

Chapter 1. Introduction

This document is a supplementary volume to the Regulatory Impact Analysis (RIA) for the final Section 126 rule, which addresses regional transport issues related to ozone attainment. This rule requires particular point sources in certain States to take action to reduce ozone season emissions of nitrogen oxides (NO_x) that contribute to nonattainment of ozone standards in downwind States. The final action under CAA Section 126 responds to petitions filed with EPA by eight Northeastern States requesting that EPA provide relief from emissions sources in several upwind States that may be contributing to nonattainment with the 1-hour ozone standard in the petitioning States. This supplementary volume presents the benefits based on actual air quality modeling from reductions in ozone concentrations associated with this final rule, which are estimates the Agency was unable to complete prior to the signature date of the rulemaking. The estimation of these benefits therefore completes the presentation of the potential costs, benefits, and economic impacts of this rulemaking that EPA must provide pursuant to Executive Order 12866. It should be noted that the results provided in this supplementary volume take into account the changes in NO_x emissions inventory made as a result of the inventory correction notices issued on January 13, 1999 and May 14, 1999, as well as the narrowed geographic scope and sources affected by the Section 126 remedy as a result of EPA's stay of the affirmative technical determinations based on the 8-hour ozone NAAQS.

In this final rulemaking, EPA is requiring control of NO_x emissions from particular large point sources that are in the States named in the Section 126 petitions (12 eastern States and the District of Columbia). The set of sources that EPA is affecting with this rule include large electricity generating units, and large non-electricity generating sources such as industrial boilers and combustion turbines. More details on the types of sources and industry sectors affected by this final rule can be found in Chapters 1 and 3 of the final Section 126 RIA.

EPA was able to estimate the monetized benefits of changes in particulate matter (PM) concentrations resulting from the NO_x reductions of the final rule. This estimate reflects implementation of the Section 126 NO_x controls for the 2007 "Representative Year" SO₂ emissions banking scenario (i.e. holding sulfates constant between baseline and control air quality levels). For more discussion on the "Representative Year" scenario, refer to Chapters 9 and 11 of the final Section 126 RIA. This estimate, which reflects the value of quantified health and welfare effects associated with changes in PM concentrations, was estimated at \$1.2 billion (1997\$). EPA was unable to provide monetized benefits, however, for health and welfare effects associated with changes in ambient concentrations of ozone based on actual air quality modeling of ozone changes by the signature date of the final rulemaking. Instead, EPA used a benefit transfer method to develop a projected estimate of ozone-related benefits for the final Section 126 rule. Table 1-1 lists the benefits, along with costs and net benefits, as estimated in the final Section 126 RIA.

Table 1-1.
2007 “Representative Year” Estimated Annual Monetized Costs, Benefits, and Net Benefits
for the Section 126 Rule: EPA Preferred Estimates Using the Value of Statistical Lives
Saved Approach to Value Reductions in Premature Mortality^{a,b}

	Million 1990\$	Million 1997\$
Compliance Costs	\$1,000	\$1,200
Monetized PM-related benefits^{b,d}	$\$1,000 + B_{PM}$	$\$1,200 + B_{PM}$
Monetized Ozone-related benefits^b	$\$200 + B_{OZONE}$	$\$200 + B_{OZONE}$
Monetized net benefits^{c,d}	$\$200 + B_{PM} + B_{OZONE}$	$\$200 + B_{PM} + B_{OZONE}$

^a For this summary, all costs and benefits to the nearest \$100 million to simplify the comparison. Thus, figures presented in the table may not exactly equal benefit and cost numbers presented in other tables or subsequent chapters of the final Section 126 RIA or this supplementary volume.

^b B_{PM} represents the sum of all the unmonetized PM-related benefits, B_{OZONE} represents the sum of all the unmonetized ozone-related benefits.

^c Not all possible benefits or disbenefits are quantified and monetized in this analysis. Potential benefit categories that have not been quantified and monetized are listed in Table ES-3 of the final Section 126 RIA and in Table 3-1 of this supplementary volume.

^d These estimates are based on the EPA preferred approach for valuing reductions in premature mortality, the Value of Statistical Life (VSL) approach. This approach and an alternative, age-adjusted approach - the Value of Statistical Life Year (VSLY) approach - are discussed more fully in Chapter 11 of the final Section 126 RIA.

This supplementary volume to the final Section 126 RIA provides a final estimate of ozone-related health and welfare benefits based on actual modeled ozone air quality changes in the control region. This final estimate of quantified ozone benefits will replace the estimate shown in Table 1-3. With this final estimate, EPA can provide a final estimate of total (ozone plus PM) quantified benefits.

Chapter 2 of this supplementary volume provides the results of the air quality modeling runs used in preparing the final quantified ozone benefits estimate. Chapter 3 provides the results of the analysis showing the final quantified ozone benefits estimate. Chapter 4 provides the final comparison of monetized benefits and costs for this final rule, and also lists the limitations that should be considered when examining the benefits and costs for this rule.

