

A closer look: Setting a 'safer' ozone level

The Obama administration recently pulled the plug on lowering EPA limits. It seems clear, though, that the lower the level, the fewer effects on health.

By Jill U. Adams, special to the Times
L.A. Times, Monday, Sept. 26, 2011

To understand the latest brouhaha about safe levels of ozone, it helps to understand the difference between science and policy.

First the back story. In 2008, the administrator of the U.S. Environmental Protection Agency, Stephen Johnson, reduced the allowable level of ozone in the air from 84 parts per billion to 75 ppb. Johnson said the change would lead to cleaner air and improve public health.

However, the EPA's independent advisory panel had recommended that the limit be set even lower, in the range of 60 ppb to 70 ppb. Critics, including scientists, environmental advocates and medical associations, such as the American Thoracic Society, accused Johnson and the George W. Bush administration of prioritizing the economic concerns of polluters over the interests of the general public.

Depending on your point of view, you may see things Johnson's way or you may side with his critics. But the process worked exactly as it was supposed to, with scientists analyzing the data and policymakers exercising their authority to take other factors into consideration, says Dr. Roger McClellan, a toxicologist and former chairman of the EPA's Clean Air Scientific Advisory Committee. "They were an advisory panel, not a standard-setting panel," he says.

Fast-forward to the Obama administration. Lisa Jackson is now the EPA administrator, and she wanted to revisit the ozone standard. She asked the current members of the advisory panel to take another look at the data, and they agreed with the previous panel's conclusion that lowering the standard to between 60 ppb and 70 ppb range would have beneficial effects on public health. In a 2010 regulatory impact analysis report, the agency estimated that setting the limit at 70 ppb would prevent about 2,200 heart attacks, 23,000 asthma attacks and between 1,500 and 4,300 premature deaths each year; a limit of 60 ppb would avert 5,300 heart attacks, 58,000 asthma attacks and 4,000 to 12,000 premature deaths.

So this month, when President Obama put the kibosh on any reconsideration of the ozone standard, all those who railed before railed again.

The Clean Air Act mandates that the standards for certain pollutants, including ozone, be revisited every five years. So even as the advisory panel was digging into the old reports to answer Jackson's queries, its members have also started reviewing more recent evidence for 2013, says the current committee chairman, Dr. Jonathan Samet, professor of preventive medicine at USC's Keck School of Medicine.

Here's a closer look at the scientific case against ozone.

What is ozone?

Ozone is the main component of smog and is created when certain volatile chemicals emitted from cars and factories react with sunlight. The ozone level in Southern California frequently is higher than the EPA standard, with the South Coast Air Basin out of compliance on 109 days last year, according to the South Coast Air Quality Management District.

How is ozone harmful to health?

Ozone is a gas that you inhale with the surrounding air. It can cause irritation and inflammation of the airways as well as coughing and shortness of breath. These effects depend on the

concentration of ozone in the air you're breathing, how rapidly and deeply you're breathing and your own sensitivity to the pollutant.

Researchers have documented wide variability in people's symptoms when they are exposed to controlled levels of ozone. These experiments usually have young, healthy nonsmokers breathing high concentrations of ozone — greater than 80 ppb and sometimes as high as 120 ppb — for six to eight hours. Subjects spend up to half of that time exercising, forcing them to inhale more of the pollutant.

The EPA panel said it was a "scientific certainty" that under these conditions, ozone decreases lung function (as measured by the amount of air a person breathes out when exhaling as hard as possible). The decline, of at least 10%, may sound small, but it is considered "clinically relevant," according to the American Thoracic Society. Even when ozone levels were only 60 ppb, one study found that two out of 30 healthy subjects had at least a 10% decrease in lung function and six others showed symptoms of respiratory distress. That report was published in 2006 in the journal *Inhalation Toxicology*.

Who is most at risk?

The problem worsens for certain groups of people, notably children, seniors and those with asthma or other respiratory health issues.

Children tend to spend more time outdoors, breathe more rapidly and, because they are smaller than adults, take in more of the pollutant per pound of body weight.

People with respiratory disorders, especially asthma, are particularly susceptible to the irritant effects of ozone. "With asthma, you already have ongoing inflammation," says Dr. Ralph Delfino, an epidemiologist at the UC Irvine School of Medicine. The added trigger of ozone in the airways can exacerbate asthma symptoms.

The lungs of elderly people tend to have less capacity to start with and are less resilient against a whole host of insults, including respiratory infections, Delfino says. Elderly people are also more likely to have a preexisting condition, such as chronic obstructive pulmonary disorder.

What are the public health consequences of having too much ozone?

Researchers in real-world settings have correlated ozone-level spikes to increased mortality and greater numbers of emergency room visits for respiratory problems.

For example, Delfino and his colleagues studied more than 23,000 emergency room admissions at 25 Montreal hospitals in the summer of 1993. They found that on days after the ozone level was at or above the average of 36 ppb, the number of older patients with respiratory symptoms who came to the ER jumped by 21%. However, ER visits for patients younger than 64 with respiratory symptoms or for patients with other kinds of health problems did not vary with ozone level. The results were published in the *American Journal of Respiratory and Critical Care Medicine*.

"Hundreds of similar studies have been done throughout the world," Delfino says.

Is the current standard too high?

Many of the studies like Delfino's have detected measurable effects even when ozone levels are below the current standards. In the Montreal study, for example, all of the ozone level readings from the summer of 1993 were below the current U.S. standard of 75 ppb.

So what is the ideal level?

Scientists don't know, Samet says. They do know that setting the federal standard somewhere between 60 ppb and 70 ppb would still make some people sick, which makes it difficult to define a margin of safety.

What Samet can say for sure is this: "If we go lower, we prevent adverse outcomes."

Valley's ozone count extends fine period

By Mark Grossi - The Fresno Bee

Fresno Bee, Friday Sept. 23 and Merced Sun-Star, Saturday, Sept. 24, 2011

FRESNO -- Dirty air caught up with the San Joaquin Valley on the last day of summer, triggering an ozone violation worth \$29 million.

Motorists already were on the hook for a \$12 vehicle registration fee to cover a \$29 million ozone penalty next year. Now they're stuck with the same penalty in 2013.

The region had narrowly avoided the key violation for weeks. But on Thursday, the Valley's prevailing northwest breeze died in the afternoon, allowing ozone to spike between 4 p.m. and 5 p.m. in Clovis, said the San Joaquin Valley Air Pollution Control District.

It pushed Clovis over the federal limit for one-hour ozone violations in a three-year period. In 2010, Clovis had three similar violations for one-hour readings -- which are the highest daily readings at each monitor.

The sweltering heat and ozone spikes should begin to slowly fade over the next few days. The National Weather Service in Hanford predicts temperatures may drop below 90 degrees by Sunday.

All week long, the district has been using social media, radio and television alerts to encourage people to cut down on driving. The alerts ended Friday, but people shouldn't assume the problem has passed, officials said.

"We don't want another violation because it could help make the \$29 million penalty continue beyond 2013," said district executive director Seyed Sadredin. "We want people to continue cutting back on pollution-making activities." The ozone assault on Thursday also caused Fresno's second one-hour violation of the summer. If there are two more violations at that monitor in southeast Fresno over the next two years, the \$29 million penalty will extend to 2014.

The U.S. Clean Air Act says the annual fine is extended if there are more than three violations at any monitor over a three-year period -- 2011 through 2013, in this case. If the Valley gets through the warm seasons during that three-year span without four violations at any monitoring site, the fine will end.

Ozone is an invisible, corrosive gas that forms in sunlight and warm weather. It can trigger asthma and other lung ailments.

Air officials noted the Valley just completed its cleanest summer ever for the one-hour ozone standard, which they said is a sign of progress. But the region is among the worst in the country for the more protective eight-hour ozone standard. It reports readings averaged over eight hours.

Officials make pitch for reduced emissions

By Kevin Parrish

Stockton Record, Saturday, Sept. 24, 2011

Two of California's highest-ranking public officials - Mary Nichols, head of the state Air Resources Board, and Darrell Steinberg, president pro tem of the state Senate - made their way Friday to downtown Stockton.

They were the cornerstone speakers in a forum on legislation that encourages sustainable communities. More than 100 people, many of them stakeholders in environmental issues and many of them ordinary residents, listened while Nichols, Steinberg and others explained Senate Bill 375 and its goals.

The law attempts to reduce greenhouse gas emissions by changing transportation patterns. Here's how that thinking goes: By creating local jobs, higher-density housing and more transportation options, people will stay closer to where they live and spend less time commuting - thus, their communities will be more sustainable.

The message from Sacramento was received respectfully - even at times of disagreement - in a lively discussion of California's continuing drive toward greener, more sustainable communities.

"Having Nichols and Steinberg, today was a success," said Andrew Chesley, executive director of the San Joaquin Council of Governments and host of the event. "Government works best when all the interests work together."

SB375, written by Steinberg, became California law in 2008. It is designed to reduce greenhouse gas emissions (primarily carbon dioxide) through a set of incentives.

"The carrots are increased transportation funding, an expedited process through the environmental hoops and redevelopment incentives," Nichols said. "The sticks? Nada. There are none."

She and Steinberg emphasized repeatedly that implementation of the legislation is voluntary and does not carry penalties for those communities, or metropolitan planning organizations, that do not utilize it.

That said, SB375 sets standards for reducing greenhouse gas emissions that vary region by region in California. The eight-county San Joaquin Valley has two reduction targets: 5 percent per capita by 2025 and 10 percent by 2035.

"Three seventy-five does not make anybody do anything," Nichols said. "If you choose (a strategy for a sustainable community), there are benefits. The answer to how 375 is implemented is sitting in this room. It's a local decision."

Some of those in attendance weren't interested. One audience member read from the "Communist Manifesto" and another blamed Sacramento for the state's slumping economy and high unemployment rate.

Steinberg said he welcomed the exchange of ideas with local residents and said he was gratified by the interest.

After explaining the history of the legislation, Steinberg said, "Here is an opportunity - and we don't get them very often - to actually change the paradigm in California."

Chesley used the forum to present the San Joaquin County of Governments' approach to the sustainability legislation.

"For generations, we have equated mobility (the automobile) with personal well being and wealth," Chesley said. "Three seventy-five challenges that."

Each speaker emphasized the value of walking, biking, exercising and moving within a smaller, sustained sphere.

First air basin fined for high ozone fails again

By Tracie Cone, Associated Press

In the Sacramento Bee, Modesto Bee and other papers, Friday, Sept. 23, 2011

FRESNO, Calif. -- Pleas to drivers to reduce pollution by limiting car trips failed to keep smog at acceptable levels in the San Joaquin Valley, meaning the first region in the nation to be fined under federal clean air laws will face penalties until at least 2013.

The valley, a geographical bowl, fell victim to millions of vehicles, thousands of tractors and hundreds of dairies with noxious emissions Thursday that baked under triple-digit temperatures amid a low-pressure system that stilled wind from the Pacific Ocean.

"It was the perfect storm of both temperature and meteorological conditions," said a disappointed Sayed Sadriden, executive director of the San Joaquin Valley Air Pollution Control District.

The Clean Air Act says the maximum ozone level recorded in an area cannot exceed 125 parts per billion. The eight-hour average level is 75 and the subject of debate since the Obama administration - worried that anti-pollution measures could slow factory work during the economic slowdown - declined this month to lower it to a level scientists agree is healthy.

For the \$29 million federal penalty imposed on the valley to be removed, no monitoring station can exceed the ozone standard more than three times in three years. This week's violation means the earliest the fine can be lifted is 2013, if no more readings exceed the limit.

The recording of 154 ppb on Thursday occurred in Clovis, east of Fresno in the central part of the valley. Normally the highest smog levels are recorded further south near Bakersfield, due to prevailing winds that blow from San Francisco to the southeast and trap pollutants against the Tehachapi Mountains.

On Thursday, however, a rare weather phenomenon recently described as the "Fresno Eddy" created a swirl of counter-clockwise wind between Bakersfield and Clovis. Pollutants at the southern tip of the valley rode the eddy to a point east of Fresno where the violation occurred.

"It happens a few times a year," said Sadriden. "Unfortunately, yesterday was one of those days."

The agricultural region has flirted with an ozone violation since schools opened in late August and harvest season kicked into high gear. The district had launched a media blitz hoping that by raising awareness drivers might curb trips and limit idling to get out from under the \$29 million annual fine, the brunt of which will be paid as a \$12 fee added to vehicle registrations.

The valley never has gone a full calendar year under the federal ozone limit, but this marked the latest date that a violation has occurred. Officials were especially disheartened since a break in the triple-digit heat was expected Saturday, and ozone levels could drop next week.

"We fell two days short of making it, so it's disappointing in that respect," Sadriden said. "But this is the latest we've come in history, so that's good."

The valley in recent years has made strides in reducing emissions at factories and on farms but suffers because pollution generated as far north as San Francisco is sucked into the bowl.

The toxin in question is ground-level ozone, the ingredient that forms smog. In the high atmosphere it protects the Earth from harmful rays, but at ground level it can blister lungs like a

sunburn affects skin. Ozone is created when car emissions and fumes from solvents react under heat and sunlight.

Despite excessive summer heat in the valley, the dangerously high levels of ozone did not begin forming this year until back-to-school traffic began in late August, leading some to wonder whether a delayed school start might ease pollution.

While many factors are taken into account in school scheduling - such as athletics, ending the semester before Christmas break and teachers' summer continuing education needs - the Fresno County school superintendent said the air problems are creating a reason to rethink the issue.

"It's a tough, tough deal, but this whole thing with air pollution may change the way we do business," said Larry Powell, who manages 32 school districts. "A lot of things have to take place, but we need to look at it."

The region has one of the highest asthma rates in the country, and the officials are warning people with heart and lung problems to avoid exertion until the weather changes.

San Joaquin Valley fails to meet air pollution standards

Central Valley News.com, Friday, Sept. 23, 2011

On Thursday afternoon, the Valley experienced a "perfect storm" of pollution build-up and meteorological conditions that led to a violation of the federal 1-hour ozone standard, despite the cleanest summer on record, the San Joaquin Valley Air Pollution Control District says.

"Compounding the effects of high-pressure over the Valley, an upper level low-pressure system off southern California shut down the normal northwesterly wind flow over eastern Fresno County, resulting in unusually high ozone spikes," it says.

In order to reach attainment and remove a \$29 million federal penalty, each of the air basin's monitoring stations must not exceed the ozone threshold of 125 ppb more than three times in three years. This year was the longest the Valley had gone without exceeding the standard, yet with Clovis exceeding the limits at the very end of the 2011 ozone season, the Valley cannot show attainment until 2013, the district says.

This year, no monitor has recorded more than two exceedances.

"We are still in a position to see the \$29 million federal penalty removed by 2013, one year sooner than initially anticipated," says Seyed Sadredin, executive director of the district.

Preliminary indications are that the inaugural Air Alert program helped lower ozone concentrations. In 2010, the 1-hour standard was exceeded 17 hours throughout the Valley. This year, with the end of the ozone season in sight, the Valley has seen just five hours of exceedances in the entire eight counties.

This 1-hour standard was revoked by the federal government in 2005, and replaced with the more health-protective 8-hour ozone standard. District officials believe the federal penalty is unfair to Valley businesses and residents that have made great investments and sacrifices to improve air quality.

Harvest can be bad for health

Process of gathering nuts can lead to respiratory problems

By Donna-Marie Sonnichsen

Visalia Times-Delta and Tulare Advance-Register, Friday, Sept., 23, 2011

Consuming walnuts may provide a bounty of health benefits, but the harvesting process can cause respiratory problems even if you don't suffer from asthma or allergies.

The process, also used in the harvest of other nuts like pecans and almonds, requires a vigorous shaking of each tree by mechanical shaking machines, causing thousands of walnuts to fall to the ground.

This nut-harvesting method can stir up clouds of dust that, coupled with the time of year, is sure to cause problems, say medical experts.

"This time of year, there are lots of changes in the weather, which make the pollution problem fluctuate up and down," said Dr. A.M. Aminian, medical director of the Allergy Institute in Visalia and Fresno.

"You have the wind picking up, schools starting and colds and viruses spreading around; then all the agricultural issues of harvesting, plowing fields, spraying of cotton defoliation. Factor in the dust from harvesting trees and particles get in the respiratory tract and irritate people."

But he also said people should know that when dirt is disturbed, it has the potential to release mold spores that not only irritate, but also cause infections like Valley fever, and people should avoid dust areas unless they wear a proper dust filter.

But at least the particulate matter doesn't travel like pollen, which aggravates asthma and allergies so much in the spring, says allergist Dr. Lauren Hiyama.

"Pollen is so light it can be carried miles," Hiyama said. "But the fine dust that gets kicked up into the air is more a problem for people in the immediate area because it is heavier and falls to the ground much sooner."

Both doctors agree that symptoms

of dust irritation can include sneezing, runny nose and even lung problems if you already suffer from asthma and allergies, and your best bet is to wear dust-filtering masks if you can't avoid being in those areas.

Tricia Stever Blattler, executive director of the Tulare County Farm Bureau, says this is just the way of life in an agricultural area.

"Part of harvesting involves getting dirty and dust in the air, or otherwise we wouldn't get to enjoy all those pecans and almonds and walnuts and pistachios," she said.

She said most harvesters are aware of the problems and do what they can to minimize dust, such as harvesting at night or off-peak times when people aren't around as much or when the dew point and air moisture help dampen dust.

Stever Blattler said they also use techniques like driving harvesting equipment conservatively and avoiding repeat runs down orchard rows as well as reducing the length of turns around the rows to stir the air less.

She said there's no way to totally minimize harvesting dust, although applying water may help some. It is not, however, a requirement imposed on farmers.

"It's a critical balance irrigating to get just the right moisture content. It's important for safety but also for the best quality of crop," she added.

Tulare County Agricultural Commissioner Marilyn Kinoshita said that even water isn't enough.

"There would still be a great deal of dust. These are very tall trees and [watering] would have only so much effect. The dust is going to come off these trees unless [farmers] got a half-inch of rain a week ago, which around here is unlikely," said Kinoshita.

"It is just something people have to be cautious about. Most harvests last about three to four weeks and clear out really quickly," said the commissioner.

Watering may not be a regulation, but proper masks, dust filters and even custom-fitted respirators, depending on the job performed, are mandatory, said Stever Blattler.

Meanwhile, walnut farmer Eddie Soares said harvesting is starting late this year with the decline in popularity of early season varieties.

"It's all crammed into a short window. We try to do 25 to 30 acres a day. Sure, there's a lot of dust; that's why I make sure everyone wears masks," said the owner of Eddie Soares Orchard Services. "We also try to wet down the area or try and time it so it's not so dry."

In what is shaping up to be the second-largest year ever according to farmers, most were just too busy with the harvest to do interviews, although one who grew up on a walnut farm said his sinus problems today probably stem from not wearing a mask for many years.

The largest season on record was last year, Soares said.

In-fill proposal looks to give Stockton a greener image

By Zachary K. Johnson

Stockton Record, Friday, Sept. 23, 2011

With the right kind of development, downtown Stockton could become the kind of place where people live in apartments or condominiums, commute by train to Silicon Valley jobs before returning home, where they can bike or walk to do their shopping or run other errands.

It could be the kind of place where residents don't need to own a car, said planning consultant David Early. "That's the kind of vision you might start to see in downtown Stockton over time," Early said at a planning workshop on Thursday that looked at places inside the city limits of Stockton where that kind of development could happen.

Identifying candidates for in-fill development is part of a regional plan being created showing how transit-oriented development can reduce greenhouse gases by diminishing vehicle travel. The resulting plan could identify areas where millions of local dollars could go to support so-called smart growth, fulfill a state mandate to combat climate change through planning, and serve as a resource for cities crafting their own sustainable-growth plans.

More workshops to come

The San Joaquin Council of Governments will continue to hold workshops looking over potential spots for in-fill development inside the county's urban areas.

- Tracy and Mountain House, 7 p.m. Wednesday, City Council chambers, Community Center, 300 E. 10th St., Tracy.
- Manteca, Lathrop, Ripon and Escalon, 6 p.m. Oct. 5, City Council chambers, 259 Wilma Ave., Ripon.
- Lodi, 7 p.m. Oct. 12, Carnegie Forum/City Council chambers, 305 W. Pine St.

Early, a consultant with The Planning Center and DC & E, was hired by the San Joaquin Council of Governments to help craft the plan. The consulting firm prepared a map showing 171 sites by transit hubs or bus routes in San Joaquin County's urban areas where transit-friendly, in-fill development could happen. Attendees at the Stockton workshop added suggestions to add or remove tagged sites, and the process will continue at three more workshops in the county into October. The final plan won't dictate where future growth will actually happen, and sites can be added or dropped to the list after the plan is finished, planners said.

"What I would hope people can really see is the potential that cities in San Joaquin County have to become centers for smart growth," Early said.

When it's completed, the Regional Smart Growth - Transit Oriented Development Plan will, among other things, identify and rank opportunities to attract new in-fill development, which is not limited to housing and could include commercial options.

It could serve as a tool to determine where to spend \$65 million in smart-growth funds approved by voters with the passing of Measure K, the county's half-cent sales tax. The money wouldn't pay for housing units, but it could pay for bike lanes, signs, bus shelters and other transportation aspects of a project, said Sam Kaur, an associate regional planner with the SJCOG. The funds have already been tapped to pay for the lights, street furniture and other pedestrian-friendly amenities used in the Lodi Avenue improvement project, she said.

The results from this could be used elsewhere, too.

It can help produce "sustainable community strategies," which are required by law under SB375. That bill's authors, Senate Pro Tem Darrell Steinberg, D-Sacramento, and California Air Resources Board Chairwoman Mary Nichols, are expected to speak at a separate forum on sustainability in Stockton today.

The transit-oriented development plan could also be a resource for cities.

In the settlement reached after environmentalists sued Stockton over its General Plan, the city is required to come up with its own plan to reduce emissions of greenhouse gases. The transit-oriented regional plan is in line with the city's efforts, said Dale Stocking, part of a committee putting together the city's climate-action plan. "It coordinates really well with what we're doing with (the climate-action committee) and meeting some of the portions of the settlement as well."

[Bakersfield Californian, Commentary, Monday, Sept. 26 2011:](#)

Valley air quality rules remain awfully murky

By Lois Henry

The rules governing how the valley's air quality is monitored seem more fitting to an inebriated game of Dungeons & Dragons than giving the public a clear indication of where we are, how far we've come and how far we have to go in our quest for better air.

I mean, seriously.

We're operating under a one-hour ozone standard that was scrapped in 2005, but the new eight-hour standard (which hasn't been sorted out by the feds) is patently unattainable.

Even so, we're being fined \$29 million per year for every year we don't hit that outdated standard.

Whether we're achieving either standard is determined by 24 monitors strewn around the eight-county San Joaquin Air Pollution Control District.

When one goes "ping!," meaning we're over the outdated 125 parts per billion one-hour standard, someone somewhere makes a check on a giant talley sheet. If that same monitor pings again more than three times in three years, we're sent to "violation land" and get another \$29 million fine.

Or maybe not. Because if no other monitors go ping, the game clock is reset for three more years and we can try, try again.

All that's missing is a troll.

On second thought, there is one. That would be air quality advocacy groups that gleefully pepper this mess with often misleading information and conflicting messages.

Remember, they chastised the district last month for noting we had the cleanest August ever per the one-hour rule saying that rule was meaningless.

This month, they slammed the district for ignoring an air "crisis" as valley monitors started to near the one-hour ozone standard.

Pick a side, guys.

When you realize we tipped into violation land as of Thursday afternoon -- basically, because the wind stopped blowing -- you have to wonder at the usefulness of the Environmental Protection Agency's stick-stick approach to our air.

I think it makes more sense to set a number of annual goals based on where we are right now -- you know, something realistically achievable -- and measure our progress toward those goals.

Or we can keep playing an unwinnable game.

Just a thought.