

revise the NAAQS for O₃ (61 FR 65716, December 13, 1996; henceforth, "1996 proposal"), as well as its proposed decision to revise the NAAQS for particulate matter (PM). To ensure the broadest possible public input on these proposals, EPA took extensive and unprecedented steps to facilitate the public comment process, including the establishment of a national toll-free telephone hotline and provisions for electronic submission of comments. The EPA also held several public hearings, participated in numerous meetings across the country, and held two national satellite telecasts to provide direct opportunities for public comment and to disseminate information to the public about the proposed standard revisions. As a result of this intensive effort to solicit public input, more than 50,000 comments were received on the proposed revisions to the O₃ NAAQS by the close of the public comment period on March 12, 1997.

The final rule, published on July 18, 1997, presented EPA's rationale for its final decision, and addressed the major issues raised in comments on the 1996 proposal. A comprehensive summary of all significant comments, along with EPA's response to such comments (U.S. EPA, 1997; henceforth, "Response to Comments"), can be found in the docket for the 1997 rulemaking (Docket No. A-95-58).⁶ The 1997 final rule presented EPA's decision to replace the existing 1-hour primary and secondary standards⁷ (each set at a level of 0.12 ppm, with a 1-expected-exceedance form, averaged over 3 years⁸ with 8-hour standards, each set at a level of 0.08 ppm, with a form based on the 3-year average of the annual fourth-highest daily maximum 8-hour average O₃ concentrations measured at each monitor within an area (as determined by 40 CFR part 50, appendix I).

B. Ozone NAAQS Litigation and Remand

1. Litigation Summary

Following promulgation of the revised 8-hour O₃ NAAQS, numerous petitions for review of the standards were filed in the D.C. Circuit. *American Trucking Associations v. EPA*, No. 97-1441. Oral

argument was held on December 17, 1998 and the Court rendered its opinion on May 14, 1999. *American Trucking Associations v. EPA* ("ATA I"), 175 F.3d 1027 (D.C. Cir., 1999). A divided panel found that section 109 of the Act, 42 U.S.C. § 7409, as interpreted by EPA in setting the revised O₃ (and PM) NAAQS, effected an unconstitutional delegation of legislative authority. *Id.* at 1033-1040. The Court remanded the O₃ standards with instructions that EPA should articulate an "intelligible principle" for determining the degree of residual risk to public health permissible in setting revised NAAQS. *Id.* In addition, the Court also directed that, in responding to the remand, EPA should consider the potential beneficial health effects of O₃ pollution in shielding the public from the "harmful effects of the sun's ultraviolet rays." *Id.* at 1051-1053.

In 1999, EPA petitioned the D.C. Circuit for rehearing *en banc* on several aspects of that Court's decision in *ATA I*. Although the petition for rehearing was granted in part and denied in part, the Court declined to review its ruling with regard to the potential beneficial effects of O₃ pollution. *American Trucking Associations v. EPA* ("ATA II"), 195 F.3d 4, 10 (D.C. Cir., 1999). The Court did note, however, that it "expressed[ed] no opinion, of course, upon the effect, if any, that studies showing the beneficial effects of tropospheric ozone * * * might have upon any ozone standards * * *." *Id.*

On January 27, 2000, EPA petitioned the U.S. Supreme Court for *certiorari* on the constitutional issue and two other issues, but did not request review of the D.C. Circuit ruling regarding the potential beneficial health effects of O₃. The EPA's petition for *certiorari* was granted on May 22, 2000; oral argument was subsequently held on November 7, 2000; and an opinion was issued on February 27, 2001. *Whitman v. American Trucking Associations* ("Whitman"), 531 U.S. 457 (2001). The U.S. Supreme Court reversed the judgment of the D.C. Circuit on the constitutional issue, holding that section 109 of the Act does not delegate legislative power to the EPA in contravention of the Constitution, and remanded the case to the D.C. Circuit to consider challenges to the O₃ (and PM) NAAQS that had not been addressed by that Court's earlier decisions.

Oral argument was held on December 18, 2001, and on March 26, 2002, the D.C. Circuit issued its final decision finding the 1997 O₃ (and PM) NAAQS to be "neither arbitrary nor capricious," and denied the remaining petitions for review. *American Trucking*

Associations v. EPA ("ATA III"), 283 F.3d 355, (D.C. Cir. 2002). Thus, today's final response to the Court's 1999 remand regarding the potential beneficial health effects of O₃ constitutes EPA's final response to challenges to the 1997 O₃ NAAQS. Other remanded issues, relating to implementation of the O₃ NAAQS, are not addressed by today's action.

2. Remand on Health Benefits Issue

The D.C. Circuit's 1999 ruling concludes that "EPA cannot ignore the possible health benefits of ozone."⁹ *ATA I*, 175 F.3d at 1033. According to the Court "[p]etitioners presented evidence that, according to them, shows the health benefits of tropospheric ozone as a shield from the harmful effects of the sun's ultraviolet rays—including cataracts and both melanoma and non-melanoma skin cancer." *Id.* at 1051. In rejecting EPA's view that Congress did not intend it to consider potential indirect beneficial effects of tropospheric O₃ in shielding the public from potentially harmful, but naturally occurring, UV-B radiation from the sun, the Court concluded that "legally * * * EPA must consider the positive identifiable effects of a pollutant's presence in the ambient air in formulating air quality criteria under section 108 and NAAQS under section 109." *Id.* at 1052. As a result, the Court directed EPA to "determine whether * * * tropospheric ozone has a beneficial effect and, if so, then to assess ozone's net adverse health effect." *Id.* at 1053. Today's action sets forth EPA's final response in that regard.

C. Atmospheric Distribution of O₃ and UV-B Radiation

The focus of the 1997 review of the air quality criteria and standards for O₃ and related photochemical oxidants was on public health and welfare effects associated with direct exposure to ambient levels of O₃ in the lower troposphere, essentially at ground level. People are directly exposed to ground-level O₃ simply by breathing ambient air; similarly, plants are directly exposed through their respiratory processes. Ground-level O₃ is not emitted directly from mobile or stationary sources but, like other photochemical oxidants, commonly exists in the ambient air as an

⁶ This docket incorporates by reference the docket from the previous O₃ NAAQS review (Docket No. A-92-17) and the docket established for the Criteria Document (Docket No. ECAO-CD-92-0876).

⁷ These 1-hour O₃ standards were originally set in 1979 (44 FR 8202, February 8, 1979) and reaffirmed in 1993 (58 FR 13008, March 9, 1993).

⁸ The 1-hour standards are attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is equal to or less than one, averaged over 3 years (as determined by 40 CFR part 50, appendix H).

⁹ For the reasons discussed in the Response to Comments (U.S. EPA, 1997, pp. 128-135), EPA did not consider in the 1997 review adverse health effects that might be caused by the potential increase in UV-B radiation that could result from reductions in ground-level O₃ brought about by control programs implemented to attain a revised O₃ NAAQS.