

reducing these effects at POTWs might be substantial, the RIA does not quantify these benefits due to data limitations.

First, regarding potential interference, pass through and sewage sludge contamination problems, the proposed rule is expected to help reduce these problems by reducing toxic loadings in the industry's effluent and reducing shock releases. Anecdotal evidence from POTW responses to an EPA survey and analytic results indicate that such effects can occur. In addition, based on an analysis comparing POTW influent levels to available data on inhibition levels, inhibition problems are projected to occur at six POTWs for seven pollutants under current conditions. Inhibition problems are projected to occur at five POTWs for three pollutants after the proposed rule. Sufficient data are not available to further quantify this benefit category.

Furthermore, toxic substances in effluent discharges to POTWs pose health risks to POTW workers. The proposed rule is expected to reduce these risks, thus generating human health benefits. Based on the assessment of the risk posed to POTW workers from

exposure to toxic pollutants, the proposed rule is estimated to reduce occupational risk at six POTWs. Data are not available to monetize this benefit category.

Finally, in implementing local programs to control pollutants discharged to their systems, authorized POTWs often must set numerical limits on toxic loadings in discharges to the POTW, based on national categorical pretreatment standards or local limits determined by the POTW. In setting these local limits, POTWs sometimes need to undertake analyses to determine which pollutants warrant local limits and at what numerical level. Conducting these analyses is expensive, costing on the order of hundreds of thousands of dollars. Several POTWs contacted as part of EPA's survey of POTWs indicated that they will benefit from the establishment of national pretreatment standards by avoiding these analytical costs. In addition, they indicated that the pretreatment standards will bolster the legal authority of the limits they set. EPA solicits comments on this issue. See Section XIV, solicitation number 24.4.

f. Summary of Benefits. EPA estimates that the annual benefits resulting from the proposed rule will range from \$231,000 to \$7.6 million (1994 \$). Table XI.B.9.f summarizes these benefits by category. The range reflects the uncertainty in evaluating the effects of the proposed rule and in placing a dollar value on these effects. As indicated in the table, these benefit ranges do not reflect many of the benefit categories expected to result under the proposed rule, including human health benefits associated with potential reductions in chronic effects from ozone exposure, human health benefits associated with reductions in acute effects in attainment areas, agriculture-related benefits from reductions in emissions of ozone precursors in attainment areas, ecological and recreational benefits from improvements in water quality, benefits from avoided interference and pass through problems and improved worker health and safety at POTWs, and human health benefits from potential reductions in systemic risk. Therefore the reported benefit estimate understates the total benefits of the proposed rule.

TABLE XI.B.9.f.—POTENTIAL ECONOMIC BENEFITS FROM THE PROPOSED EFFLUENT GUIDELINES FOR THE PHARMACEUTICAL INDUSTRY

Benefit category	Thousands of 1994 dollars per year
Reductions in Emissions of Ozone Precursors: ¹	
Human Health	31–1,929.
Agricultural	186–315.
Cancer Risk Reductions	14–5,401.
Non-carcinogenic Risk Reductions	Unquantified.
Ecological and Recreational Benefits	Unquantified.
POTW Reductions in Interference and Sludge Inhibition	Unquantified.
Total quantifiable benefits	231–7,646.

¹ The estimates presented only include benefits associated with reductions in acute health effects and improvements in agricultural yields in nonattainment areas. Potential welfare benefits associated with forest yield, materials damage, and visibility are not addressed in this analysis.

g. Costs to Society. A major component of social cost (beyond the cost to industry of compliance) is the cost to government of providing the tax deductions on pollution control costs to industry. In addition, there are other monetary and nonmonetary outlays made by government. Government administrative costs and costs of reallocating displaced workers are two

additional monetary costs. Nonmonetary costs include losses in consumers' or producers' surpluses in product markets, discomfort or inconvenience, loss of time, and slowing the rate of innovation. The social costs estimated here, which include compliance costs to industry and the costs of government tax subsidies, therefore, are a very large

portion of, but not the true total social cost of the proposed regulation. The costs reported here are thus only a close estimate of this true cost.

The estimate of total annual social costs for all selected options is shown in Table XI.B.9.g. Total social costs resulting from the proposed effluent guideline are estimated to be \$123.9 million (1994 \$).

TABLE XI.B.9.g.—SOCIAL COSTS FOR SELECTED REGULATORY OPTIONS
[Millions of 1994 dollars]

Option No.	Total capital costs	Total O&M costs	Total annualized costs ¹
BAT-A/C#2	64.5	40.8	47.6
BAT-B/D#1	0.7	1.3	1.3