Air Quality News

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NEW NAAQS FOR OZONE AND PARTICULATES & NEW REGIONAL HAZE PROGRAM

In July 1997, EPA issued new National Ambient Air Quality Standards (NAAQS) for particulate matter and ground-level ozone. The ozone and particulate matter standards together will protect 125 million Americans, including 35 million children, from the adverse effects of breathing polluted air. In conjunction with the NAAQS, EPA also proposed a new Regional Haze Program to improve visibility nationwide.

Under the Clean Air Act (CAA), EPA is required to set national standards for certain air pollutants to protect public health and the environment. EPA must review these standards every five years to determine whether the latest scientific research indicates the need to revise them.

The new NAAQS are based on the most extensive scientific and public review process ever conducted by EPA. Before issuing the final standards, EPA and an independent panel of scientific experts analyzed thousands of peer-reviewed scientific studies, held numerous public meetings, and reviewed 57,000 public comments. The panel concluded that EPA's previous standards for ozone and particulate matter did not adequately protect public health and should be revised. This conclusion was based upon concern over prolonged exposure to ozone and the serious health and visibility effects strongly associated with fine particles.

Ground-level ozone has documented adverse impacts on human health, agricultural crops, and natural ecosystems. The new standard, set at 0.08 parts per million (ppm) over an eight-hour averaging period, better reflects actual, real-world exposure than the previous one-hour standard. It is also more stable, reducing the likelihood that cities will "flip-flop" in and out of compliance.

EPA's particulate matter standard was revised based on significant adverse health effects, including premature death, associated with fine particles - those less than 2.5 microns in diameter ($PM_{2.5}$). EPA retained its PM_{10} standard (particles less than 10 microns in diameter), but changed the form of the 24-hour standard to provide additional stability and flexibility for states in meeting the standard. EPA addressed $PM_{2.5}$ for the first time with an annual limit of 15 micrograms per cubic meter. An additional 24 hour standard of 65 micrograms per cubic meter will balance the need for flexibility with the need to maintain the greatest possible protection for human health. Fine particles are thought to be particularly damaging to health because they penetrate and remain deep in the lung.

EPA's new standards also recognize the relationship between particulate matter and visibility. Particulates emitted from many sources such as industrial processes, motor vehicles, agricultural and forest burning, and power generation obscure the clarity and color of scenic vistas. EPA's new Regional Haze Program, in combination with the new PM NAAQS, will improve visibility across the U.S., especially in 150 national parks and designated wilderness areas afforded special protection under the CAA. EPA is expected to issue the final Regional Haze Program in summer 1998.

The first step necessary to establish the new particulate standards is placing appropriate monitoring devices in communities. EPA will pay for the deployment of approximately 1500 monitors nationwide by the year 2000; approximately 129 of those sites will be located in the Pacific Northwest. The majority of fine particulate monitors will be placed in urban population areas, primarily in those areas with already existing PM_{10} monitoring networks. No less than three full calendar years of monitoring data will be necessary to determine if an area is meeting the new fine particulate standards; implementing the revised PM_{10} and ozone standards involves formal revocation of the old form of the standard and instituting the revised forms into the state air quality plans. (The Pacific Northwest is currently the only region of the country where all urban areas meet the ozone standards!) Timelines for fully implementing the revised standards across the country are forecast out to the year 2015.

For more information about the implementation of EPA's new NAAQS and Regional Haze Program go to: (http://ttnwww.rtpnc.epa.gov/implement/index.htm#Implementation Guidance).

CHANGES IN THE OFFICE OF AIR QUALITY

The Office of Air Quality (OAQ) recently reorganized, shifting from geographic-based workgroups to units organized by program function. Formerly OAQ was divided into an Alaska/Washington unit and an Idaho/Oregon unit. This arrangement required each unit to independently evaluate and implement responsibilities under the CAA. Redundancy for each program element was designed to maximize responsiveness to states and tribes; but the complexity of CAA requirements and increasing size of the units hampered OAQ's effectiveness.

Resources are now distributed across three units, each with a more manageable operational role. The new units are: 1) Enforcement and Program Support; 2) State and Tribal Programs; and 3) Federal and Delegated Air Programs.

The new units will focus staff and resources on specific program elements, facilitating better coordination and improving overall effectiveness. The reorganization

will assist staff in meeting Region 10's responsibilities. For more information about staff assignments, go to the Region 10 homepage: (http://www.epa.gov/r10earth/people.htm#2200).

LAW BRIEF - New policy, guidance, and regulations

PULP AND PAPER CLUSTER RULE

EPA made history in November 1997 when it established pollution controls for both air and water in a single, "cluster," rulemaking for the pulp and paper industry. This type of source is well suited to a multimedia approach because of the interdependence of its air and water pollution. The cluster rule will streamline compliance by allowing mills to consider all their regulatory requirements at one time. The subsequent reduction in regulatory burden will enable mills to select the best combination of pollution prevention and control techniques to meet their individual needs. This, in turn, will create greater protection of the environment and human health.

An important feature of this rule is its incentive for industry to surpass baseline requirements by installing advanced pollution prevention equipment and making favorable process modifications. When mills enroll in this "Advanced Technology Incentives Program," they are granted additional time to comply.

The following are expected annual emission reductions from this action: 1) 96% reduction in dioxin and furan; 2) 96% reduction in dioxin and furan loading to sludges; 3) 99% reduction in chloroform; 4) 59% reduction in hazardous air pollutants; 5) 47% reduction in total reduced sulfur; 6) 49% reduction in volatile organic compounds; and 7) 37% reduction in particulate matter.

COMPLIANCE ASSURANCE MONITORING RULE

EPA promulgated a Compliance Assurance Monitoring (CAM) rule in October 1997. This regulation will help facilities subject to Title V permitting requirements to conduct more effective performance evaluation of their air pollution control equipment. This monitoring is required under the CAA amendments of 1990. Prior to the CAM rule, EPA encouraged an "enhanced monitoring" strategy to meet this requirement; but, this approach was heavily criticized by stakeholders as overly prescriptive and burdensome.

The CAM rule provides new enforcement tools for state and local agencies to respond appropriately to the monitoring results. The overall goal is to help facilities that operate control devices get the best possible emissions reductions, thus protecting public health and the environment.

Approximately 10% of the processes at major industrial facilities that are subject to air pollution emission standards are fitted with air pollution control equipment. Approximately 60% of these are covered by the CAM rule. In total, the CAM rule will cover over 97% of the total emissions from processes at Title V sources that utilize air pollution control equipment.

CREDIBLE EVIDENCE RULE

In February 1997 EPA issued a final rule that eliminates ambiguity in the type of information used to determine if a facility is in compliance with the CAA. The "credible evidence" rule clarifies EPA's existing authority under the CAA by allowing any "credible" data, such as continuous emissions monitoring data, parametric data, engineering analyses, and witness testimony to be used to determine whether a facility is violating emission standards.

The rule does not alter current emission standards, create any new monitoring or reporting requirements, or change the compliance obligations for industry. Previously EPA used only reference test methods - specific procedures for measuring emissions from facility stacks - to determine compliance. The rule makes it clear that regulated sources, EPA, states and citizens can also use non-reference test data to certify compliance or allege noncompliance with CAA permits. In some instances, this will be less expensive than using reference tests.

MACT STANDARD COMPLIANCE

The 1990 CAA Amendments direct EPA to establish technology-based standards for 188 regulated hazardous air pollutants generated by 174 source categories. These Maximum Available Control Technology (MACT) standards are being promulgated by EPA on a rolling schedule from 1992 through 2000. Each new standard is accompanied by a compliance deadline for industry to avoid enforcement action. The following are several source categories that are now required to demonstrate compliance with MACT Standards.

SourceCategory	Compliance Deadline
Wood Furniture	11-21-97
Degreasers	12-2-97
Magnetic Tape	12-15-97
Gas Distribution	12-15-97
Shipbuilding	12-16-97
Secondary Lead	12-23-97

FIELD NOTES - News around the region

ALASKA

It's the middle of winter in Anchorage and researchers are out observing how cold weather affects driver behavior. That, in turn, could lead to new control measures to reduce carbon monoxide (CO) pollution.

College interns hired by the Municipal Air Pollution Control Agency have been spending time in parking lots since December, noting how long drivers let their vehicles idle in the cold weather. Some behaviors, which might be considered excessive in other areas of the country, are commonplace in wintertime Alaska. Shoppers leave their cars running for a half hour or more so they'll have a nice warm car when they return. Remote-control car starters are very popular, despite their $200 price tag. Even with Anchorage's success in reducing the number of days with unhealthy levels of CO, there is still enough pollution at ground level to exceed the National Ambient Air Quality Standard two or three times annually. Air Program officials hope the driver behavior study, in combination with a CO saturation study, will reveal the relative contributions from area parking lots where cars are idling and from roadways where cars are in motion. That information should help focus future control efforts where they'll be most effective.

For further information, contact Steve Morris, Anchorage Air Quality Program Manager (907) 343-4713.

IDAHO

EPA will return to Pocatello early this spring to see if there is any danger from emissions of hydrogen cyanide and phosphine gas given off by two waste ponds at the FMC phosphorous plant.

EPA's sampling in December was prompted by concerns expressed by local

citizens that the emissions from the waste ponds posed a threat to human health. The concerns were voiced in the aftermath of disclosures made by FMC in early December that -- because of a change in waste disposal practices at the plant -- the ponds were emitting more than 500 pounds of hydrogen cyanide and more than 100 pounds of phosphine gas into the air each day.

EPA's return visit to the FMC plant is planned due to the possibility that warmer weather might increase emissions of the gases. During the December 23 inspection, temperatures were low, and there was ice on the ponds.

OREGON

ODEQ's Portland area vehicle inspection program is now offering enhanced vehicle inspection on a voluntary basis. This test better reflects emissions from real-world driving conditions. The program will become mandatory in spring 1998 after three more test stations are constructed. Currently, two test stations are equipped with the enhanced dynamometers.

According to ODEQ, no significant concerns have been raised by the public regarding the new test process and associated fee increase from $10 to $21. More than 60 ODEQ certified vehicle repair facilities have the required diagnostic equipment and trained technicians available to make basic and enhanced emission testing adjustments and repairs.

WASHINGTON

Six Columbia Basin grass-seed growers have been fined a total of nearly $91,000 for burning more than the allowable acreage during the 1997 season. Ecology regulations call for burning two-thirds fewer acres than in 1995. Nearly 200 farmers complied with the burning restriction, but several others continued burning as usual.

INDIAN COUNTRY

This summer, EPA's Region 10 Office of Air Quality increased its level of effort as part of its commitment to tribal governments. OAQ welcomed Mary Bell Austin and Regina Thompson to the staff to support tribes' efforts to increase their capacity to address air quality matters. Mary Bell and Regina will assist tribes in developing air quality management strategies tailored to their individual needs and circumstances.

Recent visits to a number of reservations in the region provided them with an opportunity to become more familiar with the values and conditions that influence the air quality needs of individual tribes.

WASHINGTON SEEKS ALTERNATIVE TO GRASS-SEED BURNING

The Washington Department of Ecology announced in November 1997 that it will work to improve regional air quality by stepping-up efforts to certify alternatives for grass-seed field burning in Eastern Washington.

Grass-seed field burning is a crop management practice that clears fields of grass chaff after seed harvest. This open burning produces great plumes of smoke, laden with fine particles and noxious gases. The burning season usually lasts three or four weeks in late summer, creating consistent health and visibility problems.

The agricultural burning rule (WAC 173-430) promulgated two years ago successfully reduced the total burning from 60,000 acres in 1995 to approximately 20,000 in 1997. Ecology's goal is to further protect public health by certifying alternatives for grass-seed field burning in 1998. To achieve this goal, the department intends to immediately focus staff and resources to evaluate reasonable and practical alternatives for local farmers.

According to Ecology's revised certification schedule, it is hoped that appropriate alternatives can be identified and proposed in March and certified in June. This would provide sufficient time for growers to plan for the 1998 season. In the meantime, applications for grass-seed field burning will not be processed.

In support of Ecology's decision to expedite the certification process, Governor Locke said, "In situations like this, state government needs to rethink its priorities and mobilize its resources to serve the greatest possible public good. The Department of Ecology is setting a good example."

For more information about this and other air quality issues in Washington go to:(http://www.wa.gov/ecology/air/airnews.html). For Washington's current agricultural burning rule, go to: (http://www.wa.gov/ecology/leg/ecywac.html#air).

OREGON DEQ ADDS ELECTRIC CAR TO FLEET

Oregon's Department of Environmental Quality (ODEQ) added an electric car to its fleet of agency vehicles in late 1996. The four-door sedan is a General Motors car converted to electric power by US Electricar. The $40,000 purchase price was negotiated through a bidding process and funded by a grant from the US Department of Transportation's Congestion Mitigation Air Quality Program. ODEQ hopes to add at least one more electric vehicle in the coming years.

According to Ron Householder of ODEQ, the car has been popular among ODEQ staff for trips of 2-6 miles. This use is consistent with its purpose as an in-town car. The most common concern among drivers is its limited travel range given uncertain access to charging stations. ODEQ plans to assist users by mapping out common destinations that fit comfortably within the car's limitations.

NEW GAS-ELECTRIC HYBRID CAR

The world's first gas-electric hybrid car went on sale in Japan in December. Toyota's new Prius - similar to their Corolla - uses an electric system at speeds less than 18 mph and a gas powered system at higher speeds.

The car recharges its battery when going downhill and braking, eliminating the need for lengthy recharging sessions. The parallel system increases gas mileage to 66 miles per gallon. According to Toyota, carbon dioxide emissions are cut by 50 percent and other toxic emissions are cut by up to 90 percent.

Toyota is selling the Prius for around $17,000 and taking a 25 percent loss. The Prius sells for half the price of Toyota's entirely electric car and about $8,000 more than a comparable gas-powered vehicle. According to *Investor's Business Daily* (1/15/98) Toyota has received 3,500 orders for the Prius, well above the expected 1,000 in the first month. Toyota expects to wait a year before selling it outside Japan. (http://www.toyota.com/vehicles) Go to "future vehicles."

REPORT RAISES CONCERN OVER SNOWMOBILES AND CARBON MONOXIDE

On a clear day out in the great, wide open we seldom think about air pollution. But according to the July issue of *Park Science*, a publication of the US National Park Service, perhaps we should.

Snowmobiles are commonly used for winter transportation in rural areas and are gaining popularity among winter recreationists. Who hasn't heard that familiar sound out on ski trails and local sledding areas?

Snowmobiles fall within a category of recreational vehicles that is not regulated for emissions. Unlike cars, trucks, and motorcycles, snowmobile manufacturers are not required to incorporate pollution control technology into their design considerations. As a result, the engines used in many snowmobiles are more polluting than their on-road counterparts.

The article in Park Science raises concern that people traveling on or around snowmobiles may be exposed to dangerous levels of carbon monoxide. CO levels even appear to exceed the safety threshold set by the National Ambient Air Quality Standards in some park areas frequented by snowmobiles.

Carbon monoxide is a colorless, odorless, and potentially deadly poison. CO binds with hemoglobin in the blood, saturating red cells and crowding out essential oxygen. As a result, people can experience a range of suffocating effects - from headaches and fatigue to respiratory failure and death.

The article recommends that snowmobile users learn the early warning signs of CO poisoning and seek to minimize their exposure. The article makes the following suggestions for safer snowmobile use: travel in small groups; tour on windy days; turn off your engine instead of idling; keep your distance from other snowmobiles; and avoid popular destinations during peak times.

For more info, go to the article on the National Park Service homepage: (http://www.aqd.nps.gov/nrid/parksci/vol17(1)/index.htm)

INTERNET RESOURCES

Unified Air Toxics website provides one stop shopping for air toxics information. Sponsored by EPA's Office of Air Quality and Planning Standards, it is a great place to locate Federal Register documents; lists of pollutants and categories; fact sheets and guidance documents; and connections to other related web sites, including state and local agencies. (http://www.epa.gov/ttn/uatw).

The EPA has a number of great educational tools for kids and adults alike. Check out the air section of the "explorers club" on the EPA website (http://www.epa.gov/kids/html/air.htm).

Weekly features on Oregon DEQ programs, projects, and issues by public affairs staff are now available on the DEQ website. Stories on air quality topics include: "Businesses See Bottom Line Benefits from Air Quality Friendly Technology"; "Portland Area Auto Body Refinishers Complying with New Air Quality Rules"; and "Citizens Turn In Polluters" (about the success of the Portland area lawn mower rebate program). Go to: (http://www.deq.state.or.us/od/news97/focus.htm).

ALASKA TAKES STAND AGAINST OZONE AIR PURIFIERS

Indoor air purifiers that produce ozone have been on the market for years. But recently the American Lung Association (ALA) and state health departments in Alaska, Minnesota, North Carolina, Florida, and California have begun to challenge manufacturers' claims of efficacy and pose serious questions about residential use in light of the known health effects of ozone exposure. The aggressive marketing of ozone generators has prompted agencies and organizations to take action, fearing that a rapidly increasing number of people may be at risk.

Ozone has long been recognized as a potent lung irritant that can lead to permanent lung damage with prolonged exposure. Ambient ozone can cause coughing and chest pain as well as eye, throat, and nose irritation. Children, the elderly, and people with respiratory diseases such as emphysema and asthma are most susceptible to ozone's toxic effects. While ozone is usually associated with smog and outdoor pollution, indoor exposure can also be detrimental to human health.

In September, the Alaska Division of Public Health (ADPH) released a strong warning against the use of ozone generators in occupied spaces such as vehicles and homes. While ozone air purifiers have legitimate commercial purposes, such as removing odors in unoccupied buildings, ADPH strongly discourages residential use. Citing data from the Food and Drug Administration (FDA), ALA, *Consumer Reports*, and EPA, Alaska claims that these devices are ineffective in purifying indoor air of microbes, odors, and other pollutants. Further, Alaska claims that the devices can generate enough ozone to exceed the safety threshold established by the FDA and are, in themselves, damaging to health.

In response to Alaska's September warning, Alpine Industries, a Tennessee-based manufacturer of ozone purifiers, filed suit against the Alaska state employee responsible for the warning and ALA's Alaska Chapter. Alpine asserts that the Alaska warning contains unsubstantiated opinions and inaccurate information.

At issue is whether the documented health effects of ambient ozone, usually associated with outdoor air pollution, can be linked to ozone air purifiers used in indoors. EPA has already published an indoor air fact sheet on residential air purifiers which cautions that ozone generators may do more harm than good. EPA continues to look to results from ongoing research to address this issue more fully.

For more information go to: (http://www.epa.gov/iaq/pubs/airclean.html)

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