Legislating Cost-Benefit Analysis: The Federal Water Pollution Control Act Experience

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I. Introduction

Increased use of cost-benefit analysis is a key element of current efforts to "reform" the federal regulatory process. This is particularly true in the field of environmental regulation, where industry critics have been highly successful in persuading policymakers that many pollution control measures provide insufficient environmental benefits to justify the high costs they impose on the industrial polluter.

Cost-benefit analysis is not a new concept in environmental regulation. A great deal of experience with legislating the requirement of such analysis has accumulated since the modern period of environmental regulation began with the passage of the Clean Air Act in 1970.[1] Those who contemplate imposing new cost-benefit analysis requirements should study the operation of the requirements currently in force before rushing to enact new ones.

The cost-benefit analysis requirements for effluent limitations and new source performance standards under the Federal Water Pollution Control Act amendments of 1972[2] and 1977[3] ("FWPCA") offer particularly useful guidance. For here, as in few other environmental statutes, Congress mandated not simply a general consideration of costs, but a schedule of cost and benefit weighings tailored to each step in a regulatory schedule. And the statute

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1. Clean Air Act of 1970, 42 U.S.C. §§ 1857-1858 (1976), Pub. L. No. 91-604, 84 Stat. 1709 (1970) (current version at 42 U.S.C. §§ 7401-7642 (1976 & Supp. V 1981)).

2. Pub. L. No. 92-500, 86 Stat. 816 (1972) (current version at 33 U.S.C. §§ 1251-1376 (1976 & Supp. V 1981)).

3. Pub. L. No. 95-217, 91 Stat. 1566 (1977) (current version at 33 U.S.C. §§ 1251-1376 (1976 & Supp. V 1981)). The FWPCA amendments of 1972 and 1977 are often referred to in combination as the Clean Water Act.

appropriately distinguished between cost-benefit analysis properly so-called (balancing of costs against benefits) and cost-effectiveness analysis (finding the least-cost method for achieving a given benefit).

This article will demonstrate that, despite such gradations of analysis, the cost tests under the various FWPCA provisions have blurred, and that this deviation from the statutory language has been largely countenanced by the reviewing courts. The blurring has resulted in ad hoc evaluations by Environmental Protection Agency ("EPA") administrators, who treat all steps of the regulatory schedule the same, thus thwarting the goals of predictability and intellectual coherence in the law. It will be demonstrated that Congress itself deserves much of the blame for this outcome, since it employed highly ambiguous language in the statute and then supplemented it with deliberately confusing legislative history. Also blameworthy are EPA policymakers, who have defied even reasonably clear statutory language more for the sake of administrative convenience than out of an excess of regulatory zeal or sympathy with the regulated industries. Finally, the federal courts of appeals, which have sanctioned the dilution of some cost tests and the undue enhancement of others, have erred by their excessive deference to agency interpretations of the law and misguided reliance on questionable legislative history.

Although many of the major defects in existing cost-benefit statutes have been identified, today's legislators should not charge ahead with new cost-benefit analysis schemes on the theory that more precise legislating, more faithful administration and more conscientious judicial review will prevent the problems that emerged under FWPCA from recurring. The final section of this article will argue that many of the difficulties experienced under the FWPCA are inherent in applying cost-benefit analysis to environmental regulation in the context of the institutional structure of American government. Both the issues and the institutional actors present great challenges. Can quantifiable industrial costs and nonquantifiable environmental benefits be compared in the first place? If they must be, what institution should handle the task? Can we improve the present division of decisionmaking authority between Congress and EPA? Finally, what is the proper role of judicial review in this balancing process? These questions should be carefully considered before expanding the role of cost-benefit analysis in the environmental regulatory process. Consideration of the

FWPCA experience provides a useful starting point for such reflection.

II. The Statutory Language

The Court of Appeals for the Fourth Circuit has called the FWPCA not only "vague, uncertain and inconsistent,"[4] but also "poorly drafted and astonishingly imprecise."[5] If this is true of the statute as a whole, it is even more true of the guidelines for establishing effluent limitations and new source performance standards under the 1972 and 1977 amendments. There are four categories of effluent limitations or performance standards for which guidelines have been established to govern the consideration of cost: best practicable control technology ("BPT"), best available technology (BAT), best available demonstrated control technology ("BDT") and best conventional pollutant control technology ("BCT"). In each case, the statutory language defining the standard is filled with ambiguities.

A. *Best Practicable Control Technology (BPT)*

BPT is the first stage of effluent limitation required of industrial dischargers by Congress: "[t]here shall be achieved . . . not later than July 1, 1977, effluent limitations for point sources, other than publicly owned treatment works . . . which shall require the application of the best practicable control technology currently available as defined by the [EPA] Administrator pursuant to section 1314(b) of this title."[6]

The criteria for defining BPT, as set forth in section 1314(b), include "consideration of the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application."[7]

A balancing of costs against benefits is clearly required, but that is all that is clear. What are the components of "total cost"? What kind of balancing does a "consideration" of costs and benefits en-

4. E.I. duPont de Nemours & Co. v. Train, 541 F.2d 1018, 1027 (4th Cir. 1976), *aff'd in part, rev'd in part*, 430 U.S. 112 (1977). This characterization was quoted with approval by the Court of Appeals for the Second Circuit in Hooker Chems. & Plastics Corp. v. Train, 537 F.2d 620, 627 (2d Cir. 1976).

5. E.I. duPont de Nemours & Co., 541 F.2d at 1026.

6. 33 U.S.C. § 1311(b)(1)(A) (1976).

7. 33 U.S.C. § 1314(b)(1)(B) (1976).

compass? Perhaps the key ambiguity is the phrase "effluent reduction benefits." Does this mean the *quantitative* reduction in effluent, or the *environmental* gains realized as a result of a given effluent reduction? As will be seen below, the courts of appeals have reached different conclusions on this question.

B. *Best Available Technology (BAT)*

BAT is the second and final stage of effluent limitation that Congress required of industrial dischargers. This stage was originally required for all pollutants, but since the passage of the 1977 amendments, is required only for all nontoxic and nonconventional pollutants:

> There shall be achieved [on a sliding scale between July 1, 1984 and July 1, 1987] . . . for pollutants [not toxic or conventional] . . . effluent limitations for . . . point sources other than publicly owned treatment works . . . which . . . shall require application of the best available technology economically achievable . . . which will result in a reasonable further progress toward the national goal of eliminating the discharge of all pollutants, as determined in accordance with regulations issued by the Administrator pursuant to section 1314(b)(2) of this title, which such effluent limitations shall require the elimination of discharges of all pollutants if the Administrator finds . . . that such elimination is technologically and economically achievable.[8]

Section 1314(b)(2) states that "[f]actors relating to the assessment of best available technology shall take into account . . . the cost of achieving such effluent reduction [and several other factors]."[9]

The "cost" test for assessing BAT is even more obscure than the one for assessing BPT. All that is apparent from the plain language is that the same balancing of costs against benefits that is required for BPT is not required for the more stringent BAT rules. But what is the practical difference between "practicable" and "economically achievable"? If anything, the latter standard would appear to be the more cost-sensitive. How does one determine "reasonable further progress" without looking at effluent reduction benefits? How does "consideration" of a factor (BPT) differ from "taking into account" that factor (BAT)? Perhaps the most frustrating ambiguity in the BAT criteria emerges when they are contrasted with the

8. 33 U.S.C. § 1311(b)(2)(A) (1976 & Supp. V 1981).
9. 33 U.S.C. § 1314(b)(2)(B) (1976 & Supp. V 1981).

BPT criteria. What does it mean to consider "cost" without considering benefit, as the statute apparently commands? Obviously, it is difficult to know if a sum is worth paying if one is forbidden to look at what one gets in return for the sum. As with the problems arising under the BPT language, these issues have perplexed both EPA and the courts of appeals.

C. *Best Available Demonstrated Control Technology (BDT)*

The FWPCA directs the Administrator of EPA to establish "[f]ederal standards of performance for new sources of pollution."[10] "Standard of performance" is defined as "a standard for the control of the discharge of pollutants which reflects the greatest degree of effluent reduction which the Administrator determines to be achievable through application of the best available demonstrated control technology . . . including, where practicable, a standard permitting no discharge of pollutants."[11] As with BPT and BAT, there are cost guidelines for the Administrator: "In establishing or revising Federal standards of performance for new sources under this section, the Administrator shall take into consideration the cost of achieving such effluent reduction [and other factors]."[12] The principal ambiguities inherent in this language are the same as those that afflict the BAT language. There is at least one additional problem. The use of the word "achievable" without the modifier "economically" appears to indicate less cost-consciousness than is to be applied in defining BAT. However, in the context of a BDT "no discharge" standard (which is, after all, the national goal) the word "practicable" appears. Does this mean "practicable" as in "best practicable control technology," *i.e.*, weighing of costs and benefits? If so, the BDT standard is potentially both less cost-conscious than the BAT standard and as cost-conscious as the BPT standard.

D. *Best Conventional Pollution Control Technology (BCT)*

The BPT, BAT and BDT standards were all drafted into the FWPCA in 1972. The BCT standard was added in 1977. It represents the second and final stage to be achieved in limiting the

10. 33 U.S.C. § 1316(b)(1)(B) (1976 & Supp. V 1981).
11. 33 U.S.C. § 1316(a)(1) (1976 & Supp. V 1981).
12. 33 U.S.C. § 1316(b)(1)(B) (1976 & Supp. V 1981).

industrial discharge of so-called "conventional pollutants." These are pollutants, such as suspended solids and oxygen-demanding substances, which Congress concluded were ecologically tolerable in greater concentrations than those allowed by the BAT standard:

> There shall be achieved . . . not later than July 1, 1984, effluent limitations for . . . point sources, other than publicly owned treatment works, which in the case of [conventional] pollutants . . . shall require application of the best conventional pollutant control technology as determined in accordance with regulations issued by the Administrator pursuant to section 1314(b)(4) of this title.[13]

The criteria for setting the BCT standard are the most complex of all:

> Factors relating to the assessment of best conventional pollutant control technology . . . shall include consideration of the reasonableness of the relationship between the costs of attaining a reduction in effluents and the effluent reduction benefits derived, and the comparison of the cost and level of reduction of such pollutants from the discharge of publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources, and shall take into account [other factors].[14]

Here is a variation on the cost-benefit balancing required in setting the standard for BPT, and, in addition, a *comparative* cost test with publicly-owned treatment works ("POTW"s). The BCT language adds a new ambiguity. What does it mean to consider the "reasonableness" of the cost-benefit balance (BCT), rather than to simply balance costs and benefits (BPT)? Is a "tilt" in favor of one or the other factor indicated? The BCT language may, at least, remove some ambiguity from the term "effluent reduction benefits," for here it is used in the same paragraph with the term "level of reduction of such pollutants." Deliberate use of this purely quantitative phrase would tend to support the qualitative as against the quantitative interpretation of "effluent reduction benefits." The extent to which this inference may be used to clarify the use of the phrase in the BPT provision is limited, however, by the fact that the BCT language was added by a subsequent Congress.

13. 33 U.S.C. § 1311(b)(2)(E) (1976 & Supp. V 1981).
14. 33 U.S.C. § 1314(b)(4)(B) (1976 & Supp. V 1981).

III. The Legislative History

A. *The 1972 Act*

One might expect that the legislative history of the FWPCA would clarify the ambiguities inherent in the statutory language regarding cost-benefit analysis. Unfortunately, that is not the case. The Court of Appeals for the Fourth Circuit has reached the conclusion that "The two-volume, 1776 page Legislative History is of little help. In it statements can be found to uphold almost any position which one cares to take."[15]

There is method in the madness of the legislative history. Originally, the Senate and the House of Representatives passed bills with totally divergent approaches to cost-benefit analysis. In the conference committee between the two chambers which produced the bill that became Pub. L. No. 92-500, conscious ambiguity was substituted for compromise. The conferees went back to their respective chambers and proceeded to "clarify" the language of the final bill through their explanatory remarks. It is in these remarks that one can find support for "almost any position which one cares to take." As two commentators have observed,

> The compromise law is an ingenious combination of the House and Senate bills. Since a full consensus was not reached, agreement in many areas was achieved through ambiguity. As a result, two completely different spirits of water pollution control lurk in the FWPCA. One, the ghost of the Senate bill, is draconian and would require the almost immediate elimination of pollutant discharges regardless of cost or other societal or environmental effects. The other is the more realistic view espoused in the House bill that pollution abatement is merely one of the many desirable objectives to be pursued by society and that the costs of achieving pollution reduction should not unreasonably exceed the benefits to society of such reduction. Much of the language of the FWPCA can be interpreted to support either viewpoint.[16]

15. E.I. duPont de Nemours & Co. v. Train, 541 F.2d 1018, 1027 (4th Cir. 1976), *aff'd in part, rev'd in part*, 430 U.S. 112 (1977). *See also* Amerian Petroleum Inst. v. EPA, 661 F.2d 340, 355 (5th Cir. 1981) ("The . . . legislative history of the Clean Water Act casts but pale light on our problem. A singularly unhelpful source of information, legislative history always contains self-serving statements that support either side of an argument and most points between. So it is here").

16. Davis & Glasser, *The Discharge Permit Program Under the Federal Water Pollution Control Act of 1972—Improvement of Water Quality Through the Regulation of Discharges From Industrial Facilities*, 2 Fordham Urban L.J. 179, 183-84 (1974).

The Senate passed its bill on November 2, 1971; the House passed its version on March 29, 1972. Both bills provided for a "best practicable control technology currently available," which was to be required by January 1, 1976; for a "best available technology" (Senate) or "best available demonstrated technology" (House), which was to be required by January 1, 1981; and for a new source performance standard of "best available control technology, including, where practicable, no discharge" (Senate) or "best available demonstrated control technology, including where practicable . . . no discharge" (House). While the labels and timetables for effluent limitations embodied in both bills were manifestly similar, the considerations which were to go into setting those limitations, as revealed by the "Information and Guidelines" section of each bill and its supporting legislative history, were very different.

In establishing the standard for BPT, the Administrator of EPA was directed by section 304 of the Senate bill ("Information and Guidelines") to "take into account" a long list of factors, among which was "cost." The committee report accompanying the bill warned the Administrator that, since one of the principal reasons for amending the FWPCA was to replace a regime based on water quality standards with one based on effluent limitations, the Administrator was not to consider the quality of the receiving water in setting BPT or any other effluent limitation.[17] The House bill also rejected consideration of the quality of receiving waters,[18] but there any similarity regarding BPT factors ended. Section 304 ("Information and Guidelines") of the House bill stated that the "[f]actors relating to the assessment of best practicable control technology currently available . . . shall include . . . the cost and the economic, social, and environmental impact of achieving such effluent reduction."[19] The gap between the Senate view—a narrow consideration of cost as one among many factors—and that of the House—a broad inquiry into the impact of the limitation on almost every facet of life—could hardly have been greater.

An identical gap appeared in the factors to be considered in setting BAT under the two bills. The Senate bill called for the same limited "taking into account" of "costs," among several factors, as

17. S. REP. No. 414, 92d Cong., 1st Sess. 8, *reprinted in* 1972 U.S. CODE CONG. & AD. NEWS 3668, 3675.

18. H.R. REP. No. 911, 92d Cong., 2d Sess. 108 (1972).

19. H.R. 11,896, 92d Cong., 2d Sess. § 304 (1972).

was required for setting BPT.[20] The House bill required the same consideration of "the cost and the economic, social, and environmental impact" as in its version of BPT.[21] Despite the use of identical cost consideration language for BPT and BAT in the House bill, the House committee report recognized that "costs for [BAT] may be much higher than that for the application of [BPT]."[22] In setting new source performance standards, both the Senate and House bills agreed (in section 306) that "costs" was one among several factors to be considered.

Floor debate on the two measures served only to muddy the waters further. Little was said on the question of costs in the full House's consideration of H.R. 11,896. In the Senate floor debates, Senator Jennings Randolph, Chairman of the Public Works Committee which reported out S. 2770, made a most remarkable statement to his colleagues. Speaking of a bill which, unlike the House version, contained no language which could be characterized as calling for cost-benefit analysis, Chairman Randolph stated flatly: "[U]nder the proposed legislation, controls must relate the economic and social benefits to be gained with the economic and social costs to be incurred."[23] This kind of obfuscation of congressional intent gives Randolph's other remarks a hollow ring:

> At the same time, I stress very strongly that Congress has become very specific on the steps it wants taken with regard to environmental protection. We have written into law precise standards and definite guidelines. . . . [V]ery often in the past we understood the intent of Congress, but it was written in such broad language that the agency or department of Government involved did not carry out the intent of Congress. . . . [W]e were too general in what we were giving to be specific as to guidelines and standards.
>
> In the past, too many of our environmental laws have tained vague generalities. What we are attempting to do now is provide law that can be administered with certainty and precision.[24]

Against this backdrop of conflict over the role of cost and benefit considerations both between and within the two chambers, the bills

20. S. 2770, 92d Cong., 1st Sess. § 304 (1971).
21. H.R. 11,896, 92d Cong., 2d Sess. § 304 (1972).
22. H.R. REP. No. 911, 92d Cong., 2d Sess. 108 (1972).
23. 117 CONG. REC. 38,805 (1971).
24. *Id.*

went to a House-Senate conference committee. The committee held an extraordinary thirty-nine days of sessions[25] before producing the language of Pub. L. No. 92-500. The conference report contains no language clarifying congressional intent as to the nature or extent of cost and/or benefit consideration to be used in establishing BPT, BAT or new source performance standards (BDT). In its section-by-section "analysis" of the bill, the conference report merely restates the statutory language. [26] Clarification of the meaning of that language was left to the House and Senate managers in their presentations to their colleagues. When the conference committee's bill was presented to both houses, the managers seized this opportunity to convince their colleagues that the house being addressed had triumphed in the conference. While the language of section 1314 might lead one to believe that the Senate had triumphed with regard to BAT ("take into account . . . costs") while the House had been victorious with regard to BPT ("consider . . . total cost . . . in relation to the effluent reduction benefits"), in fact both House and Senate managers did an exemplary job of compounding ambiguity with tortured language and logic.

Senator Muskie, author of the Senate bill and chief Senate conferee, was perhaps the worst offender in virtually rewriting the conference bill in an attempt to "explain" it. House conferees did not abandon the field to Muskie, but they were far less systematic and detailed in their "explanatory" remarks. Muskie presented his colleagues in the Senate with a section-by-section analysis of the bill's provisions. This analysis never found its way into the conference report, a fact which renders its contents slightly suspect. Senator Muskie's explanation of the need for the analysis is also disingenuous. In words echoing those of Chairman Randolph at the Senate's first consideration of FWPCA, Muskie explained that he was supplying his colleagues with this document

> because the complexities of the individual provisions are such that the legislative history will be important to those charged with the responsibility for administering the program. At the same time, however, I would like to call attention to the fact that we have tried in this legislation not to leave the final evalua-

25. Davis & Glasser, *supra* note 16, at 183 n.16.

26. S. REP. 1236, 92d Cong., 2d Sess. 125-26, *reprinted in* 1972 U.S. CODE CONG. & AD. NEWS 3776, 3802-03.

> tion of the bill to legislative history, but instead to write into law as clearly as possible the intent of the Congress.[27]

Thus Muskie seemed to be explaining a bill that needed no explanation.

Muskie began by taking dead aim at the cost-benefit balancing requirement which the conference had inserted into the BPT guidelines over his protests. Aware that the statute's naked language left unclear exactly how the balance was to be struck, the Senator moved to fill the void. This was a "limited cost-benefit analysis," he explained: "The balancing test between total cost and effluent reduction benefits is intended to limit the application of technology only where the additional degree of effluent reduction is *wholly out of proportion* to the costs of achieving such marginal level of reduction."[28] If he could not eliminate the balancing altogether, Muskie seemed determined to skew it.

On the same day, on the other side of the Capitol, Representative Jones, the chief House conferee, was assuring his colleagues that "[t]he managers expect that the total cost of application of technology in relation to the effluent limitation benefits to be achieved will *always* be a factor used by the Administrator in his determination of [BPT]."[29] Moreover, Representative Jones found a significance in the term "total cost" (a phrase that made its first appearance in the conference bill) that Senator Muskie never revealed: "The term 'total cost of application of technology' as used in section 304(b)(1)(B) is meant to include those internal, or plant, costs sustained by the owner or operator and those external costs such as potential unemployment, dislocation, and rural area economic development sustained by the community, area, or region."[30] One is as doubtful that Senator Muskie thought "total cost" included "rural area economic development" as that Representative Jones thought costs outbalanced benefits only when the former were "wholly out of proportion" to the latter.

Senator Muskie's floor statement also "explained" away what little consideration of cost the bills of both houses and the final bill provided for in setting the standard for BAT. Muskie began by

27. S. 2770, 92d Cong., 2d Sess., 118 CONG. REC. 33,693 (1972).
28. H.R. RES. 1146, 92d Cong., 2d Sess., 118 CONG. REC. 33,696 (1972) (emphasis added).
29. 118 CONG. REC. 33,749 (1972) (emphasis added).
30. *Id.* at 33,749-50.

stating emphatically that, "[w]hile cost should be a factor" in setting that standard, "no balancing test will be required,"[31] a sensible enough conclusion when the language of section 304(b)(2)(B) is contrasted with that of section 304(b)(1)(B). The test under BAT, Muskie said, is one of "reasonableness." But in defining "reasonableness," Muskie slipped from the realm of credibility: "In this case, the reasonableness of what is 'economically achievable' should reflect an evaluation of what needs to be done to move toward the elimination of the discharge of pollutants and what is achievable through the application of available technology—*without regard to cost*."[32] In other words, the BAT consideration of cost was to be a finding of the best available technology without regard to cost. The Court of Appeals for the Third Circuit has charitably observed of this language, "[A]n ambiguity here is created by the evident inconsistency between the statements that 'cost should be a factor' and that reasonableness should be determined 'without regard to cost.' "[33] No comparable or contrary explanatory language on BAT cost consideration can be found in the record of the House debate on the conference bill.

The role of cost-benefit analysis in determining BDT for purposes of the new source performance standards was also presented quite differently to the two chambers. Senator Muskie informed the Senate that "[t]he Conferees would expect that this cost test [for BDT] would be considerably more restrictive than the test which would be applied to 'best available technology' because pollution control alternatives are available to a new source which are not available to existing sources."[34] Thus, cost was to be less of a barrier to BDT than to BAT, according to the same Senator who had just argued that BAT was to be determined "without regard to cost." Muskie's logic is questionable. Should the fact that it will probably be cheaper to control pollution from a new source mean that cost need be given less consideration in deciding the stringency of effluent limitation to be required of such sources? It does not seem sensible

31. H.R. RES. 1146, 92d Cong., 2d Sess., 118 CONG. REC. 33,696 (1972).

32. *Id.* (emphasis added).

33. American Iron & Steel Inst. v. EPA (I), 526 F.2d 1027, 1052 n. 51 (3d Cir. 1975), *cert. denied*, 435 U.S. 914 (1978).

34. H.R. RES. 1146, 92d Cong., 2d Sess., 118 CONG. REC. 33,697 (1972).

to say that, because new plants can pass the cost test more easily, they should be given an easier test.

Representative Wright, a House conferee, presented a sharply different view of BDT to the House. In his view, not only was cost to be given as much weight in setting BDT as in setting BAT, but a BPT-like balancing of costs and benefits was to be required in establishing at least some BDT limitations. Wright noted that, under the language of section 1316(a)(1), a new source BDT standard of "no discharge" was to be established "where practicable." "Practicable," argued Congressman Wright, means the same thing in section 1316 as it means for "best practicable control technology" in section 1311: *i.e.*, it is to be determined according to the "total cost in relation to effluent reduction benefits" standard of section 1314(b)(1)(B). There was only one difference: "These same factors [in section 304(b)(1)(B)] define the term 'practicable' in section 306 except the term 'total cost' [in 304] includes internal and external cost in 301. In the context of section 306 it includes only the internal costs."[35] Apart from this difference as to which costs are to be weighed, Wright made clear that the BDT test (for "no discharge") was the BPT test: "It is understood by managers . . . that in the setting of the standards of performance permitting no discharge of pollutants, the Administrator would have to show that the water quality benefits to be achieved from no discharge would be commensurate with the cost of such a no discharge standard."[36] Indeed, by his use of the phrase "water quality benefits" as distinct from the ambiguous "effluent reduction benefits," Congressman Wright may have been indicating that it was the understanding of the House managers that the BPT test was one of ecological benefit as distinct from quantitative flow reduction. This issue, which the conferees did not address in their presentations in either house, would come back to haunt Congress, EPA and the courts.

In summary, the legislative history on BAT, BPT and BDT is worse than useless. If if had been totally insignificant, the EPA Administrator and the reviewing courts might have ignored it and simply attempted to wrest meaning from the ambiguous statutory language. But because the statements of Senator Muskie and the

35. 118 Cong. Rec. 33,760 (1972).
36. *Id.*

others provided convenient, if contradictory, pegs on which to hang individual theories about the meaning of the statute, the legislative history has exerted substantial influence on the agency and on the courts, as will be seen below.

B. *The 1977 Act*

More legislative history was added in 1977, when Congress reenacted the FWPCA with some modifications. The industrywide BPT, BAT and BDT provisions were left virtually unchanged, except that additional "escape clauses" based on individual economic hardship were provided. The two most significant changes made in 1977 were designed to strengthen the regulation of toxic pollutants and to ease the regulation of conventional pollutants. To accomplish the latter, BCT was added to the FWPCA, replacing the BAT limitation for less harmful conventional pollutants. As in 1972, the House and the Senate in 1977 passed two different water pollution control measures, which had to be reconciled at the conference.

BCT was purely a product of the Senate. Its author, Senator Muskie, was still Chairman of the Environmental Pollution Subcommittee of the Senate Public Works Committee in 1977, as he had been in 1972. The reason for the new test for conventional pollutant regulations was clear: prior *over*regulation of these pollutants demanded a change. The Senate Committee report stated:

> The Committee determined that, in fact, it was possible that the best available technology requirements might result in the application of *excessive controls* to certain kinds of conventional pollutants . . . .
>
> [F]lexibility with respect to conventional pollutants would provide significant assistance *to avoid unnecessary or unreasonable investments* in the control of discharges for which there would be no water quality benefit.[37]

While the Committee rejected strict numerical balancing, it stated its newfound concern with balance in no uncertain terms:

> In establishing a requirement that reduction in effluents bear a reasonable relationship to costs of reduction, the committee in-

37. S. REP. 370, 95th Cong., 1st Sess. 41-43, *reprinted in* 1977 U.S. CODE CONG. & AD. NEWS 4326, 4336, 4368 (emphasis added).

> tends a general test of reasonableness. No strict balancing of costs and benefits is contemplated nor is any quantification of benefits intended. This provision's goal is to limit unnecessary "treatment for treatment's sake."[38]

The House, a believer in cost-benefit analysis since 1972, eagerly embraced the BCT concept. Because the two chambers were now agreed on a balancing approach, the conference report on H.R. 3199 is a far more helpful guide to the intent of Congress than its 1972 counterpart. Essentially echoing the Senate Committee report, the conference report states that "[t]he conferees recognize that [BPT] has proven more stringent in many instances than anticipated," and asserts that "[t]he cost test for conventional pollutants is a new test . . . [which] is expected to result in a determination of reasonableness which could be somewhat more than [BPT] or could be somewhat less than [BAT] for other than conventional pollutants."[39]

The House conferees' continued faith in cost-benefit analysis was demonstrated when they presented the conference report to their colleagues on December 15, 1977. Again there were references to avoiding "treatment for treatment's sake." The House conferees' statement added to these generalities:

> In assessing the need for BCT, the Administrator is required to consider the reasonableness of the relationship between the costs of attaining a reduction in effluents and the effluent reduction benefits derived. Essentially, we are talking about removing additional "cheap pounds" of conventional pollutants. Stated another way, BCT imposes a level of control technology which anticipates and accepts the possibility of an increase in stringency beyond BPT, but not resulting in increased costs beyond the "knee of the curve," the take-off point where incremental costs begin to exceed incremental benefits.[40]

This represents a very precise, mechanical view of cost-benefit analysis, quite in contrast to even the "reformed" Senate view embodied in the committee report quoted above. The depth of House hostility to continued high costs for industry with minimal environmental gain was illustrated by the passionate remarks of Congressman Clausen, the ranking minority member of the subcommittee that had produced the House version of the 1977 bill:

38. *Id.* at 4369.

39. H.R. REP. No. 830, 95th Cong., 1st Sess. 85, *reprinted in* 1977 U.S. CODE CONG. & AD. NEWS 4424, 4460.

40. 123 CONG. REC. 38,961 (1977).

> [I]t is intended that the Agency bear in mind the potential cost to individual companies, entire industries, and the economy at large to result if the act is not administered as intended by Congress. As reflected by the conference report on H.R. 3199, these concerns are prominent among those motivating this legislation. *Excessive regulation in the name of administrative convenience will not be tolerated.*[41]

On the same day that Congressman Clausen was stressing the need to administer the Act "as intended by Congress," Senator Muskie, in his presentation of the conference report to his colleagues, was obscuring precisely what that intent was. The Senator not only rejected the House conferees' rigid cost-benefit balancing interpretation of the BCT "reasonableness" test, but downgraded the significance of that test altogether. Muskie saw the two tests for BCT on the face of the statute—the "reasonableness" test and the POTW comparison test—as a single test:

> We are satisfied that [the Administrator] has the capacity to relate costs of effluent reduction to the effluent reduction benefits and we have provided him with some guidance. The bill provides as a basis comparison of the costs for industry to the cost for municipalities [POTWs]. Clearly, if the cost of achieving a certain level of reduction of conventional pollutants for industry is less than the cost of achieving a similar level of reduction for a community, it would be reasonable.[42]

To judge from the House conferees' description of the intricate cost-benefit analysis required for BCT (*i.e.*, "knee-of-the-curve"), it is doubtful that the comparison test of reasonableness was as "clear" to them as it was to Senator Muskie. Once again, however, the Senator had left his mark. Largely because of the Muskie language, the "two tests in one" view of BCT reasonableness would become the official policy of EPA.

IV. INTERPRETATION AND IMPLEMENTATION BY THE ENVIRONMENTAL PROTECTION AGENCY

A. *Interpretation*

EPA officials have not had an easy time divining what the FWPCA requires and what Congress intended regarding cost-bene-

41. *Id.* at 38,975 (emphasis added).
42. *Id.* at 39,171.

fit analysis for effluent limitations and new source performance standards. Almost three years after the 1972 amendments became law, it was reported that "James L. Agee, EPA's assistant administrator for water and hazardous materials, said he feels EPA still is grasping for the real intent of Congress in passing the Water Act."[43] As late as 1982, the person charged with overseeing EPA's cost-benefit studies under the Act confessed that he and his staff still did not really know what the different statutory tests for BPT, BAT, BDT and BCT meant.[44]

Because the EPA has had to implement the statute under deadlines set both by the statute itself and by court order,[45] the agency has, of necessity, developed working definitions of the statutory phrases, often in reliance on selected bits of legislative history and favorable court decisions. EPA officials admit that judicial interpretations of the FWPCA cost-benefit analysis requirements are an important source of guidance to the agency,[46] yet many of the very court decisions on which the agency relies reach their principal conclusions by deferring to the agency's own interpretation of the Act.

EPA claims to have always differentiated between the BPT and BAT cost tests, recognizing that, under the Act, more costs can be imposed on industrial dischargers (for the reduction of less harmful pollutants) in second-stage BAT regulations than in first-stage BPT rules.[47] Nevertheless, EPA's interpretations of the phrase "consideration of the total cost . . . in relation to the effluent reduction benefits" have narrowed the statutory cost-benefit inquiry in at least two key respects. First, relying on Senator Muskie's "wholly out of proportion" language,[48] as adopted in such decisions as *Weyerhaeuser Co. v. Costle*,[49] the agency has consistently maintained that "[t]he cost-benefit inquiry for BPT is a *limited* balancing, committed to EPA's discretion."[50] While the balancing is, of

43. 5 ENV'T REP. (BNA) 2001 (1975).

44. Telephone interview with Louis DuPuis, Chief, Economic Analysis Staff, Office of Water Regulations and Standards, U.S. Envtl. Protection Agency, Jan. 14, 1982.

45. *See* National Defenses Resource Council, Inc. v. Train, 8 Env't Rep. Cas. (BNA) 2120 (D.D.C. 1976), *modified*, 12 Env't Rep. Cas. (BNA) 1833 (D.D.C. 1979).

46. DuPuis, *supra* note 44.

47. DuPuis, *supra* note 44.

48. *See supra* note 28 and accompanying text.

49. 590 F.2d 1011 (D.C. Cir. 1978).

50. 46 Fed. Reg. 1863 (1981) (emphasis added).

course, committed to the agency's discretion, that does not mean that it is to be conducted with the skew toward benefits that Senator Muskie attempted to read into the nominally neutral statutory language by his remarks on the floor.

EPA has also narrowed the interpretation of the BPT cost-benefit test in defining the "effluent reduction benefit" against which the cost is to be balanced. Occasionally the agency has asserted that "in balancing costs in relation to effluent reduction benefits, EPA considers the volume and nature of existing discharges, the volume and nature of discharges expected after application of BPT, [and] the general environmental effects of the pollutants."[51] More often, however, EPA has enunciated an approach to "effluent reduction benefits" which is wholly quantitative (*i.e.*, "volume of discharges curtailed"), rather than qualitative (*i.e.*, "environmental effects of [curtailing] the pollutants"). Thus, in 1975, Assistant Administrator Agee said that EPA had gotten away from the cost-benefit approach in setting water pollution control standards.[52] With what had the agency replaced the balancing approach Congress mandated for BPT? "EPA says that its cost-*effectiveness* analysis satisfies the statute," reported the Court of Appeals for the Tenth Circuit in 1976.[53]

The appeal of a cost-effectiveness approach is obvious: it is far *easier* to determine whether a proposed regulation achieves the maximum quantitative reduction for a given cost than to estimate non-quantifiable gains in environmental quality and to weigh those gains against costs. Given this appeal, it is not surprising that EPA has stuck to its quantitative "benefits" view. As recently as 1979, EPA responded to comments on proposed effluent limitations by stating that:

> Consideration of "effluent reduction benefits" is . . . required in setting BPT limitations, and EPA has consistently interpreted this phrase as requiring an evaluation of the total incremental *amount* of pollutants removed by application of the effluent limitations. Courts have agreed that the phrase does not require an assessment of the benefits to local water quality (citations omitted).[54]

51. *Id.*

52. 5 ENV'T REP. (BNA) 2001 (1975).

53. American Petroleum Inst. v. EPA, 540 F.2d 1023, 1038 (10th Cir. 1976), *cert. denied*, 430 U.S. 922 (1977).

54. 44 Fed. Reg. 50,760 (1979) (emphasis added).

EPA appears to rest its rejection of a qualitative (environmental) benefits test in favor of an amount-of-reduction test on Congress' shift from a water quality standards approach to an effluent limitations approach in the 1972 amendments. It is true, as observed earlier, that the legislative history clearly indicates that Congress did not want *local* water quality impacts to enter into the setting of uniform national effluent limitations. But it is a very long and unwarranted leap from disregarding local water quality considerations to measuring the "benefits" of effluent reductions wholly by the number of gallons of pollutant which cease to be discharged.

Compared with its effort to transform the BPT cost test by "interpretation," EPA's attempts to clarify the statutory BAT cost test have been minimal. Generally, the agency has been content simply to reproduce the statutory language as its understanding of what the Act requires.[55] Perhaps the agency is more satisfied with the discretion that the bare BAT language ("take into account . . . costs") vests in it, than with the balancing task that the bare BPT language requires. In any event, the only interpreting EPA has done has been to make explicit what seems implicit in the BAT language when contrasted with the BPT language: "The statutory assessment of BAT 'considers' costs, but does not require balancing of costs against effluent reduction benefits."[56] Although, as discussed earlier, such a consideration of costs without benefits appears problematic, it does seem to be the evaluation mandated by Congress.

The statutory language on consideration of costs in setting new source performance standards (BDT) has elicited even less interpretation from EPA than the BAT language. The principal reason for this is that the agency appears to equate the BAT and BDT cost tests. The Court of Appeals for the Third Circuit reported in 1976 that "the Administrator took the view that these two standards [BAT and BDT] were essentially similar."[57] While this view seems questionable considering the substantial differences in the wording of the two tests, it is consistent with the theory suggested above that, in its interpretation of ambiguous statutory language, EPA is

55. *See, e.g.*, 46 Fed. Reg. 1863 (1981).

56. *Id.*

57. American Iron & Steel Inst. v. EPA (I), 526 F.2d 1027, 1058 (3d Cir. 1975), *cert. denied*, 435 U.S. 914 (1978).

motivated principally by ease of administration. It is easier to administer two BAT cost tests than a BAT cost test and a BDT cost test.

Like the statutory BPT language, the BCT cost test wording required substantial creative interpretation, taking up nine full pages in the Federal Register, before EPA considered it acceptable.[58] The key task was defining "*reasonableness* of the relationship between . . . costs . . . and the effluent reduction benefits." EPA began this job by holding, consistent with its interpretation of BPT, that "effluent reduction benefits" are "incremental amounts of pollutant removed," not improvements in environmental quality.[59] The agency's second step was to reject as unworkable the "knee-of-the-curve" interpretation of the BCT cost test which the House conferees had put forward in the final congressional debate on BCT.

> Several commenters argue that a "knee-of-the-curve" assessment be made which would identify the point at which the rate of increasing costs drastically begins to exceed pollutant removal rates. EPA agrees that the "knee-of-the-curve" analysis could conceptually be a valid consideration in determining BCT. . . . Nonetheless, the Agency found this concept impossible to apply. . . . First, any determination of the "knee-of-the-curve" requires large amounts of data . . . not now available. . . . More fundamentally, this assessment involves the presumption that there is, in fact, some point where costs dramatically begin rise [sic] in relation to effluent reduction benefits. In virtually no case can such a point be identified for industrial sources.[60]

The agency's rejection of "knee-of-the-curve" is another illustration of the tendency to ease its administrative burden through interpretation. It also illustrates the general problem that arises when Congress attempts to legislate requirements which an agency finds it cannot implement.

The most fundamental change the EPA made in the BCT statutory mandate was to collapse the two cost tests on the face of the statute—reasonableness of cost-benefit relationship and comparison with POTW costs—into a single POTW comparison test. Following Senator Muskie's lead, the agency declared:

58. 44 Fed. Reg. 50,732-35, 50,759-63 (1979).
59. *Id.* at 50,760.
60. *Id.*

> The core of the Agency's BCT methodology is a comparison of the costs of removing additional pounds of conventional pollutants for industry with comparable costs of removal for an average publicly owned treatment works (POTW). This *cost figure for the POTW constitutes the basic measure of "reasonableness" established by the Act* . . . (quoting Senator Muskie).
>
> If the industry cost for a specific technology is lower than the POTW cost, the test is passed and the level of control of conventional pollutants is considered reasonable.[61]

Having twisted together two tests joined in the statute by the conjunction "and," EPA then answered critics of this approach:

> Although many commenters assert that this section requires the use of two tests, most simply point to the conjunctive nature of the clause contained in that section. Few suggest alternative tests.
>
> In developing the proposed BCT methodology, EPA carefully examined the language of the statute and its legislative history. The Agency has fully and exhaustively looked at a number of alternative approaches and believes that the methodology detailed here fully satisfies Congressional intent.[62]

Once again, EPA fell into the pattern of interpreting ambiguous statutory language so as to make its job easier. While in this case it is questionable whether the statutory language is truly ambiguous, there can be no denying that it is easier to administer a POTW comparison test than to administer a POTW comparison test together with a reasonableness test.

B. *Implementation: The Cost Tests in Practice*

When EPA issues a new set of effluent limitations and new source performance standards for a given industry, it issues an accompanying "Development Document" and "Economic Impact Analysis." The economic impact analysis examines what Representative Jones would term the "external costs"[63] of the new limitation or standard: the effects upon price, employment, balance of payment, etc. It contains only raw computer-model projections of these effects, not any judgments as to the weight they should be accorded in selecting the effluent limitation or new source performance standard. Inter-

61. *Id.* at 50,733 (emphasis added).

62. *Id.* at 50,760.

63. Representative Jones included "external costs" in his definition of the term "total costs." *See supra* note 30 and accompanying text.

estingly, the economic impact analysis examines such effects even for those limitations and standards (*i.e.*, BAT, BDT and BCT) for which the Act does not require an inquiry into "total cost."[64]

The development document contains EPA's judgments concerning the reasonableness, cost-effectiveness or favorable cost-benefit ratio of effluent limitations or new source performance standards. While these documents are often hundreds of pages long, they disclose very little information about the process by which, for example, a proposed BPT effluent limitation is deemed to have a favorable benefit-cost ratio. Thus, in a recent development document for the steel subcategory of the porcelain enameling point source category, the agency's cost-benefit judgment is explained as follows:

> The capital cost of BPT as an increment above the cost of in-place treatment equipment is estimated to be $20.0 million for the steel subcategory. Annual cost of BPT for the steel subcategory is estimated to be $11.0 million. The quantity of pollutants removed by the BPT system for this subcategory is estimated to be 19,600 kkg/yr (18,000 tons/yr) including 331 kkg/yr (300 tons/yr) of toxic pollutants. The effluent reduction benefit is worth the dollar cost of required BPT.[65]

Why does the benefit justify the cost? How low must the benefit be, and how high the cost, for this limitation to be unjustified? Nowhere in the development document or in any other publication does the agency tell us, and this is not accidental. An EPA official has candidly stated that the agency deliberately avoids publicly enunciating its basic decision-making formulas (to the extent that there are any) because it does not want to give the regulated industries a weapon with which to combat new sets of limitations and standards as they are promulgated. EPA must retain the discretion, the official explained, to make industry-by-industry cost-benefit judgments, without being bound by criteria established in making earlier judgments.[66]

The language used in development documents to justify BAT, BDT and BCT is as conclusory as that used in justifying BPT. The

64. *See, e.g.*, U.S. ENVTL. PROTECTION AGENCY, ECONOMIC IMPACT ANALYSIS OF PROPOSED EFFLUENT LIMITATIONS GUIDELINES FOR THE COAL MINING POINT SOURCE CATEGORY, Contract No. 68-01-4466 (Dec. 1980).

65. U.S. ENVTL. PROTECTION AGENCY, DEVELOPMENT DOCUMENT FOR THE PORCELAIN ENAMELING POINT SOURCE CATEGORY 404 (1981) [hereinafter cited as DEVELOPMENT DOCUMENT.

66. DuPuis, *supra* note 44.

BDT test employed is essentially one of cost-effectiveness, as when the document states that "[m]odified BDT Option 1 was not selected as the preferred option because it is more costly than modified Option 2 and does not provide greater pollution reduction benefits."[67] The BCT test employed is, of course (consistent with EPA's interpretation), comparison with POTW effluent reduction per dollar of removal cost.[68]

The only real inconsistency between EPA's formal interpretations of what is required of it by the statute and its actual implementation practice comes with BAT. As discussed above, the agency has steadfastly rejected any suggestion that it is obliged to balance costs and benefits in setting BAT, in contrast to BPT. This is the one interpretation that is most faithful to the statutory language. It is ironic, therefore, that in actually developing BAT, the agency does, in fact, engage in BPT-style balancing. Thus, in choosing among three BAT options for the porcelain enameling industry, EPA reported the following process of elimination:

> BAT Option 2 was chosen over BAT Option 3 . . . because the countercurrent rinsing required by Option 3 requires plant shutdown to install the rinses and modify the production line. Costs for such a shutdown cannot be easily estimated because of the variation in production losses from plant to plant. . . .
>
> Option 2 was ultimately recommended on a technical basis as the preferred BAT option, but due to significant economic impacts BAT Option 1 was selected. . . .
>
> *As a result of the comparison of environmental benefits and the economic impact, Option 1 was selected instead of Option 2, the original choice based on technology effectiveness.*[69]

There are at least two potential explanations for this deviation between practice and theory at EPA. One is that, as suggested earlier, the agency may have discovered that it is simply impossible to "take into account . . . cost" in any meaningful way without looking at benefits. The second possibility is that the agency, while willing to engage in cost-benefit analysis, denies that the statute *requires* it to do so because, like any institution, it wants to retain

67. DEVELOPMENT DOCUMENT, *supra* note 65, at 470.
68. *Id.* at 485.
69. *Id.* at 428, 426, 429 (emphasis added).

the maximum possible discretion. EPA prefers to be in a position to do cost-benefit balancing in setting BAT when *it* views such balancing as useful. Whether this position is consistent with Congress' direction is a matter for the courts to determine. To date, the courts have not discharged that responsibility as conscientiously as one might have hoped.

V. JUDICIAL REVIEW

Any interested person may challenge the effluent limitations and new source performance standards promulgated by EPA in the federal court of appeals for the circuit in which he or she resides or transacts business.[70] These limitations and standards are the product of informal rulemaking and are to be sustained by the reviewing court, under the Administrative Procedure Act,[71] unless they are "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law."[72] The affected industries have brought at least a dozen suits in which part of the gravamen has been inadequate consideration of the costs of proposed effluent limitations and standards.[73] Given the deferential character of the "arbitrary and capricious" standard of review, it is not surprising that the plaintiff polluters have usually been unsuccessful. What is somewhat shocking is the extent to which courts of appeals, both those deferential toward and those antagonistic to the EPA rules, have tortured the statutory language to bring about their desired results. Although BPT, BAT, BDT and BCT regulations, or some combination of them, are frequently challenged as a body, the clearest understanding of the impact of judicial review comes from examining the court decisions by category of technology.

A. *Best Practicable Control Technology (BPT)*

Because the deadline for BPT compliance (where no extension was granted) was July 1, 1977, there has been far more litigation concerning these effluent limitations than any others. The cases

70. 33 U.S.C. § 1369(b)(1) (1976).

71. 5 U.S.C. § 706(2)(A) (1982).

72. American Paper Inst. v. Train, 543 F.2d 328 (D.C. Cir. 1976), *cert. dismissed*, 429 U.S. 967 (1976); Hooker Chems. & Plastics Corp. v. Train, 537 F.2d 620 (2d Cir. 1976); FMC Corp. v. Train, 539 F.2d 973 (4th Cir. 1976); American Meat Inst. v. EPA, 526 F.2d 442 (7th Cir. 1975).

73. *See* Hooker Chems. & Plastics Corp. v. Train, 537 F.2d 620 (2d Cir. 1976); E.I. duPont de Nemours & Co. v. Train, 541 F.2d 1018 (4th Cir. 1976), *aff'd in part, rev'd in*

may be summed up with the observation that EPA has been remarkably successful in persuading reviewing courts, including the Supreme Court, to accept its scaled-down version of the BPT cost-benefit test. Perhaps the biggest winner of all has been Senator Muskie. Six of the eight courts of appeals that have reviewed BPT regulations have found BPT to require only a "limited" balancing of costs and benefits; they have relied on Senator Muskie's floor remarks to uphold any BPT technology where the projected effluent reduction is not "wholly out of proportion" to the reduction cost.[74]

The significance accorded Senator Muskie's statements has been wholly out of proportion to their authoritative value. One court of appeals introduced the Senator's floor remarks with the phrase, "The legislative history of the Act indicates that . . .," and failed to attribute the quote to Senator Muskie.[75] Another court attributed the language from Senator Muskie's floor remarks to "the Conference Report on the bill which ultimately became the Act."[76] While the Supreme Court has done a better job of citation than the Ninth Circuit, it, too, has observed that:

> Senator Muskie, the principal Senate sponsor of the Act, described the "limited cost-benefit analysis" employed in setting

part, 430 U.S. 112 (1977); American Iron & Steel Inst. v. EPA (I), 526 F.2d 1027 (3d Cir. 1975), *cert. denied*, 435 U.S. 914 (1978); Weyerhaeuser Co. v. Costle, 590 F.2d 1011 (D.C. Cir. 1978); American Paper Inst. v. Train, 543 F.2d 328 (D.C. Cir. 1976), *cert. dismissed*, 429 U.S. 967 (1976); FMC Corp. v. Train, 539 F.2d 973 (4th Cir. 1976); American Meat Inst., 526 F.2d 442 (7th Cir. 1975); Association of Pac. Fisheries v. EPA, 615 F.2d 794 (9th Cir. 1980); Kennecott Copper Corp. v. EPA, 612 F.2d 1232 (10th Cir. 1979); BASF Wyandotte Corp. v. Costle, 598 F.2d 637 (1st Cir. 1979), *cert. denied*, 444 U.S. 1096 (1980); CPC Int'l, Inc. v. Train, 540 F.2d 1329 (8th Cir. 1976), *cert. denied*, 430 U.S. 966 (1977); American Petroleum Inst. v. EPA, 540 F.2d 1023 (10th Cir. 1976), *cert. denied*, 430 U.S. 922 (1977); American Frozen Food Inst. v. Train, 539 F.2d 107 (D.C. Cir. 1976); National Renderers Ass'n v. EPA, 541 F.2d 1281 (8th Cir. 1976); American Paper Inst. v. EPA, 660 F.2d 954 (4th Cir. 1981).

74. *See* Association of Pac. Fisheries v. EPA, 615 F.2d 794, 805 (9th Cir. 1980); Kennecott Copper Corp. v. EPA, 615 F.2d 1232, 1238 (10th Cir. 1979); BASF Wyandotte Corp. v. Costle, 598 F.2d 637, 656 (1st Cir. 1979), *cert. denied*, 444 U.S. 1096 (1980); Weyerhaeuser Co. v. Costle, 590 F.2d 1011, 1045 n.52 (D.C. Cir. 1978); American Iron & Steel Inst. v. EPA (I), 526 F.2d 1027, 1051 (3d Cir. 1975), *cert. denied*, 435 U.S. 914 (1978); CPC Int'l, Inc. v. Train, 540 F.2d 1329, 1341 (8th Cir. 1976), *cert. denied*, 430 U.S. 966 (1977).

75. CPC Int'l, Inc. v. Train, 540 F.2d 1329, 1341 (8th Cir. 1976), *cert. denied*, 430 U.S. 966 (1977).

76. Association of Pac. Fisheries v. EPA, 615 F.2d 794, 805 (9th Cir. 1980).

> BPT standards as being intended to "limit the application of technology only where the additional degree of effluent reduction is wholly out of proportion to the costs of achieving such marginal level of reduction. . . ."[77]

Neither the Supreme Court nor any of the courts of appeals that relied on Senator Muskie's language quoted the language of the House conferees suggesting a contrary congressional intent: *i.e.*, neutral balancing of costs and benefits in setting BPT.

EPA has also been successful in persuading the courts of appeals to adopt its purely quantitative definition of "effluent reduction benefits." Perhaps the most extreme expression of this view has come from the District of Columbia Circuit: "[T]he 'effluent reduction benefits' referred to in the Act are not primarily water quality benefits; rather, 'effluent reduction occurs whenever less effluent is discharged, *i.e.*, whenever a plant treats its wastes before discharge.' "[78]

Most of the reviewing courts have understandably taken the position that "the Administrator must have broad discretion in weighing the costs and benefits."[79] Many have also gone so far as to ratify EPA's cost-*effectiveness* substitute for the statutory balancing test:

> Refineries urge that EPA must make a cost-benefit analysis [for BPT]. EPA says that its cost-effectiveness analysis satisfies the statute. Labels are neither important nor determinative. . . .
>
> The record shows that the effluent limitations imposed by the regulations will reduce the pollutants discharged into the Nation's waters. The value of the resulting benefits is not capable of present-day determination. We are convinced that EPA made a serious, careful, and comprehensive study of the costs which compliance will impose on the industry. If Congress believes that the cost is too high, it can amend the Act. All we say is that EPA has complied with the statutory mandate.[80]

77. EPA v. National Crushed Stone Association, 449 U.S. 64, 71 n.10 (1980) (citation omitted). This case dealt not with the test for BPT effluent limitations, but with the test for variances from those limitations. The statement quoted is dictum.

78. Association of Pac. Fisheries v. EPA, 615 F.2d 794, 805 (9th Cir. 1980), *quoting* Weyerhaeuser Co. v. Costle, 590 F.2d 1011, 1041-44, 1044 n.49 (D.C. Cir. 1978).

79. American Iron & Steel Inst. v. EPA (I), 526 F.2d 1027, 1052 n.54 (3d Cir. 1975), *cert. denied*, 435 U.S. 914 (1978).

80. American Petroleum Inst. v. EPA, 540 F.2d 1023, 1037-38 (10th Cir. 1976), *cert. denied*, 430 U.S. 922 (1977).

It must be remembered that Congress, amending the Act four years before this decision, had called for BPT to be based on a cost-*benefit* analysis, not a cost-effectiveness analysis.

While the scope of "arbitrary and capricious" review may be narrow, it is broad enough by its terms to provide for invalidation of regulations which are "not in accordance with law." One gets the impression, reading some of the decisions, that hardly any test employed by EPA for BPT would constitute an "abuse of discretion" in the view of the courts. Indeed, some of the judicial interpretations of the statutory requirement for BPT deviate further from the statute than do the agency's own interpretations. EPA, at least, recognizes that the BPT test and the BAT tests are separate and distinct. In contrast, the First Circuit has stated: "We are not convinced that the duty to 'include consideration of cost in relation to benefit' imposed on EPA by this [BPT] clause of 1314(b)(1)(B) is significantly different from the duty imposed by [the BAT part of] the same subsection to 'take into account' certain other factors. . . ."[81]

The result of this judicial deference to EPA is that the agency's cost-benefit judgments on BPT are almost never reversed. EPA officials are sometimes chastised by the court and forced on remand to assemble more data, but their conclusory judgments are not questioned. The economic impact of most of the BPT regulations approved by the courts is rather insubstantial, yet one court of appeals has approved BPT regulations which an EPA-commissioned study projected would be "like the straw that breaks the camel's back" for nine out of sixty-three integrated steel plants.[82] It is one thing to observe, as the Supreme Court has, that "Congress foresaw and accepted the economic hardship, including the closing of some plants, that effluent limitations would cause."[83] It is quite another to hold that BPT regulations which will result in the closing of fifty-seven percent of the salmon plants in Alaska, in order to curtail discharge consisting only of "unused fish residuals," do not have costs "wholly out of proportion" to their benefits.[84] One won-

81. Kennecott Copper Corp. v. EPA, 615 F.2d 1232, 1238 (10th Cir. 1979), *quoting* BASF Wyandotte Corp. v. Costle, 598 F.2d 637, 656 n.36 (1st Cir. 1979).

82. American Iron & Steel Inst. v. EPA (I), 526 F.2d 1027, 1054 (3d Cir. 1975).

83. EPA v National Crushed Stone Association, 449 U.S. 64, 79 (1980).

84. *See* Association of Pac. Fisheries v. EPA, 615 F.2d 794, 802, 808-09 (9th Cir. 1980).

ders if the Ninth Circuit, which so held, would ever find costs to be wholly out of proportion to benefits.

The Fourth Circuit for many years stood apart from the other courts of appeals in its interpretation of the Act and its implementing regulations. While affirming with other circuits that the quality of local receiving water cannot be a factor in setting BPT,[85] and that the benefits from effluent reduction need not be quantified,[86] the Fourth Circuit had the distinction of never having quoted Senator Muskie in an effort to dilute the statutory cost-benefit test. Indeed, as will be seen below, the Fourth Circuit may be criticized for having been too devoted to cost-benefit analysis. In a 1982 decision, however, that court not only abandoned its former position by quoting (in support of dicta) the Muskie "wholly out of proportion" language, but cited the *Weyerhaeuser* and *Association of Pacific Fisheries* rulings with approval. The court stressed the need to defer to EPA in interpreting the FWPCA, and quoted its own prior decision to the effect that "Congress has now mandated that even if the application of the best practicable control technology to a specific source of pollution results in no significant improvement in the quality of the receiving water, that technology must still be applied."[87]

B. *Best Available Technology (BAT)*

The reviewing courts of appeals have been equally deferential toward EPA's interpretation of the BAT cost consideration requirement. Perhaps because the statutory language regarding BAT ("take into account . . . costs") is itself so much less restrictive of agency decision-making than the cost-benefit mandate of BPT, the courts have found it less necessary to twist the ordinary meaning of words to legitimize EPA procedure for the former than they have for the latter. Thus, for example, all reviewing circuits except the Fourth have relied on the plain language of the BAT guidelines portion of the Act (as construed with the BPT language) to reject

85. Appalachian Power Co. v. EPA (I), 545 F.2d 1351, 1378 (4th Cir. 1976).

86. E.I. duPont de Nemours & Co. v. Train, 541 F.2d 1018, 1030 (4th Cir. 1976), *aff'd in part, rev'd in part*, 430 U.S. 112 (1977).

87. Appalachian Power Co. v. Train (III), 671 F.2d 801, 808-09 (4th Cir. 1982), *quoting* Consolidation Coal Co. v. Costle, 604 F.2d 239, 245 (4th Cir. 1979), *rev'd in part sub nom.* EPA v. National Crushed Stone Association, 449 U.S. 64 (1980).

challenges to BAT effluent limitations based on the agency's failure to subject them to cost-*benefit* analysis.[88]

The flexibility inherent in statutory BAT analysis has, however, been exaggerated by several courts of appeals. Once again, the lasting influence of Senator Muskie's 1972 floor remarks is evident. In two of the most important decisions on BAT, the judges defended EPA's consideration of costs by relying on Senator Muskie's bizarre declaration that the achievability of the best available control technology was to be gauged "without regard to cost".[89] While most of the circuits have felt constrained to remind the agency that BAT costs must be "reasonable," those relying on Senator Muskie's statement have as much as said that any consideration EPA cares to give to BAT costs is reasonable. Perhaps the most extreme expression of this view came from the District of Columbia Circuit in the *Weyerhaeuser* case:

> [T]he statute directs the Agency only to "take into account" the consideration factors, without prescribing any structure for EPA's deliberation. . . . *So long as EPA pays some attention* to the congressionally specified factors, the section on its face lets EPA relate the various factors as it deems necessary. . . . [W]e may review the consideration factors only to determine if EPA was fully aware of them and reached its own express conclusions about them.[90]

In other words, so long as there is some reference to costs in the supporting materials, the agency has met its statutory duty.

In contrast to the extreme deference which has characterized the judicial response in most of the circuits, the Fourth Circuit has insisted that EPA administer the provisions in question in accordance with that court's virtual rewriting of the statute. As discussed earlier, it is difficult to imagine what Congress meant by requiring, for BAT analysis, "consideration" of costs without any balancing with benefits. The Fourth Circuit's solution to this dilemma was to deny the statutory language and maintain that Congress intended

88. *See* Association of Pac. Fisheries, 615 F.2d 794, 818 (9th Cir. 1980); CPC Int'l, Inc. v. Train, 540 F.2d 1329, 1341 (8th Cir. 1976); American Frozen Food Inst. v. Train, 539 F.2d 107, 119 (D.C. Cir. 1976); American Iron & Steel Inst. v. EPA, 526 F.2d 1027, 1051 (3d Cir. 1975); American Meat Inst. v. EPA, 526 F.2d 442, 462-63 (7th Cir. 1975).

89. *See* American Frozen Food Inst. v. Train, 539 F.2d 107, 120 (D.C. Cir. 1976); American Iron & Steel Inst. v. EPA (I), 526 F.2d 1027, 1052 (3d Cir. 1975), *cert. denied*, 435 U.S. 914 (1978).

90. Weyerhaeuser Co. v. Costle, 590 F.2d 1011, 1046-47 (D.C. Cir. 1978) (emphasis added).

cost-benefit analysis for BAT as well as for BPT. The Court saw support for this view in the statutory language:

> EPA is under a statutory duty to determine whether, in fact, its [BAT] regulations for 1983 will "result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants. . . ." 33 U.S.C. § 1311(b)(2)(A). Accordingly, the agency must consider the benefits derived from the application of its effluent reduction requirements in relation to the associated costs in order to determine whether, in fact, the resulting progress is "economically achievable," and whether the progress is "reasonable."[91]

The court went on to make clear that the costs were to be balanced against "ecological benefits," and not quantitative reductions of effluent. For "if there is no expectancy of benefits to aquatic life, is the expenditure of billions of dollars justified under any standard?"[92]

The essential flaw in the Fourth Circuit's approach was that the court believed that it is more important that the EPA administer a statute which makes sense than that the agency administer the statute as enacted by the national legislature. The Supreme Court, in dicta, recently observed that "in assessing BAT total cost is no longer to be considered in comparison to effluent reduction benefits."[93] Such a conclusion frustrated the orderly mind of the Fourth Circuit. If benefits were not required to be weighed against costs, that court argued, "EPA would be free to impose ever more stringent and costly control measures which, while incrementally reducing the level of . . . discharge, would not result in any reasonable improvement in the 'chemical, physical, and biological integrity of the Nation's waters.' 33 U.S.C. § 1251."[94]

This outcome may be undesirable, but if the use of cost-benefit analysis in establishing BAT is the only bar to it, then a court enforcing the law as enacted must permit such consequences to occur. By requiring the balancing of costs and benefits in establishing BPT, the authors of the FWPCA showed that they knew how to employ the language of cost-benefit analysis when they wanted to. When in the same section of the same statute, they chose not to

91. Appalachian Power Co. v. EPA (I), 545 F.2d 1351, 1361 (4th Cir. 1976).
92. *Id.* at 1364.
93. EPA v. National Crushed Stone Association, 449 U.S. 64, 71 (1980).
94. Appalachian Power Co. v. EPA (I), 545 F.2d 1351, 1365 (4th Cir. 1976).

employ that language for BAT, they must be taken to have intended a different result. Nevertheless, against the weight of all other judicial opinion, the Fourth Circuit adhered to its view of BAT until reversed by the Supreme Court.

In 1982, chastened by the Supreme Court's reversal of its decision in *National Crushed Stone Association v. EPA*,[95] the Fourth Circuit retreated from its extreme view of BAT. In that case, the court had required EPA to undertake a cost-benefit analysis, at the level appropriate for BPT limitations, in deciding whether to grant variances from BAT limitations. In *Appalachian Power Co. v. EPA*(III)[96] the Fourth Circuit fell into line with the other circuits, emphasizing the importance of EPA's view and the legislative history and holding that "it is at least clear that our mandate in *Appalachian Power I* . . . and our collateral discussion there of the meaning of 'environmental benefits' were grounded in one critical assumption that is no longer tenable: that Congress intended section 301(c) [variance] factors to apply to BPT standards as well as to BAT standards."[97]

Given the deference that all circuits have accorded EPA's interpretation of what BAT requires, it is not surprising that challenges to BAT limitations on the ground that they are too expensive to industry have almost never been successful. In one exceptional case, a projected reduction in after-tax income as a percentage of invested capital from 7.5% (with BPT) to 3.8% (with BAT) was alarming enough for the court to remand a regulation to EPA for further consideration.[98] However, appellate courts have approved such economic impacts of BAT as annual costs amounting to 2% of one industry's sales,[99] and a 4.9% increase in the retail price of another industry's products.[100] As with BPT, the courts will, of course, remand BAT regulations to EPA to assemble more complete data on costs. In addition, there is at least one case in which a court of appeals rejected proposed BAT limitations because they were based on a technology found to be "not available or economically

95. EPA v. Nat'l Crushed Stone Ass'n, 449 U.S. 64 (1980), *rev'g* National Crushed Stone Ass'n v. EPA, 601 F.2d 111 (4th Cir. 1979).

96. 671 F.2d 801 (4th Cir. 1982).

97. *Id.* at 807.

98. National Renderers Ass'n v. EPA, 541 F.2d 1281, 1289 (8th Cir. 1970).

99. Association of Pac. Fisheries v. EPA, 615 F.2d 794, 818 (9th Cir. 1980).

100. American Frozen Food Inst. v. Train, 539 F.2d 107, 139 (D.C. Cir. 1976).

achievable."[101] Even outside the Fourth Circuit, the courts are not totally insensitive to costs. Of course, as discussed above, EPA itself is sufficiently sensitive to costs that it seldom provides the courts with outrageously expensive BAT rules to review.

C. *Best Available Demonstrated Control Technology (BDT)*

While even fewer cases have discussed the cost considerations for BDT than for BAT, the trend of the decisions is the same: the courts accept EPA's view. Despite the distinct language employed in the statute to identify the cost test for new source performance standards, each of the four courts of appeals that have reviewed BDT regulations has accepted EPA's equation of the BDT test with the BAT test.[102] The Third Circuit held that the addition of the word "demonstrated" in characterizing the new source technology did not justify the "contention that it was necessarily error for the Administrator to equate the two standards."[103] Two courts refused even to address EPA's consideration of costs in establishing BDT, referring readers to the courts' earlier discussions of BAT and BPT costs.[104]

BDT cost consideration represents Senator Muskie's final triumph in the courts. To the extent that the reviewing courts have found any deviation between the statutory BDT cost test and the BAT test, it has been requiring even *less* attention to costs where new sources are concerned. Both the Third and the District of Columbia Circuits have quoted and heeded Senator Muskie's admonition that "[t]he Conferees would expect that this cost test [for BDT] would be considerably more restrictive than the test which would be applied to 'best available technology'. . . ."[105] Although it did not quote Senator Muskie directly, the Eighth Circuit re-

101. American Petroleum Inst. v. EPA, 540 F.2d 1023, 1038 (10th Cir. 1976), *cert. denied*, 430 U.S. 922 (1977).

102. American Paper Inst. v. Train, 543 F.2d 328 (D.C. Cir. 1978); American Iron & Steel Inst. v. EPA (I), 526 F.2d 1027 (3d Cir. 1975); American Petroleum Inst. v. EPA, 540 F.2d 1023 (10th Cir. 1976); National Renderers Ass'n v. EPA, 541 F.2d 1281 (8th Cir. 1976); CPC Int'l, Inc. v. Train, 540 F.2d 1329 (8th Cir. 1976).

103. American Iron & Steel Inst. v. EPA (I), 526 F.2d 1027, 1058 (3d Cir. 1975), *cert. denied*, 435 U.S. 914 (1978).

104. American Petroleum Inst. v. EPA, 540 F.2d 1023, 1039 (10th Cir. 1976); American Paper Inst. v. Train, 543 F.2d 328, 355 (D.C. Cir. 1976).

105. American Paper Inst. v. Train, 543 F.2d 328, 354 (D.C. Cir. 1976); American Iron & Steel Inst. v. EPA (I), 526 F.2d 1027, 1058 (3d Cir. 1975).

manded for reconsideration BDT standards it suspected were "set at lower levels [than BAT] because the EPA felt that the cost of including the technology necessary to meet the 1983 standards would be so high that no new plants would be built."[106] Despite the frequent selection of "no discharge" as the BDT standard, no reviewing court has turned from EPA's BAT-equivalent view of BDT cost consideration and Senator Muskie's "more restrictive" test language to seek guidance in BDT's "practicable" (*i.e.*, cost-benefit) language, as highlighted by House conferee Wright in the 1972 congressional debate. Perhaps courts are no more eager to complicate their task than are administrative agencies.

D. *Best Conventional Pollution Control Technology (BCT)*

In *American Paper Institute v. EPA*, the only court test of BCT effluent limitations, the Fourth Circuit in 1981 decisively rejected EPA's interpretation of the statutory language as requiring only a POTW comparison test and not an additional cost-benefit analysis.[107] Quoting the language of the statute, the court brushed aside the agency's references to the intent of Congress as expressed by Senator Muskie: "We find the language of this statute to be clear and straight-forward. We thus find no reason to resort to additional rules of statutory construction or to rely on the legislative history, which has minimum probative value because of the numerous conflicts contained therein."[108] The court instead employed the "plain meaning" rule: "EPA's construction of section 304(b)(4)(B) is contrary to the plain meaning of the words contained therein. EPA ignores the mandatory language of the law ("shall"), disregards the conjunctive ("and"), and completely eliminates the first factor [reasonableness of the cost-benefit relationship]."[109] Concluding that "the language of the Act is unambiguous and the EPA has failed to comply with its directives,"[110] the court set aside the challenged regulations and ordered reconsideration by EPA.

It might appear that EPA's departure from the statutory BCT cost test was so gross that even those appellate courts more deferen-

106. National Renderers Ass'n v. EPA, 541 F.2d 1281, 1290 (8th Cir. 1970).
107. 660 F.2d 954 (4th Cir. 1981).
108. *Id.* at 961.
109. *Id.*
110. *Id.*

tial than the Fourth Circuit would have felt compelled to reverse the agency. Yet, in fact, *American Paper Institute* was a two-to-one decision, with the dissenting judge relying on deference to the agency and on the legislative history as justification for choosing between "alternative possible meanings" of the statutory language.[111]

The Fourth Circuit's decision on the BCT cost test was allowed to stand. By the time the decision in *American Paper Institute* was handed down, a new leadership—one holding cost-benefit analysis in great esteem—had taken over at EPA. Few, therefore, were surprised that no petition for writ of certiorari was filed by the United States in the wake of the Fourth Circuit ruling.

On February 17, 1982, in accordance with the Fourth Circuit's mandate in *American Paper Institute*, EPA withdrew the BCT regulations.[112] On October 29, 1982, the agency published a new proposed BCT methodology consisting of a two-part (POTW comparison and industry cost-effectiveness) test.[113]

VI. LESSONS OF THE FWPCA

Generally considered a highly successful piece of legislation, the FWPCA is credited with having brought about significant progress toward cleaning up the nation's waters. Unlike the far more controversial Clean Air Act, its effluent limitations and performance standards are not regarded, even by the forces of environmental retrenchment, as posing undue economic burdens.[114]

Yet, if the FWPCA has been successful in bringing cleaner water at a reasonable cost, it has been in spite of, rather than because of, the statute's cost-benefit analysis provisions. As demonstrated above, those provisions have been simultaneously ineffective (in determining conduct), unnecessary (in prompting the agency to consider costs) and, to some extent, pernicious (in confusing the agency and the courts).

Both the executive branch and the judicial branch share in the failure of the FWPCA's cost consideration scheme. The Environmental Protection Agency has twisted ambiguous statutory lan-

111. *Id.* at 966 (Phillips, J., dissenting).
112. 47 Fed. Reg. 6835 (1982).
113. *Id.* at 49,176.
114. 12 ENV'T REP. (BNA) 1211 (1982).

guage and defied unambiguous language in the service not of environmental protection but of institutional discretion. Several courts of appeals have abused legislative history to justify deferring to the executive department in what is "emphatically the province and duty of the judicial department": "to say what the law is."[115] Another, until recently, had the arrogance to substitute its own brand of "common sense" for a legislative mandate.

The fundamental failure, however, has been a legislative one. If the FWPCA experience teaches nothing else, it shows that the public pays a heavy price when legislators "resolve" the differences among themselves by enacting deliberately ambiguous legislation. Congress never really made up its collective mind about how much of the balancing of costs and benefits it wanted to entrust to EPA under the FWPCA. When legislators enact a statute without agreeing on what it means, even the most conscientious representatives of the executive and judicial branches will find it difficult, if not impossible, to enforce and interpret the law.

Surely a chastened Congress could write a new FWPCA which unambiguously directed EPA to weigh costs and benefits in establishing effluent limitations and performance standards. Would such clarity solve the problems discussed in this study? Unfortunately, many of the problems are deeply rooted in the very concept of cost-benefit analysis. Those who favor imposing cost-benefit analysis requirements on an executive agency often think that they are reining in the agency's discretion by equipping it with a mechanical device which will produce the scientifically "correct" result if provided with the necessary data. Putting aside the very real problems of identifying, measuring and giving appropriate weight to the data, this notion of cost-benefit analysis as a sanitized decision-making mechanism is utterly fallacious. Whenever a decision is to be made, an exercise of judgment is called for. No cost-benefit incantation can exorcise value judgments from governmental decisionmaking. To pretend that it can is not merely foolish; it is dangerous. Requiring that agency decisions be the products of cost-benefit analysis gives the *appearance* of confining agency discretion while, in fact, it does nothing of the kind. To instruct EPA (or any other agency) to promulgate a regulation based on a cost-benefit

115. Marbury v. Madison, 5 U.S. (1 Cranch) 137, 177 (1803).

analysis is simply to say: make a list headed "costs" and a list headed "benefits," and then go out and use your best judgment.

Congress cannot always narrowly confine agency discretion. But when it must delegate to an executive agency decisions which involve substantial value judgments, it should use statutory language which makes this clear to the agency, to the public, and to the courts. When Congress chose to vest in the Federal Communications Commission broad discretion in granting radio and television licenses, it did so unambiguously. The Commission was to grant a license to an applicant if it determined that "the public interest, convenience, and necessity would be served by the granting" of the license.[116] The absence of such language in the FWPCA makes it doubtful that Congress intended to vest this kind of discretion in EPA in deciding what effluent limitations to promulgate under that Act.

In regulating environmental pollution, Congress must delegate the promulgation of specific limitations to an executive agency which has the time and the expertise to make the necessarily technical decisions, applying a rapidly changing body of information. Yet, given that these decisions result in the forced expenditure of vast sums of private money in the service of a public goal, the national legislature should not confer an unguided discretion on the executive agency. For the reasons stated above, a cost-benefit analysis requirement provides very little additional guidance for the exercise of the delegated power. At some level, the "balancing" of costs and benefits must be done by Congress.

The FWPCA legislator who best recognized this was Senator Muskie. As the author of legislation in which he felt that Congress had done most of the requisite "balancing" (*i.e.*, deciding that clean water was worth almost any foreseeable cost) Senator Muskie was reluctant to delegate to an executive agency the power to do its own balancing under the guise of "cost-benefit analysis." Since Congress could not write a one line statute simply directing EPA to stop all discharges, and therefore had to do some delegating, Senator Muskie evidently believed that the legislative body should not be content merely to require the use of the cost-benefit analysis. By itself, such analysis does nothing to direct the exercise of agency discretion; Muskie, therefore, felt compelled to guide the use of that

116. 47 U.S.C. § 309(a) (1976).

analysis. This was surely the reason for the Senator's famous statement that even expensive BPT measures were to be employed unless their costs were "wholly out of proportion" to their benefits. While hardly unambiguous, this directive at least provides a set of congressional values to guide the agency and the reviewing courts in making "judgment calls," once costs and benefits have been identified. A simple "weigh costs and benefits," or "consider costs" does not serve this function.

Senator Muskie was wrong to slip his "wholly out of proportion" language in as a pseudo-conference report, since it may not have reflected anyone's values except his own. Nevertheless, the necessity for such an expression of congressional values to guide bureaucratic discretion is apparent in the alacrity with which both the agency and the courts seized upon Senator Muskie's statement. An agency desperately needing guidance in the exercise of its enormous discretion, and courts of review searching for a standard by which to determine whether the agency's exercise of that discretion was arbitrary and capricious, quite naturally welcomed even a partisan expression of congressional intent.

Those who worship at the shrine of cost-benefit analysis should be sobered by the FWPCA experience. Cost-benefit analysis is unquestionably a useful tool in decisionmaking. It is no substitute, however, for the clear expression of congressional values, preferably on the face of the statute. The agency exercising delegated discretion and the courts reviewing that exercise are entitled to nothing less.