

robert_stavins@Harvard.Edu
05/05/2003 04:08:56 PM

Record Type:Record

To: Lorraine D. Hunt OIRA ECON GUIDE/OMB/EOP@EOP
cc:
Subject: Comments on Draft Guidelines

Dear Sir/Madam:

Please find attached comments on the OMB Draft Guidelines for Regulatory Analysis. I am submitting these comments on behalf of USGen New England, for which I have served as an advisor on environmental economics. They are separate and distinct from comments on the Guidelines that I have provided to the Utility Water Act Group (UWAG), which I understand will be included in UWAG's submission of comments on the Draft Guidelines.

Sincerely,

Robert N. Stavins

Robert N. Stavins, Albert Pratt Professor of Business and Government
Director, Environmental Economics Program at Harvard University
Chairman, Environment and Natural Resources Faculty Group
John F. Kennedy School of Government, Harvard University
79 John F. Kennedy Street, Room L-306, Cambridge, Massachusetts 02138
Phone: 617-495-1820 Fax: 617-496-3783 E-Mail: robert_stavins@harvard.edu
Stavins' Home Page: <http://www.stavins.com>
Env'tl Econ Program: <http://www.ksg.harvard.edu/cbg/eepu/home.htm>

Assistant: Ms. Jennifer Shultis Room L-319 Phone: 617-496-8054

Fax: 617-496-3783 E-Mail: jennifer_shultis@harvard.edu

- omments on OMB Draft Guidelines for Regulatory Analysis Submitted by Professor Robert Stavins on Behalf of USGen New England.pdf

Robert N. Stavins, Ph.D.¹
John F. Kennedy School of Government
Harvard University
79 John F. Kennedy Street
Cambridge, Massachusetts 02138

May 5, 2003

Office of Information and Regulatory Affairs
Office of Management and Budget
New Executive Office Building
Room 10202
725 17th Street, NW
Washington, DC 20503

Re: *Comments on the U.S. Office of Management and Budget's Draft Guidelines for the Conduct of Regulatory Analysis and the Format of Accounting Statements*

Dear Sir/Madam:

My purpose in this letter is to comment on the U.S. Office of Management and Budget's (OMB) "Draft Guidelines for the Conduct of Regulatory Analysis and the Format of Accounting Statements" (hereafter, "the Guidelines") that are intended to replace both the 1996 "best practices" document and the 2000 guidelines issued by OMB.²

While the primary function of the Guidelines is to guide the practice of economic analysis performed by Federal agencies to evaluate proposed regulations in regulatory impact analyses required by Executive Order No. 12866 and a variety of related authorities, the Guidelines have much broader effects. This is because economic analysis is performed in the context of many other government actions that have significant impacts on well-being and on the economy, ranging from facility or site-specific permitting decisions by Federal agencies to the development of state and local government regulations. Thus, in addition to serving as a critical guide for agencies preparing regulatory analyses for OMB review, the Guidelines are broadly used as an authoritative reference for evaluating the validity of methods used in government economic analyses in a wide variety of contexts.

¹Albert Pratt Professor of Business and Government and Faculty Chair, Environment and Natural Resources Faculty Group, John F. Kennedy School of Government, and Director, Environmental Economics Program at Harvard University; University Fellow, Resources for the Future; and former Chairman, Environmental Economics Advisory Committee, U.S. Environmental Protection Agency (EPA) Science Advisory Board. This information and the return address above are provided only for purposes of identification. These comments are not being submitted on behalf of, or in my official capacities at, Harvard University, Resources for the Future, or the EPA Science Advisory Board. My comments on the OMB Guidelines are being submitted on behalf of USGen New England, for which I have served as an advisor on environmental economics, with technical support provided by Analysis Group.

²Appendix C of Draft 2003 Report to Congress on the Costs and Benefits of Federal Regulations. 68 Fed. Reg. 5,492-5,527 (notice and request for comments, February 3, 2003).

In order to highlight the importance of several aspects of OMB's Guidelines and their potential to improve economic analyses beyond those of proposed Federal regulations, I draw upon examples from an economic analysis performed by the U.S. Environmental Protection Agency's (EPA) New England Region (Region 1) for an on-going Clean Water Act permitting decision. On July 22, 2002, EPA Region 1 issued a draft National Pollutant Discharge Elimination System (NPDES) permit, setting new cooling water intake and thermal discharge requirements for Brayton Point Station in Somerset, Massachusetts.³ Brayton Point Station is a 1,600 MW capacity power plant whose annual electricity generation is sufficient to meet nearly twenty percent of Massachusetts' electricity demand.

My own analysis has shown that the requirements proposed by the draft permit will impose private, after-tax costs on the order of one-quarter of a billion dollars in net present value terms.⁴ These costs will be passed on to electricity consumers and shareholders, and the social costs of the requirements, which take into account lost tax revenue, will be even greater. In fact, when appropriately annualized, the cost of the proposed permit, which affects just one facility, is close to one-third of the amount that causes a proposed regulation to be classified as "economically significant" under Executive Order No. 12866, thereby requiring a formal regulatory analysis and review by OMB. Unfortunately, in its justification for the imposition of these costs, EPA Region 1 relies on an analysis of economic benefits that is deeply and fundamentally flawed. These flaws cast serious doubt on the validity of EPA Region 1's permitting decision and underscore the importance of OMB's Guidelines.

In the following sections of these comments, I use the economic analysis of the draft permit for Brayton Point Station to: draw attention to particular aspects of the Guidelines that will have a positive impact on future economic analyses, suggest particular points that are important to add to the Guidelines to ensure the quality of future analyses, and suggest changes to the text that will reduce the potential for misinterpretation of the Guidelines.^{5,6} While the Guidelines currently focus exclusively on describing appropriate methods of estimating the benefits and costs of regulations,

³See: EPA - New England. "Clean Water Act NPDES Permitting Determinations for Thermal Discharge and Cooling Water Intake from Brayton Point Station in Somerset, Massachusetts (NPDES Permit No. MA 0003654)." July 22, 2002. Available at <<http://www.epa.gov/region1/braytonpoint/index.html>>.

⁴See: Stavins, Robert N. "Comments of Dr. Robert N. Stavins on Draft NPDES Permit No. MA 0003654, Brayton Point Station, Somerset, Massachusetts." Submitted to Mr. Damien Houlihan, Office of Ecosystem Protection, EPA - New England, October 4, 2002.

⁵In these comments, I highlight the importance of particular aspects of OMB's Guidelines by providing examples from EPA's economic analysis of the draft permit for Brayton Point Station. In another submission, I have offered more general comments on OMB's Guidelines. See: Stavins, Robert N. "Comments on the U.S. Office of Management and Budget's (OMB) Draft Guidelines for the Conduct of Regulatory Analysis and the Format of Accounting Statements." Submitted on behalf of the Utility Water Act Group, May 5, 2003.

⁶The absence of comments on any specific aspect of the Guidelines in these or my other comments should not be considered an indication that I support that aspect of the Guidelines.

OMB should also provide unambiguous guidance regarding methods that are sometimes found in government analyses but are inconsistent with economic theory and empirical evidence, such as so-called "avoided cost measures of benefits." In Section I of these comments, below, I discuss the need for such guidance. To underscore the importance of this, I describe the use of an "avoided cost measure" in the economic analysis supporting EPA Region 1's draft permit for Brayton Point Station. Section II addresses the new guidance that OMB offers regarding the use of benefit transfer methods. By highlighting severe flaws in a benefit transfer performed to estimate benefits for EPA Region 1's draft permit, I demonstrate the need for OMB to establish strict and detailed guidelines on the appropriate implementation of benefit transfer methods. Section III concludes.

I. Providing Guidance on Inappropriate Methods: "Avoided Cost Measures of Benefits"

Compared to its previous guidelines, OMB has substantially augmented its discussion of methods for estimating benefits and costs in regulatory analyses. These changes significantly enhance the effectiveness of the Guidelines in describing how to estimate *correctly* costs and benefits. However, it is also very important for OMB to give agencies unambiguous guidance regarding particular methods that are *not* appropriate for estimating costs or benefits. An example of such an inappropriate method is the so-called "avoided cost method," which is simply a form of cost-effectiveness analysis misapplied (mischaracterized) by agencies as a way of gauging benefits. As the economic analysis supporting EPA Region 1's draft permit for Brayton Point Station demonstrates, the use of such a method leads to invalid and often grossly overstated estimates of the benefits anticipated from a particular government action.

In the Guidelines, OMB has usefully distinguished two distinct tools of economic analysis, benefit-cost analysis (BCA) and cost-effectiveness analysis (CEA).⁷ In the case of regulatory analyses that are used to evaluate different alternatives to achieve the same regulatory objective (for example, a particular level of pollution reduction), benefit-cost analysis can not only inform policymakers of which alternative yields the greatest net benefits, but can also inform policymakers whether the benefits of any of the alternatives exceed their respective costs. In other words, it can reveal whether, given the cost of alternatives considered, society would be made better or worse off by achievement of the regulatory objective under consideration. In stark contrast, cost-effectiveness analysis can only reveal which alternative can achieve the regulatory objective at the lowest cost. The fact that a cost-effectiveness analysis identifies the alternative that allows society to achieve an objective at lowest cost says nothing about whether the benefits of achieving that objective exceed even the lowest cost associated with doing so.

⁷The potential for misinterpretation of the differences between BCA and CEA could be reduced if the following introductory description of cost-effectiveness analysis in Section III.B is deleted or significantly revised: "Cost-effectiveness analysis provides a rigorous way to identify options that achieve the most effective use of the resources available." If a regulation requires the commitment of resources to a regulatory objective whose benefit does not exceed the opportunity cost of those resources, such a regulation would not constitute an effective use of those resources. Cost-effectiveness analysis cannot evaluate the benefits of a regulation, and so it cannot distinguish whether resources committed to a regulatory objective are being put to their most effective use.

Despite this clear distinction, it is not uncommon for analyses to use *inappropriately* the cost of other means of achieving a regulatory objective as a measure of the “benefits” of the particular alternative under consideration. At least two variations of this inappropriate “avoided cost approach” have been used to estimate benefits: (1) labeling as a “benefit” the cost of a hypothetical alternative that would achieve the same regulatory objective (at greater cost); and (2) labeling as a “benefit” the historical cost to comply with previous regulations or other government initiatives that achieve similar objectives. Whenever such methods are used, if one finds that the so-called “benefits” exceed costs, one has only conducted a cost-effectiveness comparison. Such a comparison does not reveal whether the alternative under consideration would yield positive net benefits and thereby make society better off! Nonetheless, EPA Region 1 used the first of the two variations of this method to estimate the benefits of its draft permit for Brayton Point Station.

To support its draft permit, Region 1 conducted three distinct analyses of benefits. While the first analysis contained several methodological flaws and unreasonable assumptions that served to overstate the resulting benefit estimates, of the three analyses, it was the only one that bore any relationship to the methods described in OMB's Guidelines. This analysis found that the ratio of the draft permit's costs to its benefits was 37.5 to 1.⁸ Arguing that this benefit analysis failed to account adequately for particular categories of benefits, such as ecological services and non-use value of affected fish populations, Region 1 then employed two thoroughly flawed and completely invalid methods for valuing these “missing” benefits. The first of these is an example of the “avoided cost approach” described above.

EPA Region 1 characterized its “avoided cost approach” as a Habitat Restoration Cost (HRC) analysis.⁹ The restoration costs estimated by Region 1 are the design, implementation, administration, maintenance, and monitoring costs of various identified means of restoring underwater habitats in the hopes of producing the same increase in ecological services and service flows that would be expected from the various technological alternatives being evaluated for reducing the impacts of Brayton Point Station's cooling water intake and thermal discharges.¹⁰ In other words, these are the costs of another alternative — and a very costly alternative — for achieving the same regulatory objective as that sought by the draft permit. Consequently, these estimates might conceivably be useful for a cost-effectiveness analysis that evaluates the cost of the draft permit relative to other alternatives that would achieve the same objective. However, that is not how Region 1 uses these values. Instead, Region 1 construes these estimates as an indication of the draft permit's *benefits*.¹¹

⁸Stavins (2002), p. 9, Table 4.

⁹EPA - New England (2002), p. 7-151.

¹⁰EPA - New England (2002), pp. 7-155 to 7-157.

¹¹Region 1 recognizes that its HRC analysis produces estimates of costs, rather than benefits. But, it insists that the estimates are nonetheless useful in evaluating benefits, and likely serve as a conservative estimate of benefits (EPA - New England (2002), p. 7-175). To support this claim EPA notes that two studies of entirely different habitat

While mitigation, restocking, and/or habitat restoration may be acceptable approaches as alternatives to the installation of specific technologies in order to offset losses of aquatic organisms associated with thermal discharges and impingement and entrainment at cooling water intake structures, the cost of such alternatives is in no sense whatsoever a reasonable proxy for the value (that is, the benefit) of reducing these losses.¹² A more costly alternative to achieving a particular objective can always be identified to make a proposed regulation appear cost-effective by comparison. Worse yet, by calling the cost of the alternative a benefit, as the HRC method does, this approach can be used to make virtually any government action appear socially desirable.

Note that the approach taken by EPA Region 1 with its completely invalid HRC method should not be confused with legitimate applications of “defensive expenditure” or “averting behavior” methods of estimating benefits.¹³ Those methods are based upon observed actions, that is, individual or group behavior. In particular, a necessary condition for using defensive expenditures or averting behavior for purposes of benefit estimation is that the researcher *observes* people revealing their preferences by *actually (and voluntarily) incurring costs* to avert (or tolerate) the environmental disruption in question.¹⁴ By observing individuals or groups take actions that involve incurring particular costs, one can infer that the individual or group is taking those actions because the benefits to the respective individuals or groups outweigh their costs. This is obviously not the case with the hypothetical habitat replacement activities that EPA Region 1 uses to develop its estimates. Indeed, Region 1 makes no claims that such activities have actually and voluntarily been carried out.

The use of “avoided cost measures” has severe consequences for the quality of economic analyses of proposed government actions, and the economic efficiency of the resulting decisions. In determining the Best Technology Available for minimizing the environmental impact of a power plant’s cooling water intake, EPA has established that it is unreasonable for the chosen technology to impose a cost that is “wholly disproportionate” to the environmental benefit gained.¹⁵ As EPA itself recognizes, while such a standard may not require a formal benefit-cost analysis, its estimates

restorations have found that the estimated benefits of those restorations have exceed their costs. This proves absolutely nothing. One could easily come up with numerous cases in which benefits of proposed restorations are less than respective costs.

¹²Impingement occurs when fish and other aquatic life are trapped against cooling water intake screens. Entrainment occurs when aquatic organisms, eggs and larvae are drawn into a cooling system, through the heat exchanger, and then pumped back out.

¹³Such methods are noted in Section IV.B.4.b of the Guidelines. 68 Fed. Reg. 5,519.

¹⁴See: Freeman, A. Myrick. *The Measurement of Environmental and Resource Values: Theory and Methods*. Second Edition. Washington, D.C.: Resources for the Future, 2003; and Abdalla, C., B. Roacham, and D. Epp. “Valuing Environmental Quality Changes Using Averting Expenditures: An Application to Groundwater Contamination.” *Land Economics* 68(1992):163-169.

¹⁵EPA - New England (2002), p. 7-14.

of benefits and costs should be reasonable and neither arbitrary nor capricious.¹⁶ Yet, after its first analysis found that costs *were* wholly disproportionate to benefits, Region 1's support for its contention to the contrary rests on its HRC analysis and another analysis, discussed in Section II of these comments, both of which are unreasonable and arbitrary. Indeed, Region 1's estimate of benefits from its HRC analysis exceeded that from its only reasonable benefits analysis by nearly 12,000 percent.¹⁷

This example underscores the importance of OMB providing guidance regarding approaches agencies employ that are *not* methodologically sound. First, it is essential that the Guidelines directly address *invalid* "avoided cost methods." The Guidelines' distinction between benefit-cost analysis and cost-effectiveness analysis provides the basis for explaining the fundamental lack of validity of such methods of "benefit estimation." Second, OMB should revise its introduction to methods for estimating the benefits of goods that are not directly or indirectly traded in markets. Section IV.B.2 of the Guidelines states, "while innovative estimation methods are sometimes necessary [for valuing particular benefits], they increase the need for quality control to ensure that estimates conform closely to what would be observed if markets did exist."¹⁸ This statement could be read as an open invitation for the use of self-proclaimed, but invalid "innovative methods." An agency would simply need to assert that the benefits a method purportedly estimates cannot be easily estimated through other means. The merits of innovative estimation methods and the decision of whether to include them in an economic analysis should be based on whether those methods are supported by sound economic theory and best empirical practice, not on the difficulty of measuring particular benefits through other means. So-called "innovative methods" should *not* be introduced into an analysis if they are conceptually invalid and empirically biased.

II. Benefit Transfer

Because of the time and expense involved in carrying out original benefit estimates, extrapolations of estimates from previous studies are often used to estimate benefits in economic analyses. Such "benefit transfer" is not only a common feature of regulatory analyses, it is also found in other economic analysis of proposed government actions. However, as the Guidelines correctly point out, benefit transfer methods must be used with considerable caution, because of the difficulty of identifying appropriate existing studies for benefit transfer and the error that can be introduced in performing such transfer. Indeed, the Guidelines suggest that, because of the potential for error, the method should be used only as a last resort. This is particularly the case if the results of a benefit transfer are likely to be a dominant component of the overall benefit estimate.

¹⁶EPA - New England (2002), p. 7 -19.

¹⁷EPA - New England (2002), p. 7-158, Table 7.6-2.

¹⁸68 Fed. Reg. 5,518.

The Guidelines usefully describe a number of factors, identified by past economic research, that must be considered to improve the reliability of estimates derived from benefit transfer.¹⁹ As Brookshire and Neill (1992) point out, “benefit transfers are valid under well-defined conditions.” Hence, analysts must be careful to meet those conditions, which fall under two general categories: *soundness* (of the analytical methodology employed in the “study case” from which information on benefits are transferred) and *similarity* (of the study case and the “policy case” to which information on benefits are transferred). Soundness of the analysis in the original study case is crucial. Along with transferring benefit estimates from a previous study, benefit transfer also transfers any flaws and uncertainties embedded in the previous study. As advances in economic research continue to identify factors that affect the soundness of primary estimation methods, assessing the quality of the underlying analysis in a benefit transfer is essential.

The second general factor, similarity, entails not only the similarity of the good or service being valued in the previous study to that being examined in the policy case, but also the similarity of the populations valuing the good or service in both cases, and the similarity of external factors that may affect the valuations, such as the availability of substitutes. Furthermore, the baseline and degree of change (induced by the policy) should be similar. All of this is particularly challenging in the natural resource context, because values are typically highly dependent upon location. Previous studies have frequently examined the value of unique resources, such as air quality in the Grand Canyon or particular high-profile endangered species. The uniqueness of those resources greatly affects their respective values. Hence, the Guidelines properly single out such studies as highly suspect bases for benefit transfer purposes.

Three types of benefit-transfer methods have been utilized in the past. With the simplest — point estimates — the numerical value from the study case is adopted for the analysis of the policy case. Because of lack of similarity, this is *virtually never appropriate*. A preferred approach adopts a benefit function (equation) from the study case, and employs values of exogenous variables from the policy case in order to adjust for some of the factors that differentiate the policy and study cases, thereby allowing a more accurate benefit estimate for the policy under investigation. Similarly, meta-analysis can be used to combine values from a set of previous studies, estimate statistically the dependence of those values on various explanatory variables, and then employ values of these variables from the policy case to estimate benefits.²⁰

¹⁹For a more detailed discussion of appropriate implementation of the benefit transfer method, and the factors that can affect its reliability, see: Desvousges, William H., F. Reed Johnson, and H. Spencer Banzhaf. *Environmental Policy Analysis with Limited Information: Principles and Applications of the Transfer Method*. Northampton, MA: Edward Elgar Publishing, Inc. 1998; and the special section of *Water Resources Research* (Vol. 28, No. 3, March 1992) introduced by Brookshire, David and Helen Neill. “Benefit Transfers: Conceptual and Empirical Issues.” *Water Resources Research*. 28(3), March 1992, pp. 651-655.

²⁰See: U.S. Environmental Protection Agency. *Guidelines for Preparing Economic Analyses*. Office of the Administrator, EPA 240-R-00-003. Washington, D.C., September 2000.

The consequences of failure to meet the above conditions for valid benefit transfers are well illustrated by the benefit analysis performed by EPA Region 1 to support its draft permit for Brayton Point Station. The third of the benefit estimation methods employed by EPA is a particular type of benefit transfer analysis, which Region 1 refers to as the "Per-Person Recreational and Non-Use Value Analysis." This highly flawed analysis begins with an estimate of the per-person recreational use benefits associated with the draft permit that are due to the impacts of anticipated changes in fish populations on the recreational fish catch.²¹ This first step draws from data specific to Brayton Point Station and also transfers estimates of the recreational benefit per fish caught from existing studies of the benefits of fishing in other bodies of water. While the benefit transfers required in this step were performed inaccurately, leading to an overstatement of recreational benefits of well over 100 percent, I will focus on the subsequent, even more flawed benefit transfers in this analysis.²²

The next step in the "Per-Person" analysis consists of developing an estimate of the non-use benefits of the anticipated environmental improvements held by individuals that do not directly use the affected body of water. This was done by successively applying two ratios to the estimate of an individual user's use benefit estimated in the first step: the ratio of a user's non-use benefit to his/her use benefit, and the ratio of a non-user's non-use benefit to a user's non-use benefit. These ratios were assumed to be the average ratios found in six previous studies of the non-use and use benefits of other environmental improvements.²³ Incredibly, the only effort Region 1 makes to ensure that the environmental improvements in the study cases it draws from for these ratios are *similar* to the anticipated environmental improvement from the draft permit is to include studies that "valued local water resources."²⁴

No consideration is given to any of the numerous factors that would significantly affect the applicability of the average ratio in those six studies to the draft permit analysis, including: the magnitude and nature of the environmental improvement; characteristics of the affected resource, such as how familiar society is with it and how unique it is; and even the use benefits associated with the resource, as one would expect the ratio of use to non-use benefits to depend on the magnitude of the use benefits. In fact, considerations of these other factors, as recommended by OMB's Guidelines, make clear that the study cases are markedly different from and thus inappropriate for the benefit transfer employed by Region 1. For example, one study examined the non-use benefits associated with "postpon[ing] mining that would degrade water quality throughout the South Platte

²¹EPA - New England (2002), pp. 7-146 to 7-148.

²²Stavins (2002), p. 36.

²³These six studies were chosen from a larger number of studies that were reviewed in Brown, Thomas. "Measuring Nonuse Value: A Comparison of Recent Contingent Valuation Studies." in Bergstrom, John C. "Benefits and Costs Transfer in Natural Resource Planning, Sixth Interim Report." *Department of Agricultural and Applied Economics, University of Georgia*, 1993.

²⁴Memorandum from Elena Besedin, Michael Fisher, and Ryan Wardwell, to Mark Stein and Phil Colarusso, U.S. EPA, Region 1, May 23, 2002, titled "Assessment of Benefits to Recreational User and Non-User Populations from Reduced Adverse Environmental Impacts of Cooling Water Intake System Operation at Brayton Point Station," p. 10.

Basin enough to permanently preclude riparian recreation.”²⁵ The South Platte Basin includes much of Colorado, including Denver and a major national park, as well as parts of Wyoming and Nebraska. This was used for a benefit transfer to a situation that EPA acknowledges involves only marginal, localized fisheries impacts.

The final step in the “Per-Person” analysis highlights one of the greatest risks associated with the benefit transfer method, the need for and implications of arbitrary judgment by the analyst conducting the transfer. Having derived an estimate of a per-person non-use benefit for the draft permit, Region 1 makes an assumption about how many individuals might hold this non-use benefit in order to develop an aggregate benefit estimate. Of course, lacking any empirical support, this judgment regarding the appropriate population to which the per-person estimate should be applied (which might be as small as that in the area immediately surrounding the affected body of water or as large as the population of the entire nation) has such a substantial impact on the resulting benefit estimate as to make it completely uninformative and unreliable.

The estimates produced from this approach differ substantially from the outcome of Region 1's first benefit analysis, which is the only one that could be considered even remotely in line with the practices established in OMB's Guidelines. The estimates developed from the “Per-Person” analysis are between 15,000 and in excess of 49,000 percent greater than those from the first analysis.²⁶ Moreover, the absurdity of the results from this flawed benefit transfer is made evident when the resulting benefit estimates are compared to Region 1's estimates of the increase in fish populations anticipated from the draft permit. Region 1's estimates imply that we as a society value an increase in the fishery population at *\$84 to \$308 per one year-old fish*.²⁷ Unfortunately, even though these estimates make readily apparent the consequences of failing to follow the guidance that OMB sets out, EPA recently relied upon an equally flawed benefit transfer to estimate the benefits of environmental improvements anticipated from a proposed regulation setting requirements for cooling water intake structures at certain existing power plants nationwide.²⁸

²⁵See: Greenley, Douglas A., Richard G. Walsh, and Robert A. Young. “Option value: empirical evidence from a case study of recreation and water quality.” *Quarterly Journal of Economics*, 96, 1981, pp. 657-672, described in Brown (1993) at p. 191.

²⁶EPA - New England (2002), p. 7-158, Table 7.6-2.

²⁷Stavins (2002), p. 38.

²⁸While the exact benefit transfer used in the proposed regulation differs from that in the analysis of Brayton Point Station's draft permit, the flaws in this new approach are of similar and equally significant nature. For example, EPA's analysis relies on a study that values benefits associated with wetland and eelgrass habitat restoration, although the environmental improvement anticipated from the regulation is increases in fish populations. EPA then makes assumptions about the share of the value that individuals place on wetland and eelgrass restoration that is attributable to a particular increase in fish populations assumed to result from that restoration. Yet, there is no sound basis for judging what share of the value that an individual places on habitat restoration is attributable to resulting impacts on fish populations of any magnitude. Moreover, the individuals who were asked to value the restoration were not informed of the magnitude of the increase in fish populations that might be expected from the restoration being considered. The resulting estimates cannot be used as valid estimates of the benefits associated with the proposed

The good news regarding benefit transfer approaches is that they are relatively quick and relatively cheap, compared with direct analysis of environmental benefits. The bad news, however, is that they are both less accurate and less reliable than carrying out an appropriate analysis of the case in question.²⁹ And, worse yet, as is evident from the EPA Region 1 benefit transfer described above, the arbitrary judgments that such benefit transfers can require open up the possibility of unintentional bias or even intentional manipulation. The bottom line on benefit-transfer methods is that “the devil is in the details.” Whenever possible, a legitimate revealed-preference method of benefit estimation should be employed. When this is not feasible, as in the case of “non-use value,” then analysts may choose to employ stated-preference methods, such as contingent valuation. And when that is not possible, then analysts may be forced to rely upon benefit transfer, but this should be done carefully and honestly, or not at all. OMB’s strict and detailed guidance regarding this method is extremely valuable.

III. Conclusions

In these comments, I have sought to provide what I hope to be constructive criticism (and where appropriate, simple praise) of OMB “Draft Guidelines for the Conduct of Regulatory Analysis and the Format of Accounting Statements.” The examples drawn from the economic analysis of the on-going NPDES permitting decision for Brayton Point Station highlight the potential impact of the OMB Guidelines on economic analyses beyond those required under Executive Order No. 12866. They also underscore the importance of changes to the Guidelines that OMB has made, and other changes that it should make.

I have emphasized one area where important changes need to be made to the Guidelines. While the Guidelines focus on describing *appropriate* methods of estimating the benefits and costs of regulations, OMB should *also* provide unambiguous guidance regarding *fundamentally invalid* methods that should *not* be used by agencies, but are sometimes found in government studies despite their inconsistency with economic theory and empirical evidence, in particular, so-called “avoided cost measures of benefits.” I have drawn attention to two variations of this inappropriate “avoided cost method” that have been used by agencies to estimate benefits: (1) labeling as a “benefit” the cost of a hypothetical alternative that would achieve the same regulatory objective (at greater cost); and (2) labeling as a “benefit” the historical cost to comply with previous regulations or other government initiatives that achieve similar objectives. Whenever such methods are used, if one finds that the so-called “benefits” exceed the costs of the regulatory alternative under consideration, one has only found that the regulatory alternative under consideration provides a lower cost means

regulation. See: National Pollutant Discharge Elimination System - Proposed Regulations to Establish Requirements for Cooling Water Intake Structures at Phase II Existing Facilities; Notice of Data Availability, 68 Fed. Reg. 13,522 - 13,587 (Notice of Data Availability, March 19, 2003).

²⁹The need to account for and assess the implications of uncertainty, a focus of the proposed Guidelines, is especially important when benefit transfer methods are used. In particular, analyses should identify the impacts on resulting estimates of the numerous judgments that are made in the course of benefit transfer. This issue merits discussion in the Guidelines.

of achieving a particular objective than the hypothetical alternative whose cost underlies the "avoided cost measure of benefits." Such a comparison says nothing about whether the alternative under consideration would yield positive net benefits and thereby make society better off!

I have also addressed the fact that while benefit transfer methods can substantially reduce the cost and time associated with performing economic analysis, if those methods do not meet well-defined conditions they can severely compromise the quality of information produced by economic analyses, as was apparent in EPA Region 1's economic analysis. Therefore, if benefit transfer methods continue to be employed in economic analyses, OMB's careful description of the conditions that must be met in implementing these methods will be an essential addition to the Guidelines.

With some additional work on the Guidelines, as I have outlined in these comments, OMB can provide guidance that will significantly increase the quality of the information presented not only in regulatory analyses performed by Federal agencies, but also in economic analyses performed for numerous other types of government actions at the Federal, state, and local levels. These Guidelines can make such analyses more consistent with existing economic theory and empirical research, and facilitate their correct interpretation.

Sincerely,

Robert N. Stavins

Robert N. Stavins