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Comments on Draft Guidelines and Draft Report

Dear Ms. Hunt:

I am writing on behalf of the members of the Natural Resources Defense Council (NRDC) to offer comments on the Office of Management and Budget (OMB) draft report to Congress on the Costs and Benefits of Federal Regulations (hereafter the draft report), 68 Fed. Reg. 5492 (Feb. 3, 2003). NRDC is a national, non-profit organization of scientists, lawyers, economists, and other environmental specialists dedicated to protecting public health and the environment. Founded in 1970, NRDC has more than 500,000 members nationwide, and four national offices in New York, Washington, Los Angeles, and San Francisco.

NRDC appreciates the opportunity to comment on the OMB draft report prepared by the Office of Information and Regulatory Affairs (OIRA). Unfortunately, the draft report continues with the anti-regulatory direction charted by this administration in previous OMB annual reports on costs and benefits. This direction, if followed, would seriously hamper the ability of federal agencies to issue effective and reasonable regulations to protect public health and the environment.

One of the worst lines of attack developed by OIRA relates to how we estimate the benefits of rules that save lives. On the whole, OIRA has made worse instead of better the tendency for benefit-cost analysis (BCA) to underestimate the value of saving lives from the threat of pollution and other hazards. In this year's report, several of the attacks developed by OIRA in previous reports have come to fruition in the proposed revision to OMB's "best practices" document, which agencies use as a guide on how to conduct BCA. (Draft report, Appendix C at 5513.) In addition, OIRA has opened up a new attack on regulatory protections by launching a process to review and perhaps revise the use of "precaution" in regulatory policy.

These comments will first provide an overview of the general problems with the approach taken in this report. Then these comments will address the proposed revisions

to the best practices guidelines, focusing on key proposed changes to the document and shortcomings in the administration's approach to BCA under it. Finally, the comments will examine OMB's proposed new process to consider the issue of precaution in regulatory policy.

However, it is worth discussing first how past reports in 2001 and 2002 have been used to undermine protective regulatory policy. The OMB 2001 report initiated a novel use of the report by inviting industry to submit lists of regulations they would like to have weakened. Dozens of suggestions were submitted by individual companies, their associations, or conservative think tanks funded by them. OIRA used these submissions to compose a "watch list" of regulations for further review. Over half of the regulations on this list (13) were environmental rules, further showing the anti-environmental turn of this administration. Since then, the administration has actually taken steps to weaken over half of the environmental regulations on the watch list, while reaffirming only one in its existing form following a political firestorm (arsenic in drinking water).

The 2002 report continued the practice of using the report to compile a regulatory watch list. This time a variety of entities submitted hundreds of suggestions for regulations to be included on this list. To OIRA's credit in this case, it included several suggestions from supporters of environmental protection on its final watch list; but the final list nonetheless once again included numerous suggestions from industry. It is too early to tell whether the administration's review of the regulations will result in a further weakening or a strengthening of environmental protection. However, based on past practice it is fair to assume that the effect will be negative until there is proof to the contrary.

Simply put, it is a misdirected project to use this report as a way of allowing industry to turn their wish list of regulatory rollbacks into an administration watch list for special review. If industry wants to challenge regulations, there are already means for them to do so such as the Administrative Procedures Act (APA). As part of such challenges under the APA, the public is afforded opportunities for participation in the process with clear legal standards. In contrast, to date OIRA has still provided no acceptable explanation for how they selected regulations to be added to the watch list, and the process the agencies use to make decisions about these regulations is largely shrouded in mystery.

The report has also been used to set up other kinds of attacks on the regulatory process, mainly by altering the way BCA is used to review rules. Although this administration has expanded the role of BCA as a decision-making tool, it has done little to address the inherent bias of BCA to underestimate benefits and overstate costs. In fact, many of the changes to the practice of BCA proposed by this report and in other places by OIRA would reinforce some of the worst biases of BCA.

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## I. OVERVIEW ON GENERAL ISSUES IN THE OMB DRAFT REPORT

The draft report provides impressive documentation for the success of environmental regulations in general in its summary tables comparing the costs and benefits of major federal rules from October 1, 1992, to September 30, 2002. (Draft report at 5494, Table 2.) The Environmental Protection Agency (EPA) by itself accounts for over four-fifths of the total benefits of social regulations. Furthermore, these EPA regulations in the aggregate yield a more favorable ratio of benefits to costs than do the remaining social regulations taken together – about 5:1 compared to 2:1. The greatest contribution by EPA to total social benefits come from air pollution controls, although the water regulations that are listed are also quite positive. The favorable contribution from regulating air pollution is dominated by the benefits of avoiding premature mortality.

Despite the extensive, proven benefits for society of reducing pollution, OMB seems to have singled out EPA air regulations as a particular target for revamping in the draft report. Why OMB would do this is not clear. Yet, half of the report's entire discussion about how benefits were calculated is devoted to an explanation of why OMB lowered the estimates of air pollution benefits that EPA submitted to it. (Draft report, Appendix A at 5499.) Indeed, the most important changes to the best practices document proposed by OMB would have the effect of cutting down the benefits estimates related to avoiding premature mortality from pollution.

Perhaps OMB simply does not believe that any social regulation, much less pollution controls, could be so beneficial and is therefore simply trying to knock the numbers down. We might agree with OMB that the benefits estimates of pollution control are inaccurate, but only insofar as we believe they have understated the value of saving lives and inadequately incorporated many difficult to quantify benefits. No doubt industry would like to see the benefits estimates of existing rules knocked way down. Calculations of cost are harder to inflate once the impact of regulations are known.

The OMB 2003 draft report proposes to revise the 1996 OMB document that sets out the best practices for agencies to follow in their reviews of the costs and benefits of regulations, and the OMB 2000 guidance issued to agencies concerning it.<sup>iii</sup> (Draft report, Appendix C at 5513.) OMB's proposed changes to the best practices document are quite significant, although at times they are also quite subtle.

Although the proposed changes to the guidelines include many issues of lesser importance, there are three especially significant issues to be considered. First, OIRA proposes to change the way in which the discount rate is applied for purposes of discounting streams of future benefits. Second, OIRA is trying to get agencies to give greater emphasis to the Value of a Statistical Life-Year (VSLY) as the measure of the benefit of reducing the risk of loss of life, as opposed to the standard Value of a Statistical Life (VSL). Third, OIRA is seeking to impose a completely new set of statistical requirements for rules with impact above a \$1 billion threshold. NRDC will examine each of these issues in turn after discussing general problems with the use of BCA that continue to be uncorrected by OMB.

#### Uncorrected Problems with OMB's Approach to BCA

Advocates of BCA assert it can be a useful tool for organizing information in a decision making process. However, even in the best of circumstances, a cost-benefit test is inappropriate to use as the criterion for environmental decision making because of the extent of its limitations and the nature of its inherent biases. The most significant bias is its ingrained tendency to overestimate costs and undervalue benefits. Fortunately in the environmental field, superior and proven alternatives exist for decisional criteria such as setting standards that are based on the protection of health or the use of available technology.

One of the most telling features of OIRA's proposed changes to the guidelines is its one-sidedness. Almost all of the significant changes would make it more difficult to adopt effective regulations by artificially lowering the estimates of benefits, while none would really make such estimates better than the general practice of such agencies as EPA. Thus the effect of the changes to the guidelines will be to reinforce the inherent bias of BCA to underestimate benefits even while OIRA excessively expands its use. Indeed, the most important question OMB should have considered in its revision of the best practices guidelines should have been: what if anything can be done to compensate for the limitations and biases of BCA?

The limitations on the use of BCA are extensive and well documented as in a recent report by Lisa Heinzerling and Frank Ackerman.<sup>iv</sup> The limitations of BCA, because of their extent and the difficulty of ever resolving them satisfactorily, provide a fatal objection to the use of BCA as the decisional criterion in environmental policy making. However, to the extent that BCA continues to be used for informational purposes in the regulatory process, it would be desirable for policy research to find ways to reduce these limitations.

On the cost side, the most serious source of overstatement of costs is the static assumption about technology, which ignores the ability of improved technology to lower costs over time. Again and again, dire predictions by industry about the effects of environmental protection on the economy have been shown after the fact to be greatly inflated. Even government predictions tend to be overstated in large part due to the failure to account for technological progress. The eventual cost of the acid rain control program required by the Clean Air Act Amendments of 1990, far below the estimates of either industry or government, is a well-known case in point.<sup>v</sup>

The prowess of technology to lower costs over time is really driven by the efficiency of a market economy in responding to a new constraint, in this case a regulatory requirement that internalizes an externality. It is at least ironic that many advocates of the use of cost-benefit tests as decisional criteria in decision making also have great faith in the reliance on free market behavior; and yet they have little regard for efficient, cost-minimizing progress by the market to respond to these internalized externalities.

To the extent that BCA will continue to be produced for decision makers, it needs to move beyond assertions of faith or cultivated blind spots to a more scientific and systematic treatment of the role of technology in lowering costs over time. Therefore, NRDC once again requests that OMB conduct a review of past estimates of the costs of environmental compliance and compare them to actual costs, and then devise a protocol for adjusting static cost estimates by more accurately adjusting for costs. Additional research can refine this concept over time, but the inclusion of a standard concept in the best practices guidelines for making this adjustment could help to address the systematic overstatement of costs.

One of the most troubling aspects of BCA is not simply its tendency to misstate costs and benefits but to systematically overstate the costs while understating the benefits. This bias stems from the fact that in the search for a "net benefits" answer to the cost-benefit test the ruling practice is to first quantify all costs and benefits, and then to reduce them to a common denominator in the form of dollars. Therefore any term that does not lead itself to quantification, and then monetization, tends to fall out of the equation entirely.

Because the costs of regulations are usually the expense of compliance, costs do not generally suffer from this effect of "dropping out" of the net benefits equation, whereas benefits by their nature are often difficult to quantify, much less monetize. This asymmetrical ability to fully and accurately state total costs relative to total benefits introduces an inherent bias in the analysis. Even when we cannot precisely state certain kinds of benefits in monetary terms, we know the value to society is not *nothing*. Yet the OMB cost-benefit report does not seriously address this critical issue in its proposed revision of the 1996 guidelines.

There are numerous reasons why the many different kinds of benefits that exist are difficult to either quantify or monetize. This difficulty is serious in the case of estimating the benefits of reducing pollution, but it especially skews our ability to sensibly estimate the benefits of protecting natural resources. Values like preventing the degradation to

landscapes, extinction of species, or loss of wilderness are notoriously problematic when it comes to assigning dollar values to them. It may be a fundamentally flawed concept to even try in some cases.

However, to the extent that BCA is going to continue to be performed, OMB must develop a better approach for presenting these benefits in the analysis. Therefore, NRDC requests that OMB examine the inherent undercounting of benefits in BCA and to develop a protocol by which decision makers can systematically compensate for this deficiency and include it in the best practices document.

### OIRA's Proposed Changes to the Use of the Discount Rate

For intra-generational benefit streams, current OMB policy on the use of a discount rate recommends the use of a seven percent rate based on its claim that seven percent is close to the average before-tax rate of return to capital in the U.S. In the proposed draft revision to the guidelines, OIRA has proposed directing agencies to provide net benefits estimates using both seven percent and three percent discount rates.

It is definitely an improvement over current OMB policy for OIRA to acknowledge that agencies should also look at discount rates that are lower than the unrealistic and out-of-date seven percent rate included in current policy. After all, the current rate for one-year treasury bills is hovering around 1.3 percent.

However, agencies were never really barred from looking at rates other than seven percent as long as they also included an analysis with OMB's seven percent number, which they would still be required to provide under this revised policy. As EPA's guidelines for preparing economic analysis notes after recommending the use of a consumptive rate of interest: "EPA economic analyses therefore should provide estimates of the present values of costs and benefits using both a two to three percent rate and OMB's guidance on discounting [using a seven percent rate]."<sup>vi</sup>

Thus, given at least some agency's practices, this proposed revision is a change more in appearance than reality. Unfortunately, it further enshrines the dictate that the flawed seven percent rate must also be included in the analysis along side a more reasonable rate. Also it puts an implied floor on the lower discount that can be used at three percent, even though one could argue that at times even that rate could be too high. Most regrettably, it is a missed opportunity for OMB to come to grips with some fundamental issues concerning the use of the discount rate.

NRDC and many others have profound ethical, pragmatic, policy, and legal concerns about OMB's approach to discounting the value of future lives lost. In particular, OMB should revise the way in which it views the practice of discounting the value of lives that are lost in the future from exposures to hazards in the present. The discounting of future lives (especially if insupportably high discount rates such as seven percent are applied) amounts to an incredible vanishing act where the calculations of such values are concerned.

Discounting of future benefits is a practice that makes sense when the analysis is limited to comparing streams of dollars on the cost and benefit side of the equation in order to provide a standard comparison of values over time. However, life as a "good" does not operate over time like money as a good does. The loss of life is a qualitative change unlike the diminution of value in economic commodities. Furthermore, life cannot be invested in a bank account like money to yield a higher value over time. Therefore, it is fallacious to simply analogize the practice of discounting future revenue streams to considerations about the value of life.

The use of latency to discount the loss of future lives is subject to the same kind of criticisms that discounting is generally. If the discount rate is zero, the question of latency can be mooted. However, if a high discount rate is applied, then the question of latency is quite significant. In that case it does not seem reasonable that the value ascribed to an individual's life following a fatal exposure to a pollutant should be zero until the year he or she dies, and then the final value fully discounted by the intervening period of time.

This problem is compounded by uncertainty about exposure paths and latency periods for some kinds of carcinogens and the tendency of some BCA practitioners to assume unrealistically long latency periods like 30 years. Overall, the combining of such assumptions about latency with high discount rates produces a powerful and unjustified bias against regulating the release of toxics into the environment.

Not surprisingly, a substantial body of research related to the social rate of time preferences support the view that individuals discount the value of future lives by a rate far below the seven percent rate set by OMB in Circular A-94. In fact, given the low level of interest rates for the last several years, it would be surprising if up-to-date research on social time preference did not provide a robust endorsement of the view that the discount rate for the loss of future lives should be extremely small if not zero. Therefore, as a way of helping to correct the systematic biases in cost-benefit analysis, NRDC requests that OMB recommend the use of a discount rate of zero for the value of future lives until the technical and ethical issues related to this practice are satisfactorily resolved.

For issues that have especially long time horizons that are inter-generational in nature, OIRA has suggested a different approach. While still requiring the use of the three percent and seven percent rates as in the case of intra-generational benefits, OIRA would allow rates as low as one percent in certain cases. Although this approach is better than simply limiting the analysis to three percent and seven percent rates, it again falls short of the mark that OMB should set for this analysis. Indeed, it may be worse than current agency practice.

The OMB 1996 best practices document and its 2000 guidelines are somewhat circumspect on the issue of the correct discount rate for inter-generational analysis and allow agencies some leeway. Specifically, these documents allow the agency either to

use the same discount rate analysis that it would use for intra-generational benefits while addressing equity issues separately, or to use "a special social rate of time preference."<sup>vii</sup> In implementing this advice, the EPA guidance document has recommended that analyses should include a "no discounting" scenario by displaying a stream of costs and benefits over time (which EPA notes is not the same as a discount rate of zero). It also recommends the inclusion of other scenarios beyond the seven percent and three percent rates, namely, those "in the interval one-half to three percent as prescribed in optimal growth models."<sup>viii</sup>

Over long time horizons, even the relatively low discount rate of one percent can drive the net present value estimate of benefits down to almost nothing. This statistical obliteration of the value of protecting future lives becomes exaggerated in the extreme when policies with extended timelines like nuclear waste disposal or climate change are involved. The inevitable conclusion seems to be that anything the present generation does that adversely affects future generations is acceptable because the value of the benefit to future lives does not amount to much.<sup>ix</sup>

### The Shift from Value of a Statistical Life to Life-Years

One of the standard ways for agencies to measure the benefit from reducing the risk of premature mortality is the use of the Value of a Statistical Life (VSL). The estimate for the VSL can be calculated using a number of different kinds of willingness-to-pay surveys, such as those that rely on labor market (i.e., wage-risk) studies or contingent valuation. The standard use of VSL has itself been subject to the criticism that it underestimates the benefit of reducing the risk of mortality because of income, age, and occupational biases that are built into some of the kinds of studies used to construct a value for it.

An alternative to the use of VSL is the concept of the Value of a Statistical Life-Year (VSLY). VSLY in effect measures the benefit of reducing the risk of premature death based on the number of years a hypothetical person has to live, instead of assigning an average VSL to everyone.

VSLY deserves particular attention because it is one of the most significant proposed changes to the guidelines. Under VSLY, all else being equal, the older a target population is the lower the calculated benefit of protecting them. Therefore, protections for the elderly would be subjected to a special devaluation under this technique. VSLY also serves as the basis for another technique for lowering the value of life, the Quality Adjusted Life Year (QALY). Once one establishes VSLY as a method for calculating the value of reducing the risk of mortality, then one can take the additional step of adjusting the calculation of the value of remaining life-years by their "quality." Again, since the quality of life of the elderly can be said to be less than younger people, the life of the elderly can be lowered again.

In fact, in the draft report OIRA is setting the stage just for this kind of eventual shift from standard VSL analysis to the use of QALY instead. Although this is not stated



explicitly anywhere in the draft report, it is the logical extensive of the new cost-effectiveness analysis the revised guidelines would impose on the agencies. (Draft report at 5516-5517.) While it is desirable to determine the relative cost-effectiveness of reasonable regulatory alternatives, in the case of preventing premature mortality the Administrator of OIRA has already stated a preference for the use of QALY as the proper method.<sup>x</sup>

Reliable empirical data do not support the premise of either QALY or VSLY. A recent study by some of the leading experts on this subject concluded that the data do not support discounting the value of life based on the numbers of years someone has remaining to live.<sup>xi</sup>

Regardless of the results of economic survey data in this field, VSLY has conceptual problems that work against its use. Many experts argue that all life is precious and should be seen as being of equal value, not treating some lives as less valuable than others based on traits like age. Going a step further and using QALY for adjusting the value of life raises profoundly disturbing questions regarding unfair treatment of classes of people even beyond the elderly, such as those who have disabilities.

Representatives of OMB have maintained that the language for the use of VSLY in the proposed best practices document is essentially the same as the 1996 document, pointing to the concluding phrase, "agencies should consider providing estimates of both VSL and VSLY, while recognizing the developing states of knowledge in this area."<sup>xii</sup> (Draft report at 5521.) However, the context for this statement is very different for these two documents, drastically changing its meaning.

The 1996 OMB best practices document frankly states considerable skepticism about the use of VSLY. The EPA guidance document, in noting a number of the drawbacks to the use of VSLY, quotes the 1996 OMB document in support of those criticisms: "As OMB (1996) notes, although 'there are theoretical advantages to using a value of statistical life-year extended approach, current research does not provide a definitive way of developing estimates of VSLY that are sensitive to such factors as current age, latency of effect, life years remaining, and social valuation of different risk reductions.'"<sup>xiii</sup> The 2000 OMB guidelines seem to back off even further from recommending the use of VSLY. At the end of the discussion on the subject, the charge to the agencies to consider using both VSL and VSLY is dropped completely.<sup>xiv</sup>

By contrast, the proposed revision to the best practices document gives a firm push to the agencies to use VSLY in addition to the standard VSL regardless of its limitations. The old qualifying language in the previous version has been deleted and a new introductory clause has been added to the charge to the agencies. Now they are to "consider" using VSLY as well as VSL, "[in] all instances, whether or not you are able to develop ideal estimates." (Draft report at 5521.) One can almost hear OIRA adding a not-so-subtle, "or else."

Although the differences require a careful reading of the two texts side-by-side, it would be misleading to claim that the change is not significant. If OMB wants to maintain that there is no real difference, then NRDC would strongly urge that OMB make no change to the language in the 1996 document or 2000 guidance, avoiding any confusion.

### New Uncertainty Analysis Requirements

In its treatment of how to deal with uncertainty in BCA, OMB adds a completely new requirement for an onerous quantitative analysis if the cost of a major rule exceeds \$1 billion. This new requirement appears completely arbitrary and serves simply to clog the regulatory process.

First, Executive Order 12866 already requires a regulatory impact analysis that includes the treatment of uncertainty for major rules above \$100 million a year. No reason is given by OMB why that analysis is deficient for rules of a larger size. Second, no justification is given for hinging a formal analysis on the level of cost as opposed to level of cost combined with the ratio of benefits to costs. It is a false precision and a waste of time and resources to do a formal analysis of the exact distribution of the range of uncertainties if you already know the benefits are going to exceed the cost at any level. Finally, no justification is given for the \$1 billion figure being the correct threshold. (These comments assume OMB meant \$1 billion a year in costs, since the annual cost of a rule is the measure that defines whether it is major under Executive Order 12866; but OMB should clarify whether annual costs or some other measure like net present value was intended.)

Upon reflection it becomes clear that OMB's decision is not simply arbitrary at all; it is designed to tie up certain kinds of regulations with an impeding procedure. In the paragraph leading to the description of the new threshold requirement, OMB observes, "As with other elements of regulatory analysis, you will need to balance thoroughness with the practical limits on your analytical capabilities." (Draft report at 5523.) However, contrary to this stated principle, this new requirement – proffered without any rationale – can impose serious practical limitations on an agency's ability to complete its regulatory analysis even when the rule provides overwhelming benefits.

As EPA notes in its guidelines: "If, however, the implications of uncertainty are not adequately captured in the initial assessment then a more sophisticated analysis should be undertaken.... However, these methods can be difficult to implement, often requiring more data than are available to the analyst."<sup>xv</sup> Instead of relying on an arbitrary figure to determine whether a higher standard for analysis should apply (e.g. the \$1 billion threshold), EPA applies a more reasonable approach by determining first whether the initial assessment passed a test of adequacy in capturing the implications of uncertainty. Where the benefits far exceed the costs and the data are lacking for additional formal analysis, EPA could reasonably decide that the initial assessment is more than adequate.

However, the purpose for OMB here seems to be delaying rulemaking by sending the agency back to collect data that may not be available, even if the initial assessment is

otherwise adequate. As OMB notes in the draft guidelines, "For example when the uncertainty is due to a lack of data, you might consider deferring the decision, as an explicit regulatory alternative, pending further study to obtain sufficient data." (Draft report at 5523.)

What are the kinds of rules does OMB hope are delayed by more data collecting regardless of the adequacy of the initial assessment? On the next page, OMB opines that "for example" there is uncertainty in the analysis of regulations addressing air pollution about future emissions, changes in air quality, resulting health effects, and the "economic and social value of the change in health outcomes." (Draft report at 5524.) OMB is candid that the threshold requirement is meant to force EPA to radically overhaul its analysis of the benefits of clean air rules. Indeed, few other rules may actually be subject to this threshold test.

OMB's decision in these proposed guidelines to single out regulations for unfavorable treatment simply on the basis of the size of their costs, seems to be an attempt by the White House after the fact to justify a policy it already has put in place. In at least one significant case, EPA's rule to control polluted runoff from construction and development sites, OMB deleted the most effective and beneficial provision of the rule drafted by EPA simply based on the size of the costs of the provision. OMB took this indefensible action despite the fact that this action had no basis in the statute as part of its decisional criteria and that even so the provision would have clearly passed any reasonable cost-benefit test.<sup>xvi</sup> Furthermore some rules like this one may have costs that seem large in dollars, but that are in fact quite small in comparison to the total size of the industry.

Thus the implication of this new uncertainty requirement in the hands of a hostile OMB is that size of costs alone will be institutionalized as a reason for blocking rules regardless of statutory directives or overall benefits to society. OMB should drop this proposal entirely and in the meanwhile publish a complete list of rules that would be covered by the new threshold requirement, including both past rules covered by this draft report and forthcoming rules OMB expects to be reviewing.

#### Case Study: Use of the OIRA "Alternative Analysis"

It is instructive to consider the implications of OMB's proposed changes to the regulatory review process in the context of specific administration policy reviews. Once again, air pollution controls offer a keen illustration of the point. In the last year, the OMB has already been busy trying out some of its new concepts for depreciating the benefits of reducing pollution without waiting for its revised guidelines. The result is an alarming portent for the future in terms of how the government will place a price tag on life.

Starting last fall at OIRA's insistence, EPA has begun to include an "alternative analysis" in its environmental reviews that employs some of these new techniques to drive down the calculation of benefits. In these alternative analyses, when the entire range of techniques is employed, the estimated benefits of controlling air pollution astonishingly drop by over an order of magnitude. The three cases in which EPA has used a variation

of this alternative analysis include the technical justification for the Clear Skies Initiative (CSI), the off-road engine rule (a.k.a. the snowmobile rule), and the recent off-road diesel rule.

Requiring an alternative analysis by the agency could be a valuable exercise if it were done with the intention of providing a more balanced range of information to policy makers. Such an effort would be directed to correcting the existing biases of BCA, in this case the underestimation of benefits. There are many ways in which OIRA could direct its efforts to correcting these biases, as has been suggested in prior comments submitted to OIRA by NRDC and others.

Unfortunately, OIRA makes no attempt to produce a set of techniques or alternative analyses that would have the effect of raising estimates of benefits by reducing built-in biases. In fact, OIRA does not even attempt to provide a symmetrical pair of alternative analyses, one that reduces the estimate of benefits in the way OIRA would prefer and one that raises estimates of benefits by correcting anti-benefit biases. Either of these approaches would produce a more complete range of benefit estimates for policy makers to consider than OIRA's alternative approach by itself. Of course, the best approach is to simply correct the bias toward underestimation without including OIRA's new analysis, and therefore provide the most honest set of numbers to be used by policy makers.

In the alternative analysis advocated by OIRA, EPA used three principle steps to lower their own original benefit estimate. In each instance, the approach in the original analysis is a far more reliable calculator of benefits than the alternative analysis. What is more, insofar as the administration uses an alternative analysis to adjust benefits, a genuinely evenhanded presentation concerning different ways of calculating benefits could have set out known alternative techniques that could have actually raised the benefits estimate. Yet, the administration has only selected techniques that lower benefits, reinforcing BCA bias rather than reducing it.

We can see how this process will work over time by going through the alternative analysis in the EPA air pollution proposals step-by-step. In its standard analysis when the EPA calculates benefits, the value of reducing the risk of fatalities is measured in statistical lives where the Value of a Statistical Life (VSL) is currently \$6.1 million in 1999 dollars. This estimate is based on extensive reviews of 26 studies, 21 of which are labor market/wage-risk studies and five of which are contingent valuation studies.

In the first step in the alternative analysis, EPA reduces the overall benefits estimate by over half by just selecting from among all of the VSL studies those based on contingent valuation studies, excluding the wage-risk studies. This remarkable move reduces the VSL by nearly half, going from \$6.1 million to \$3.7 million. The agency in presenting this analysis offers little justification for preferring the contingent valuation studies over the wage-risk studies. Indeed, elsewhere in the proposed guidelines OMB argues that "value estimates derived from contingent-valuation studies require greater analytical care than studies based on observable behavior." (Draft report at 5519.) Although NRDC believes contingent valuation to be a legitimate technique for estimating benefits, in this

case OMB just as easily could have had EPA only use the wage-risk studies, excluding the contingent valuation studies, which would have had the effect of greatly raising the VSL estimate in this case.

Moreover, no attention is given in the alternative analysis to the use of willingness-to-accept techniques (WTA) instead of willing-to-pay techniques (WTP) as the basis of the calculations. WTA is considered by many experts to be conceptually as good as or better than WTP as a true measure for value estimates. WTA tends to give a higher benefit estimate for values like VSL, which is another way of saying that WTP is more likely to underestimate the value of risk reduction than is WTA. On this point OMB concedes in its guidelines that WTA "can also provide a valid measure of opportunity cost." The preference by OMB for WTP as a technique is based more on the ease with which it can be used, since it is "more readily measurable" and of course because of its "more conservative measure of benefits." (Draft report at 5518.) These are not really good enough reasons to deny policy makers the information that an alternative analysis based on WTA could provide them. OIRA should direct more attention to encouraging agencies to overcome barriers to the use of WTA techniques and to use them as much as possible as part of an innovative alternative analysis.

Second, the OIRA alternative analysis lowers the VSL even more by adjusting the estimate downward based on the fact that many of the people saved by the rule would be elderly. This view is supported by the administration's selection of certain survey data (specifically the 1989 Jones-Lee study) that OIRA believes shows that people who are 65 or older should have a VSL of 63 percent of those of a younger age. (Please note that EPA misprinted the age for the application of this VSL reduction as 70 in the snowmobile rule and analysis for the CSI, but corrected it in the off-road diesel rule.) This step by itself reduces the VSL for a senior from \$3.7 million to \$2.3 million.

The comments have already criticized the notion of a lowering VSL on the basis of age, both on conceptual and empirical grounds. However, recent shifts in administration policy on this issue should be examined further. Following substantial public criticism of the administration for using a 63 percent adjustment in VSL for seniors, the administration announced it was no longer using this number as part of its alternative analysis starting with the off-road diesel rule. This statement from the administration is somewhat disingenuous.

Although the 63 percent figure was removed from the text of the alternative analysis for the diesel rule, the administration raised the number to 65 percent and moved it to the sensitivity analysis in the back of the document. Frankly, a sensitivity analysis is just an alternative analysis by a different name, and 65 percent is not much better than 63 percent. If the administration is sincere that age is not a factor in these regulatory reviews, OMB should have this calculation in all of its forms removed from previous agency analyses and issue a directive that agencies not include any such calculation in future analyses.

The third step in the alternative analysis that distorts value of life estimates is the shift from a VSL analysis to a VSLY analysis. Again, this approach has been critiqued already in these comments, but again there are nuances to this particular analysis by the administration that should be discussed in further detail. Compared to VSL, VSLY threatens to undermine proper measurement of the value of life because of the ways it can be manipulated, such as scaling of that value based on remaining life expectancy.

However, in these air pollution analyses the calculation for VSLY was not specifically manipulated by scaling. VSL was held constant except for the aforementioned age adjustment, and then life-year calculations were made working backward based on remaining years of life. Regardless, instead of manipulating the calculation by scaling the value of life a different and disturbing assumption was introduced into the calculation, namely, that the only people who die from pollution only had a short time to live anyway. The assumption maintains that anyone who dies prematurely from air pollution from the most frequent cause of death, non-chronic obstructive pulmonary disease (non-COPD), only loses five years of life. Thus, a 40-year old would die at 45 and a 65 year-old person would die at 70.

At first this result leads to a counter-intuitive conclusion that in some cases the value of life of an older person is higher than a younger person. For example, the death of a 45 year-old from non-COPD would be valued at \$790,000 while the death of a 70-year old would be \$1.25 million. However, this construct is a complete artifact of a number of unrealistic assumptions, such as the assertion that everyone loses only five years of life and that the VSLY is the same for a healthy 40-year old expected to live a full life and a 40-year old expected to live only five more years.

The point of this part of the discussion is not to explain or refute this particularly implausible analytical construct, but to illustrate the way in which VSLY can be manipulated to lower the value of life. In this case, the only way in which a senior can be said to have a higher value of life is to compare a 65-year old person to a 40-year old person who is sick or disabled. Furthermore, it is easy to lose sight of the fact of what has happened to the value of life of an elderly person in the course of this analysis. It has fallen in the first step to \$3.7 million, in the second step to \$2.3 million, and in the final step in the worst-case scenario (a 70-year old dying from chronic obstructive pulmonary disease) it becomes a bargain basement value of only \$130,000.

#### Implications of OMB's Alternative Analysis for the Value of Life

One could also argue that if the revised guidelines result in the creation of more alternative analyses like those recently produced by EPA, then there would be no real harm since agencies would continue to rely on their original base analysis for final decisions. Indeed, if this were the case there would be no point in producing the alternative analysis in the first place. The purpose of the alternative analysis is to put benefit calculations step-by-step on a one-way, downward path.

Despite the invalid nature of the alternative analysis, opponents of effective regulation will argue that its methods are superior to those in the base case. The fact that the government is placing it along side its standard techniques will seem to give it at least an equal footing. Opponents of regulatory protections first will turn the lower alternative estimate into a new floor for the range of benefits, and then second argue that it should be made the new ceiling. The assertion of this new ceiling will be made in administrative processes (often behind closed doors), in the legislative process as a pretext to justify special interest agendas, and in the judiciary as part of lawsuits to support regulatory challenges.

Indeed, OMB apparently no longer considers this analysis to be the "alternative," but rather equal or more reliable from their point of view. Proof of this attitude can be seen in the draft report in the section explaining OMB's method for summing up the cost and benefits of regulations. (Draft report, Appendix A at 5499.) In most cases, OMB simply accepted the calculations submitted by the agency. However, in the case of EPA estimates concerning air pollution benefits OMB created a new lower figure for the range of estimates using its new technique for lowering the value of life.

OMB notes that it has revised the benefits from reductions in NOX emissions to reflect a range of estimates from these recent EPA analyses. OMB continues on the next page: "Because of the importance of this endpoint and the considerable uncertainty among economists and policymakers as to the appropriate way to value reductions in mortality risks, EPA has developed alternative estimates for its 'Clear Skies' legislation that show the potential importance of some of the underlying assumptions.... OIRA has used this analysis to identify an alternative estimate of the benefits from NOX reductions..., a difference in the estimates of roughly a factor of seven." (Draft report at 5502.) This is a huge reduction in the estimated level of benefits, stated under the guise of uncertainty and submitted to Congress as if it is a figure that should be considered with equal merit as the one relied on by the agency.

Thus we can see that if these revised guidelines as proposed by OMB are adopted, then the stage will be set for a wholesale demolition of environmental protection in general and air pollution controls in particular. OMB will start by using its alternative analysis to lower benefits and argue there is uncertainty about the regulations. Next, the regulation may be subjected to a formal uncertainty analysis for which there is no data. Then, the agency will have its rule delayed until more data is collected, perhaps endlessly. Thus the approach in the guidelines is an unbalanced trap even for rules that under the standard assessment are quite cost-beneficial, with weaker environmental protections the final result.

### III. COMMENTS ON PRECAUTION

Because of the inherent biases of BCA, it is a defective tool to use in decision making on the environment. Regulations based on health-based or technology standards are much more reasonable and effective approaches to rely on for decision-making.

One of the reasons opponents of regulatory protections often argue for the use of BCA as the decisional criteria in rulemakings is because of its extensive and at times oppressive requirements for information. The BCA technique lends itself readily to the endless argument that more information is needed or that scientific understanding is imperfect. More fundamentally, opponents of regulation relentlessly demand an unobtainable level of knowledge as a precondition for action, persistently labeling the existing state of knowledge as "uncertainty."

The desire to have a high degree of certainty in regulatory decision-making prior to taking action builds a conservative presumption into the system that is very deep. This presumption is not necessarily reasonable on the face of it. It would be admittedly expensive and inefficient for society to endure a regulatory burden that was not supported by sufficiently positive results. Yet, it could also be expensive and inefficient for society not to adopt a level of regulation that sufficient to reap all of the positive results potentially available. After all, pollution externalities for example impose a huge and inefficient cost on society in terms of public health and ecological effects, some of which can be quite large in scale and irreversible.

Judging from the information provided in this draft report, we are in little danger of erring on the side of too much regulation, given the extremely high ratio of benefits to costs that have resulted from existing regulations as summarized in Chapter I of the draft report. Indeed, the conservative presumption of the system has most likely denied society the benefits that would accompany additional, well-designed regulations to address social externalities like environmental degradation.

One of the principal ways in which the excessively conservative nature of the system can be partially offset is through the use of precaution in regulatory policy. The concept of precaution recognizes that knowledge is never perfect, and yet there is often a need to take action before certainty is complete. Precaution introduces into this decision making process the common sense notion that in some matters it is better to be safe than sorry. The precautionary principle is a statement of the fact that regulatory policy needs to explicitly incorporate a measure of precaution into the decision making structure, since that structure left to itself is much more likely to have too little precaution as opposed to too much.

Given the need for greater precaution in regulatory policy-making, it is baffling that the administration has set up an Interagency Work Group on this issue charged in the way that it is. Specifically, the Work Group requests public input in three areas. However, in each of these areas the request for input is framed in a way that is evidently loaded to solicit anti-regulatory commentary from industry. Restated, the Work Group request for input asks industry: (1) to list ways that too much precaution is used in risk assessments or management decisions; (2) to give examples of risk assessments and management methods they would like to have made more favorable to them; (3) and to provide arguments that show that health, safety, and environmental risks conflict with economic growth and technological innovation. (Draft report at 5499.)



Since the charge of the Work Group is so imbalanced to begin, NRDC doubts that any good for public policy is likely to come from this interagency process. Therefore, NRDC requests that the Work Group cease operation at least until such time as it can come forth with a more balanced approach to the issue. Because the Work Group is not likely to cease operation because of these comments, NRDC has also provided additional comments in response to the administration's request for input.

### The Work Group Requests: Wrong Questions, Wrong Assumptions

The Work Group's first request focuses on the use of "conservative" assumptions of risk and protective measures in management decisions (the term "conservative" in this context means overly protective). In other words, it more or less assumes that our management decisions are premised upon overly protective risk assessments and precautionary regulation. As previously noted, NRDC is of the belief that our regulation of natural resources does not rely on "conservative" risk assumptions in this sense. Moreover, NRDC believes that a discussion that indiscriminately mixes different kinds of risk when discussing such assumptions could confuse the policy debate even further.

It is interesting to note that the Council On Environmental Quality (CEQ), which co-chairs this Work Group with OIRA, published a groundbreaking monograph on the subject of risk analysis in 1989, Risk Analysis: A Guide to Principles and Methods for Analyzing Health and Environmental Risks.<sup>xvii</sup> In that publication, CEQ catalogued a long list of different "dimensions" of risk, showing how different the nature of risk can be in different situations. These dimensional traits include severity, potential for catastrophe, reversibility, impact on future generations, voluntariness, and controllability. This catalogue shows that it is not sufficient to focus simply on generic ways that precaution may be used in risk assessment and management; rather it is necessary to start with an understanding of the different kinds of risk that need to be assessed or managed, and then separately analyze the way in which precaution applies in each case.

The failure to appreciate that a one-size-fits-all approach to risk assessment and management does not work well is one of the main ways in which risk policy goes wrong. The Office of Science and Technology Policy (OSTP), another member of this Work Group, noted in 1995: "[E]ach law establishes somewhat different criteria for making risk management decisions. The extent to which such an analysis is permissible or productive in light of statutory provisions must influence a decision to undertake a risk assessment. There are advantages to having some degree of consistency in the statutory provisions that guide risk reduction activities in the federal government.... However, the specific methods to be used in evaluating risks are best developed in agencies on a statute-by-statute basis so that the analytical approach is appropriate to the types of risks addressed."<sup>xviii</sup>

The second request makes several erroneous assumptions in asking for examples of "unbalanced" approaches to "ecological risk assessment" and "management methods." It starts by presuming that such approaches and methods are unbalanced without offering any proof to the effect. Furthermore, the request does not ask for examples of approaches

and methods that are “balanced” and work well. The Work Group should be at least as interested in models of success as objects of criticism.

The fact is that the purpose of this request is to compile industry’s “wish list” of policies that they would like to have changed. Earlier in these comments, NRDC praised OMB for foregoing the request they have made in previous reports for lists of regulations from industry they would like to have weakened. It seems that particular request has just been shifted to another part of the report this year. The opportunity thrown open to industry is quite specific, inviting attacks on “consumer product safety, drug approval, pesticide registration, and protection of endangered species,” and potentially far reaching.

The final request asks for examples of agencies balancing precautionary approaches to health and safety with “economic growth” and “technical innovation.” But there is no reason to presume that *balance* is the foremost criteria for evaluating the success of regulation. Some standards may explicitly favor one kind of goal while other standards favor another. It is the statutory intent that determines the objective that is incorporated into a statute. This objective might balance different values or it might place certain values clearly above others. Again, a one-size-fits-all analytical approach is hazardous, since the assumed balance might not be the premise of all situations requiring precaution.

#### Executive Branch Discretion on Precaution is Limited

The Executive Office of the President (EOP), which includes OMB, CEQ, and OSTP, generally lacks legal power to dictate risk management policy to agencies. In most cases, such policy is properly rooted instead in the statutory requirements of different agencies. OMB could be violating recent court decisions if it issues such restrictive “guidance” on precaution without first conducting a formal rulemaking, since such “suggestions,” if non-discretionary in their practical application (read: cost-benefit guidelines), must go through the rulemaking process.<sup>xix</sup>

When courts assess whether an agency has acted lawfully, primary consideration is given to whether Congress has already expressed the answer through legislation. Since the degree of uncertainty in environmental regulation is already provided by statute, agencies cannot require a greater degree of certainty prior to regulation than that already mandated. Thus an agency action that follows an EOP “suggestion” in derogation of statutory law would be illegal.

#### Congress Has Spoken

Congress already mandates a specific degree of risk and uncertainty in environmental regulation. Significantly, most statutes require agencies regulate with an “adequate margin of safety” to protect the public health. Agencies interpret this as a mandate to regulate in protection of the public health – even when there is less than absolute certainty as to the probability that a given harm will occur.

Congress and agencies must constantly consider how much precaution to use in regulation. Moreover Congress typically has remedied ineffective health and safety statutes by *increasing* the amount of precaution in a statute. From decades of trial and error, we have learned two important lessons: regulation that accommodates uncertainty succeeds, and regulation that demands absolute proof of risk fails to protect the public sensibly.

### Courts Have Concurred

Congressional mandates to protect health in the face of uncertainty have been consistently upheld in the Supreme Court. In both the *Lead Industries Association* and *American Trucking* decisions, the Court held that the executive may not deviate from the degree of public health protection mandated by congress when implementing a regulation – even if it means prioritizing public health over economic costs.

### Too Little Precaution, Too Much Time

Many legitimate opportunities to protect public health and safety are hampered by the requirements of *too much* proof of harm, *too much* balancing of environmental risks with “other factors,” and *too little* requisite precaution. History supports this conclusion, as the examples of lead, arsenic and pre-1990 air toxics illustrate. Based on these case studies, one can see that the alternative to reasonable regulation in the face of uncertainty is inaction, delay, and irreparable harm to the public health and the environment.

As a result of this harsh history lesson, Congress has routinely mandated by statute the degree of uncertainty and precaution allowed or required for agencies to act under a particular law. Our courts have consistently held that the “adequate degree of health” margin prescribed by Congress is one that enables an agency to regulate without meeting a certain threshold of certainty.<sup>xx</sup>

The Interagency Work Group has requested examples of agencies’ approaches to risk and uncertainty. In this section, NRDC gives examples of those statutes that successfully address emerging risks – and those that failed, while attempting to address the Work Group’s specific concerns regarding agency use of balance and precaution.

**National Environmental Policy Act: A Roadmap for Precaution.** NEPA is a statute whose central purpose is to maintain balance in agency decision-making. NEPA forces agencies to look before they leap, under the principle that a balanced approach to risk must be set in relief to alternatives. Such analysis is critical when an agency is less than certain that the harm will occur. In the words of Judge J. Skelly Wright, “It is pointless to “consider” environmental costs without also seriously considering action to avoid them.”<sup>xxi</sup> Agencies’ own bylaws often lack requirements to consider emerging health and safety risks when proposing an agency action. This task is left to NEPA. Finally, NEPA forces agencies to look to the *future*, where uncertainty over public risk is greatest. The purpose of NEPA will not be fulfilled “if consideration of the cumulative effects of successive, interdependent steps is delayed until the first step is already taken.”<sup>xxii</sup>

**The Endangered Species Act: Precaution and Irreversibility:** The Endangered Species Act (ESA) is an outstanding example of the requirement to use precaution when irreversibility is at stake. To preserve a species is to also preserve the potential economic and social benefit of the species, while to allow extinction is to make an irreversible decision with serious potential for social and economic loss. As Congress noted, by way of example, when it passed the ESA: "Who knows, or can say, what potential cures for cancer or other scourges, present or future, may lie locked up in the structures of plants which may yet be undiscovered, much less analyzed? More to the point, who is prepared to risk those potential cures by eliminating those plants plans for all time? Sheer self interest impels us to be cautious." H.R. Rep. No. 412, 93rd Cong., 1st Sess., at 5 (1973).

Courts have consistently reaffirmed this fundamentally precautionary approach. In the opinion of former D.C. Circuit Judge Patricia Wald, the danger of losing a possible cure or innovation due to extinction is a risk too grave to bear – regardless of the probability (or uncertainty) of loss.<sup>xxiii</sup> In upholding the application of the ESA, Judge Wald underlined the potential *irreversible* loss of potential economic and social benefits: "[T]o allow even a single species whose value is not currently apparent to become extinct therefore deprives the economy of the option value of that species."<sup>xxiv</sup> The D.C. Circuit continues to advocate the importance of precaution in preservation of endangered species, reaffirming Wald's opinion in a recent 2003 opinion.<sup>xxv</sup>

**Air Toxics: Congress Learns Its Lesson:** Before the 1990 amendments to the Clean Air Act, EPA was charged by Congress with creating National Emission Standards for Air Toxics (NESHAPS) for the air pollutants listed within the Toxic Release Inventory. Due to the uncertainty about the amount of toxic exposure required to produce harm, EPA assumed the exposure standard to be zero. But EPA was highly reluctant to justify action regarding a zero risk exposure based on risk analysis. As of 1990, only eight of 650 toxic materials had been successfully regulated – this despite reams of data supporting their toxicities. With an unreasonable burden of proof put in place regarding certainty, NESHAPS was a plain failure in practice.

As a result of the agencies' inability to meet its congressional mandate, Congress was compelled to act. Congress took notice of the slow rate of progress, identified the inability to regulate in the face of uncertainty as the problem, and instead mandated toxic standards be generated using technology-forcing requirements. Since the 1990 amendments, 46 air toxics standards have been set for 82 different types of major industrial sources.

The NESHAPS story ends with a happy ending: Congress realized that more action was necessary and responded appropriately. But note that once again it was beyond the scope of EPA (or, for that matter, OMB) to alter the *degree* of precaution mandated by the statute – only Congress could alter the legislated level of risk and uncertainty.

**Precaution for Children and Tenfold Margins: The Food Quality Protection Act (FQPA):** Even regulation that appears to have a reasonable tolerance for adults may not

account for the additional sensitivities borne by children and infants. A 1993 NAS report concluded that EPA failed to adequately address vulnerabilities of infants and children in its regulation of pesticide residues, sparking Congressional reform.

Congress recognized the need for additional precaution in exposing children and infants in health and safety regulation. As a result, Congress in 1996 unanimously passed FQPA and significantly increased the level of precaution inherent in federal regulation of pesticide residues under the Federal Food, Drug, and Cosmetic Act.

At the heart of the 1996 FQPA amendments is a tenfold margin of safety in its tolerance risk assessments to protect infants and children. EPA can use a different margin of safety *only* if such margin will be safe for infants and children.<sup>xxvi</sup> Again, Congress identified the increased risk to society and legislated a specific level of precaution as a result.

**Lead: Or, When Agencies Resist Precautionary Regulation.** In contrast, neither Congress nor executive agencies were able to regulate environmental exposures to lead before nearly a century of debilitating exposure had taken its toll. The use of lead in gasoline is therefore the single best example of the need for government regulation in the face of uncertainty.<sup>xxvii</sup>

Lead in gasoline was hazardous from the get-go: within a year of first producing leaded gasoline in 1923, eighty percent of workers at DuPont's New Jersey factory were poisoned, resulting in more than three hundred cases of death or severe nerve damaging. Although lead production was temporarily halted in 1925 due to overwhelming opposition from the scientific community, production of lead gasoline resumed the following year after the Surgeon General declined to restrict its use, citing the need for more definite proof.

A half-century later, even after lead was regulated as a hazardous fuel additive because lead was "reasonably anticipated to endanger the public health or welfare," EPA nevertheless resisted classifying lead as an air pollutant until the NRDC successfully sued to compel its phase-out. *NRDC v. Train*, 545 F.2d 320 (2d Cir. 1976). Now, lead is accepted by the agency as a significant environmental threat, including especially to the health of children.

Regulation of lead provided the watershed legal challenge to uncertainty in environmental regulation. This challenge culminated in two separate appeals by the lead industry to the D.C. Circuit, each attempting to require EPA to provide more definite causality before lead could be regulated. *Ethyl Corp v. EPA*, 541 F.2d 1 (D.C. Cir. 1976).

In *Ethyl*, Judge Wright warned that effective regulation would be "impossible" if courts demanded a "rigorous step-by-step proof of cause and effect." As a result, agencies may now regulate in the face of uncertainty if they use "available evidence to make rational assessments" concerning potential risks. See 541 F.2d at 28. The threshold question was NOT what quantity of lead caused the harm, nor what percentage of that quantity was

from gasoline, but whether the lead posed a “significant risk of harm” to the public health. *Ethyl*, 541 F.2d at 7.

The requirement to follow statutory mandates for precautionary regulation found further support in *Lead Industries Association v. EPA*, 647 F.2d 1130 (D.C. Cir. 1980). Here, Judge Wright again agreed with EPA that setting a standard under the Clean Air Act with “an absence of adverse effects” does not require showing that “the effects on which the standards are *clearly* harmful or *clearly* adverse” (emphasis in original). *Lead Industries Association*, 647 F.2d at 1153.

Unfortunately, Lead is far from unique; throughout its history our government has avoided regulation of substances infamously harmful to public health and the environment. A list of such celebrities includes asbestos, dioxin, PCB’s, DES, benzene and MTBE. The benzene and dioxin examples below place in stark relief the gridlock ensuing from forcing agencies to associate absolute certainty with their regulatory choices.

**Benzene and Gridlock.** OSHA’s attempt to regulate benzene demonstrates the difficulty in providing an “adequate margin of safety” to the public when too much risk assessment is required. Although benzene is a class 1 carcinogen with demonstrated links to leukemia and non-hodgkins lymphoma<sup>xxviii</sup>, attempts to eliminate its continued use have failed. Courts blocked OSHA’s proposed benzene regulation, requiring certainty not only of the hazards averted in their proposed regulation, but also an analysis of the risks and uncertainty in the alternatives to their proposal. Unable to meet this burden of proof, OSHA has been impeded from benzene regulation.

Subsequent decisions have severely limited rulemaking in the absence of quantitative analysis, not merely for a regulation as a whole, but also for proposed alternatives and for individual pollutants. For example, courts also rejected EPA’s original asbestos standard, holding that an agency must first provide a quantitative risk assessment for all proposed alternatives, not just the alternative preferred by the agency – even though EPA had concluded that only a phaseout would adequately address the risks associated with asbestos. *Corrosion Proof Fittings v. EPA*, 947 F.2d 1201 (5th Cir. 1991). The Eleventh Circuit later held that individualized risk assessments were necessary for each chemical regulated by a statute, and that individualized feasibility assessments were required for each industry subsector. *AFL-CIO v. OSHA*, 956 F.2d 962 (1992).

#### IV. SUMMARY OF RECOMMENDATIONS

(1) NRDC once again requests that OMB conduct a review of past estimates of the costs of environmental compliance and compare them to actual costs, and then devise a protocol for adjusting static cost estimates by more accurately adjusting for costs.

(2) NRDC requests that OMB examine the inherent undercounting of benefits in BCA and develop a protocol by which decision makers can systematically compensate for this deficiency and include it in the best practices document.

(3) NRDC requests that OMB recommend the use of a discount rate of zero for the value of future lives until the technical and ethical issues related to this practice are satisfactorily resolved. Failing that course of action, NRDC requests that OMB advise agencies to use a discount rate that is no greater than three percent in any situation, to use a smaller discount rate when the agency believes it is appropriate, and to allow agencies to show benefits without discounting, especially in intergenerational analysis.

(4) NRDC recommends that OMB make none of the draft report proposed changes to the use of the Value of Statistical Life-Years as contained in the OMB best practices document or the OMB 2000 guidelines.

(5) NRDC requests that OMB make none of the proposed changes concerning a formal uncertainty analysis for rules above a certain threshold. NRDC requests that OMB provide a justification for such a proposal by showing retrospectively and prospectively which rules it believes would come under this threshold, how current analysis is deficient to properly analyze such rules, and why a \$1 billion threshold would address this deficiency. NRDC also requests that OMB not require any formal uncertainty analysis unless an agency determines that its initial analysis is inadequate, and to allow the agency to base a decision about adequacy on the ratio of benefits to costs and the availability of data for a formal analysis.

(6) NRDC requests that OMB direct agencies not to use the recent "alternative analysis" like that being performed by EPA, including using such techniques in sensitivity analysis, and to remove such alternative analysis from existing agency BCA.

(7) NRDC requests that the Work Group examining issues of precaution in risk assessment and risk management cease operation at least until such time as it can come forth with a more balanced approach to the issue. Failing adoption of that recommendation, NRDC requests that the Work Group consider NRDC's comments that generally the current system has too little, not too much precaution in environmental policy.

Sincerely,

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Senior Fellow for Environmental Economics

<sup>i</sup> Environmental Protection Agency, Guidelines for Preparing Economic Analyses (EPA 240-R-00-003), September 2000.

<sup>ii</sup> See letter from Joan M. Daisey and Robert N. Stavins to Carol Browner, U.S. Environmental Protection Agency, An SAB Report on the EPA Guidelines for Preparing Economic Analyses (EPA-SAB-EEAC-99-020), September 30, 1999.

<sup>iii</sup> Office of Management and Budget, Economic Analysis of Federal Regulations Under Executive Order 12866, January 11, 1996; and Jacob J. Lew, Office of Management and Budget, Guidelines to Standardize Measures of Costs and Benefits and the Format of Accounting Statement, March 2000.

<sup>iv</sup> Lisa Heinzerling and Frank Ackerman, *Pricing the Priceless: Cost-Benefit Analysis of Environmental Protection*, Georgetown Law Institute, 2002.

<sup>v</sup> *Ibid.*, p. 28.

<sup>vi</sup> EPA 2000 Guidelines, 6.3.1.5, p. 48.

<sup>vii</sup> See OMB 1996, III.A.3.c; and OMB 2000, A.5.b. Special Case: Intergenerational Analysis.

<sup>viii</sup> EPA 2000 Guidelines, 6.3.2.4, p. 52.

<sup>ix</sup> For a discussion of the implications of discounting on decision making on climate policy see Richard Newell and William Pizer, *Discounting the Benefits of Climate Change Mitigation: How Much do Uncertain Rates Increase Valuations?*, prepared for the Pew Center on Global Climate Change, December 2001.

<sup>x</sup> OMB, Comments Prepared for Public Meeting of the Committee on Estimating the Health Benefits of Proposed Air Pollution Regulations, National Research Council/National Academy of Sciences, October 8, 2001.

<sup>xi</sup> See Anna Alberini, Maureen Cropper, Alan Krupnick, and Nathalie B. Simon, Resources for the Future, Discussion Paper 02-19, April 2002.

<sup>xii</sup> OMB 1996, III.B.5.b. Fatality risks.

<sup>xiii</sup> EPA 2000 Guidelines, 7.6.1.4, p. 93

<sup>xiv</sup> OMB 2000, I.B.5.(b). Fatality risks.

<sup>xv</sup> EPA 2000 Guidelines, 5.5.1, pp. 27-28.

<sup>xvi</sup> For more information on this issue see Dr. Frank Ackerman, *Uses and Abuses of Economic Analysis in Setting Stormwater Regulations*, December 18, 2002.

<sup>xvii</sup> Council On Environmental Quality, Risk Analysis: A Guide to Principles and Methods for Analyzing Health and Environmental Risks, 1989, pp. 10-11.

<sup>xviii</sup> See Office of Science and Technology Policy, Science, Risk, and Public Policy, March 1995, p. 7.



\*\*\* Courts will not tolerate shielding agency actions by hiding its policy in guidance documents. See, e.g., *Appalachian Pwr. v. EPA*, 208 F.3d 1015 (D.C. Cir 2000) ("An agency may not escape the notice and comment requirements for rulemaking by labeling a major substantive legal addition to a rule a mere interpretation"); see also *General Electric Co. v. EPA*, 290 F.3d 377, 380 (D.C. Cir. 2002).

\*\* Examples of Legislated Precaution in Environmental Statutes:  
When Congress Has Already Spoken

Clean Air Act

§108 requires NAAQS for pollutants with "an adverse effect on public health or welfare," meaning proof of actual harm before agency action may be taken. *Ethyl Corp v. EPA*, 541 F.2d 1, 14 (D.C. Cir 1976) (Wright, J.) In other words, demonstration of an effect is required; but demonstrating the certainty of the effect is not, as the *Ethyl* case described below proves. The minimum level of certainty required to regulate a chemical was established by the Supreme Court in the so-called Benzene decision, *Industrial Union Department, AFL-CIO v. American Petroleum Institute*, 448 U.S. 607 (1980). The Court held that a mere showing of harm is insufficient cause to regulate a chemical, that the agency, in this case OSHA, must first demonstrate "significant" risk, and then demonstrate that the proposed alternative would cause a significant risk reduction.

*Whitman v. American Trucking Associations* 531 U.S. 437, 465 (2001) (Scalia, J.): "The language, as one scholar has noted, "is absolute." D. Currie, *Air Pollution: Federal Law and Analysis* 4-15 (1981). The EPA, "based on" the information about health effects contained in the technical "criteria" documents compiled under § 108(a)(2), 42 U.S.C. § 7408(a)(2), is to identify the maximum airborne concentration of a pollutant that the public health can tolerate, decrease the concentration to provide an "adequate" margin of safety, and set the standard at that level."

"Did congress pass the Clean Air and Clean Water Acts out of concern that pollution hurts the economy, or out of a fundamental concern for the health of the citizenry?" *Rancho Viejo v. Norton*, 2003 WL 1699326 (2003) (Garland, J.).

See also:

§109(b)(1) (codified at 42 USC §7409): "National primary ambient air quality standards... the attainment and maintenance of which in the judgement of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health."

§109(b)(2): "Any national secondary ambient air quality standard...shall specify a level of air quality the attainment and maintenance of which...is requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air."

**Occupational Safety and Health Act § 6(b)(5)** : requires agency to "set the standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer any impairment of health."

*Industrial Union Dept., AFL-CIO v. American Petroleum Institute*, 448 U.S. 607, 646 (1980): "Congress was concerned, not with absolute safety, but with the elimination of significant harm."

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Safe Drinking Water Act

§300g-1(b)(4)(A): "Each maximum contaminant level goal established under this subsection shall be set at the level at which no known or anticipated adverse effects on the health of persons occur and which allows an adequate margin of safety."

*Natural Resources Defense Council, Inc. v. E.P.A.* 824 F.2d 1211, 1216 (D.C. Cir. 1987):

"The Drinking Water Act, by contrast, directs the Administrator to establish a recommended level for "each contaminant which, in his judgment ... may have any adverse effect on the health of persons." 42 U.S.C. § 300g- 1(b)(1)(B) (emphasis added). This language is inconsistent with a requirement that the Administrator make a threshold finding of significant risk."

<sup>xxi</sup> *Calvert Cliffs Coordinating Committee v. United States Atomic Energy Commission*, 449 F.2d 1109 (D.C. Cir. 1971).

<sup>xxii</sup> *Thomas v. Peterson*, 753 F.2d 754 (9th Cir. 1985).

<sup>xxiii</sup> *National Ass'n of Home Builders v. Babbitt* . 130 F.3d 1041 (D.C. Cir. 1997).

<sup>xxiv</sup> *Id.* at 1053.

<sup>xxv</sup> *Rancho Viejo v. Norton*, WL 1699326 (D.C. Cir. 2003). The court specifically criticized the assumption that a statute may not have a "noneconomic purpose" as its "true" and "primary" motivation.

<sup>xxvi</sup> 21 U.S.C. §346a(b)(2)(C).

<sup>xxvii</sup> Background on lead in gasoline taken from Peter Montague, *Precautionary Action Not Taken: Corporate Structure And the Case Study of Tetraethyl Lead In the U.S.A.*, in Carolyn Raffensperger and Joel Tickner, Eds., *Protecting Public Health and the Environment: Implementing the Precautionary Principle*, at pp. 294-303 (Washington, D.C.: Island Press, 1999).

<sup>xxviii</sup> Peter F. Infante, *Benzene: A Historical Perspective on the American and European Occupational Setting*, in Poul Hartemoes, et. al., eds., *The Precautionary Principle In the 20<sup>th</sup> Century*, London: Earthscan, 2000.