. It is a story about higher, more stringent standards and healthier air," Leavitt told a news conference. "We're going to implement over the course of the next few months new national tools. In essence, we're going to do the same thing for smokestacks that we have done for tailpipes."

In May, governors submitted to the EPA a list of 141 counties they viewed as failing to meet the soot requirements. The EPA broadened that to include many other counties, not because their air is too dirty, but because their pollution contributes to nearby areas out of compliance.

Counties were placed on the list or removed due to factors such as emission rates, recent air quality, population density, traffic and commuting patterns, expected growth, weather and geography, legal boundaries and the level of pollution controls.

Leavitt emphasized that the agency was for the first time specifically regulating for fine particles, or soot, that are 2.5 micrometers in diameter, or 30 times smaller than a human hair. The EPA considers it potentially the most significant air quality health standard, because soot can penetrate deeply into the lungs.

The regulations have been a long time coming, as they were first laid out in 1997 by the Clinton administration but held up for years because of court challenges by industry that went all the way to the Supreme Court, which upheld the standard. They are also meant to update and complement the 1987 standard for reducing soot particles 10 micrometers in diameter, or one-seventh smaller than a human hair. Those had mostly targeted dusty air from things such as mining tailings, factory debris, unpaved roads and windblown dust.

According to the EPA, the new standard will prevent at least 15,000 premature deaths, 95,000 cases of bronchitis and 10,000 hospital admissions for breathing and heart diseases.

Environmentalists say, however, that states will find it tough to impossible to meet the standard without accompanying action to reduce soot pollution from power plants. President Bush decided last week to delay putting in place at least until March a companion regulation he had promised on the campaign trail that would address soot drifting among states.

"This is also a story about EPA failing to finalize rules to clean up power plant pollution," said Michael Shore, an air policy specialist at Environmental Defense, an advocacy group. "The Bush administration frankly deserves a lump of coal for its failure to protect the health of our children from power plant pollution."

The states with counties in violation are Alabama, California, Connecticut, Delaware, Georgia, Illinois, Indiana, Kentucky, Maryland, Michigan, Missouri, Montana, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia and West Virginia.

13 California counties cited for bad air

The 13 California counties cited by the Environmental
Protection Agency for failing federal air standards because of microscopic soot from diesel-burning trucks, power plants and other sources:

* Fresno, Kern, Kings, Los Angeles, Madera, Merced, Orange, Riverside, San Bernardino, San Diego, **San Joaquin**, Stanislaus, Tulare.

New EPA standards require many states to reduce soot

L.A. basin, Central California fail to meet air standards

Juliet Eilperin, Washington Post

in the S.F. Chronicle, Saturday, December 18, 2004

Washington -- Roughly one-third of all Americans live in areas with dangerous levels of soot pollution in the air, Environmental Protection Agency officials said Friday.

EPA administrator Mike Leavitt said Friday's designations, which will require 20 states and the District of Columbia to devise strategies within three years to reduce the level of tiny air particles linked to respiratory illness and premature death, show the administration is making progress in protecting public health.

"This is not a story about the air getting dirtier, this is a story about higher and more stringent standards and healthier air," Leavitt said. He added that as of 2003, the average concentration of fine particles in the air nationwide had declined 10 percent since 1999, when the EPA began monitoring it. America's air, he said, is "cleaner than any time in memory, but we're not done yet."

In severe cases, the EPA could grant five-year extensions, letting states take up to 2015 to comply with the new rule.

Friday's listings identify which communities meet national air quality standards, established in 1997 under legal pressure from environmentalists, for particles that are about 1/30th the width of an average hair. This pollution, mainly soot from power plants, automobiles, forest fires and heavy- duty diesel engines, can penetrate the lungs and exacerbate respiratory and heart disease.

EPA officials estimate that if most of the 224 targeted counties and the District of Columbia can meet the new standard by 2010, it will prevent at least 15,000 premature deaths, 75,000 cases of chronic bronchitis and 3.1 million days of missed work.

John Bachmann, associate director for science and policy for EPA's Office of Air Quality Planning and Standards, called fine particles "the most important pollution we have," adding the benefits of reducing it outweigh the costs by a 20-to-1 ratio.

In the East Coast and Midwest, most communities failing to meet the new standards are major cities or counties clustered around power plants, while in Southern California automobiles account for much of the fine-particle pollution.

The largest concentrations of counties in noncompliance are in the Los Angeles basin and interior Central California; the urban corridor from New York City to Washington, D.C.; the region extending from Cincinnati to Pittsburgh; the Ohio River Valley; Atlanta; St. Louis; Chicago; and Detroit. The only other Western area was a small corner of northwestern Montana, listed because of mining activities near Libby, Mont.

EPA officials said they based their designations of noncomplying areas, which included more counties than many states had wanted but fewer than environmentalists had called for, on factors that include population density, air quality over the past three years, traffic and expected future growth.

By 2007, every community that fails to meet the fine-particle standard must submit an air quality plan for federal approval; if they fail to do so they face penalties including the potential loss of highway funding.

Federal officials, however, rarely impose that sanction.

Fresno Bee editorial, Monday, Dec. 20, 2004:

Stinky cheese

(Updated Monday, December 20, 2004, 6:05 AM)
The world's largest cheese factory has been one of the Valley's most prolific violators of its wastewater permit requirements. Hilmar Cheese has been in "constant violation," as pronounced last year by the Central Valley Regional Water Quality Control Board. Sacramento Bee reporter Chris Bowman counted 4,000 separate violations documented over the past three years.

In essence, the company has been dumping a putrid-smelling discharge that hadn't been adequately treated onto farm fields surrounding the vast cheese factory in Merced County.

Big cheese factories and big dairies, so these industries would like Californians to believe, create an economy of scale that allows them to handle all the nasty side effects of the businesses — namely, waste. Smaller operations may not have the capital to adequately deal with all the manure and stinky cheese water, bigger operations do — or so the thinking goes.

Perhaps that is so. But evidence at Hilmar over the years suggests that the production of cheese, and its resulting waste, took priority over the construction of adequate pollution controls. And the

water board, citing these "constant violations" in staff reports, got into a habit of acknowledging the violations rather than acting aggressively to stop them. That's what really smells here.

The paper trail of an unaddressed problem is overwhelming, from petitions by neighbors to findings by the agency's own staff. It's now up to this tarnished watchdog and this giant cheese company to begin a new era of constant compliance and constant vigilance.

Fresno Bee editorial, Sunday, Dec. 19, 2004:

Still Gasping: Progress and problems

Awareness of the Valley's poor air quality has grown in two years.

Several things are clear two years after The Bee's publication of the special report, "Last Gasp." Too bad one of them isn't the Valley's air.

To be sure, the air in the region is getting cleaner. But "cleaner" doesn't mean clean. More than 2,000 people in the Valley have died prematurely in the past two years because of our poor air quality. We still have a very long way to go, and many of the tasks ahead may prove much more difficult than those undertaken to this point.

A great deal of good work has already been done. Perhaps the best thing to arise from the "Last Gasp" report has been a growing awareness among people in the Valley, and elsewhere, of the extent of the problem and its seriousness. Survey after survey shows air quality at or near the top of people's concerns these days, which wasn't the case two years ago.

Some specific, concrete steps have also been taken:

A package of legislation by state Sen. Dean Florez has begun several initiatives for cleaner air. Most have been aimed at practices of the Valley's agricultural industry, and include a phasing out of open field burning, and money to help retrofit older, dirty diesel engines used on farms, mostly to pump irrigation water. New rules are in effect for residential wood-burning in the Valley; on the worst winter days it is now banned in various counties.

Several cities and counties, as well as private businesses, have begun serious efforts to switch their vehicle fleets to cleaner alternative fuels.

There is growing awareness among consumers of alternatives, such as hybrid cars, that pollute less.

A number of voluntary campaigns have sprung up to address aspects of the problem.

But much more is waiting to be done. Here's a short list for the next two years:

The structure of the San Joaquin Valley Air Pollution Control District needs refinement. The district's governing board is entirely drawn from elected city and county officials in the eight counties of the region. There are many good members, but too often they find themselves unable to stand against entrenched special interests with local political clout. The board needs members from the public and the scientific community for leavening. That's a task for the state Legislature and the governor.

More science is needed. Much of what works elsewhere may not work here, because of the Valley's distinct climate and geography. Local universities, and especially the University of California at Merced, when it opens next year, should become centers of the sort of Valley-specific research we need. The Valley's congressional delegation should join in a bipartisan effort to gain federal support -- and serious funding -- for such research.

The Valley air district has no control over 60% of the smog-causing pollution in the region. That's because it comes from vehicles, and only the state and federal governments may regulate those emissions. Either those higher levels must start doing a better job, or they must cede the task to the local agency.

That's just a start. We'll be writing more about these ideas and others in the days and weeks ahead. For now, the people of the Valley should congratulate themselves on the first small steps we've taken, and prepare for the very long road ahead.

Fresno Bee editorial, Sat., Dec. 18, 2004:

Fumble recovered

Air district adopts $2 car fee to help pay for cleaning up the Valley's air.

Elected officials can get pretty timid these days about raising taxes and fees, for fear of the wrath of a public that often wants it all and wants it for free.

Sometimes, politicians get antsy even when the public wants the fee hike, as was the case with the Valley's air board and a proposed $2 annual fee that will help greatly to clean up our foul air.

Reason prevailed, though, and the San Joaquin Valley Air Pollution Control District board adopted the additional fee on Valley vehicles on Thursday — after surprising everyone by rejecting it last month, in spite of the fact that there was no opposition.

In fact, this was one of those rare and gratifying moments when all the players in the air quality debate were on the same side: agriculture, business, scientists and environmentalists. The public was on board, as well. Air district staffers reported receiving a single, solitary e-mail in opposition to the fee hike; all other correspondents supported it.

The new fee will expire in 2015. In the meantime, it will raise about $4.8 million a year to be spent on various efforts to clean up the air. Chief among those will be the retrofit or replacement of older, dirtier diesel engines used on farms and in school buses, among other vehicles. Some of it will go to help people trade in their older, dirtier cars for newer, cleaner models. In addition, levying the fee qualifies the district for an additional $10 million in state funds for those purposes under the Carl Moyer program, which has already been responsible for removing thousands of tons of pollution from the state's air since its inception some 15 years ago.

Another reminder of how important this effort is — especially the reduction of pollution from older diesel engines — came Friday when the U.S. Environmental Protection Agency announced a new national standard for fine particle pollution in the air. To the surprise of no one, the Valley — along with Los Angeles and San Diego — doesn't meet the new standard.

These fine particles lodge themselves in the lungs and cause all manner of respiratory problems.

The EPA is giving regions such as ours until 2010 to clean up the particulate pollution. It won't be easy in any case, but the Valley air board's action in assessing this new fee — finally — will help. Every little bit helps, even when the problem is as daunting as our dirty air.

Bakersfield Californian commentary, Saturday, Dec. 18, 2004:

New mega-dairies raise questions that need answers

ByArthur D. Unger, Bakersfield

A Nov. 11 Community Voice by John Dunlap of the Dairy Action Network incorrectly states that humans need milk at all stages of life. He did not mention breast feeding, soy or other protein and calcium sources.

Many of those who live near dairies, and 82 percent of the voters in Wasco, actively oppose dairies. Here are problems the dairy industry should discuss:

Do these milk animal factories collect around the edge of developing areas so that in a few decades dairymen can sell their land for $300,000- to $400,000-an acre, as they are doing in Chino?

The 18-wheel milk trucks will wear our roads. How is the cost of repair divided among trucks, producers and tax payers?

Chino dairies have hauled 375,000 tons of manure to Kern County in the last three years. Has this manure been applied to crops at a rate that enabled the crops to use all the nitrogen and phosphorous in the manure? Many local wells have been closed because of excess nitrogen from fertilizer.

Why did dairies use low-interest state loans, called "pollution control revenue bonds," to buy bigger dairies instead of for their intended purpose of reducing pollution?

When State Treasurer Phil Angelides realized this he stopped giving loans.

Groundwater near Chino is contaminated by dairies. Kern County confines manure wastewater to lagoons lined with clay soils that are supposed to greatly slow infiltration. Test wells are placed near the lagoon. What happens if the test well finds contamination? Shouldn't we test the soil just below the lagoon? Manure waste water is allowed to overflow the lagoon due to heavy rain once every 25 years on average.

Annual deaths in California will fall by 6,500 if we attain state air standards for particulates. More than 2 percent of all valley particulates are from beef and dairy cattle. In addition, dairies make more than half of the ammonia in our air. This ammonia reacts with the oxides of nitrogen from vehicles and other engines to form droplets of ammonium nitrate in the air. These droplets are more than half of all the particulates in winter and help form our winter haze. Hydrogen sulfide also comes from manure.

Occasionally, milk prices decline and milk is dumped on the ground instead of being brought to market. When that occurs, will dairies still afford to protect our air and water?

Will local dairies use expensive digesters -- microbial digestion, anaerobic digestion -- that can turn manure into clean fertilizer and reduce flies, odor and air pollutants?

How much chemical pesticide will be used to decrease flies? What is the cumulative impact of chemical pesticides on dairy workers, other agricultural workers and neighbors?

It is disturbing that while we are considering adding more dairies and dairies should thus be on their best behavior, poor sanitation was found in one of nine inspected dairies. Another local dairy recently diverted its wastewater to an adjacent property.

For discussion or documentation please contact the Sierra Club at alunger@juno.com.

Arthur D. Unger of Bakersfield is a member of the executive committee of the Kern Kaweah Chapter of The Sierra Club. Community Voices is an expanded commentary that may contain up to 500 words. The Californian reserves the right to reprint commentaries in all formats, including on its Web page.

Letter to the Fresno Bee, Monday, Dec. 20, 2004:

'Insult' to California

The major automakers already have enough control over our lives and our government. Now they are filing a suit in federal court to block California's new vehicular global warming law.

Here in the Valley, we have to deal with air so saturated with pollutants that I forget we used to actually have a view of the Sierra Nevada. Now we probably catch a glimpse of the Sierra on 10 days out of the year, on those rare "healthy" air days.

Near-epidemic levels of asthma afflict much of the Valley's population, including one of my siblings.

Clean air and cheaper fuel are a must if we are to maintain our way of life for much longer. It is an insult to the people of California for the automakers, who have filed suit against us, to say that they don't want for us to have clean air. That they don't want for us to have a stable environment to enjoy, as our great-grandparents did.

Look at the change that has occurred in just their lifetimes. Think about our great-grandchildren and the changes that will take place in their time, if no action is taken to curb our fossil-fuel usage. My next automobile is going to be a clean-air vehicle.

Jason Dalldorf

Fresno

Letters to the Fresno Bee, Sunday, Dec. 19, 2004:

Not everyone can afford to shut down wood burning

Regarding the letters from Dave Clark and Jim Daggs of Fresno in the Dec. 13 Bee: Do they do all they can to spare the air? I sincerely hope so.

I am a 67-year-old widow and I have a free-standing stove. It is the only heat I have.

The wood is much cheaper than propane at $1.28 per gallon at last fill. My water heater and cook stove use propane.

I have been burning wood for the last three or four years -- my furnace went out and I can't afford to buy a new one.

If these gentlemen would like to help me out, maybe I could quit burning wood. Bonnie J. McLey

Caruthers

Use the rake

On Dec. 15, I couldn't help but notice the picture of the tree on the California State University, Fresno, campus with the nice circle of leaves around it. On Tuesday afternoon, that exact tree was the subject of conversation in the classroom where I work on campus.

Daily we talk about the weather and air quality. On this particular day, both Merced and Fresno counties showed up in the orange zone, in which wood burning is discouraged. The reason this tree was a topic of conversation is the fact that I had observed one of the landscape maintenance men using a leaf blower. He was using it to blow the heavily moistened leaves from that tree from one side of the grass and walkway over to the same side as the tree.

This task was very time consuming, since the leaves were not cooperating.

I watched him concentrate on several specific areas just to get the packed leaves to finally budge. I remember saying out loud to myself, "Give me a rake and I can be done in one-third the time it is taking you to blow those leaves." Sometimes the old-fashioned way of doing things is much more efficient.

Keep in mind that natural beauty is not always free. In this case, our lungs have paid the price. I'd like to challenge all landscape professionals to put away their blowers and take out the rakes on the days that our county is in the orange zone (or worse) or when the rake would truly be more efficient.

Jennifer Howes

Madera

Logic's absence

(Updated Sunday, December 19, 2004, 6:50 AM)
The recent article on the effects of asthma on the school-age population touches upon an element of school financing that needs to be changed: deduction of state money when students are absent.

Schools lose funding for every day a student is not in school. The cost of the teacher does not go down, nor that of the materials waiting for that student nor the space in a room. For that matter, neither does any other cost associated with educating the child.

Moreover, the burden of getting the child to school becomes the school's, since the school loses funding, not parents.

When students stay home because of contagious illness, the schools are punished. When students are allowed to stay home by parents or when they go on family trips, the schools are punished. It is time to stop punishing schools for things that are outside their control.

Darrell Blanks Clovis