

NRT Science and Technology Committee
APPLICABILITY OF CLEAN AIR ACT AMBIENT AIR QUALITY REGULATIONS
TO THE IN SITU BURNING OF OIL SPILLS
November 1995

SUMMARY

The in situ burning (ISB) of oil spills can greatly benefit the environment by limiting the extent of oil pollution. The smoke produced by ISB, however, may pose a significant threat to public health through its effect on air quality. This fact sheet provides an overview of National Ambient Air Quality Standard (NAAQS) regulations under the Clean Air Act (CAA) and briefly discusses how such provisions may affect the use of ISB. These CAA regulations are implemented mainly by States and localities through State Implementation Plans (SIPs). The fact sheet therefore directs ISB planners to consult with State and local officials to identify and address regulatory concerns in their respective areas. A list of EPA Regional contacts is provided to help Regional planners get an overview of regulations in their Regions and identify relevant State and local contacts.

BACKGROUND: THE CAA

The CAA is the primary Federal air quality law. It is designed to protect and improve air quality through a variety of measures. The main program of significance for ISB planning is the establishment and enforcement of ambient air quality standards for certain pollutants, which is described below. The CAA also includes provisions to restrict emissions of hazardous air pollutants; prevent the degradation of atmospheric visibility (which may result temporarily from ISB); and control acid rain, noise pollution, and stratospheric ozone depletion.

NAAQS

Section 109 of the CAA provides for the protection of air quality (and the enhancement of air quality in polluted areas) by requiring EPA to set NAAQS for certain air pollutants. EPA, which is responsible for establishing the NAAQS and periodically reviewing them for possible revision, has set NAAQS for six pollutants: particulate matter less than or equal to 10 micrometers in diameter (PM-10), sulfur dioxide, nitrogen oxides, carbon monoxide, ozone, and lead. In accordance with the CAA, two standards have been set for each pollutant: a primary NAAQS, which is designed to protect public health with an adequate margin of safety; and a secondary NAAQS, which is designed to protect "public welfare" (the CAA defines public welfare in terms of the environment, man-made materials, property, transportation, economic values, and "personal comfort and well-being").

NAAQS Relevant to ISB. The greatest potential threat to air quality posed by ISB is the toxicity of the PM-10 to which the public may be exposed. ISB can produce several other CAA pollutants in gaseous form -- sulfur dioxide, nitrogen oxides, and carbon monoxide -- but it is believed that concentrations of such gases in smoke plumes are below levels of concern a few miles downwind from a burn. For ISB planning purposes, therefore, the most significant NAAQS is the primary NAAQS for PM-10. The primary PM-10 NAAQS is: (1) a 24-hour average concentration of 150 micrograms per cubic meter; and (2) an annual arithmetic mean concentration of 50 micrograms per cubic meter. The exposure periods used in these standards (e.g., 24 hours) are longer than those used in occupational safety and health standards (e.g., eight hours) because the public may be exposed to ambient PM-10 throughout the day and night -- not just at a workplace. The PM-10 and other NAAQS are published in the Code of Federal Regulations at 40 CFR Part 50.

Under the terms of a court order, EPA must review and, if necessary, revise the NAAQS for PM-10. The court order requires that EPA propose a new NAAQS (or a retention of the existing NAAQS) by June 30, 1996 and finalize its proposal by January 31, 1997. In its review (which is examining recent

data on the public health effects of particulate matter), EPA is considering a standard that would address particulate matter with a diameter of 2.5 micrometers or less. Any such revision of the particulate matter NAAQS will need to be reflected in ISB plans.

Delegation of Responsibility for NAAQS Compliance to States. CAA Section 107(a) assigns primary responsibility for attaining and maintaining air quality to the States; under Section 107(c), EPA, in consultation with State and local authorities, has designated specific air quality control regions (AQCRs) for the purpose of administering the NAAQS. Most AQCRs lie wholly within States, but some cross State boundaries. Generally, each AQCR is classified as "attainment" or "nonattainment" for each pollutant that has a NAAQS ("attainment" status indicates that the ambient concentration of the pollutant in the AQCR does not exceed the level specified in the NAAQS).

SIPs

CAA Section 110 requires States to prepare SIPs that detail how a State will attain and maintain the NAAQS in each of its AQCRs. These SIPs include enforceable emission limits for specific sources; requirements for air quality monitoring, modeling, and reporting; pre-construction review of the air quality impacts of certain new sources of air pollution; contingency plans for air pollution emergencies; and provisions for necessary personnel and funding. The provisions that make up a SIP may consist largely of regulations developed and implemented by each AQCR within the State. SIPs are submitted to and approved by EPA whenever they are established or revised.

Transboundary Issues. SIPs must not allow air pollution that significantly contributes to NAAQS nonattainment in another State. States that believe they are receiving such pollution from particular out-of-State sources can petition EPA for a finding that may require the restriction or shutdown of the sources in question. Regarding national boundaries, CAA Section 179B provides that States are not held responsible for NAAQS nonattainment if it is caused by pollution emanating from outside the U.S. On the other hand, SIPs should not allow emissions in the State to cause a pollution problem in another country. In fact, under CAA Section 115, a State can be required by EPA to revise its SIP to prevent or eliminate endangerment of the public health or welfare in a foreign country.

HOW NAAQS MAY APPLY TO ISB

The PM-10 NAAQS is not enforced directly, but indirectly through SIPs. Therefore, ISB planners in the Regions -- On-Scene Coordinators and Regional Response Teams (RRTs) -- need to determine whether and how the SIPs for their Regions address ISB.

Consideration of ISB in SIPs. The effect of SIPs on ISB planning is uncertain. SIPs do contain specific restrictions to control PM-10 emissions, but ISB is relatively new and rarely conducted, so SIPs probably do not address it directly. SIPs may contain provisions affecting similar, more common combustion practices, such as prescribed forest burning; such provisions might form the basis for provisions that specifically address ISB. Temporary, intentional, and beneficial activities such as burning may be allowable under an exemption or variance provision. As noted above, SIPs must contain contingency plans for air pollution emergencies. Such plans, however, probably address accidental situations and therefore are unlikely to apply to intentional ISB.

Consultation with Regional, State, and Local Air Quality Officials. Although the States generally regulate air quality, it is recommended that RRTs investigate applicable regulations by first contacting air quality staff in the relevant EPA Regional office (see list of contacts below). EPA Regional air quality staff will be able to provide an overview of applicable State regulations in the Region and identify the most appropriate State officials to consult. State officials, in turn, will be able to refer planners to relevant officials within individual AQCRs as needed. Working through the EPA Regional and State offices in this manner may be the most effective way to identify all relevant regulations and ensure a consistent approach in addressing them. Alternatively, an RRT Co-Chair could consult with the

RRT's State members to identify State and local air quality contacts. State and local officials identified can indicate: (1) how SIPs currently regulate ISB (if at all); and (2) what SIP changes might be needed to clarify the emergency or other conditions under which ISB can or cannot be conducted.

Because the smoke from ISB has a much greater ability to migrate than the oil slick itself, careful consideration of potential air quality impacts on neighboring States, Regions, and countries is especially important. Recognizing how this issue applies to other types of smoke, officials of State air quality agencies in certain Western States have formed the WESTAR council to cooperatively address the transboundary aspects of prescribed forest burning.

By working with appropriate EPA Regional, State, and local air quality officials, planners can help ensure that ISB is conducted in a way that controls oil pollution effectively without endangering public health or subjecting responders to legal challenges.

EPA REGIONAL PM-10/AIR QUALITY CONTACTS

Region 1

Mr. Mat Cairns (617) 565-4982
State Air Programs Branch (APB-2311)
U.S. EPA
JFK Federal Building
Boston, MA 02203

Region 2

Ms. Kristeen Gaffney (212) 264-8722
Air Programs Branch (Room 1005)
U.S. EPA
26 Federal Plaza
New York, NY 10278

Region 3

Mr. Tom Casey (215) 597-1129
Air Programs Branch (3AM10)
U.S. EPA
841 Chestnut Building
Philadelphia, PA 19107

Region 4

Mr. Randy Terry (404) 347-3555, ext. 4212
Air Programs Branch
U.S. EPA
345 Courtland Street, N.E.
Atlanta, GA 30365

Region 5

Mr. John Summerhays (312) 886-6067
Mr. David Pohlman (312) 353-8328
Air and Radiation Branch (5ARB-26)
U.S. EPA
77 West Jackson Street
Chicago, IL 60604

Region 6

Mr. Mark Sather (214) 665-7258

Air Programs Branch (6T-A)
U.S. EPA
1445 Ross Avenue
Dallas, TX 75202

Region 7
Ms. Lisa Haugen (913) 551-7877
Air Branch
U.S. EPA
726 Minnesota Avenue
Kansas City, KS 66101

Region 8
Ms. Callie Videtich (303) 293-1754
Air Programs Branch (8AT-AP)
U.S. EPA
999 18th Street, Suite 500
Denver, CO 80202

Region 9
Ms. Barbara Bates (415) 744-1206
Mr. Bob Palarino (415) 744-1212
Air Programs Branch (A-2-1)
U.S. EPA
75 Hawthorne Street
San Francisco, CA 94105

Region 10
Mr. Steve Body (206) 553-0782
Mr. George Lauderdale (206) 553-6511
Air Programs Branch (AT-092)
U.S. EPA
1200 Sixth Avenue
Seattle, WA 98101