UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUL 19 2006

THE ADMINISTRATOR

Dr. M. Granger Morgan
Chair, Science Advisory Board
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Dear Dr. Morgan:

I would like to express my appreciation to the Science Advisory Board for its analysis of the illegal competitive advantage concept.

The U.S. Environmental Protection Agency had requested an advisory from the SAB regarding this issue in November 2002. In May 2003, we submitted a White Paper to the Board that discussed a series of issues for the SAB's consideration. The SAB established the Illegal Competitive Advantage Economic Benefit Advisory Panel, a special panel to review the White Paper, headed by Dr. A. Myrick Freeman III. The Panel conducted the analysis of the White Paper, and the Board issued the requested Advisory on September 7, 2005.

Enclosed is a letter from Granta Nakayama reviewing the major recommendations of the SAB and explaining how the Office of Enforcement and Compliance Assurance plans to respond to those recommendations.

Again, thank you for the Board's review.

Sincerely,

Stephen L. Johnson

Again, thank you for your leadership!

Enclosure

cc: Granta Y. Nakayama, OECA
Dr. A. Myrick Freeman III, SAB
Walker Smith, OCE

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OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

M. Granger Morgan
Chair, Science Advisory Board
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Subject: An Advisory of the Illegal Competitive Advantage Economic Benefit Advisory Panel of the EPA Science Advisory Board (EPA-SAB-ADV-05-003)

Dear Dr. Morgan:

I would like to express my appreciation to the Science Advisory Board (SAB) for its analysis of the illegal competitive advantage (ICA) concept. We requested an Advisory from the SAB regarding ICA and submitted a White Paper entitled, "Identifying and Calculating Economic Benefit that Goes Beyond Avoided and/or Delayed Costs," dated May 25, 2003. In response, the SAB established the Illegal Competitive Advantage Economic Benefit Advisory Panel, a special panel to review the White Paper, headed by Dr. A. Myrick Freeman III. That Panel conducted the analysis of the White Paper, and the Board issued the requested Advisory on September 7, 2005. This letter will review the major recommendations of the SAB and explain how the Office of Enforcement and Compliance Assurance (OECA) plans to respond to those recommendations.

The Four Charge Questions

In its request for an Advisory on the ICA concept, EPA posed four charge questions, and the Board issued a series of recommendations in response. This letter contains OECA's responses to those recommendations. In addition, the SAB made some recommendations outside of the four charge questions, and this letter contains our responses to those as well. The four questions, SAB's analysis of those questions, and EPA's proposed responses are as follows:

1. Are there categories of cases that would be useful for the Agency to consider in calculating the ICA economic benefit, other than those that are identified in the White Paper? Should any of these be combined?

The Advisory did not find these categories useful and recommended that EPA use only one category for all the cases it had been referring to as illegal competitive advantage cases. The

Panel also found the term "illegal competitive advantage" unhelpful. Instead, the Panel advised EPA to adopt only two categories. The first is for firms that experience "no revenue increase." Here the violators' profits "were increased by the amount of the delayed or avoided compliance costs." These are essentially all the cases that are currently handled by the BEN model. The second category is for firms that "gained profits from increased sales." This second category contains all the cases the White Paper had referred to as ICA cases. The Panel further suggested that the BEN model could be modified to deal with calculating those increased revenues.

In response to this advice, EPA is revising the White Paper to reflect the Advisory's approach of using only one category for all the types of cases we initially recognized as ICA cases. We plan to replace the term, illegal competitive advantage, with something descriptive, but more consistent with the Advisory. The new term will probably be something along the lines of "economic benefit that goes beyond the BEN model's simplifying paradigm of delayed and/or avoided costs," or "beyond BEN" for short.

Approximately ten published decisions have involved benefit recapture based on increased revenues. Given the infrequency of these cases, and the analytical complexities that are unique to some of these cases, modifying the BEN model to reflect such cases may not be worthwhile. Furthermore, the Advisory notes that in these cases a modified BEN would be only the last step in a long and detailed project of research and analysis that is specifically tailored to the facts and circumstances of each case. Given the limited utility that any new BEN feature would add to this process, and given the potential confusion that such a feature could create for the user base (i.e., misleading users that BEN can perform the necessary economic analyses in 'beyond BEN' cases by itself), we do not see much utility in such a modification at this point. Nevertheless, we do plan to add a questionnaire to BEN, based on the Advisory's suggestions, that would alert users to when the case circumstances might merit going beyond the BEN model's simplifying paradigm of delayed and/or avoided costs.

2. How can the Agency more accurately characterize the types of cases that are described in the White Paper? Have any of the examples and counter-examples in the White Paper been misidentified with regard to whether they are amenable to the BEN model's simplifying paradigm?

The Advisory, in response to the first question, had already stated that the four categories identified in the White Paper were "unhelpful." Nevertheless, the Panel was comfortable with how the White Paper distinguished all the cases in the four categories from those cases that were currently amenable to a BEN analysis. As mentioned above, EPA is revising the White Paper and plans to collapse them into one category consistent with the Panel's advice. We plan to include the same examples and counter-examples, but they will not be presented as illustrative of the previously presented four categories (which will no longer be mentioned).

3. Are there any suggestions for modifying the described analytical approach to calculate the economic benefits?

The Panel expressed that each case required "a careful examination of the facts of each case and the use of methods and data appropriate to each case"[1] in order to calculate economic benefit. Therefore, the Panel did not analyze any of the proposed methodologies in the White Paper.

EPA plans to consult with a well-recognized member of academia who is familiar with these issues in revising the White Paper. Once we have a reviewable draft, we plan to have our National Center for Environmental Economics (NCEE) comment on the approaches we have developed.

4. The Agency's proposed approach strives to avoid double-counting of the benefit by laying out all relevant cash flows stemming from the violations, as opposed to simply adding on the additional calculations to a BEN run. What additional measures (if any) should the Agency put in place to avoid such potential double-counting?

The Advisory essentially stated that the Agency's first approach in calculating benefit should be the BEN-type approach. If the avoided/delayed cost calculation produces a result that is an overestimate or underestimate of the economic benefit, then the Agency should conduct a change in total profit analysis (as opposed to determining the change in profit by focusing only on the compliance cost savings). The Panel also advised that if a change in profit analysis was attempted that "the estimate of costs under compliance reflect the lower level of output the firm would have produced rather than the actual production of the polluter." EPA plans to address these concerns in the revised White Paper.

Optimal Penalty Issues

The Panel offered advice on optimal civil penalties, although this was not requested in any of the charge questions. The Advisory first discussed the difference between violations of the law that need to be absolutely deterred (e.g., murders) versus those that are only conditionally deterred (e.g., many environmental violations). In the first class of cases, society would never condone these offenses regardless of any benefit obtained by the offender. With regard to the second class of cases, the Advisory stated that "pollution is a 'conditionally deterred' offense – one that we only want to prohibit when its overall social costs exceed its overall social benefits. If the expected penalty greatly exceeds the expected benefit to the offender and yet the harm from the offense is relatively minor, the result will likely be 'overdeterrence.'" [2] To avoid this result,

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[1]Advisory at 20.

[2]Advisory at 25-26.

the penalty calculation methodology should "charge an amount per offense equal to the (monetized) harm done divided by the probability of punishment."[3] This would make the "expected value of the penalty equal to the harm."[4]

The Panel did recognize that many of our statutes imply a goal of absolute deterrence. In enforcement actions arising under those statutes, it is appropriate to continue basing the penalty on the gains to the violator. The clear implication is that the Panel felt that in those statutes that did not imply a goal of absolute deterrence, the Agency should consider whether the overall social costs of those violations exceed their overall social benefits. The Panel did not offer an opinion on which environmental violations fall into this category. Thus for conditionally deterred environmental offenses, the Panel recommended: (1) that the actual environmental harm be quantified in EPA's penalties; and (2) that the penalties reflect the probability of detection and punishment.

Quantifying the Harm to the Environment in Civil Penalties

In order to produce optimal civil penalties, the Panel urged the Agency to revise its penalty policies to routinely consider the monetized value of the harm to the environment.[5] While the Agency's penalty policies do consider the environmental harm from the violations (when present), the violations EPA prosecutes rarely involve provable environmental damage. Moreover, even when the harm can in theory be monetized, in almost all civil penalty actions the analytical resources and efforts necessary to accomplish this could be very substantial. The Panel did recognize this limitation, but it thought that these few cases are likely to involve substantial environmental harm. In addition, for offenses where the harm is difficult to quantify, the Panel suggested the Agency focus on the "gain to the offender approach." The Panel asserted that this was essentially the approach adopted by Chapter 8 of the federal sentencing guidelines.[6] That chapter contains the default fine tables for organizations. Those tables mandate the larger of the harm or the gain, but if one of them is hard to estimate, they allow the court to pick the other approach.

Probability of Detection and Punishment

The other optimal civil penalties issue is the probability of detection. If the detection of a type of violation is less than 100%, then the penalty needs to be increased to reflect that lower

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[3]Advisory at 25.

[4]Id.

[5]Id.

[6]United States Sentencing Commission, Guidelines Manual, Chapter 8 - Sentencing of Organizations (Nov. 2005).

probability. The lower the probability of detection, the higher that multiplier needs to be. The Panel recognized some of the inherent difficulties in incorporating such an approach into the Agency's civil penalty assessment practice. Not only would it require a change in each of the affected policies, but for those programs that have relatively low detection rates, the Panel suggested that: (1) ways be sought to increase those rates by improving inspection and compliance monitoring; and (2) the Agency seek changes in "the legal rules governing the imposition of civil penalties."[7]

EPA's Response

The Panel's analysis and suggestions regarding optimal penalties are thought provoking. Properly responding to these suggestions will require the review and revision of over thirty-five penalty policies. In addition, increasing the rate of detection in those programs where the detection rate is low will require substantial increases in personnel and/or contractor support funds. Under the circumstances, we feel it best to delay the implementation of such a review and revision of our penalty policies until we have identified sufficient resources to address this issue.

Once again I would like to express our appreciation for the analysis of the ICA issues. The revised White Paper will serve as a basis for developing an enforcement strategy that addresses the calculation of economic benefit where that benefit is beyond the BEN model.

Sincerely,

Granta Y. Nakayama

Granta Y. Nakayama
Assistant Administrator

cc: The Honorable Stephen L. Johnson, Administrator
Dr. A. Myrick Freeman III, SAB
Walker B. Smith, OECA

[7]Id. at 29.