A. What Action Is EPA Taking?

We are notifying the public of a final decision by the EAB on the Permit Amendment issued by EPA Region 10 and EFSEC (''Permitting Authorities'') pursuant to 40 CFR 52.21.

B. What Is the Background Information?

The Facility will be a 660-megawatt natural gas-fired combined cycle electric generation facility located in Sumas, Washington, about one-half mile south of the Canadian border. The Facility will combust only natural gas and will employ selective catalytic reduction (''SCR'') and catalytic oxidation technology.

Both the Province of British Columbia (''Province'') and Environment Canada, Canada's national environmental protection agency, filed petitions for review challenging the issuance of the Original Permit. On September 6, 2002, the Permitting Authorities jointly issued the Original Permit to SE2 pursuant to section 165 of the CAA, 42 U.S.C. 7475, 40 CFR 52.21, and the terms and conditions of EFSEC's delegation of authority from EPA Region 10 under 40 CFR 52.21(u).

On March 25, 2003, the EAB issued an order that denied the petitions for review in part and remanded in part to correct a typographical error that was inadvertently retained from the draft permit. The Original Permit subsequently became effective on April 17, 2003 and remained in effect until October 17, 2004.

On June 1, 2004, SE2 applied to the EFSEC for an extension of the Original Permit. On January 11, 2005, after providing an opportunity for public comments and holding a public hearing, EFSEC approved the Permit Amendment. On January 21, 2005, EPA approved the Permit Amendment. The Permit Amendment authorizes an 18-month extension of the Original Permit.

Subsequent to issuance of the Permit Amendment, the Province petitioned the EAB for review of the Permit Amendment.

C. What Did the EAB Decide?

The Province raised five main issues in its petition for review: (1) SE2's application for permit extension was untimely; (2) SE2's application lacked the required construction schedule; (3) the best available control technology (''BACT'') re-analysis for startup and shutdown emissions was incomplete; (4) the BACT analysis for nitrogen oxide (''NO_X'') emissions was inadequate; and (5) the Permit Amendment should not have been granted for an 18-month period.

The EAB denied review of the Province's petition for review in its entirety. First, the EAB concluded that the Permitting Authorities did not err in concluding that SE2's permit extension application was filed in a timely manner. Specifically, the EAB found that SE2 was not required to submit the permit extension application six months before expiration of the Original Permit. Second, the EAB found that the Province failed to demonstrate that the Permitting Authorities clearly erred in determining that SE2 provided a construction schedule in its application. Third, the EAB determined that the Permitting Authorities conducted a complete BACT re-analysis for startup and shutdown emissions by reviewing the Original Permit BACT analysis for these emissions and concluding that there was no new information that would warrant any changes to the analysis. Moreover, the EAB concluded that the Province failed to demonstrate why the Permitting Authorities' BACT analysis for NO_X emissions was in error. Finally, the EAB found that the Permitting Authorities had discretion to grant an 18-month extension of the Original Permit and the Provice failed to show why the Permitting Authorities' decision to grant an 18-month extension was in clear error. For these reasons, the EAB denied the Province's petition for review of the Permit Amendment in its entirety.

Pursuant to 40 CFR 124.19(f)(1), for purposes of judicial review, final agency action occurs when a final PSD permit decision is issued and agency review procedures are exhausted. This notice is being published pursuant to 40 CFR 124.19(f)(2), which requires notice of any final agency action regarding a PSD permit to be published in the **Federal Register**. This notice constitutes notice of the final agency action denying review of the Permit Amendment and consequently, notice of the Permitting Authorities' issuance of PSD Permit No. EFSEC/2001–02 Amendment 1 to SE2. If available, judicial review of these determinations under section 307(b)(1) of the CAA may be sought by filing of a petition for review in the United States Court of Appeals for the Ninth Circuit, within 60 days from the date on which this notice is published in the **Federal Register**. Under section 307(b)(2) of the Clean Air Act, this determination shall not be subject to later judicial review in any civil or criminal proceedings for enforcement.

Dated: August 1, 2005.

Ronald A. Kreizenbeck,

Acting Regional Administrator, Region 10.

[FR Doc. 05–17029 Filed 8–25–05; 8:45 am]

BILLING CODE 6560–50–M

ENVIRONMENTAL PROTECTION AGENCY

[FRL–7960–3]

Calculation of the Economic Benefit of Noncompliance in EPA's Civil Penalty Enforcement Cases

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of final action and response to comment.

SUMMARY: In a **Federal Register** notice issued on October 9, 1996, the Environmental Protection Agency (''EPA'') requested comment on how it calculates the economic benefit that regulated entities obtain as a result of violating environmental requirements. EPA makes this calculation as a part of establishing an appropriate penalty for settlement purposes. The Agency's policy is that any civil penalty should at least recapture the economic benefit the violator has obtained through its unlawful actions. Because enforcement staff typically use the BEN (short for benefit) computer model to perform the economic benefit calculations, the Agency requested comments on the BEN model as well as the larger benefit recapture issues. In a subsequent **Federal Register** notice issued on June 18, 1999, EPA responded to the comments on the October 1996 **Federal Register** notice; provided advance notice of the changes EPA proposed to make to its benefit recapture approach and the BEN computer model; and requested a second round of comment of those proposed changes. This notice responds to the comments on the June 1999 notice and contains the changes EPA will implement in its benefit recapture program.

ADDRESSES: The Agency has dedicated a page of its website to the computers models the enforcement program uses to addresses benefit recapture as well as ability to pay claims and the evaluation of the costs of supplemental environmental projects (SEP's). The web address for those models is: *www.epa.gov/compliance/civil/econmodels/index.html.*

FOR FURTHER INFORMATION CONTACT: For further information, contact Jonathan Libber, Office of Civil Enforcement, Special Litigation and Projects Division, at (202) 564–6102, or through electronic

mail at *libber.jonathan@epa.gov.* Government users (Federal, State, or local) can also obtain assistance with the model through the Agency's toll-free enforcement economics helpline at (888) ECONSPT or through electronic mail at *benabel@indecon.com.*

SUPPLEMENTARY INFORMATION: In EPA's October 1996 **Federal Register** notice, the Agency was considering changes in three areas: (1) Broad economic benefit recapture issues; (2) the BEN computer model's calculation methodology; and (3) improving the BEN model's user-friendliness. In regard to the broad economic benefit recapture issues, the Agency sought out any legitimate alternatives to BEN, but found none. In addition, EPA solicited comments on the best way to determine the economic benefit from the violator's illegal competitive advantage. The comments confirmed our initial thoughts that a model to handle such calculations was infeasible. The Agency has instead developed a draft conceptual framework document for such cases, and has initiated a peer review process by its Science Advisory Board to examine this type of benefit.

With regard to the BEN model's calculation methodology, the Agency is making eight sets of changes that should improve the model's precision and function. Although the combined effect of these changes will affect individual cases differently, the overall impact across all EPA's enforcement cases should be insignificant. The two most significant changes involve tailoring the discount/compound rate to the case and using a more precise inflation adjustment. The new BEN model tailors the discount rate to the period of violation through the present, which the prior version of the model was incapable of doing. The new BEN model also adjusts for inflation based on actual historical month-by-month inflation data, whereas the prior version simply applied one single average rate for both past inflation and projected inflation. All of these changes reflect the Agency's consideration of both rounds of public comments, as well as an academic peer review that the Agency completed in January of 2004. These reviews should be available by within the next few months on the Agency's computer models web page (see **ADDRESSES** section above). Electronic copies of the BEN computer model (which includes a comprehensive help system) can be downloaded from that same site.

The major change in improving the BEN model's user-friendliness is that EPA has moved the model from the old DOS operating system to the Windows environment. This should address those concerns that the model was cumbersome. We have also established a helpline to assist enforcement personnel from Federal, State and local governments in their use of the model.

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I. Background

A. Overview

One of EPA's most important responsibilities is to ensure that regulated entities comply with Federal environmental laws. These laws—and their implementing regulations—set minimum standards for protecting human health and achieving environmental protection and for achieving environmental protection goals, such as clean air and clean water. EPA upholds these laws through vigorous enforcement actions that seek to correct the violations and appropriately penalize violators.

A cornerstone of the EPA's civil penalty program is at least recapturing the economic benefit that a violator may have gained from illegal activity. Economic benefit recapture helps level the economic playing field by preventing violators from obtaining an unfair financial advantage over their competitors who make the necessary expenditures for environmental compliance. Penalties also serve as incentives to protect the environment and public health by encouraging prompt compliance with environmental requirements and the adoption of pollution prevention and recycling practices. Finally, appropriate penalties help deter future violations by both the penalized entity and by similarly situated regulatees.

EPA has promulgated a generic civil penalty policy, as well as specific penalty policies tailored to suit the needs of particular regulatory programs. For example, one civil penalty policy specifically addresses violations of the Clean Water Act. The civil penalties that EPA seeks usually embody two components: gravity and economic benefit. The gravity component reflects the seriousness of the violation and is generally determined through the application of the appropriate EPA civil penalty policy.

The economic benefit component, on the other hand, focuses on the violator's economic gain from noncompliance, *i.e.*, the extent to which the violator is financially better off because of its noncompliance. This economic benefit can accrue to the violator in three basic ways: (1) Delaying necessary pollution control expenditures; (2) avoiding necessary pollution control expenditures; and/or (3) obtaining an illegal competitive advantage. The term ''illegal competitive advantage'' is a broad catch-all category for economic benefit that goes beyond that derived from the mere delay and/or avoidance of pollution control expenditures. For example, the violator might have sold a product that is entirely illegal (and could not have been produced legally by incurring any pollution control expenditures).

The Agency designed the BEN computer model in 1984 to calculate the economic benefit from these first two

types of economic gain for settlement purposes. BEN may not be appropriate for all cases, and EPA's regional offices may use alternative approaches that produce reasonably accurate benefit calculations. For example, the pattern of necessary pollution control expenditures might be so complicated that a customized spreadsheet computation would be more appropriate than BEN. Alternatively, the pattern of expenditures might be so simple that a mere table in a word processing document would suffice. Nevertheless, the Agency believes that in the vast majority of cases BEN is by far the best approach available for calculating economic benefit derived from delayed and/or avoided costs.

The Agency does not have a computer model for calculating the benefit gained from an illegal competitive advantage. EPA considers such gains on a case-by-case basis.

B. EPA Policy and Guidance on Recapturing the Economic Benefit of Noncompliance

Since the BEN computer model's development in 1984, EPA staff have used BEN extensively in generating penalty figures for settlement purposes. These figures reflect the economic benefit a violator derived from delaying and/or avoiding compliance with environmental statutes.

1. Policy Background

Calculating a violator's economic benefit using the BEN computer model is usually the first step in developing a civil settlement penalty figure under the Agency's Policy on Civil Penalties (PT.1–1) February 16, 1984, and A Framework for Statute-Specific Approaches to Penalty Assessments (PT.1–2) February 16, 1984. The Agency developed the BEN computer model to assist in fulfilling one of the main goals of the Policy on Civil Penalties: to recover, at a minimum, the economic benefit derived from noncompliance.

The BEN computer model is a tool that is primarily intended to be used in calculating economic benefit for purposes of developing a settlement penalty. In presenting economic benefit testimony at a judicial trial or in an administrative hearing, the Agency relies on an expert in financial economics to provide an independent analysis of the economic benefit the violator obtained from its violations, reflecting the expert's own analytical approach as applied to the particular facts of that case. Use of an expert in a trial or hearing allows the parties the opportunity to examine more closely the analysis applied to the facts at issue, since a computer model itself cannot be deposed or cross-examined.[1]

2. BEN Calculates the Economic Benefit From Delayed and Avoided Pollution Control Expenditures

The BEN model calculates the economic benefit from delaying and/or avoiding required environmental expenditures. Delayed costs can include capital investments in pollution control equipment, remediation of environmental damages (*e.g.*, removing unpermitted fill material and restoring wetlands), or one-time expenditures required to comply with environmental regulations (*e.g.*, establishing a reporting system, or purchasing land on which to site a wastewater treatment facility). Avoided costs typically include operation and maintenance costs and/or other annually recurring costs (*e.g.*, off-site disposal of fluids from injection wells), but can occasionally include capital investments or one-time expenditures. BEN does not calculate the economic benefit that takes the form of illegal competitive advantage. For example, the BEN model is not the appropriate method for calculating the economic benefit derived from selling DDT on the black market to U.S. pesticide applicators.

3. Current Model Usage and Applicability

The BEN model can be used in all cases that have delayed and/or avoided compliance costs. (The only exception is Clean Air Act Section 120 enforcement actions, which require the application of a specific computer model.) EPA designed BEN to be easy to use for people with little or no background in economics, financial analysis, or computers, although it is also useful for those with such backgrounds. Because the program contains standard default values for many of the variables needed to calculate the economic benefit, BEN can be run with only a small number of required inputs from the user. The program also allows the user to replace those standard values with case-specific information. The table below lists the inputs to the BEN model, both the required inputs and also those inputs with standard default values that may be modified.

The BEN model can calculate economic benefit for many types of organizations: corporations, partnerships, sole proprietorships, not-for-profit organizations, federal facilities, and municipalities. BEN customizes its standard values to the entity type, as well as other aspects of the case. The BEN inputs listed in the table are discussed in detail in the model's help system.

Inputs for BEN

Required Inputs:

—Descriptive Information (case name, office/agency, analyst name)
—Entity Type and State
—Competitive Advantage Questionnaire
—Penalty Payment Date
—Capital Investment (cost estimate and estimate date)
—One-Time Nondepreciable Expenditure (cost estimate and estimate date)
—Annually Recurring Costs (cost estimate and estimate date)
—Date of Initial Noncompliance
—Date of Compliance

Inputs with Standard Default Values that May be Modified:

—Year-Specific Marginal Income Tax Rates
—Discount/Compound Rate
—Cost Index for Inflation (specified separately by compliance cost component)
—Consideration of Future Capital Replacement
—Useful Life of Capital Equipment
—Delayed v. Avoided (specified separately for capital and one-time nondepreciable)
—Tax Deductibility (of one-time nondepreciable expenditure)
—Specific Cost Estimates (for on-time and delay scenarios)

C. How a Firm Obtains an Economic Benefit From Delaying and/or Avoiding Compliance Costs

An organization's compliance with environmental regulations usually entails a commitment of financial resources, both initially (in the form of a capital investment or one-time expenditure) and over time (in the form of continuing, annually recurring costs). These expenditures should result in better protection of public health or environmental quality, but they are unlikely to yield any direct economic benefit (*i.e.*, net gain) to the organization. (Otherwise, and with the assumption of some measure of foresight, the organization should have already committed the financial

[1] EPA designed the BEN model as a flexible tool primarily for use in settlement negotiations; it is not used, nor was it ever intended to function, as a rule. An expert witness testifying for the government may use the new Windows version of BEN as appropriate, but the responsibility to determine the economic benefit—as well as explain and defend the results—still resides with the expert. That expert may choose to use whatever analytical tool (*e.g.*, customized computer spreadsheets, the BEN model, or even a calculator) deemed appropriate for the particular calculations necessary in the case.

resources, even in the absence of such environmental regulations.) If these financial resources are not used for compliance, then they presumably are invested in projects with an expected financial return to the organization. This concept of alternative investment—that is, the amount the violator would normally expect to make by investing in something other than pollution control—is the basis for calculating the economic benefit of noncompliance.

In implementing EPA's penalty policies, the Agency invokes its authority to assess penalties to remove or neutralize the economic incentive to violate environmental regulations. In the absence of enforcement and appropriate penalties, an organization's narrowly construed economic interest would usually dictate delaying the commitment of funds for compliance with environmental regulations and avoiding certain associated costs, such as operation and maintenance expenses.

1. The Economic Benefit Components That the BEN Model Measures

A violator may gain an economic benefit from either delaying and/or avoiding compliance costs. By delaying compliance, the violator can earn a return on the funds that should have been committed to the capital investment or one-time expenditure required for pollution control compliance. In other words, violators have the opportunity to invest their funds in projects other than those required to comply with environmental regulations. These other investments are expected to generate a financial return, as opposed to the required pollution control investments that typically generate no direct financial return for a company. Thus, by delaying compliance, the violator's economic benefit is the difference between investing in pollution control and investing in other projects.

A violator can also gain an economic benefit from avoiding pollution control costs. Avoided costs typically include the continuing, annually recurring costs that a violator would have incurred had it complied with environmental regulations on time (*e.g.*, the costs of labor, raw materials, energy, lease payments and any other expenditures directly associated with the operation and maintenance of pollution control equipment). Annual costs are thereby avoided entirely, as opposed to capital investments and one-time expenditures that are usually only delayed.[2] Thus, the violator's economic benefit from avoided costs is the sum of the total avoided annual costs plus the return that could be expected on the funds that were used for projects other than pollution control.

2. BEN and Cash Flow Analysis

The BEN model calculates economic benefit by focusing on the effect that delayed and/or avoided pollution control costs have on an entity's cash flows. Cash flow analysis is a standard and widely accepted technique for evaluating costs and investments. In essence, cash flow calculations focus on the real, ''out-of-pocket'' cash effects resulting from an expenditure.[3] Three important factors that enter into BEN's cash flow analysis are inflation, taxation, and the time value of money.

a. Inflation

BEN first requires users to enter a single cost estimate for the capital investment and another single cost estimate for the one-time nondepreciable expenditure. Then, to adjust for inflation, BEN extrapolates from this single cost estimate to create separate estimates for the hypothetical cost of complying on-time and the actual cost of complying in a delayed fashion. Similarly, BEN extrapolates from the user's annually recurring cost estimate to a complete set of cost estimates for every year during the noncompliance period. (The BEN model's help system provides a more detailed discussion of these inflation adjustments.) These adjusted cost estimates form the basis for the on-time and delay scenarios: The actions and associated costs that would have been necessary for hypothetical on-time compliance, and the actions and associated costs that were necessary for the actual delayed compliance.

b. Taxation

The BEN model computes economic benefit on an after-tax basis, since environmental expenditures can reduce income tax liability.[4] Depreciation (from capital investments), one-time expenditures, and annual costs all effectively reduce taxable income and thereby reduce income tax payments. To account for these tax effects, BEN calculates the economic benefit using after-tax cash flows for the on-time compliance and delayed compliance scenarios.

c. Time Value of Money

A third factor relates to the timing of the cash flows, because cash flows occurring in different years are not directly comparable. The fundamental financial concept of the time value of money is based on the principle that a dollar today is worth more than a dollar a year from now, since today's dollar can be invested immediately to earn a return over the coming year. (Alternatively, a dollar last year is worth more than a dollar today because investment opportunities existed for last year's dollar.) Therefore, the earlier a cost (or benefit) is incurred, the greater its economic impact.

BEN accounts for the time value of money by adjusting all estimated cash flows to their present value equivalents. BEN first discounts back to the initial noncompliance date all cash flows from the on-time and delay scenarios. The initial economic benefit as of this date is simply the difference in the present values of these two scenarios. Finally, BEN compounds the initial economic benefit forward from the noncompliance date to the penalty payment date.

To adjust the cash flows for both discounting and compounding, BEN uses a discount or compound rate (depending on the direction of the adjustment) that reflects the time value of money. The selection of the appropriate rate, and the structure of the discounting and compounding methodology, is a significant issue in the BEN model and will be addressed later in this notice. (The model's help system provides a more detailed discussion of the discounting and compounding that BEN performs for its present value adjustments.)

II. Final Changes

In its October 9, 1996, **Federal Register** notice, the Agency sought comment on three categories of issues: (1) Broad economic benefit recapture questions, (2) the BEN model's calculation methodology and assumptions, and (3) the model's user-friendliness. The June 18, 1999, notice provided responses to these comments, as well as advance notice of EPA's proposed changes to the BEN model. The June 1999 notice also invited a second round of public comments, especially on EPA's proposed changes. EPA also conducted a peer review by academic experts in financial economics during the spring of 2003 on the draft proposed changes to the model. This peer review of the model changes was

[2] Even capital investments and one-time expenditures may be avoided on occasion. The typical situation where this happens is when a violator shuts down a particular operation rather than install required pollution control equipment.

[3] Thus, noncash ''paper'' expenses, such as depreciation, are considered only to the extent that they affect cash flow.

[4] The term environmental expenditures refers to firms' compliance costs and does not include the payment of civil penalties. Civil penalties are in almost all cases not deductible.

specifically requested by the United States Senate.[5]

The first area in which we invited comment covered some fundamental questions that the benefit recapture approach has raised. Is there an alternative to the BEN model that would be both easier to use and at least as accurate in calculating the economic benefit of delayed and/or avoided pollution control expenditures? How should EPA evaluate the economic benefit that companies receive as a result of any illegal competitive advantage stemming from noncompliance?

Second, we invited comment on the BEN model's calculation methodology. While the Agency is confident that the BEN model's overall approach is theoretically sound, we welcomed constructive and documented comment on alternative methodologies. In particular, EPA has been aware of substantial differences of opinion with respect to inflation adjustments and discounting/compounding. EPA requested comment on the BEN model's calculation methodology, or any other aspect of the model's assumptions or methodology.

Third, we requested comment on the model's user-friendliness. The Agency had heard concerns that the model is too difficult to use, particularly regarding the necessary data acquisition. Because EPA had never been presented with any concrete evidence in support of these assertions, the Agency wanted either to substantiate the problems and address them or to put these issues to rest.

In the following sections, we address the final changes that EPA is making in each of the areas on which we requested comment. Note that final changes incorporate EPA's consideration not only of the public comments but also of the previously mentioned academic peer review that EPA completed in January of 2004.

A. Broad Economic Benefit Recapture Issues

1. Alternatives to BEN

a. Background

EPA requested comment on whether anyone had an approach that would be simpler and at least as accurate as BEN in calculating the economic benefit from delayed and/or avoided pollution control expenditures. EPA designed the BEN model to calculate the economic benefit of noncompliance in settlement of the vast majority of its civil penalty enforcement cases. Although BEN has served this purpose effectively, the Agency recognizes that it should be improved or even replaced if a better alternative exists or could be developed easily. This concern is particularly relevant because an increasing number of State and local government enforcement personnel use the BEN model regularly. Any alternative approach must meet EPA's policy objective of ensuring that violators are put on an even financial footing with those regulated entities that comply on time. Alternatives must also be reasonably accurate, simple to use, and readily understandable to the vast majority of the BEN model's users—Federal, State and local government enforcement officials who usually have limited knowledge of financial economics.

b. Final Changes

Many commenters expressed various criticisms on different aspects of the BEN model. But these criticisms focused on suggestions for improving BEN. No commenter proposed an alternative approach to a stand-alone computer model that performs net present value calculations. Therefore, the Agency will continue its use of BEN, although it will also implement significant revisions (see following sections).

On a related topic, two commenters questioned the entire benefit recapture framework. Although one comment along these lines was somewhat unclear, the other comment presented a comprehensive approach for basing penalties on the lesser of economic benefit or social cost (*i.e.*, environmental damages). Under this proposal, if a violator gained a significant economic benefit from its violations but caused only trivial environmental damage (as monetized through some unspecified economic methodology), then the penalty would be commensurately trivial. The Agency finds this approach entirely unacceptable in the context of enforcing regulatory requirements for individual violators. The appropriate context for considering social costs is in the process of formulating proposed regulations. Penalties based on social costs (when less than economic benefit) would provide an implicit yet clear incentive to violate the law if a company anticipated that its economic benefit would exceed the consequent measurable environmental damage. Further, such an approach would be fundamentally unfair to those firms that resisted the temptation to violate the law. In addition, quantifying environmental damages in a monetary measure is an exceedingly difficult analytical problem. Even if this fundamentally different approach was theoretically sound, it would be infeasible for the vast majority of enforcement cases.

2. Illegal Competitive Advantage

a. Background

Since the issuance of EPA's Policy on Civil Penalties in 1984, the Agency has maintained that any given penalty should be structured to recover—at a minimum—the economic benefit a violator has enjoyed as a result of its noncompliance. That 1984 policy recognized that the benefit would be based on delayed costs, avoided costs and illegal competitive advantage. In addition to this economic benefit component, EPA assesses a gravity component that reflects the seriousness of the violation. This gravity component is designed to ensure that the penalty puts the violator in a worse position than those in the regulated community who complied with the law. The economic benefit component of EPA's civil penalty policy focuses specifically on identifying and recovering the gain to a violator in order to remove any economic incentive to violate environmental regulations.

The BEN model calculates the economic benefit from delaying and/or avoiding required environmental expenditures. The economic benefit that arises from situations other than the delay and/or avoidance of pollution control expenditures is broadly termed ''illegal competitive advantage,'' which BEN is incapable of measuring. The essential distinction between these two types of economic benefit is that in the illegal competitive advantage situation, the violator's noncompliant actions have allowed (or will allow) it to attain a level of revenues that would have been unattainable had it always been in compliance. In delayed and avoided costs situations, the implicit assumption is that the revenues from a noncompliant and compliant state are identical. Consequently, BEN focuses exclusively on a violator's pollution control costs and does not require any data on the violator's revenues.

In either type of situation (BEN-type economic benefit or illegal competitive advantage), the fundamental definition of economic benefit is still the same: The economic benefit is the difference in the net present values of the compliant/on-time and noncompliant/delay scenarios (*i.e.*, the actions and cash flows—both historical and possibly also future—associated with the hypothetical compliance, and the actual noncompliance). But in the cases

[5] Senate Report No. 106–410 (2000) at page 81.

amenable to BEN, the violator's revenues from the compliant and noncompliant states simply cancel each other out, allowing BEN to measure economic benefit through a calculation involving only the costs that would have differed had the violator been in compliance. Illegal competitive advantage encompasses all situations in which the revenues do not cancel out each other. Since the revenues were higher in the noncompliant state than they would have been in a compliant state, more detailed research and analysis is necessary, going beyond the scope of the BEN model.

The BEN model's widespread application is made possible by its simplifying assumption regarding revenues, obviating the need for a detailed examination of a violator's business records or competitive market situation. But in some cases, this assumption is not valid.[6] In such cases, the violator would not have been able to generate a given level of revenues were it not for its noncompliance. In those cases, EPA's policy is to seek to recapture the economic benefit based on the violator's illegal competitive advantage.

b. Final Changes

The Agency received many comments on illegal competitive advantage. The first round of comments focused mainly on the feasibility of developing a stand-alone computer model analogous to BEN (or an add-on module to BEN) that could easily and reliably determine the economic benefit from the widely varying examples of illegal competitive advantage. The broad consensus was that no such model was feasible, and the Agency agrees. Without BEN's simplifying assumption that the violator's revenues from the on-time and delay scenarios cancel out each other, no ''one-size-fits-all'' computer model can analyze the range of likely situations.

The second round of comments the Agency received on illegal competitive advantage mainly focused on the June 1999 notice's proposed questions for BEN's module and the illegal competitive advantage examples. But since the ICA concept is currently under review by EPA's Science Advisory Board (SAB), OECA will not put any ICA questions in the revised BEN model.

After careful review of the comments, and in light of the fact that the SAB is currently reviewing the ICA issues, EPA has decided against publishing at this time any formal guidance delineating detailed analytical steps. While EPA remains committed to recapturing economic benefit based on illegal competitive advantage, if appropriate, quantifying illegal competitive advantage requires a careful examination of the facts of the particular case, and EPA believes it is premature to try to establish formal guidance in light of these case-specific issues. Similarly, the Agency does not envision providing a specific formula for calculating a benefit component in such cases.

In summary, EPA will continue to seek the recovery of illegal competitive advantage in cases where the BEN model is incapable of fully assessing the extent to which a violator is financially better off as a result of its noncompliance. The proper evaluation of illegal competitive advantage will involve verifying that the use of the BEN model alone is inappropriate to the case-specific facts, and then formulating an analytical approach that captures the extent of the violator's gain.

B. The BEN Model's Calculation Methodology

Over the years, BEN has received occasional criticism for alleged flaws in its calculation methodology, particularly regarding the model's inflation adjustments and discounting/compounding. The Agency requested substantive comments on how the BEN model handles these two issues. In addition, EPA invited comment on all aspects of BEN's calculation methodology. The Agency also asked commenters to address whether their proposed changes would add any complexity to the computer model and, if so, why the benefit of the change justified the added complexity.

1. Depreciation Method

a. Background

The BEN model calculates depreciation for capital investments, since the tax deduction for accounting depreciation charges provides a real after-tax positive cash flow to businesses.[7] BEN used to calculate depreciation using a five-year straight-line methodology for capital investments made before January 1, 1987, and a seven-year Modified Accelerated Cost Recovery System for capital investments made after January 1, 1987. These assumptions represent the most rapid depreciation periods available for typical pollution control investments, thereby producing the positive depreciation cash flow effects as early as possible. These particular depreciation methods generally result in a conservative economic benefit calculation (*i.e.*, lower than would otherwise be calculated) because they minimize out-of-pocket costs to the violator. Therefore, BEN is often producing economic benefit figures that are very conservative.[8]

For capital equipment that has a very short useful life, the selection of alternative depreciation schedules might be available and also more beneficial to a business. In unusual cases where the violator can demonstrate that an alternative depreciation schedule would be both available and beneficial, more detailed calculations by a financial analyst in lieu of the BEN model may be necessary.

b. Final Changes

EPA received no comments on its proposal in the June 1999 notice that although a revised BEN model could conceivably allow alternative depreciation schedules, the drawbacks of the added complexity and potential user confusion might outweigh the gains from addressing a rare circumstance. Nevertheless, EPA has devised a relatively simple means for BEN to apply shorter depreciation schedules when the user enters a capital equipment useful life less than 10 years (as opposed to the default 15 years).

The specification of shorter depreciation schedules will ensure that BEN does not overestimate economic benefit in the relatively rare cases that involve such short-lived capital equipment. Once the shorter useful life has been specified, the alternative depreciation schedule will not require any additional input from the user. BEN will also include a provision to account for legislation that allows for depreciation bonuses over certain periods. This provision will key off the previously required noncompliance and compliance dates, and it therefore will

[6] The Agency suspects that this relationship may be reversed for cases involving wetlands. Although the evidence is largely anecdotal, most wetlands cases encompass violations that allowed a violator to engage in operations that would not have been feasible but for the violation. Therefore, in evaluating wetlands cases, the Agency will be particularly sensitive to the possible presence of illegal competitive advantage.

[7] The IRS does not allow companies to write off completely a capital investment in the year of purchase. Companies must spread the expense of the investment over several years using the appropriate depreciation schedule.

[8] The IRS requires that many types of pollution control equipment be depreciated over a longer period than assumed in the BEN model. Were EPA to tailor the depreciation to account for that longer period, the result would be a higher economic benefit calculation.

not require any additional input from the user.

2. Tax Rates

a. Background

The DOS versions of BEN that were issued after 1993 used to apply three marginal tax rates: a rate for 1986 and before, one for 1987 through 1992, and one for 1993 and beyond. Users could accept the standard values—which incorporate national averages of State tax rates—or modify the inputs to reflect specific State values.[9]

b. Final Changes

EPA did not receive any objections to the June 1999 notice's proposal that the revised BEN model will require the user to enter the violator's State of operation, then automatically reference an internal database of State tax rates and perform the necessary calculations for the violator's combined Federal and State tax rate.[10] BEN will calculate the tax rate for each separate year of noncompliance, to allow for annual changes in the relevant State tax rate (even when the Federal rate remains constant). Users will have the additional option of entering year-by-year combined Federal and State rates in a spreadsheet-like format.[11]

Although these options may sound complex, the only data required of the user will be the violator's State. The other screens for additional data entry and modification will appear only to those users who selected such advanced options.

3. Differences in On-Time and Delay Scenarios

a. Background

The BEN model's baseline assumption is that the violator would have used the same technology and approach in the hypothetical on-time compliance as it did in the actual delayed compliance scenario. The only allowed differences are in the two scenarios' exact costs of compliance, which BEN adjusts for automatically in its inflation treatment. But technological, legal, or other relevant changes between the on-time and delay scenarios can conceivably alter the components of the compliance scenarios, increasing or decreasing the compliance costs by a rate other than general price inflation. Where the delay case costs are substantially less than the on-time case costs (*e.g.*, a technological breakthrough in control equipment), BEN will understate the benefit. Where the delay costs are substantially higher (*e.g.*, regulations become more stringent, but with ''grandfather'' clauses for already-compliant firms) BEN will overstate the benefit.

Where, in the unusual case, the on-time and delay compliance scenarios are significantly different, BEN's baseline assumption of two identical scenarios is inappropriate.[12] More sophisticated calculations are necessary.[13]

b. Final Changes

EPA received only one minor objection to the June 1999 notice's proposal that the revised BEN model allow users to enter separate on-time and delayed compliance costs. Although the standard operation of the revised model will still entail only a single compliance scenario, the new screens for additional data entry/modification of separate on-time vs. delay scenarios will be available to those users who select such advanced options. The availability of more advanced options will also enhance the model's ability to account for atypical situations such as valid pre-compliance expenditures and credits for salvaged capital equipment, thus decreasing the need for off-line calculations.

4. Capital Equipment Replacement

a. Background

One of the three components of compliance costs BEN analyzes is the capital investment, which represents depreciable pollution control equipment. As the name implies, depreciable equipment wears out with usage and the passage of time. BEN used to ask the user if the violator will need to replace the equipment at some point in the future. If the user specified that the investment in capital equipment is recurring, then the user could accept the standard value of 15 years for the useful life of the capital equipment, or enter another value.

If the capital equipment does need to be replaced in the future, then the violator is financially better off from its delayed compliance in two distinct yet related ways: the violator has received a benefit in the past from delaying the initial purchase of the capital equipment, and will receive a benefit in the future from delaying the replacement of the capital equipment when that initial purchase wears out. For example, if a steel mill delays installation of a $1,000,000 baghouse for 5 years, it first obtains a benefit from delaying the purchase of that baghouse for 5 years. But when that baghouse needs to be replaced 15 years later, the violator's second baghouse is purchased 5 years later than it should have because the initial purchase lasted five years later than if it had complied on time.

b. Final Changes

Some commenters characterized any consideration of future replacement cycles as ''speculative,'' as these cycles have yet to occur in the typical case (because the noncompliance period is almost always shorter than the capital equipment's useful life). EPA agrees only to the extent that BEN does make an assumption about the future, but this assumption is essentially a baseline one: BEN assumes that future pollution control requirements will be neither more stringent nor more lax than current requirements, and that the cost of the replacement equipment will increase by no more and no less than the projected rate of inflation. Therefore, the Agency will retain the BEN model's default consideration of capital equipment replacement.

Some commenters argued that BEN should not offer infinitely recurring replacement cycles. The Agency notes that although modeling infinite cycles might at first seem excessive, all future costs are ''discounted'' back to their present values (see following sections for an explanation of discounting). Thus, the first replacement cycle typically has a relatively small impact on the benefit calculation.[14] The impact

[9] Tax rate modification can also reflect a business whose low net income entails a tax bracket other than the assumed highest bracket. Note that BEN's assumption of the highest marginal tax rate produces a lower economic benefit calculation than assuming a lower tax rate because a higher tax rate decreases the compliance costs' after-tax value. Since the model employs an after-tax cost in its analysis, the lower the tax, the higher the BEN result.

[10] The model will also offer the option of the national average of all the State tax rates for cases where the State in which the violator pays taxes is unclear.

[11] This option would allow users to account for, among other situations, a company whose profitability (and hence tax bracket) was highly variable over different years. (As noted before, BEN's assumption of the highest marginal tax rate throughout the noncompliance period results in a lower economic benefit estimate than would be produced by a more precise calculation of the violator-specific marginal tax rate.)

[12] The inexperienced user will become aware that a more sophisticated analysis is needed because there are two sets of cost figures, but only one place to put them. The more experienced user will just go directly to the ''Specific Cost Estimates'' option during data entry.

[13] A similar problem arises when no technologically feasible method of compliance is available. If the only possible compliance method that the Agency would have allowed is to cease all production, then this falls under the category of illegal competitive advantage, which by definition is beyond the scope of the BEN model.

[14] If the initial capital investment is $1 million and the equipment lasts for 15 years, then the first replacement cycle is still $1 million (assuming, for now, the lack of any intervening inflation). But since it is purchased 15 years later, the $1 million is discounted to a present value at, for example, 10

of later replacement cycles is almost negligible.

Some commenters, as well as academic peer reviewers, favored the approach of a finite number of replacement cycles (which the Agency initially proposed to adopt). But one peer reviewer pointed out that this approach runs into problems when the noncompliance period is very long, especially when it approximates the useful life of the capital equipment. For example, assume a 10-year compliance delay, coupled with a 10-year useful life. If BEN were to use one replacement cycle, the on-time scenario would include two capital equipment installations, covering the years 1 through 20. The delay scenario would also include two capital equipment installations, but run from years 11 through 30. BEN would implicitly be stating that the violator would need to have functional equipment in place for years 21 through 30 (*i.e.*, the delay scenario's replacement cycle), but that a company complying on-time need not do so (*i.e.*, since the cash flow analysis for the on-time scenario runs out only to the year 20).

Therefore, the revised BEN model will adopt this peer reviewer's solution by implementing the concept of economic depreciation, which essentially calculates the lease value of pollution control equipment. In other words, instead of modeling the on-time replacement capital investment and the subsequent depreciation tax shields, and comparing that to delayed replacement, the calculation models leasing the equipment over the period when the on-time equipment would have required replacement yet the delay equipment is still functional. The avoided lease cost, therefore, serves as a reasonable approximation of the economic benefit from the delayed replacement equipment installation, and also allows the two scenarios to the modeled out to the same end point. Furthermore, projections far into the future are no longer necessary, as the imputed lease cost is calculated only for the interim period when the on-time equipment would have required replacement yet the delay equipment is still functional.

This approach will add a few new cells on one of the pages in the BEN detailed printouts, yet allow the elimination of another entire page of calculations. It will also simplify the previous 0–5 replacement cycles optional input to a simple ''yes/no'' choice for the consideration of future capital replacement (with the default set to ''yes''). The previously included optional input for the future inflation rate (which applied only to replacement cycles in addition to the first one) will be eliminated.

5. Inflation Treatment

a. Background

The first step in the economic benefit calculation is to determine the compliance costs—for both the on-time and delay scenarios—as of the year in which they were actually incurred (or should have been incurred). Therefore, BEN adjusts the compliance costs from the date they were estimated to the date the costs will be incurred to account for the effects of inflation.

To adjust for inflation, BEN previously used a standard-value rate calculated from the prior ten years of inflation data from the Plant Cost Index (PCI) in the magazine Chemical Engineering. (The PCI is generally the cost index most relevant to the types of costs typically associated with pollution control technology.) This simple inflation rate adjusted the initial compliance cost estimates. BEN applied this simple inflation rate to the compliance cost figures in order to determine what compliance would have cost at the noncompliance date. Then BEN applied the same simple inflation rate to determine what the costs actually were (or will be) at the compliance date. Finally, the model used the same rate to go well into the future to determine what those costs will be for the capital equipment replacement cycles.

b. Final Changes

Despite the Agency's specific request for comment on BEN's inflation adjustment, we received almost none. The issues that the few commenters did raise were:

(1) The use of a single inflation rate for both actual and projected inflation,

(2) The basis for the actual inflation rate, and

(3) The basis for the projected inflation rate.

For actual historical inflation, the revised BEN model will adjust each cash flow automatically from the date of the cost estimate to the date on which it is incurred by referencing a look-up table of cost index values.[15] The default cost index will be the PCI. This particular index may not be perfectly appropriate for every single case, but we have yet to encounter any other cost index that would form a better basis for a standard value, nor did any commenters submit any specific nominations for a more suitable index.

The revised BEN model will also allow the user to override the PCI and instead specify different cost indices for different compliance components. The table below describes the alternative cost indices.

Abbr	Full name	Description	Typical applications
2.5%	2.5-percent constant inflation rate		Sensitivity tests; model testing.
CCI ..	Construction Cost Index	Constructions costs; based on 1.128 tons Portland cement, 1,088 bd. ft. 2x4 lumber, 200 hrs. common labor.	General construction costs, especially where labor costs are a high proportion of total costs; often used for municipal wastewater projects.
ECI ...	Employment Cost Index	Employment costs	One-time nondepreciable expenditures or annual costs that are mainly labor
GDP	Gross Domestic Product price deflator	Economy-wide measure of price changes ...	A very broad, economy-wide measure of inflation is desired.
PCI ...	Plant Cost Index	Plant equipment and labor costs	Standard value.

percent, over 15 years. The first replacement cycle would only increase the benefit component by about 30%. The second replacement cycle is purchased 30 years later. Thus, the $1 million piece of equipment is discounted at the same 10 percent over 30 years. The economic benefit from the delay of that second replacement cycle would only increase the benefit component by about 7%.

[15] The model will not apply an explicit inflation *rate*, although an annualized rate could be imputed from the model's data. For example, suppose a $200 cost estimate from 1991 must be adjusted for inflation to the same day in 1992. The 1991 cost index value is 100, whereas the 1992 index value is 103. The calculation the model performs is $200 x 103 / 100 = $206 (*i.e.*, multiplying the original cost estimate by the ratio of the cost index values from the date on which the cost is actually incurred, and the date on which the estimate is made). The index change from 1991 to 1992 does represent an annual inflation rate of three percent (*i.e.*, 103 / 100 = 1.03 − 1 = 0.03), although the model would not directly apply this rate. The calculation that uses the ratio of the index values is both more precise and more simple than calculating multiple annual inflation rates over different periods for historical costs.

Abbr	Full name	Description	Typical applications
PPI ...	Producer Price Index	Representative producer costs	General costs for producers, not tied to industrial process equipment.

The user may also override BEN's inflation adjustments for the capital investment and one-time nondepreciable expenditure, and instead enter separate estimates for these compliance costs as of the noncompliance date and compliance date. This customized data entry could represent another alternative cost index, case-specific inflation assumptions, or entirely different actions for on-time and delayed compliance (as discussed in a previous section). For projected future inflation, the model will project all the cost indices forward in time at publically available, consensus-oriented forecasted rates.

The standard operation of the model will still entail absolutely no input whatsoever from the user who is satisfied with BEN's default values. The other screens for additional data entry and modification will appear only to those users who selected more advanced options.

6. Discount/Compound Rate

a. Background

Once the compliance cost estimates are adjusted for inflation and then for taxation, the BEN model must adjust these after-tax cash flows to a common present value as of the date of noncompliance. The difference between the two present values (of the on-time and delay scenarios) is the initial economic benefit as of the noncompliance date. BEN then compounds this initial economic benefit forward from the noncompliance date to the penalty payment date to determine the final economic benefit. A single rate adjusts all present values both backward and forward in time.[16] This section addresses only the calculation of BEN's standard value for this single discount rate, which was previously based upon a ten-year after-tax weighted average cost of capital (WACC), with the inputs representing averages across all industries.[17]

The WACC is the average of the cost of debt and the cost of equity, weighted by the portions of debt and equity out of total financing. The WACC is first calculated for each year, and then the prior version of BEN averaged these annual values over the most recent ten-year period. The (after-tax) cost of debt is the average return on corporate bonds averaged across all industries, and then multiplied by one minus the highest marginal corporate tax rate (Federal combined with an average of all States). The cost of equity is based upon the widely used Capital Asset Pricing Model (CAPM), and is equal to a risk-free rate component plus the expected equity risk premium (*i.e.*, the average since 1926 of each year's excess stock market return over the risk-free rate).

b. Final Changes

Based on the June 1999 notice's proposal and the lack of any objections, the revised BEN model will tailor the standard value discount rate to the period from the noncompliance date to the penalty payment date.[18] The standard value will reference a look-up table, averaging the annual values over the relevant years. Each individual annual calculation will be similar to the standard value's previous methodology.[19]

The model will also perform additional customizing in a similar automated fashion. Since BEN will have an input for the violator's State—thereby customizing the tax rate for compliance costs—that same customized tax rate will determine the after-tax debt cost component of the WACC. The model will even select the individual tax rate if the company is not organized as a C-corporation (as profits and losses from S-corporations, partnerships, and sole proprietorships flow through to the owners' individual tax returns).

The standard operation of the model will still entail absolutely no input whatsoever from the user who is satisfied with BEN's derived WACC for the discount/compound rate. Another screen to override BEN's derived rate will appear only to those users who selected such advanced options.

7. Discounting/Compounding Methodology

a. Background

As stated in the previous section, once the compliance cost estimates are adjusted for inflation, and then for taxation, the BEN model must adjust these after-tax cash flows to a common present value as of the noncompliance date. The difference between the two present values (of the on-time and delay scenarios) is the initial economic benefit as of the noncompliance date. BEN then compounds this initial economic benefit forward from the noncompliance date to the penalty payment date in order to determine the final economic benefit. BEN uses a single rate to adjust all present values both backward and forward in time. Because BEN uses the same rate for going both backward and forward, this calculation is computationally equivalent to bringing all cash flows—both past and future—directly to the penalty payment date at the WACC rate.

The comments fell into three categories. Some thought the WACC rate was too high and especially that the

[16] The Agency received many comments on the use of a single rate as opposed to two different rates. The notice addresses this issue in section II. B. 8, Discounting/Compounding Methodology.

[17] The discount rate standard value for not-for-profits is based upon municipal bond yields, averaged across the four investment-quality ratings of Aaa, Aa, A, and Baa. The only comment EPA received on the not-for-profit discount rate was a suggestion that municipal economic benefit be calculated using a discount rate for private entities that perform similar functions (*e.g.*, on a municipal Clean Water Act case, the discount rate would be the average WACC for privately owned wastewater treatment plants). However, because the Agency is trying to calculate the economic benefit that the municipality and its residents or rate payers have actually gained, the Agency prefers to use an estimation of the municipal government's opportunity cost of financing projects, which is equal to the interest rate on the municipality's bonds. This debt rate—which forms the basis for the BEN model's not-for-profit standard value discount rate—will almost always be substantially lower than the private-sector-equivalent cost of capital. The discount rate for Federal facilities is based upon the yields from five-year U.S. Treasury notes.

[18] Although the following discussion focuses on the for-profit discount rate, the tailoring of the discount rate to the relevant time period would also apply to not-for-profit entities.

[19] The revised BEN model will implement two relatively minor changes to the previous model's annual WACC calculation. First, the previous practice of applying the most recent figure for the expected equity risk premium to all prior years' calculations will be replaced with the figure that was actually available at the time for that specific year's calculation.

The second change is altering the horizon for the equity risk premium. The standard value previously combined the long-term Treasury security rate with the long-horizon equity risk premium, the latter being equal to the average of each year's stock market return minus the corresponding-maturity risk-free rate. Because the WACC calculation combines the equity risk premium with the risk-free rate of the same maturity that is used initially to calculate the premium, the issue of which horizon premium to use is largely moot. (The expected deviations of the resulting WACC will thereby be both small and nonsystematic.) The new calculation will switch to the intermediate-horizon risk premium (and the corresponding risk-free rate) as a simple compromise between the long-horizon and short-horizon.

compounding part of the calculation should be based on a risk-free rate. Some agreed with EPA's approach. Others commented that EPA's discount/compound rate was too low and should instead be based on financing pollution control investments with 100% equity.

The first group of commenters claimed that BEN's use of a WACC-based rate in all parts of the benefit calculation yielded inappropriately high economic benefit calculations. They posited that future cash flows represent uncertainty and risk, while past cash flows are known, certain, and riskless. Thus, they generally agreed that discounting future cash flows should be done with a WACC-based rate or some other risk-based rate, but felt that compounding past cash flows forward should be done with a riskless rate. They cited selected academic literature from economic and financial analysis of commercial damages in torts cases, proposing two alternative methodologies:

- (A) Use BEN's initial figure for the economic benefit as of the noncompliance date (*i.e.*, bring all cash flows, irrespective of when they occur, back to the noncompliance date at a rate reflecting risk), but then bring this intermediate economic benefit figure forward to the penalty payment date at a risk-free rate.
- (B) From the perspective of the penalty payment date, bring all future cash flows back in time at a rate reflecting risk (*e.g.*, the WACC) and bring all past cash flows forward in time at a risk-free rate (*e.g.*, the after-tax return on short-term U.S. Treasury securities).

Both of these methodologies produce significantly lower economic benefit estimates than the BEN model. A range for the magnitude of the typical differences is difficult to provide because of the many different types of cases. But while alternative A will generally produce significantly lower benefit analyses than EPA's BEN approach, alternative B is so extreme that it will often produce negative economic benefit estimates for the capital investment portion of the compliance scenario.

The second group of commenters agreed that the WACC was appropriate for discounting all future costs back to the noncompliance date, and then compounding the initial economic benefit forward to the penalty payment date.[20] The third group commented that BEN's use of the WACC is incorrect and leads to economic benefit estimates that are too low. These commenters instead favored a company's higher cost of equity capital, rather than the weighted average of the relatively higher-cost equity capital and the relatively lower-cost debt capital. Their rationale was that excess returns flow to a company's equity holders, not to a mixture of its debt and equity owners.

b. Final Changes

Regarding the first group of commenters, although both the conceptual bases and results of their two risk-free rate methodologies contradict each other, they share one similar rationale: Cash flows that have yet to occur in the future are uncertain and risky, whereas cash flows that have occurred in the past are certain and riskless. These methodologies, therefore, apply to future cash flows a rate that includes a risk premium (*e.g.*, a company's WACC or some other risk-adjusted rate) and apply to past cash flows a risk-free rate (*e.g.*, the return on short-term Treasury securities). As discussed below, the Agency believes that even if this approach were justified in the context of calculating damages owed to plaintiffs in certain types of tort cases, it is entirely inappropriate in economic benefit calculations for enforcement actions. The goal in the tort damages approach is to make the plaintiff whole by compensating him for his losses. The fundamentally different goal in enforcement actions is to deter future violations by both this particular violator and other potential future violators.

By contrast, the third group of commenters advocate the use of an equity-based discount rate. This approach is more reasonable than the risk-free rate alternatives, although the Agency still believes that using the WACC throughout all aspects of the calculation is the most reasonable and hence preferable approach.

(i) Risk-Free Rate Forward: Theoretical Issues

The goal in a tort action is to make the plaintiff ''whole.'' The settlement or court determination ultimately should place the plaintiff in the same financial position as if the wrong had not occurred. The first step in such a case is to calculate the necessary compensation at the time of the actual wrong. The next step is to adjust the compensation calculated at the time of the actual wrong to the time at which such compensation is to be made. Certain authors writing about tort damages have advocated bringing such compensation forward at a risk-free rate.[21] Otherwise, the plaintiff would be ''having-its-cake-and-eating-it-too'': The initial compensation has essentially been invested at the time of the actual wrong at a rate reflecting risk taking, yet the plaintiff is now granted the compensation which grew at that rate, without ever bearing the accompanying risk. (In contrast, the regular investor would have made the investment and then had to stand by nervously as the investment's value either grew or fell). This was the reasoning behind some of the commenters in the first group advocating that BEN employ such a risk-free rate approach.

While the appropriate focus in a tort damage action is on compensating the victim (*i.e.*, plaintiff), this is not appropriate in an enforcement action. The enforcement agency is not suing for damages it has suffered. The goal is not to make the plaintiff whole (*i.e.*, to restore to it the amount by which it was damaged). The goal of the economic portion of a civil penalty is to return the defendant to the position it would have been in had it complied, and thus disgorge from it the amount it wrongfully gained. If civil penalties, comprising the economic benefit and gravity components, effectively allow the violator to gain an economic advantage from its violations, other companies will see an advantage in similar noncompliance. This is a fundamentally different perspective from a tort case, and demands a fundamentally different view of adjusting cash flows to a present value.

The appropriate discount rate for economic benefit calculations is a company's opportunity cost of capital, reflecting the financing costs for pollution control investments or the value of investment opportunities foregone because of pollution control purchases. The opportunity cost of capital is the incremental expected rate of return a company must earn to pay back its lenders (*i.e.*, bond holders) and owners (*i.e.*, stockholders), which is the weighted-average cost of capital.

[20] One commenter agreed with compounding the initial benefit forward at the WACC rate, but only to the compliance date, after which a lower compounding rate would be appropriate. His rationale was that a company then must set aside specific funds to pay a penalty; therefore, the economic benefit estimate should be compounded either at the actual interest rate on an escrow account or at the company's debt rate (which reflects its risk of going out of business, resulting in an inability to pay a penalty). Even if EPA took this approach, it would make no difference in the calculation where compliance had not yet been achieved at the time of settlement or trial.

[21] No consensus exists, however, and many other authors have advocated other approaches. Judges in tort cases have arrived at rulings that mandate many different rates, with many different values and rationales.

The risk-free rate methodologies use short-term U.S. Treasury bill rates that are unrelated to a company's opportunity cost of capital. Only the Treasury of the United States of America is able to borrow at the U.S. Treasury bill rate.[22] Companies lack the advantage of such low financing rates. To finance additional projects, they must either issue debt at higher interest rates, and/or issue equity, which requires returns of even higher rates.

Applying the risk-free rate to a company's cash flows presumes an unattainably low borrowing rate and an insufficient return on investments. (With the exception of mutual funds, a company whose main business was investing in T-bills would not be in business for very long.) The true opportunity cost of capital for a company far exceeds the T-bill rate. The risk-free rate will therefore systematically understate the economic benefit of pollution control noncompliance. Penalties based solely on economic benefit calculated with a T-bill rate would allow a defendant to retain a potentially substantial gain. Because of the precedent of this retained gain, other regulated companies might see an economic advantage in similar noncompliance, and the penalties based on a risk-free rate approach will fail to deter potential violators.

(ii) Risk-Free Rate Forward: Practical Implications

Not only are the theoretical underpinnings of the risk-free rate forward methodologies flawed, but their practical implications are also troubling. Specifically, the use of the risk-free rate fails to achieve the overriding goal of economic benefit recapture: To make the violator financially indifferent between compliance and noncompliance, which in turn constitutes a critically important element of deterrence.[23] An example helps to illustrate this point.

Suppose a company is deciding whether to purchase pollution control equipment this year (*e.g.*, 2000), or to wait until the same month in the next year (*e.g.*, 2001). The company is not necessarily contemplating a willful violation of the law—perhaps the law's interpretation is unclear, and the company would like to know the financial consequences of not purchasing the equipment, and then later being found to be in noncompliance. The company, therefore, wants to know how much better or worse off it will be by delaying the purchase one year.

The company performs three sets of economic benefit calculations. First, it calculates the economic benefit as of the present time (*e.g.*, June 2000). This lets the company know how much better off it will be by delaying the purchase (*e.g.*, until June 2001), in the absence of any penalty. Second, it calculates the economic benefit as of one year later (*i.e.*, June 2001, when it would otherwise purchase the equipment, and also pay any penalty), and then discounts the calculated economic benefit back to the present (*i.e.*, June 2000). This lets the company know the present value of any economic benefit based penalty that is calculated and paid the following year in 2001. Third, it subtracts the second result from the first result to determine the net amount by which it is better or worse off (*i.e.*, the economic benefit of its noncompliance, minus the present discounted value of the economic-benefit-based penalty it can expect to pay in 2001).

The first economic benefit calculation yields the same result regardless of which economic benefit methodology is used, because all the cash flows occur in the future.[24] In this example, the only compliance measure is a one-time—*i.e.*, no replacement cycles—capital investment of $10 million.[25] The company calculates that it is financially better off now in 2000 by $519,767 from a projected one-year compliance delay.

The company also needs to know how much better off it will be on net should the enforcement agency assess a penalty in 2001 equal to the calculated economic benefit from its delayed compliance. Assuming that the agency uses BEN, the economic benefit is brought forward one year by an estimate of the company's WACC (in this case 10 percent), so the economic-benefit-based portion of the penalty the company will pay is $571,744.[26] But because the company will pay the penalty a year in the future, it must discount that amount back to the present. If it discounts the penalty at the same rate that BEN used to compound the penalty forward to the penalty payment date, the present discounted value of the future penalty will always be equal to the economic benefit the company calculates for itself (in this case, $519,767). The company can therefore expect to have any economic benefit disgorged from itself, which makes the company financially indifferent between compliance and noncompliance. The column in the exhibit below labeled ''BEN'' summarizes these calculations.

Economic benefit	BEN	Alternative A	Alternative B
1. Penalty Payment Date of 6/1/2000	$519,767	$519,767	$519,767
2a. Penalty Payment Date of 6/1/2001	571,744	533,281	(147,798)
2b. Result 2a discounted back to 6/1/2000	519,767	484,801	0
3. Net Result (*i.e.*, 1 − 2b)	0	48,480	519,767

Perhaps, however, the enforcement agency uses one of the alternative methodologies. Under alternative A, as described in Section II B(8)(a), above, the initial economic benefit as of the noncompliance date is calculated with BEN, but is then compounded forward at the after-tax risk-free rate. In this case, compounding the initial economic benefit forward from 2000 to 2001 at an illustrative risk-free rate of 2.6 percent yields $533,281. The company

[22] This is a very favorable rate, because of the U.S. Treasury's over two-century default-free record, its ability to create money, and also the State tax-free status of its debt instruments.

[23] Because benefit recapture by itself merely makes the violator indifferent between compliance and noncompliance, only a total penalty amount that exceeds the economic benefit (by incorporating a gravity component) can achieve actual deterrence. Therefore, a civil penalty should always be at least equal to the economic benefit calculation plus some non-trivial gravity component.

[24] The results might be slightly different depending on what ''risk-adjusted rate'' the risk-free rate forward methodologies use for the future cash flows in their calculations. Different practitioners have used different ''risk-adjusted rates'' in different cases, including the same WACC-based discount rate that the BEN model uses. Therefore, for the purposes of the examples that follow, we assume that the alternative methodologies also use the WACC for future cash flows. If, instead, they were to use a different rate, the exact figures for the results would be slightly different, but the overall implications would remain the same.

[25] Other inputs include a 40-percent tax rate, 1.8-percent inflation rate, and 10-percent WACC.

[26] Because the time between the noncompliance date and the penalty payment is only one year, the compounding takes the form of simply multiplying the initial economic benefit by the sum of one plus the discount/compound rate (*i.e.*, $519,767×(1 + 0.10)=$571,744).

discounts this future penalty back to the present (*i.e.*, 2000) at its WACC, and arrives at $484,801.[27] Because this is less than the current economic benefit of $519,767, the company realizes a net gain of $48,480. This approach fails to make the company indifferent between compliance and noncompliance and, in the absence of any additional gravity-based penalty components, the company will have an incentive to delay compliance.

If the enforcement agency instead uses alternative B, as described in Section II B(8)(a), the economic benefit as expected to be calculated a year from now in 2001 is a negative $147,798.[28] The company realizes that an enforcement agency using this approach will conclude a year from now in 2001 that no economic benefit has been gained, and therefore the economic benefit-based portion of the penalty will be zero. But the company currently calculates its economic benefit in 2000 to be a positive $519,767. At the time of initial noncompliance in 2000, the company concludes that delaying the equipment purchase will result in an economic gain, but that it will never have to pay any economic-benefit-based portion of the penalty. Once again, a risk-free approach fails to make the company indifferent between compliance and noncompliance and, therefore, in the absence of any additional gravity-based penalty components, the company will have a significant incentive to delay compliance.

(iii) Equity Rate Approach

By contrast, an approach that employs a company's equity rate focuses solely on the company's equity owners, as opposed to its other stakeholders (who hold the company's debt). Because the company's cost of equity capital will always exceed or at least be equal to a company's WACC, the economic benefit estimate—with all other assumptions held constant—will be higher or at least the same.[29] While the Agency believes that a reasonable argument supports the use of equity, we nevertheless prefer the WACC, because it better represents firms' total capital structures and their own typical business decision-making practices.

(iv) Final Change: Use WACC, Except for a Possible Early Penalty Payment

For the above reasons, the Agency believes that the current basic discounting methodology is appropriate and should not be changed, except a minor modification in certain contexts. The United States may consider allowing the violator to escrow funds for the economic benefit portion of the penalty demand (whether at the compliance date or at any other time). Then, when EPA runs the BEN model, it will use the date the funds were escrowed as the penalty payment date. The violator would have to furnish proof that it established the escrow account, as well as placed on the account appropriate restrictions (*e.g.*, all accrued interest would go to the Agency).[30] This modification, when applied to certain cases, may reduce some of the deviation in results between the competing discounting methodologies. BEN will incorporate this guidance into its help system.

8. Investment Tax Credit and Low-Interest Financing

a. Background

Economic benefit calculations for cases with noncompliance dates prior to the mid-1980s must account for two important tax-code effects: The investment tax credit (ITC) and low-interest financing (LIF).

Prior to 1986, the Federal government allowed companies an ITC on capital investments.[31] The ITC effectively reduced the after-tax cost of a capital investment. Complicated and changing rules governed the depreciation basis for a capital investment with an associated ITC.

Early versions of BEN used to account for the ITC that was available on projects completed before January 1, 1986, but did not do so for the transition years of 1986 and 1987. The transitional rules allowed companies to obtain an ITC for projects completed after December 31, 1985, if the project met one of three criteria regarding the level of planning and construction that had occurred by that date.[32] Because the allowance of the ITC in these years was far from automatic (although still possible), BEN warned the user about this issue for noncompliance dates between January 1, 1986, and June 30, 1987. If further research and analysis showed that the granting of an ITC was likely in a particular case, then a financial analyst could adjust the BEN result through an ''off-line'' calculation.

Prior to 1987, LIF was available for a business's investment in pollution control. A much earlier version of the BEN model included a variable that accounted for LIF. The 1993 version of BEN removed this variable because it was relevant only for cases with noncompliance dates before 1987. Once this variable was removed, BEN would then issue a warning to the user about LIF for noncompliance dates before January 1, 1987. If further research and analysis showed that LIF was probably available in a particular case, then a financial analyst could adjust the BEN result through an off-line calculation.

b. Final Changes

A few commenters suggested that EPA could revise the BEN model to allow an option for ITCs during the 1986–87 transition years, as well as to account for LIF in years prior to 1987. These revisions would, however, add considerable complexity to the model.

[27] Even if the company were to discount the future penalty back at a rate lower than its WACC, this rate would still exceed the risk-free rate that alternative A uses to compound the economic benefit forward, and therefore the discounted future penalty would still exceed the currently calculated economic benefit.

[28] A negative economic benefit result for the capital investment portion of compliance is typical for alternative B. In many recent cases, the violators' witnesses implementing this approach have arrived at negative economic benefit results for delayed capital investments, despite the fact that no changes occurred in technological or legal requirements over time between the dates of noncompliance and compliance. (In other words, the negative economic benefit result was derived from on-time and delay scenarios involving the same piece of capital equipment, with the passage of time affecting only inflationary adjustments for the cost estimate.) Applying the combination of an extremely low risk-free rate for past cash flows and a higher risk-adjusted rate for future cash flows to delayed capital investments (with their past cash outflows for the actual investment and their future cash inflows for depreciation tax shields) can produce aberrant results that defy common sense. These perverse negative economic benefit estimates do not reflect any real economic losses because of the expenditure delay. Furthermore, even if the parameters in this example were different, the economic benefit—although perhaps positive—would still be much smaller than even under alternative A, and would similarly fail to make the company indifferent between compliance and noncompliance.

[29] The WACC will equal the equity cost of capital if the company has no long-term debt. Note also that an economic benefit calculation using the equity rate should first net out any cash flows attributable to debt financing, as the focus in such a calculation is on the returns to the company's equity holders only.

[30] Should the escrowed amount exceed the benefit component, then the interest on the amount that exceeded the economic benefit component would accrue to the violator.

[31] Note that this and other tax-related adjustments are irrelevant for municipalities, federal facilities, and other not-for-profit entities because their marginal tax rate is equal to zero.

[32] The criteria are: ''1. It is constructed, reconstructed, or acquired under a written contract binding on December 31, 1985; 2. it is constructed or reconstructed by the taxpayer, construction was begun by December 31, 1985, and the lesser of $1 million or five percent of the cost was incurred or committed by December 31, 1985; or 3. it is an equipped building or plant facility, construction was begun by December 31, 1985, under a written specific plan, and more than one-half of its cost was incurred or committed by December 31, 1985.'' (Commerce Clearing House, Inc., Explanation of Tax Reform Act of 1986, page 328.)

Furthermore, the Agency did not receive any comments documenting recent instances in which an off-line calculation was necessary to account for ITCs or LIF. This is not surprising EPA Headquarters had received only one call in response to the older BEN model's previous warning about LIF. Furthermore, the already low likelihood of the need to account for ITCs or LIF continues to decline with the passage of time, as EPA is not likely to see many enforcement actions now in the mid-2000s for violations that began in the early to mid-1980s.

The June 1999 notice's proposal on this issue ''that the revised BEN model not accept noncompliance dates before July 1, 1987 ''did not receive any objections from commenters. This cut-off date will ensure that BEN's omission of ITCs and LIF is not leading to incorrect economic benefit estimates. EPA will provide assistance in performing the necessary calculations for cases that involve noncompliance dates before July 1, 1987.

C. Improving the BEN Model's User-friendliness

EPA understands that some users find the BEN model difficult to use. While that has not been EPA's experience, the Agency expressed interest in learning of any difficulties users encountered when running the model. The Agency particularly requested suggestions for realistic alternatives that would preserve the model's degree of precision.

1. Is BEN Too Complex To Operate?

a. Background

EPA invited comments on whether any aspect of BEN's operation or user's documentation is too complex. Although the Agency designed BEN to be straightforward and easy to use, we welcomed any suggestions to make the model easier to use without compromising BEN's degree of precision.

b. Final Changes

Many commenters thought that although the old BEN model was generally easy to use, certain aspects of the prior version's operation were cumbersome. The Agency agrees, given the model's origins as a mainframe computer application and then its prolonged existence in the DOS operating environment. Because essentially all computer users are now long accustomed to the Windows™ operating environment, the Agency has decided that the revised BEN model will continue to run in Windows (version 95 or higher). This makes basic data entry and benefit calculations much easier to perform, as well as allowing the addition of various advanced features without burdening the user with additional complexity.

EPA has also established a toll-free helpline for Federal, State, and local government enforcement staff who need additional assistance in using the BEN model. The helpline provides Federal, State, and local environmental enforcement agencies with advice regarding financial issues that impact enforcement cases. The main types of inquiries EPA is addressing with this helpline are:

- The calculation of a violator's economic benefit from noncompliance;
- The evaluation of a violator's claim that it cannot afford to comply, clean up, or pay a civil penalty, and the application of the three computer models—ABEL, INDIPAY, and MUNIPAY [33]—that address these issues; and
- The calculation of the actual costs of a supplemental environmental project, and the application of the computer model—PROJECT [34]—that addresses this issue.

Callers can obtain assistance in downloading the BEN model and the previously mentioned other models, as well as relevant policies and guidance documents. In addition, callers can obtain advice on how to access training courses on the models and related subjects. Inquiries regarding the interpretation of Federal statutes and EPA policies will be referred to the EPA, as will inquiries from nongovernment employees except for relatively straightforward technical inquiries (*e.g.*, installation problems).

The toll-free helpline phone number is 888–ECONSPT (326–6778), and is staffed by a contractor, Industrial Economics, Incorporated, located in Cambridge, Massachusetts. The helpline is in operation from 8:30 AM to 6:00 PM Eastern time and will accept voice mail messages when it is not in operation. In addition, the contractor has provided a companion e-mail address: *benabel@indecon.com*. When requesting help, enforcement staff should identify their governmental affiliation. As mentioned at the beginning of this notice, anyone can download the model through the EPA's Web site at: *www.epa.gov/compliance/civil/programs/econmodels/index.html.*

2. Is the Information BEN Needs Difficult or Expensive to Obtain?

a. Background

One of the main breakthroughs BEN achieved over its predecessor model was its streamlining of the data needed to operate the model. While the model requires a minimum of only seven data inputs (mainly just three dates and up to three cost estimates), some users apparently feel the data is difficult to obtain. This has not been EPA's experience, as most (if not all) of the required data inputs are based on facts that are already or should be known to the litigation team as the data are important to other parts of the settlement. Nevertheless, the Agency welcomed any suggestions on how to make this data easier to obtain as long as the model's degree of precision is preserved.

b. Final Changes

The Agency received a wide range of responses on this issue. Most users thought the necessary data was easy to obtain; others thought it was prohibitively difficult to obtain. EPA did not receive any specific suggestions on how to streamline the model's data requirements even further. The Agency did receive suggestions that the BEN model incorporate some basic, generic compliance data.

The Agency has cost information on its Web site for the UST (Underground Storage Tanks) and Clean Air Act (Stationary Sources) [35] programs. In addition, it produced a written manual on standardized RCRA (Hazardous Waste) costs. These information sources should assist users in determining compliance costs, and then using them in the BEN model to calculate an economic benefit figure. Although these information sources are not a substitute for case-specific data, they will at least provide a starting point and a reasonably accurate estimate when a violator refuses to provide any detailed cost information.

Also, as noted at end of Section II C (1)(b), above, EPA has established a toll-free helpline to provide assistance to government enforcement personnel regarding financial economics issues in environmental enforcement cases. Helpline staff can provide suggestions on how to obtain the necessary data to run the BEN model.

[33] ABEL, INDIPAY and MUNIPAY evaluate inability to pay claims from for-profit entities, individuals and municipalities, respectively.

[34] As most supplemental environmental projects (SEP's) are completed long after the cases are settled, any stated SEP cost is usually far above the ''real'' cost to the violator. Therefore, PROJECT calculates the SEP's actual costs to the violator.

[35] The web address for the Clean Air Act Stationary Source information is: *http://www.epa.gov/ttn/catc/products.html.*

D. Procedural Issues Regarding the Public Comment Process

Although the Agency did not request any comment on the public comment process itself, the Agency did receive several comments regarding procedural issues. EPA's responses to the major requests are as follows:

• *Extend the initial public comment period:* In response to such concerns, the Agency extended the deadline for the initial round of public comments from the originally stated January 1, 1997, to a significantly later March 3, 1997 (*see* **Federal Register** notice on December 12, 1996, at 61 FR 65391).

• *Follow up on the public comment period by first drafting the findings, then requesting and evaluating further public comment, and finally publishing a formal draft on the final decision:* In response to such concerns, the Agency has done exactly that. The June 1999 notice responded to the comments, came out with a proposal, and then requested further comment on that proposal. This notice contains the final findings.

• *Provide a separate public comment process for the illegal competitive advantage guidance document:* Since the Agency has already solicited public comment on illegal competitive advantage issues, a separate public comment process would be duplicative. But as was mentioned earlier in this notice, the EPA's Science Advisory Board has initiated a peer review of the draft illegal competitive advantage guidance document.

• *Submit the BEN model to a formal peer review process:* As noted earlier, EPA submitted its draft BEN model changes to an academic peer review in the spring of 2003. The process concluded at the beginning of 2004.

III. Response to Comments

A. Broad Economic Benefit Recapture Issues

1. Alternatives to BEN

Comment: One commenter challenged the economic rationale of the entire benefit recapture ideology, concluding that EPA's current approach encourages compliance disproportionate with resultant social benefits. The alternative recommendation was to base penalties on violations' social costs rather than the private gains, thus providing the possibility of an ''efficient breach,'' a concept from contract law. The illustrative example was an individual lost in the woods who steals food from a cabin to avoid starvation. Under the social cost approach the individual would be required to repay the cost of the stolen food. The commenter argues that EPA's approach in this context would be analogous to attempting to recover the private gain, presumably the value of the individual's life.

Response: As discussed in the main text of this notice, the Agency finds this approach unacceptable, inconsistent, and infeasible with regard to its objectives to enforce regulatory requirements. More specifically, in the example of the starving person, society has implicitly agreed that the individual may violate the normal respect for private property and steal the food, being required later to repay only the cost of the food. By contrast, society has not agreed that companies may violate environmental statutes at will whenever they expect their private gain to exceed the social costs. To use another example at the individual level, motorists are required to stop at red lights even at deserted intersections. If a driver is caught running a red light, financial compensation to other parties may not be necessary if no accident has occurred, but a regulatory penalty in the form of a moving violation ticket is still appropriate. A police officer is generally not convinced by a violator's argument that the lack of social damage is outweighed by the violator's gain (in terms of time saved in this example), and EPA is similarly not convinced by such an analogous argument.

2. Illegal Competitive Advantage

Comment: Several commenters felt that EPA has not demonstrated a clear need to broaden the benefit recapture framework to consider illegal competitive advantage, and questioned whether the scenarios described in the June 1999 notice were realistic and supported by actual data. These commenters felt that consideration of illegal competitive advantage is appropriate only under rare and limited circumstances.

Response: The Agency agrees that consideration of illegal competitive advantage will occur far less frequently than the typical BEN-type of benefit, but it does not agree that such occurrences will be rare. As the main text of this notice explains, specifically those situations are where revenues in both the actual noncompliant and hypothetically compliant states are not identical (as BEN implicitly assumes). As previously noted, the Agency is not planning to issue any guidance on the subject of illegal competitive advantage at this time. Therefore it is premature to address the comments that were directed at the scenarios that appeared in the June 1999 notice.

Comment: Two commenters recommended that the Agency adopt alternative terminology for ''competitive advantage,'' because the scenarios described in the June 1999 notice do not necessarily involve ''competition,'' as in antitrust cases.

Response: The Agency agrees that the term may not be ideal, and has been open to alternative suggestions. Unfortunately, no commenter proposed any. The underlying concept is economic benefit that goes beyond the BEN model's simplifying paradigm of delayed and/or avoided pollution control costs, but unfortunately this is difficult to convey in merely two or three words.

Comment: Many commenters expressed concern over the additional resources necessary for the data and analysis associated with illegal competitive advantage. One commenter questioned whether such analyses were feasible altogether, and another questioned whether EPA staff was sufficiently qualified to undertake them. Finally, one commenter suggested that attempts to calculate illegal competitive advantage should not be made until EPA has issued formal guidance.

Response: Illegal competitive advantage cases may involve more detailed financial data and analysis than typical BEN cases, although in some cases they will involve less. When such cases do arise, the Agency will rely heavily on expert support, just as it currently does for much of its more complex economic benefit recapture work. Moreover, the absence of formal guidance in the interim should not preclude staff from identifying and analyzing illegal competitive advantage. Recapture of economic benefit based on illegal competitive advantage has been EPA's position since the inception of the policy in 1984 to recapture all the economic benefit from noncompliance. There are now a series of case decisions that have already based 100 percent of the violator's economic benefit on illegal competitive advantage. It is worth noting that in one of the cases, the benefit calculation was so simple that the Agency did not even need to present expert testimony on illegal competitive advantage.

Comment: One commenter disagreed with the June 1999 notice's characterization of the role of marginal production costs regarding illegal competitive advantage from increased market share. Figure 1 below reproduces the graph that the commenter attached. As in the classic textbook example of a ''price-taking'' firm facing a competitive market, the firm produces up to the point where its marginal cost of

production (as depicted by the line MC_c for a compliant firm) is equal to the market equilibrium price (as depicted by the horizontal line, P). The firm produces quantity Q_c, with a profit equal to the triangle described by the points P–A–B (*i.e.*, the area lying below the market price but above the marginal cost curve). Although noncompliance may alter marginal costs such that the firm is at the lower MC_{nc}, if it anticipates with 100-percent certainty the imposition of and magnitude of a BEN-based penalty, then it will continue to produce at Q_c (not the higher Q_{nc},) since the marginal costs will eventually be retroactively incurred in the form of the penalty. Therefore, the BEN model captures the entire economic benefit.

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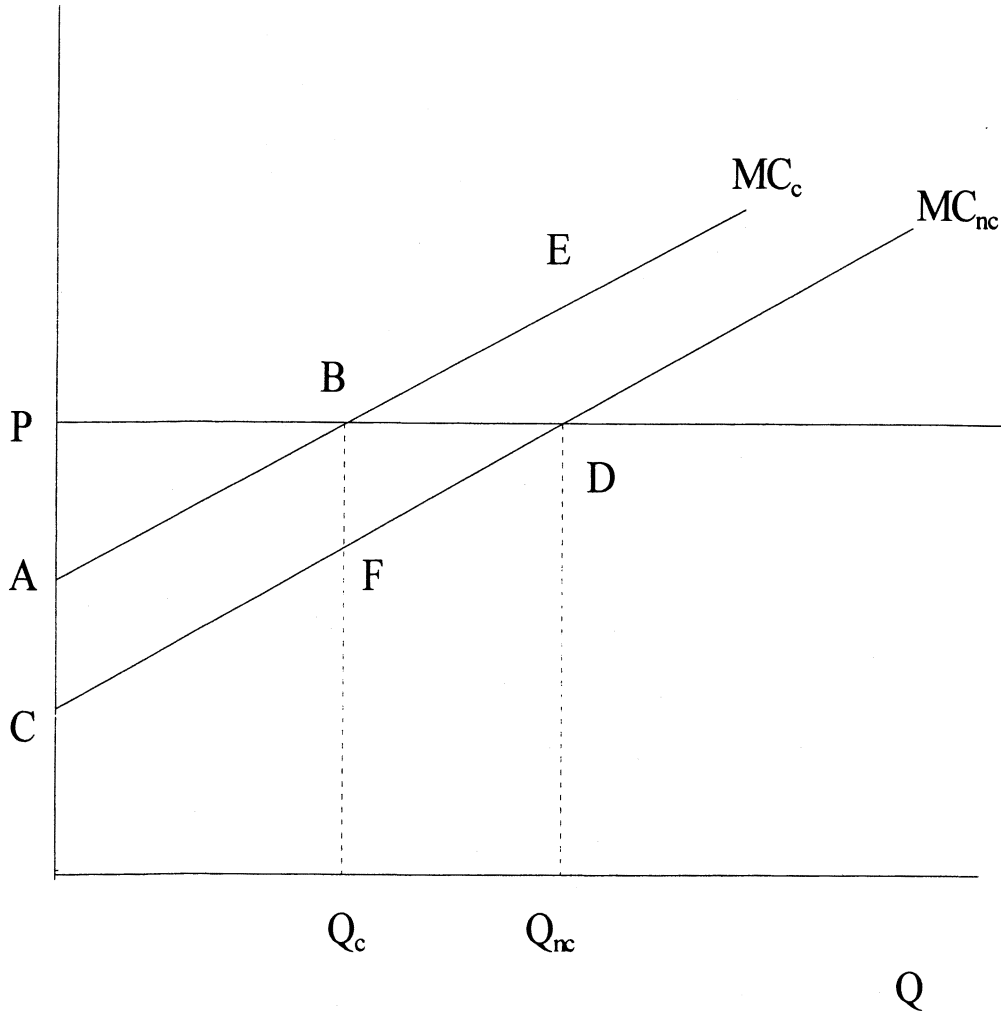

Figure 1: Marginal Costs and Economic Benefit

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Response: If the many economic assumptions necessary for this hypothetical scenario are accepted (particularly the certain anticipation of the size of the BEN component of a penalty), then the conclusion is correct. But the complicated analysis necessary to arrive at this conclusion is moot: if the firm has not altered its behavior and not gained any market share, then market share from illegal competitive advantage is not an issue.

Comment: The same commenter continued with this example, but assumed alternatively that the noncompliant firm does not anticipate a BEN-based penalty, for whatever reason. With the lower marginal cost of production MC_c it produces at the higher Q_{nc}. A BEN-type calculation would be based on the difference between MC_c and MC_{nc} (*i.e.*, the per-unit compliance cost), multiplied by the number of units (*i.e.*, Q_{nc}), and therefore equal the area described by the points A–C–D–E. But this overestimates the economic benefit the company has actually received, which is A–C–D–B (*i.e.*, the actual profit P–C–D, minus the compliant profit P–A–B). Therefore, even if the firm does gain market share from its noncompliance, BEN would overestimate the economic benefit, not underestimate it.

Response: The Agency has never encountered such a situation, especially

since such textbook graphs—while helpful for understanding broad economic concepts and aggregate market behavior—may not be very relevant for many individual firms. For example, marginal cost curves for individual firms are often not smooth curvilinear functions, but rather approximate more crude step functions. Combined with the relatively small magnitude of typical compliance costs compared to total variable production costs, the Agency is unaware of any violator claiming that it would have produced less had it incurred the compliance costs on-time. Nevertheless, this graph does illustrate the theoretical possibility that a BEN-type calculation could overestimate the economic benefit if all these conditions were present. The opposite, however, is also possible: if the compliance costs calculation is based upon a compliant level of production (*i.e.*, Q_c), then the resulting area A–C–F–B will underestimate the actual economic benefit (*i.e.*, A–C–D–B). This further emphasizes the need for a detailed examination of the company's actual noncompliant and hypothetically compliant behavior (and cash flows), if the noncompliance is reasonably believed to have increased a violator's market share.

Comment: One commenter suggested that a warning message be incorporated in the BEN module that advises the user that an affirmative answer to any of the questions regarding illegal competitive advantage indicates only the possibility that such a situation exists and that any presumed illegal competitive advantage may reduce the conventional BEN result.

Response: The Agency agrees with the goals of this comment. The Agency has requested the Science Advisory Board to look at this issue as part of its review of the ICA type of economic savings. Thus for the immediate future, the BEN model will not contain any questions, references or guidance regarding ICA.

Comment: Many commenters expressed concern over the potential for double counting in situations where illegal competitive advantage is considered. In particular, several commenters indicated that conventional BEN calculations and those related to illegal competitive advantage should be mutually exclusive options for penalty arbitration. One commenter suggested that a penalty that incorporated both would constitute double counting because the violator would have forgone some profits that are captured in the BEN calculation. Another commenter suggested that an illegal competitive advantage component should not be considered unless evidence suggests that it is likely to outweigh the conventional BEN result.

Response: The Agency agrees that simply adding an estimate of illegal competitive advantage to the BEN model's result would create the potential for double counting. But this is only a potential. In some cases it will be appropriate to seek benefit recapture based upon both types of benefit. In *In re: Lawrence John Crescio III,* No. 5–CWA–98–004, 2001 WL 537494 (May 17, 2001), an administrative law judge assessed a civil penalty that recaptured both types of benefit. Nevertheless, the emphasis for illegal competitive advantage is on a unified approach, laying out all the relevant cash flows associated with the on-time and delayed compliance scenarios. The economic benefit is then equal to the difference between the two scenarios' after-tax net present values. This is the same approach that the BEN model follows, although the scenario construction under illegal competitive advantage will—almost by definition—be more complex than under the BEN model.

Comment: Several commenters referred to the language of the penalty provisions of many of the statutes that EPA is responsible for along with the legislative history of those provisions. They claimed that those provisions authorize neither the recovery of illegal competitive advantage nor the mandated recovery of economic benefit as a necessary penalty minimum. Similarly, another commenter questioned EPA's position that the recovery of economic benefit is ''no fault'' in nature and suggested that it would be incorrect to assert that it must be recovered in every enforcement case.

Response: The passages these commenters cite clearly show that various members of Congress were often equating economic benefit with delayed/avoided compliance cost savings. But they made this association only because economic benefit typically results from delayed and/or avoided expenditures. There is nothing in the legislative history cited by these commenters to suggest that Congress intended to exclude the possibility of other kinds of economic benefit accruing from noncompliant actions (*i.e.*, illegal competitive advantage). Furthermore, the minimum recovery of economic benefit in a penalty—regardless of the violator's motives or the violation's impacts—is a common-sense notion that need not rely entirely on the legislative record for its support. Even if the argument is confined to statutory interpretation, the trier of fact, in imposing a civil penalty, is not limited to consider only those factors present in the applicable statute's penalty provisions. For example, judges have recaptured economic benefit in RCRA cases even though RCRA is silent as to the consideration of economic savings.

3. Other Broad Economic Benefit Recapture Issues

Comment: Several commenters asserted that in cases of technological infeasibility, shutdown as a means of compliance is an inappropriate suggestion, both because EPA does not have the statutory authority to mandate shutdowns and because of the consequential economic and social displacement.

Response: The issue of whether the enforcement agency should request a judge to order a violating firm to shut down is not germane to the discussion of how to calculate the economic benefit of noncompliance. What is relevant is that the economic benefit analysis should as a general rule (though with reasonable exceptions) be modeled on the actual or anticipated means of compliance. If the facility has complied (or will comply) by shutting down, then the baseline assumption for the economic benefit analysis is that the violator should have complied on-time by shutting down at an earlier date.

Comment: Several commenters stated that penalties should not be assessed in cases of industry-wide noncompliance. In particular, some commenters argued that penalties should not be assessed in situations where EPA has re-interpreted relevant regulations or failed to provide ''fair notice''.

Response: If an entire industry has failed to comply, then all of the firms in that industry have gained an economic benefit that should be disgorged. Otherwise, firms in a given industry would have an incentive to collude in noncompliance. In addition, one industry may be competing against another (hydroelectric power versus fossil fuel based electric power) such that the industry that fails to comply obtains a significant advantage in that competition. Finally, if for some reason all the firms in a particular industry are out of compliance, each violating firm still obtains an economic benefit. By delaying and/or avoiding compliance expenditures, each of the firms is saving money even if the playing field is level. The Agency needs to recapture that benefit from any violating member of that industry if it wants to produce deterrence.

EPA's perspective is that the economic benefit gained is ''no fault'' in nature. By this the Agency means that a company need not have intentionally

violated the law, or been aware of the violation, to have accrued economic benefit. Nevertheless, the concept of ''fair notice'' can be relevant to penalty assessment and may be an exception to this ''no fault'' approach. Some courts have found that fair notice is a defense to a penalty action if established by the defendant. This is not saying that the violator failed to obtain an economic benefit from its noncompliance. Fair notice is thus a legal defense, not an economic one. As a policy matter, the Agency generally does not seek any penalties where that defense has been clearly established.

Comment: Two commenters stated that the BEN model does not accurately measure regulated utilities' economic benefit. Specifically, one commenter noted that because regulated utilities are able to recover their compliance expenditures and earn a rate of return on those investments, the timing of periodic rate adjustments should be considered. For example, if compliance expenditures associated with a new facility are delayed until after a rate assessment, the utility forfeits returns on that investment until the subsequent rate assessment, a tacit loss that is not reflected in BEN model calculations

Response: The Agency generally agrees that the BEN model does not reflect that potential loss in some situations, but it does not agree with the implications. Specifically, the violator has created an economic benefit, which, depending upon the particular circumstances, has accrued either to the utility or to its customers in the form of lower rates. In some cases, both the utility and the customers obtain the benefit. Either way, this economic benefit should be recaptured. Otherwise, given the joined-at-the-hips relationship between a traditional rate-of-return regulated utility and its ratepayers, the financial incentive would arise to avoid compliance and thus create goodwill among ratepayers (knowing that the economic benefit would not be recaptured) that could help the utility in the next rate hearing. To ignore this benefit generated by such a regulated utility creates a very strong incentive to evade compliance responsibilities.

The analogy of a landlord-tenant relationship helps to illustrate this concept. Suppose that the lease conditions allow pollution control costs to be passed through to the tenant, and suppose that the regulatory agency agrees that the economic benefit that the landlord created through its violations should not be recaptured via a civil penalty since the economic benefit was passed through to the tenant (in the form of lower rent payments). The landlord now has an incentive to avoid compliance, since and thus create goodwill with its tenant (knowing that the economic benefit will not be recaptured) that could help the landlord in the next round of lease renegotiations.

Comment: Two commenters questioned whether economic benefit was appropriate for Federal agencies and facilities.

Response: Federal agencies and facilities are no different from local, regional, and State governmental jurisdictions in the context of economic benefit. Although governmental entities do not have the same profit motive as for-profit businesses, they may still benefit economically from their noncompliance, and that benefit must be recaptured.

Comment: One commenter suggested that by increasing focus on the recovery of economic benefit, EPA will in fact create an ''unlevel playing field'' because it will limit the extent of the gravity component it can assess given the statutory penalty maximum of $25,000 per day.

Response: The Agency has not seen many cases in which the economic benefit exceeds (or is very close to) the statutory maximum, but concedes that in those cases even the statutory penalty maximum may not be sufficient for optimal deterrence. Ignoring or reducing the economic benefit in all our penalty actions in order to address this situation would make little sense. The solution required is probably a legislative issue.

Comment: One commenter felt that EPA's abilities to recover economic benefit should not be permitted to supercede the statute of limitations.

Response: The application of the statute of limitations to a benefit calculation is a legal issue and is well beyond the scope of this notice. The purpose of this notice is to determine the best economic methodology for the Agency employ when calculating the economic benefit of noncompliance. From a financial economics perspective, the statute of limitations issue is irrelevant. The benefit accrues to the violator regardless of whether the first day of noncompliance was two years ago or ten years ago.

B. The BEN Model's Calculation Methodology

1. Discounting/Compounding

Comment: Many commenters indicated that the risk-free rate is the appropriate compounding rate for BEN calculations. This is because investments in pollution control carry very little, if any, systematic risk and do not add value to a firm. Similarly, the probability of the violation attracting an enforcement action and the subsequent penalty not being paid is not a relevant risk for the present value adjustments. Because penalty payment cash flows are certain, a risk-free rate is the appropriate compounding rate.

Response: The Agency is puzzled by the critical assertion in this line of reasoning that pollution control investments do not add value to a firm: would these commenters pay the same price to purchase two firms that were identical but for their investments in required control equipment? As discussed in this notice's main text, a risk-free rate does not accurately reflect the benefit a company could gain through alternative use of compliance funds. For these reasons, the Agency maintains that an estimate of a violator's cost of capital is appropriate for both discounting and compounding purposes in the BEN model.

Comment: Two commenters criticized EPA's distinction between tort damages and economic benefit and advocated the adoption of a risk-free compounding rate.

Response: The Agency maintains that tort damages and economic benefit differ fundamentally in that the goal of the former is to restore to the plaintiff the amount by which it was damaged, while that of the latter is to return the defendant to the position it would have been in had it complied, and thus remove from it the amount it wrongfully gained. Therefore, the relevant rate to apply to the violator's cash flows is its cost of capital, which reflects the minimum rate of return it can expect to earn on average from funds not invested in pollution control.

Comment: One commenter suggested that a risk-free interest-forward rate be used in BEN model calculations because a violator would have to place funds in a risk-free vehicle to pay the required penalty.

Response: Outside of cases in which a violator formally agrees during settlement negotiations to escrow penalty funds, the Agency is unaware of any violator that has ever done so, and therefore feels that this suggested theoretical construct is highly unlikely.

Comment: One commenter pointed out that a risk-based discount rate, specific to the project in question, should be utilized in BEN model calculations.

Response: Because the project is an investment in required pollution control equipment, it is essentially an investment in the continuing operations of the firm as a whole (or the relevant

operations division). Thus, the WACC accurately reflects the risk of the project.

2. Inflation Adjustments

Comment: One commenter felt that the cost indices relied upon in the BEN model should include an installation component.

Response: The BEN model's default cost index, the Plant Cost Index (PCI), includes such an installation component.

Comment: One commenter believed that future inflation rates should not be linked to the Consumer Price Index (CPI).

Response: Publicly available forecasts are available only for the CPI and the GDP price deflator. Both forecasts are fairly close to one another, plus the chosen value has a very small impact upon the economic benefit result. The Agency plans to evaluate all available information during each year's update of the projected cost indices.

Comment: One commenter felt that future inflation rates should be adjustable or, at a minimum, EPA should recognize analyses that incorporate a more complex future inflation scenario.

Response: The revised BEN model allows the user to specify estimates of compliance costs as of the noncompliance and compliance dates to reflect an alternative cost index, case-specific inflation assumptions, or entirely different actions for on-time and delayed compliance.

3. Other Technical Aspects

Comment: Two commenters commended EPA's proposal to allow for differences in delayed and on-time compliance scenarios. A third commenter suggested that only in cases where the technology necessary for compliance was unavailable at the time of noncompliance should such adjustments be allowed. Otherwise, in the on-time scenario, violators will be encouraged to seek lower penalties by searching for and advocating less costly compliance measures.

Response: The Agency recognizes that certain technological, legal, or other circumstances may occasionally cause on-time and delay compliance scenarios to differ significantly. The revised BEN model still maintains the default assumption that the on-time and delay scenarios are identical (but for inflationary effects), reserving more complicated scenarios only as an advanced option. The burden is implicitly always upon the violator to provide convincing evidence that: (1) A less-costly compliance method was available as of when timely compliance was required; and, (2) the only reason the violator invested in the more expensive equipment was to improve the environment. If, as we usually find, that the motivation to purchase the more expensive equipment was business-related (*e.g.*, the more expensive equipment was more reliable, fit better with on-board equipment, allowed for expansion, etc.) the Agency assumes that the company would have chosen that more expensive system as its compliance option had it decided to comply on time. Thus the cost entry for BEN would be based on the actual option selected by the violator for its delayed compliance.

Comment: One commenter urged EPA to maintain the BEN model's previous assumption of infinite replacement cycles, suggesting that it is essential when the delay period is longer (or shorter) than the useful life of the control equipment or when compliance involves controls with different life expectancies.

Response: As noted earlier in section III.B.5, the revised BEN model will solve this problem by implementing the concept of economic depreciation, which essentially calculates the lease value of pollution control equipment. In other words, instead of modeling the on-time replacement capital investment and the subsequent depreciation tax shields, and comparing that to delayed replacement, the calculation models leasing the equipment over the period when the on-time equipment would have required replacement yet the delay equipment is still functional. The avoided lease cost therefore serves as a reasonable approximation of the economic benefit from the delayed replacement equipment installation, and also allows the two scenarios to the modeled out the same end point.

Comment: One commenter felt that the BEN model default should not consider capital replacement because (with rare exceptions) process and control equipment are typically matched in terms of life expectancy.

Response: The Agency disagrees. The control equipment will still have to be replaced in the future, and then the violator will benefit again as its control equipment will still be functional whereas the equipment would have already required replacement had the company complied on time.

Comment: Two commenters felt that the BEN model should provide for a broader range of costs, such as those additional costs that would not have been incurred given timely compliance and precompliance expenditures.

Response: The revised BEN model's ability to accommodate different on-time and delayed compliance cost scenarios, when justified, allows for incorporation of supplementary costs, as this comment suggests.

Comment: One commenter proposed that when a defendant can justify doing so, EPA should allow for alternative depreciation strategies.

Response: The BEN model's current depreciation schedule reflects the most rapid recovery available for typical pollution control investments, resulting in a conservative estimate of economic benefit. The revised BEN model will default to shorter schedules when the useful life is less than 10 years. BEN will also include a provision for the Job Creation and Worker Assistance Act of 2002 depreciation bonus, which will be keyed off the previously required noncompliance and compliance dates, and therefore will not require any additional input from the user.

Comment: Many commenters endorsed EPA's proposed changes with respect to investment tax credits and low interest financing, specific tax rates, and increased flexibility with respect to depreciation assumptions and inflation indices.

Response: The Agency appreciates these comments, and hopes both regulators and the regulated community will find the revised BEN model a more useful and accurate tool.

Comment: One commenter felt that many of the changes described in the June 1999 notice reflected *ex post* factors and recommended that EPA maintain its *ex ante* perspective in calculating economic benefit.

Response: The Agency feels that the distinction between an *ex post* (*i.e.*, known only today, looking back in time) and *ex ante* (*i.e.*, restricted to what was known at the time) perspective is not an important one, and that almost all models necessarily use a mixture of *ex ante* and *ex post* data. The BEN model has always used a mixture of *ex ante* and *ex post* data, the latter of which can be viewed as reasonable approximations for the *ex ante* data that was actually available at the time. The changes described in the June 1999 notice merely make the *ex post* data more precise (*e.g.*, month-by-month inflation data, rather than a simple 10-year average).

C. Improving the BEN Model's User-Friendliness

1. Is BEN Too Complex To Operate?

Comment: One commenter noted that BEN is easy to use, requires minimal data and expertise and is well supported.

Response: The Agency similarly feels that BEN's ease of use and technical

support are attractive features of the model.

2. Is the Information BEN Needs Difficult or Expensive to Obtain?

Comment: One commenter doubted that reliable information will be readily available regarding on-time compliance costs that differ from delayed costs.

Response: The use of different on-time and delayed compliance scenarios is valid only in exceptional cases. In these situations, the violator's best interest will be to provide complete information. Otherwise, the default assumption is that the scenarios are identical, except for inflationary effects over time.

3. Other Issues Affecting Use of BEN

Comment: One commenter encouraged EPA to abandon its position that the intended use of the BEN model is primarily for settlement purposes.

Response: An expert witness in litigation may use any analytical tool the expert deems appropriate, which may include the BEN model. But the reality is that the Agency designed BEN with the goal of assisting its staff for settlement purposes. This is not a policy position, but rather a statement of fact, although BEN users are free to use BEN for whatever purposes they deem appropriate. Should a witness in a case wish to use the BEN model in court, that witness is free to do so, but the Agency's position is that the model is primarily intended for calculating the economic benefit for settlement purposes.

Comment: One commenter asserted that information regarding the BEN methodology, assumptions and applications should be shared with the regulated community. In addition, all parties should have access to EPA's helpline. Finally, EPA should provide all of BEN's equations and assumptions.

Response: The Agency has made precisely this information regarding how the model functions available to the public for almost twenty years. EPA does not necessarily share all of its case-specific calculations with a violator as that information is enforcement sensitive, but all of the BEN model's formulas and databases are completely transparent to the user. In regard to the helpline, the regulated community's access to this service is restricted to straightforward issues regarding software installation and execution. For resource and policy issues, EPA feels that it would be inappropriate to provide free consulting advice to regulatees who are usually the subject of enforcement actions.

Comment: One commenter felt that to ensure consistency in penalty calculations, EPA should provide detailed guidance on economic benefit calculations to its enforcement staff.

Response: In addition to the BEN model's user documentation and assistance through the helpline, the Agency has provided extensive on-site in-person training to Federal, State and local enforcement personnel. Since, 1988 EPA has presented over 80 BEN courses. The Agency has conducted over 42 ''live'' BEN training courses at EPA facilities and invited State enforcement staff to attend nearly all of them. In addition, EPA has conducted 45 BEN training courses primarily for State and local government personnel in: Hartford, Connecticut (three times); Indianapolis, Indiana (three times); Little Rock, Arkansas; Baton Rouge, Louisiana (twice); Trenton, New Jersey; Boise, Idaho (three times); Ft. Lauderdale, Florida; El Monte, California; Baltimore, Maryland; Richmond, Virginia (twice); Phoenix, Arizona (twice); Lacey, Yakima and Seattle, Washington (for State of Washington personnel); Anchorage, Alaska (twice); Atlanta, Georgia (for State of Georgia personnel); Miles City, Montana (for the State enforcement staffs of Montana, North Dakota, and South Dakota); Frankfort, Kentucky; Montpelier Vermont; Raleigh, North Carolina; Charleston, West Virginia; Columbus, Ohio; St. Paul Minnesota; Nashville, Tennessee; Denver, Colorado (for the State enforcement staffs of Utah, Colorado and Wyoming); Santa Fe, New Mexico; Yakima and Seattle, Washington (for State of Washington personnel) Boston, Massachusetts (for State of Massachusetts personnel) (twice); Lansing, Michigan; Concord, New Hampshire; Providence, Rhode Island; Austin, Texas; and Honolulu, Hawaii (twice). EPA also presented a BEN course via satellite in 1994, and made videotapes of that broadcast available to government enforcement staff on request. In addition, EPA will soon be delivering this training to enforcement personnel at their desks through WebEx presentations.

Comment: One commenter recommended that EPA assemble an ''internal appeal board'' of experts to resolve disputes over economic benefit issues in settlement negotiations.

Response: Creation of such a board is not feasible. The Agency's view is that the decision on the appropriate civil penalty is best worked out between the Agency and the violator. Where appropriate, the negotiations may involve experts. If an agreement on the appropriate penalty cannot be worked out, then the matter must be resolved by a trier of fact.

Comment: One commenter felt that EPA should disclose its methods for calculation of economic benefit in litigation settings (as opposed to settlement negotiations) and that the regulated community should be allowed to comment on these methods.

Response: The methods employed in litigation follow the same general principles of the BEN model, but the Agency is unable to predict what each independent expert may do in each case. Experts must testify as to their own expertise regarding the economic benefit of noncompliance, not as to an Agency methodology designed to produce settlements. In addition, parties in litigation have very limited amounts of time in which to produce expert reports, depose experts, etc. It would therefore be impossible to put these independent experts' testimony through some sort of public review in the middle of litigation. In addition, it would also be superfluous, since such testimony is already subject to legal discovery, and also the focus of considerable scrutiny in each case by the violator's counsel and experts.

D. Procedural Issues Regarding the Public Comment Process

Comment: Many commenters expressed concern over the form and substance of the proposed guidance document on illegal competitive advantage and felt that the document should be made available for public comment.

Response: As stated previously, the Agency feels that a separate public comment process would be redundant. Instead, it has initiated a peer review process by the Agency's Science Advisory Board.

Comment: Two commenters advised EPA to subject the BEN model to expert review. In addition, one commenter suggested that EPA should open its broader civil penalty policy to public comment.

Response: As noted earlier, the Agency submitted the draft BEN model changes to an academic peer review in spring of 2003. With respect to broader policy issues, the Agency has attempted to solicit relevant comments through this current informal notice and comment effort. This has given the public and interested experts extensive opportunities to comment on these issues. We would note that this eight-year effort was not required by law.

Comment: One commenter alleged that the BEN model has no history of peer review.

Response: The BEN model is exempt from peer review because the Agency's peer review policy, issued in 1994,

applies only prospectively, not retroactively. Nevertheless, the Agency put the BEN model through two peer reviews in 1988 and 1991. As mentioned in the June 1999 **Federal Register** notice, copies of those peer reviews are available to the public. In addition, since that comment was made, the Agency has put the model through a third peer review. That review focused on the changes to the model that we were proposing as part of this **Federal Register** process.

Comment: One commenter felt that EPA should publish any final decisions on economic benefit issues arising from the current public comment process.

Response: All the final decisions are detailed in the main text of this notice. Of course, as stated previously, the illegal competitive advantage guidance document is not final and has instead been submitted to a peer review by the Agency's Science Advisory Board.

Dated: August 18, 2005.

Granta Y. Nakayama,

Assistant Administrator, Office of Enforcement and Compliance Assurance.

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ENVIRONMENTAL PROTECTION AGENCY

[ER-FRL–6666–8]

Environmental Impact Statements and Regulations; Availability of EPA Comments

Availability of EPA comments prepared pursuant to the Environmental Review Process (ERP), under section 309 of the Clean Air Act and Section 102(2)(c) of the National Environmental Policy Act as amended. Requests for copies of EPA comments can be directed to the Office of Federal Activities at 202–564–7167. An explanation of the ratings assigned to draft environmental impact statements (EISs) was published in FR dated April 1, 2005 (70 FR 16815).

Draft EISs

EIS No. 20050165, ERP No. D–NPS–L61228–AK, Denali National Park and Preserve Revised Draft Backcountry Management Plan, General Management Plan Amendment, Implementation, AK

Summary: EPA expressed environmental concerns due to potential adverse impacts to water quality, wetlands, permafrost soils and wildlife from increased snowmobile use. EPA requested that the final EIS include additional monitoring plans and contingent mitigation measures that can be used with adaptive management plans to minimize adverse impacts or unexpected outcomes. Rating EC2.

EIS No. 20050186, ERP No. D–AFS–C65005–NY, Finger Lakes National Forest Project, Proposed Land and Resource Management Plan, Forest Plan Revision, Implementation, Seneca and Schuyler Counties, NY.

Summary: EPA expressed environmental concerns due to potential adverse impacts to water quality, riparian areas, wetlands, vernal pools and perched oak swamps. EPA suggests the final EIS include specific forest wide standards and guidelines or special resource area designations to protect these resources. In addition, the final EIS should consider impacts to these areas from hydrological changes caused by management actions on adjacent or near by parcels. Rating EC2.

EIS No. 20050234, ERP No. D–FHW–G40185–LA, Interstate 69, Section of Independent Utility (SIU) 15 Project, Construct between U.S. Highway 171 near the Town of Stonewall in DeSoto Parish, and Interstate Highway 20 (I–20) near the Town of Haughton in Bossier Parish, LA.

Summary: EPA has environmental concerns due to the proposed project regarding air quality impacts and transportation conformity. Rating EC2.

EIS No. 20050236, ERP No. D–AFS–J65445–MT, Rocky Mountain Ranger District Travel Management Plan, Proposes to Change the Management of Motorized and Non-Motorized Travel, Lewis and Clark National Forest, Glacier, Pondera, Teton and Lewis and Clark Counties, MT.

Summary: EPA expressed environmental concerns due to adverse impacts from motorized uses on watersheds and water quality, wildlife habitat and cultural resources. EPA believes alternative 3 best balances conserving and protecting water quality, fisheries and reducing impacts from road sedimentation.

Rating EC2.

EIS No. 20050239, ERP No. D–CGD–G39043–00, Main Pass Energy Hub Deepwater Port License Application, Proposes to Construct a Deepwater Port and Associated Anchorages, U.S. Army COE Section 10 and 404 Permits, Gulf of Mexico (GOM), southeast of the coast of Louisiana in Main Pass Lease Block (MP) 299 and from the Mississippi coast in MP 164.

Summary: EPA expressed objections to the open rack re-gasification system due to adverse environmental impacts to Gulf waters and habitat. EPA believes that these impacts can be corrected by the project modifications or other feasible technology, and requested additional information to evaluate and resolve the outstanding issues.

Rating EO2.

EIS No. 20050248, ERP No. D–COE–G39044–TX, Upper Trinity River Basin Project, To Provide Flood Damage Reduction, Ecosystem Improvement, Recreation and Urban Revitalization, Trinity River, Central City, Forth Worth, Tarrant County, TX.

Summary: EPA expressed concerns regarding the proposed project, with a focus on potential air quality impacts. EPA requested additional information regarding emissions from construction activities and how the proposed project relates to the State Implementation Plan.

Rating EC2.

EIS No. 20050251, ERP No. D–AFS–K65286–CA, Watdog Project, Proposes to Reduce Fire Hazards, Harvest Trees, Using Group Selection Methods, Feather River Ranger District, Plumas National Forest, Butte and Plumas Counties, CA.

Summary: EPA expressed environmental concerns due to the potential for adverse impacts from timber harvest and increased road density to watersheds. The final EIS should address impacts to soils, aquatic and riparian resources, wildlife habitat and the increased potential for noxious weed proliferation.

Rating EC2.

EIS No. 20050264, ERP No. D–NPS–L65491–ID, Minidoka Internment National Monument (Former Minidoka Relocation Center), General Management Plan, Implementation, Jerome County, ID.

Summary: EPA has no objections to the proposed action.

Rating LO.

EIS No. 20050268, ERP No. D–NOA–A91072–00, Programmatic—Codified Regulations at 50 CFR 300 subparts A and G Implementing Conservation and Management Measures Adopted by the Commission for the Conservation of Antarctic Marine Living Resources.

Summary: EPA expressed a lack of objections to the proposed project.

Rating LO.

EIS No. 20050253, ERP No. DS–COE–D35057–MD, Poplar Island Restoration Project (PIERP) To Evaluate the Vertical and/or Lateral Expansion, Dredging Construction and Placement of Dredged Materials, Chesapeake Bay, Talbot County, MD.

Summary: EPA had no objections to the proposed project.