In the next few days, the U.S. Environmental Protection Agency (EPA) will announce its proposals on revising the National Ambient Air Quality Standards (NAAQS) for ozone and particulate matter (PM). Although the agency has until Friday, November 29 to release the proposals, there is a strong likelihood that an announcement will be made Wednesday, November 27. STAPPA and ALAPCO have obtained a copy of the NAAQS proposal package that EPA transmitted to the Office of Management and Budget (OMB) earlier this month. This package includes a proposed decision on the NAAQS for ozone; a proposed decision on the NAAQS for PM; a proposed Interim Implementation Policy for new or revised ozone and PM NAAQS; and a proposed monitoring strategy for PM2.5.

Below we summarize the key features of the approximately 1,000-page proposal package and, in addition, provide some important background information intended to help you prepare for inquiries you will likely receive as a result of these proposals. Please be advised that the following summary is based upon the proposal that was submitted by EPA to OMB and that details of the final proposal could differ.

I. SUMMARY OF EPA’S PROPOSALS

Proposed Decision on the Ozone NAAQS

EPA is proposing to replace the existing 1-hour primary NAAQS for ozone with a new 8-hour, 0.08-parts-per-million (ppm) primary standard. This standard would take effect 30 days after the date of final promulgation. The agency is seeking comments on two alternative 8-hour standards -- 0.09 ppm and 0.07 ppm. To assist in the transition to a new standard, the agency also is proposing (with two exceptions -- attainment demonstrations and reclassifications) to retain the existing 1-hour standard until EPA has approved an area’s SIP for the proposed 8-hour standard.

The proposed 0.08-ppm standard would be met when the “3-year average of the third-highest daily maximum 8-hour average ozone concentration is less than or equal to 0.08 ppm.” This decision was based upon a conclusion that such a standard would not only protect sensitive populations, but “provide a more stable basis upon which the States can
design and implement their ozone control programs” as well EPA seeks comments on other concentration-based forms “within the range of the second to the fifth highest daily maximum 8-hour average ozone concentrations.”

With respect to the secondary standard, EPA proposes to replace the existing 1-hour secondary standard with one of two options. These include adopting a standard that is identical to the proposed 0.08 ppm, 8-hour primary standard or adopting a new seasonal standard “expressed as a sum of hourly concentrations greater than or equal to 0.06 ppm, cumulated over 12 hours per day during the maximum 3-month period during the ozone monitoring season, set at a level of 25 ppm-hour.”

EPA seeks comment on the desirability of adopting some form of spatial air quality averaging for ozone, particularly in smaller geographic areas.

EPA is proposing revisions to Appendix H to 40 CFR Part 50 regarding the “computations” for determining when the standards are met. Concerning data completeness, the agency is proposing “90 percent data completeness, on average, during the 3-year period, with no single year within the period having less than 75 percent data completeness.” If a site has less complete data, it will have been found not to have met the standard. EPA will be seeking comment on allowing adjustments for missing data based upon meteorological conditions. With respect to data handling and rounding conventions, EPA acknowledges in its proposal that the existing rounding convention (rounding up digits equal to or greater than 5) “directionally results in less public health protection than that which would be associated with a convention that defined the smallest increment of 0.001 ppm to be above the level of the standard for the purposes of determining whether the standard has been met.” Accordingly, the agency is seeking comment on an alternative rounding convention as low as 0.001 ppm.

The proposal includes a discussion about the communication of public health information and focuses, in particular, on the Pollutant Standards Index (PSI). While the agency is not proposing any changes to the PSI “at this time,” it seeks comment on the appropriateness of expanding the index to include concentrations within a range just below the level of the new standard, as well as just above the new standard. Such an approach would respond to concerns that some CASAC members expressed “that an expanded air pollution warning system be initiated so that sensitive individuals can take appropriate ‘exposure avoidance’ behavior.”

EPA provides two examples in its proposal demonstrating how areas should calculate whether or not they are attaining the 0.08-ppm 8-hour primary ozone standard. These examples, with EPA’s brief explanations, follow.

Example 1. Ambient monitoring site attaining the primary O3 standard.

<table>
<thead>
<tr>
<th>Year</th>
<th>Percent Valid</th>
<th>1st Highest Daily Max</th>
<th>2nd Highest Daily Max</th>
<th>3rd Highest Daily Max</th>
<th>4th Highest Daily Max</th>
<th>5th Highest Daily Max</th>
</tr>
</thead>
</table>

The primary standard is met at this monitoring site because the 3-year average of the annual third-highest daily maximum 8-hour average O3 concentrations (i.e., 0.078 ppm) is less than or equal to 0.08 ppm. The data completeness requirement is also met because the average percent of days with valid monitoring is greater than 90 percent, and no single year has less than 75 percent data completeness.

Example 2. Ambient monitoring site failing to meet the primary O3 standard.

The primary standard is not met at this monitoring site because the 3-year average of the third-highest daily maximum 8-hour average O3 concentrations (i.e., 0.099 ppm) is greater than 0.08 ppm. Note that the O3 concentration data for 1994 is used in these computations, even though the data capture is less than 75 percent, because the third-highest daily maximum 8-hour average concentration for that year is greater than 0.08 ppm.

In its proposal, EPA includes substantial health and welfare information justifying its decisions on the primary and secondary standards. Fact sheets including this information are available on the webpage of the FACA Subcommittee for Ozone, PM and Regional Haze Implementation Programs. To access this information, go to the
Proposed Decision on the Particulate Matter NAAQS

EPA is proposing to set new annual and 24-hour PM2.5 NAAQS, retain the current annual PM10 primary standard and revise the form of the current 24-hour PM10 primary standard. In proposing revisions to the primary standard, EPA is basing its decision on health information extracted from the agency’s Criteria Document for PM. The document concludes:

The evidence for PM-related effects from epidemiological studies is fairly strong, with most studies showing increases in mortality, hospital admissions, respiratory symptoms, and pulmonary function decrements associated with several PM indices. These epidemiological findings cannot be wholly attributed to inappropriate or incorrect statistical methods, misspecification of concentration-effect models, biases in study design or implementation, measurement errors in health endpoint, pollution exposure, weather or other variables, nor confounding of PM effects with effects of other factors. While the results of the epidemiology studies should be interpreted cautiously, they nonetheless provide ample reason to be concerned that there are detectable health effects attributable to PM at levels below the current NAAQS.

In particular, EPA is proposing to establish two new primary PM2.5 standards -- an annual standard set at 15 ug/m3 and a 24-hour average limit of 50 ug/m3.

The proposed annual standard would be met “when the 3-year average of the annual arithmetic mean PM2.5 concentrations, spatially averaged across an area, is less than or equal to 15 ug/m3, with fractional parts of 0.05 or greater rounding up.” The agency seeks comment on an alternative of basing the calculation at each monitor, rather than using a spatially averaged value.

With respect to the 24-hour proposal, this standard would be met “when the 3-year average of the 98th percentile of 24-hour PM2.5 concentrations at each monitor within an area is less than or equal to 50 ug/m3, with fractional parts of 0.5 or greater rounding up.” The agency also seeks comment on alternative sets of PM2.5 limits.

EPA proposes to retain the current 50 ug/m3 annual PM10 standard, which would be met “when the 3-year average of the annual arithmetic mean PM10 concentrations at each monitor within an area is less than or equal to” that limit. However, while the agency also proposes to retain the current 24-hour PM10 standard of 150 ug/m3, it is revising the form of the standard to allow it to be met “when the 3-year average of the 98th percentile of the monitored concentrations at the highest monitor in an area is less than or equal to 150 ug/m3, rounding to the nearest 10 ug/m3. This proposed change likely will result in a number of PM10 nonattainment areas being redefined as attainment for PM10, although many of these areas eventually could be designated as violating the PM2.5 standard.
EPA also proposes to establish secondary standards identical to the set of proposed primary standards. These, according to the agency, would be consistent with the establishment of a regional haze program.

EPA proposes to make a number of changes to Appendix K to 40 CFR 50 regarding the forms of the standards. Specifically, this section includes information on data reporting and handling, as well as rounding conventions.

**Interim Implementation Policy**

To ensure that momentum in current programs is maintained by states and localities as they move toward developing plans for implementing the revised NAAQS, EPA has accompanied its NAAQS proposals with a proposed Interim Implementation Policy (IIP). This proposed policy represents EPA’s preliminary views and interpretations with respect to transitioning to new/revised standards for ozone and PM and a new program for regional haze (currently being developed by the agency) and is based, in part, upon recommendations made to EPA by a Subcommittee convened under the Federal Advisory Committee Act. Among the basic principles upon which the IIP is established is one of no backsliding.

The proposal calls for the IIP to take effect at the time the new/revised NAAQS are promulgated in final form and to remain in effect in each area until the effective date of EPA approval of the SIP revision for achieving the new/revised NAAQS. Further, based upon Section 107(d)(1)(B)(iv) of the CAA, the proposal calls for existing designations for ozone and PM10 to remain in effect after promulgation of new/revised NAAQS until new designations are undertaken. For ozone, nonattainment areas with clean data at the time of promulgation may be redesignated to attainment, provided they comply with the criteria of Section 107(d)(3)(E), including having a fully approved SIP, meeting all applicable requirements and having an approved maintenance plan. Also for ozone, if the current ozone standard remains in effect, as proposed, related designations would remain in effect as long as the standard does. For PM10 nonattainment areas with clean data at the time of promulgation, redesignation will be allowed if they satisfy the criteria of Section 107(d)(3)(E), as stated above.

With respect to program requirements, current Serious and above ozone nonattainment areas would not be required to provide full attainment demonstration SIPs for the 1-hour ozone standard, but would continue to be subject to existing rate-of-progress requirements, including the post-1996 3-percent-per-year reductions, extending beyond 1999 as well, until EPA has approved a new SIP for the revised NAAQS; submittal of such rules should be by no later than the end of 1999.

For most current Marginal and Moderate ozone nonattainment areas that did not attain the 1-hour standard by November 15, 1996, EPA is proposing to require submittal within 18 months after promulgation of revised NAAQS 1) a plan to achieve a 3-percent-per-year reduction through 1999 or, alternatively, an attainment demonstration for the revised
standard and 2) applicable New Source Review requirements. In addition, all existing control measures would be required to remain in place.

For all current Moderate and Serious PM10 areas, attainment demonstration SIPs should have been submitted prior to the June 1997 promulgation date. Areas that failed to submit an attainment demonstration in the 1991 to 1997 timeframe would still be required to satisfy their PM10 requirements for the purpose of defining the level of Reasonably Available Control Measures (RACM) so that RACM backsliding can be prevented. In addition, if the 24-hour PM10 standard is revised, PM10 requirements and control programs required prior to the June 1997 promulgation date would remain in place. Further, PM10 measures could not be dropped without a demonstration that they are not needed to attain the fine particulate standard.

With respect to the substitution of credits for emission reductions, EPA is proposing that during the interim period, a nonattainment area should be able to take credit for post-1996 and post-1999 emission reductions from sources outside the nonattainment area but within 100 kilometers for VOC sources and 200 kilometers for NOx sources. For areas with NOx waivers, EPA proposes that “substitutions of NOx reductions outside of the nonattainment area for VOC reductions within the attainment area would be allowed if accompanied by a technical justification.” Substitutions of NOx for VOCs within nonattainment areas that have NOx waivers will not be allowed. Locality-based credit for substitutions would be restricted to post-1996 and post-1999 3-percent-per-year rate-of-progress requirements. Further, substitutions for specific control measures required by the CAA (e.g., motor vehicle Inspection and Maintenance or Reasonably Available Control Technology) would not be allowed.

II. BACKGROUND

Statutory Requirements

The federal Clean Air Act (CAA) requires EPA to set primary NAAQS for commonly occurring air pollutants that pose public health threats; these pollutants are known as criteria pollutants. Currently, NAAQS exist for six such criteria pollutants -- ground level ozone, PM, carbon monoxide, sulfur dioxide, lead and nitrogen dioxide.

The purpose of NAAQS, as explicitly stated in the CAA, is to protect public health with an adequate margin of safety. It is important to note that the CAA does not place any caveats on this clear instruction; issues such as the feasibility of meeting a standard, cost effectiveness and economics are not intended to be considered when setting these health-based standards. The CAA also requires that once established, each NAAQS is to be reviewed and, if deemed necessary, revised every five years in order to ensure that it reflects the most recent health information available.

EPA’s Recent Reviews of the Ozone and PM NAAQS
EPA has just completed reviewing the NAAQS for two pollutants -- ozone and PM. The ozone standard was last reviewed in the late 1980s, at which time no change in the standard was deemed necessary; the ozone standard was last revised in 1979, when it was changed to its current level of 0.12 parts per million (ppm), based upon a one-hour average, with no more than three exceedances allowed over a three-year period.

The PM standard was last revised in 1987, at which time EPA established standards for controlling particulate matter with a diameter of 10 micrometers or less (PM10). These standards include a 24-hour standard of 150 micrograms per cubic meter (ug/m3) and an annual standard of 50 ug/m3, not to be exceeded more than once a year, averaged over a three-year period.

Several years ago, the American Lung Association (ALA) sued EPA, charging that the PM10 standard is too lax to protect public health and welfare and that the agency should be compelled to adhere to the statutory mandate to review and, as appropriate, revise the PM standard every five years. Accordingly, the agency is now under court order to propose by Friday, November 29, 1996 the outcome of its review and its decision on whether or not to revise the standard; final action on this decision must be published by June 28, 1997. In addition, the agency announced earlier this year that it would propose and promulgate the results of its review of the ozone standard concurrently.

The NAAQS review process in which EPA engages is a comprehensive one. As part of this process, the agency analyzes thousands of peer-reviewed scientific studies and works closely with a broad range of scientific experts, industry representatives, public interest groups and other interested parties to receive input on its analysis (as presented in a “criteria document”), as well as its interpretation of this analysis and related recommendations (as presented in a “staff paper”). In addition, the Clean Air Scientific Advisory Committee (CASAC), a congressionally mandated group of independent scientific and technical experts, provides recommendations to EPA on the adequacy of the agency’s review. Based upon all this information, EPA then makes a decision on whether or not a revision to a standard is warranted.

The Role of Public Health in Setting Standards

It is imperative to bear in mind that the standard setting process is, appropriately, based upon the protection of public health. EPA’s proposals to revise the ozone and PM NAAQS reflect those levels that the agency believes are necessary to ensure adequate protection.

In the case of both ozone and particulate matter, EPA’s reviews revealed substantial compelling evidence suggesting that standard revisions for both pollutants are necessary in order to adequately protect public health. EPA’s analyses for both ozone and PM have been endorsed by CASAC.

For ozone, EPA has concluded that there is an association between ambient ozone concentrations and increased hospital admissions for respiratory ailments, such as
asthma. Further, although children, the elderly and those with respiratory problems are most at risk, even healthy individuals may experience increased respiratory ailments and other symptoms when they are exposed to ambient ozone while engaged in activity that involves physical exertion. Though such symptoms are often temporary, repeated exposure could result in permanent lung damage.

For PM, EPA’s most significant conclusion is that fine particles (those that are less than 2.5 micrometers in diameter) pose an especially significant public health threat. Specifically, recent studies indicate that major risks from exposure to PM episodes include not only premature mortality, but also increased morbidity from aggravation to existing respiratory and cardiovascular disease, damage to lung tissue, impaired breathing and respiratory symptoms. In fact, based upon some of the major epidemiological studies that have been conducted over the past 10 years, PM may contribute to as many as 50,000 to 65,000 excess deaths in the United States each year.

III. HOW TO TELL IF YOUR AREA IS AFFECTED

EPA estimates that about 250 counties not already nonattainment for ozone will violate the proposed revised ozone standard, based upon data for 1993-1995. Actual designations, however, will based on the most recent data available at the time of designation (e.g., designations made in 1999 would be based on data from 1996-1998). Sixty-eight areas are now designated as nonattainment for the current ozone standard; 31 of these are in the process of redesignating.

An area can get an indication of how it might fare under the proposed revised ozone standard by analyzing its most recent three years of data to ascertain whether the third highest eight-hour level, averaged over three years, exceeds 0.08 ppm. In addition, a general idea can be obtained by referring to maps that EPA has developed based on the second highest eight-hour level and the fifth highest eight-hour level for an 0.08-ppm standard, using 1993-1995 data. These maps are available on EPA’s webpage (see below for information).

A current lack of PM2.5 monitoring data for most areas makes estimating potential violations difficult. Once a standard is promulgated, an extensive PM2.5 monitoring network must be deployed to obtain the information necessary for making such determinations.

Under the current PM10 standards, there are 75 Moderate nonattainment areas and 5 Serious nonattainment areas. While some of these areas may not violate the proposed revised 24-hour PM10 standard, a number of these will in fact violate the proposed new PM2.5 standard.

IV. WHAT AFFECTED AREAS CAN EXPECT

Following final promulgation of the ozone and PM NAAQS in June 1997, designation of areas in violation these NAAQS will take place in June 1999, following governors’
submittal of designation requests in June 1998. If sufficient data upon which to base designations is unavailable, designations may be postponed until June 2000. Designations for both ozone and PM will be based on the most recent three years of data at the time of designation.

Development of State Implementation Plans demonstrating attainment and subsequent implementation of necessary control measures will follow designation by EPA. Although a policy on attainment dates is still under development, the CAA currently allows for attainment dates between 2004 until 2011.

V. NEXT STEPS

Once EPA’s proposals are published in the Federal Register (expected shortly after announcement), there will be a 60-day public comment period; the agency also plans to hold public hearings, although a schedule has not yet been announced. Final promulgation of the NAAQS and IIP will take place by June 28, 1997.

In a related effort, EPA has initiated a process under the Federal Advisory Committee Act (FACA) to bring together stakeholders to develop recommendations to the agency on implementing revised ozone and PM standards, as well as a new program for regional haze currently being prepared by EPA. The FACA Subcommittee for Ozone, PM and Regional Haze Implementation Programs is currently drafting and refining a series of issue papers that explore broad changes to the way violations of air quality standards are addressed. Once recommendations are made to EPA, the agency will develop a two-phased implementation strategy. Phase I of this strategy is expected to be proposed by EPA in June 1997 and promulgated in 1998, while Phase II is expected to be proposed in 1998 and promulgated in 1999.

VI. ADDITIONAL SOURCES OF INFORMATION

A number of resources are available to provide you with additional background information. These include:

- EPA’s website on Regulating Smog and PM: A New Approach at http://ttnwww.rtpnc.epa.gov/html/ozpmrh/facahome.htm. This website includes not only the maps described above, but background information, a series of Q&As and a set of fact sheets on the health and environmental effects of ozone and PM, the NAAQS review process, the EPA staff papers on ozone and PM and the FACA Subcommittee process. In addition, information on the FACA Subcommittee process, including the most recent draft issue papers describing implementation strategies under consideration, is also available on this page. This website is also accessible via STAPPA/ALAPCO’s webpage.

- A series of STAPPA/ALAPCO publications on controlling PM, volatile organic compounds and nitrogen oxides, all of which have been previously provided to state and local air agencies (Controlling Particulate Matter Under the Clean Air Act: A Menu of Options - July 1996; Controlling Nitrogen Oxides Under the Clean Air Act: A Menu of

· The STAPPA/ALAPCO webpage at http://www.4cleanair.org, which will continue to provide the most recent information with respect to EPA’s NAAQS proposals. The STAPPA/ALAPCO webpage also provides links to many other useful websites, including the EPA FACA website cited above. Simply access the STAPPA/ALAPCO page, select “air links”, click on “ozone” or “PM” and then click on the FACA website link.

· EPA’s December 9, 1996 satellite downlink broadcast, from 1:00 p.m. until 5:00 p.m. (EASTERN TIME). This broadcast will include an overview of the proposals and provide an opportunity for viewers to ask questions. For more information contact Jean Taylor of EPA at (919) 541-4946.

If you have questions about EPA’s proposals, please contact Bill Becker or Nancy Kruger of STAPPA/ALAPCO -- telephone: (202) 624-7864, fax: (202) 624-7863, e-mail: b4clnair@sso.org or n4clnair@sso.org or TTN: S/A Sec.