US EPA ARCHIVE DOCUMENT

APR 13 1992

Mr. Daniel Gutman
407 West 44th Street
New York, New York 10036

Dear Mr. Gutman:

This is in response to your March 12, 1992 letter requesting further clarification regarding the Environmental Protection Agency's (EPA's) definition of "ambient air." My February 19, 1992 letter to you indicated that the definition of ambient air is based on two tests: whether the location is external to buildings and whether it is accessible to the general public.

You suggest in your letter that EPA adopt a policy which would state that, except in special cases, air at the intakes of mechanically ventilated buildings would not be considered ambient air, while air at open (or operable) windows generally would be considered ambient air (subject to case-by-case exceptions). However, in determining compliance with annual national ambient air quality standards, it is highly unlikely that the air at all or most operable window openings (which would not remain open all year round) would represent a reasonable or plausible exposure scenario. Outdoor-to indoor attenuation studies, even in open-windows situations, have shown reductions in the concentrations people actually breathe indoors. The indoor-to outdoor (I/O) ratio varies depending on the averaging time, the outdoor air exchange rate (expressed as the number of air changes per hour), reactivity of the pollutant, building orientation to the wind, etc. Enclosed for your information is an analysis from a study we are working on involving exposure to ozone. The data show that the I/O ration for ozone generally ranges from 0.5 to 0.8, with buildings with high air exchange rates (likely due to open windows or doors) at the upper end of the range and closed buildings with air conditioning at or below 0.5. While pollutants like sulfur dioxide and carbon monoxide are less reactive than ozone and thus would likely exhibit higher I/O ratios, this merely confirms the case-by-case nature of these situations. Once indoors, air is no longer "external to buildings" and is thus not considered ambient air.

Thus, except in very unusual situations, we would not consider air at open or operable windows, or at the intakes of mechanically-ventilated buildings, as ambient air for purposes of determining attainment of the national ambient air quality standards. States are free to interpret their own State ambient air quality standards in a more restrictive manner.

I appreciate this opportunity to be of service and trust this information will be helpful to you.

Sincerely,

John S. Seitz
Director
Office of Air Quality Planning
and Standards

Enclosure

bcc: (w/o) enclosure)
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This has been coordinated with Mike Prosper (OGC) and Bill Baker (Region II).

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