The National Ambient Air Quality Standards

EPA'S PROPOSAL TO UPDATE THE AIR QUALITY STANDARDS FOR GROUND-LEVEL OZONE: TOOLS FOR ADDRESSING BACKGROUND OZONE

On Nov. 25, 2014, the U.S. Environmental Protection Agency (EPA) proposed to strengthen the National Ambient Air Quality Standards (NAAQS) for ground-level ozone, based on extensive scientific evidence about ozone's effects on public health and welfare. The proposed updates will improve public health protection, particularly for children, the elderly, and people of all ages who have lung diseases such as asthma. Today's proposal will expand the ozone monitoring season for many states, and update the Air Quality Index to ensure people are notified when air quality is unhealthy. And it will improve the health of trees, plants and ecosystems.

States would have time to develop and implement plans to meet revised standards, and existing and proposed federal rules will help by making significant strides toward reducing ozone-forming pollution. EPA projections show the vast majority of U.S. counties would meet the proposed standards by 2025 just with the rules and programs now in place or under way.

Under the Clean Air Act, states are not responsible for reducing emissions that are not in their control. Existing and upcoming EPA regulations and guidance will assist states in ensuring background ozone does not create unnecessary control obligations as they continue their work to improve air quality.

IMPLEMENTING OZONE STANDARDS: TOOLS FOR ADDRESSING BACKGROUND OZONE

- Under the Clean Air Act, states develop plans to achieve National Ambient Air Quality Standards by reducing emissions from sources within their borders. The law and EPA policies provide tools for air agencies to address exceedances of an ozone standard potentially caused by background ozone.

Exceptional events exclusions

- The term "exceptional event" generally means either a natural event (such as stratospheric intrusions or wildfires) or an event caused by human activity that is unlikely to recur. Exceptional events can affect air quality but are not reasonably controllable or preventable. Under section 319 of the Clean Air Act, EPA may exclude air monitoring data influenced by exceptional events from use in making designations, provided states meet certain criteria.
- EPA's 2007 Exceptional Events Rule outlines the requirements for air agency exceptional events demonstrations and the criteria for excluding data from regulatory decisions. The agency anticipates proposing revisions to the rule in mid-2015, and taking final action in mid-2016, to simplify the process for making exceptional events demonstrations.

- In addition, EPA is developing guidance to address Exceptional Events Rule criteria for wildfires that could affect ozone concentrations. This guidance is expected in the same timeframe as Exceptional Events Rule revisions. Before this guidance is finalized, states may continue to flag air quality data and submit exceptional events demonstrations for EPA consideration.
- Under this schedule, both the final exceptional events rule and the wildfire/ozone-related guidance would be available before the date by which states, and any tribes that wish to do so, would have to make area designation recommendations for any potential revised ozone standards.

International Transport

- Section 179B of the Clean Air Act allows EPA to approve an ozone attainment plan for a nonattainment area, if the state demonstrates that it has taken appropriate local measures and international transport of pollution is a significant impediment to meeting the standard on time.
- When EPA approves this type of plan, a nonattainment area is not subject to sanctions or a federal implementation plan, and is not subject to being reclassified to a higher nonattainment classification (which comes with additional requirements) if the area does not meet the standard by its attainment date.
- EPA is working on a number of fronts to better understand potential international sources of ozone and identify opportunities for reducing long-range transport of this harmful pollutant and its precursors. This includes work with the Task Force on Hemispheric Transport of Air Pollution under the Convention on Long-Range Transboundary Air Pollution and work with air quality officials in China and other countries to improve their air quality management capabilities. EPA also works with its counterparts in Canada and Mexico to understand and mitigate the transport of ozone and its precursors from our nearest neighbors. In addition, global efforts to reduce methane, such as the Climate and Clean Air Coalition and the Global Methane Initiative, are likely to reduce ozone as a co-benefit.

Rural Transport Areas

- Section 182(h) of the Clean Air Act allows EPA to determine that a designated nonattainment area can be treated as a rural transport area if it meets certain criteria, including that:
    - The area does not contain emission sources that make significant contribution to monitored ozone concentration in the area or other areas; and
    - The area does not include, and is not adjacent to a Metropolitan Statistical Area

- States with an approved rural transport area would not need to develop attainment plans or attainment demonstrations for the area if it meets Clean Air Act requirements for nonattainment areas classified as "marginal." However some nonattainment area requirements would still apply, including nonattainment New Source Review permitting, conformity, and emission inventory and source emission statement requirements.

BACKGROUND OZONE IN THE U.S.

- Ground-level ozone in the United States results from emissions of nitrogen oxides (NOx) and volatile organic compounds (VOCs), which form ozone when they react in the presence of sunlight. Emissions from sources such as cars, trucks, buses, factories, power plants and consumer products such as solvents and paints, all contribute to ground-level ozone formation.

- On high ozone days, most ozone in the U.S. is produced locally or regionally from these domestic sources, and reducing these emissions will reduce ozone and improve public health protection across the country. Sometimes, however, ozone can come from other sources, including natural sources, such as stratospheric intrusions or wildfires, or emissions transported from other countries.

- While most exceedances of the ozone standards in the U.S. are driven by U.S. man-made emissions, in some locations, there may be days when *background ozone* is a significant proportion of local ozone concentrations. These relatively infrequent events occur mainly at high-elevation sites in the western U.S.

- Examples of *background ozone* sources include:

    - *Stratospheric intrusions:* Ozone is produced naturally and abundantly in the stratosphere – six to 30 miles above the Earth's surface, where it protects life on Earth from the sun's harmful rays. But in certain weather conditions, this ozone can be transported down to ground level, where it is harmful to breathe. These stratospheric intrusions are more likely to occur at high altitudes in late winter and spring, when local formation of ozone tends to be low, particularly in the mountainous regions of the West.

    - *Wildfires:* Wildfires produce significant emissions of several air pollutants, including NOx and VOCs, both of which are ozone precursors. Emissions from wildfires can either suppress or add to ozone formation, depending on a variety of factors, including weather conditions, what's burning in the fire, the characteristics of the smoke plume, other pollutants in the air, and the distance from the fire to the area being monitored.

    - *International transport:* Ozone and some ozone precursors, such as NOx and methane can be carried long distances by the wind, affecting ozone concentrations in some areas of the country. EPA's review of the science indicate the influence of international

transport is likely to be largest in locations near the borders with Canada or Mexico; however, other locations may be affected periodically.

- *Other natural emissions*: Ozone-forming pollutants also can be emitted from natural sources such as vegetation (VOCs and methane), animals (methane) and lightning (NOx).

FOR MORE INFORMATION

- To read the proposed rule and additional summaries, visit http://www.epa.gov/glo/actions.html
- Technical analyses states could use in demonstrating that an area should qualify as a rural transport area are outlined in EPA draft guidance available at: http://www.epa.gov/scram001/guidance/guide/owt_guidance_07-13-05.pdf
- Background ozone also is discussed in the Integrated Science Assessment and staff Policy Assessment prepared during this review of the ozone standards. Both documents are available at http://www.epa.gov/ttn/naaqs/standards/ozone/s_o3_index.html