

PART V
OVERALL APPRAISAL
OF THE EIS SYSTEM

BENEFITS

Sources of Criteria

Criteria for measuring the benefits that have been provided by the EIS system should be sought in the purposes of the system. We make the assumption here that the purposes include not merely that identified in the first version of HB 2067 (74) and in the committee reports of subsequent drafts of that bill (including that which became the EIS Act), but those implied by the findings identified in the first version. These purposes may be paraphrased for abbreviation as follows:

- a. To ensure that environmental concerns are given appropriate consideration in decision making along with economic and technical considerations and, in particular, to alert decision makers to significant adverse environmental effects which may result from the implementation of certain actions.
- b. To integrate the review of environmental concerns with existing planning processes of the State and counties.
- c. To enhance environmental consciousness and public participation.

We have recognized the first of these purposes as being the primary one of the EIS system. In considering the effectiveness of the system in relation to this purpose, however, two separate aspects must be considered:

- i) the extent to which decision makers have considered information on the environmental impacts of projects proposed by agencies or subject to their approval;
- ii) the improvement that has resulted in the decision making process.

Effectiveness of EIS System

Extent of environmental-impact consideration in decision making

The extent to which consideration has been given to the environmental impacts of projects is at least partially subject to quantitative measurement. Of the countless projects that are considered for undertaking each year, the major fraction are not covered by the EIS system. In the establishment of lists of classes and types of projects exempt from individual environmental assessment, however, at least general consideration has been given to environmental effects, but there is no way of determining the numbers of projects that have been exempt since the EIS system has been established.

The numbers of projects subject to formal environmental assessment and the extent of their further involvement in the EIS system are, however, determinable. The numbers of assessment determinations filed between July 1975, when the EQC Regulations took effect and the end of December 1977 was 1011. In the case of the 874 actions subject to Negative Declarations, the environmental consequences

were limited to the assessment, except as the consequences may have been explored further as a result of questions raised as to the adequacy of the assessments. It may be presumed that considerably more consideration has been given to the environmental effects of nearly all of the 137 projects subject to EIS Preparation Notices, although, as of December 1977, EIS's had been submitted for only 74.

Of the 74 EIS's filed with EQC, 17 pertained to actions proposed by applicants. So far as we know, all of these have been accepted. We know of no EIS whose acceptance has occurred by default, through the failure of the approving agency to make the determination within the 60-day time limit applying in the case of EIS's from private applicants. Of the 57 EIS's on actions proposed by agencies, 28 had been accepted before 31 December 1977. Many of the remaining 29 will presumably eventually be accepted, but in revised form in some cases.

Clearly the extent of consideration in the EIS system to the environmental impacts of projects has been considerable.

Extent of improvement in decision making

Evidence of effectiveness

It is not difficult to identify criteria that would be pertinent to determining whether the decision-making process has been improved as a result of the EIS system. Improvement has been effected if:

- i) The ratios of projects undertaken (or approved) to projects proposed (or submitted for approval) has been lower since the undertaking of the EIS system than previously, and if the ratios of benefits to environmental detriments were lower in the case of the projects not undertaken (or disapproved) than in the case of the remainder.
- ii) A number of projects proposed (or submitted for approval) have not been undertaken (or have been disapproved) because of environmental detriments disclosed in environmental assessments or EIS's.
- iii) A number of projects proposed (or submitted for approval) have been significantly redesigned to minimize environmental detriments disclosed in the assessment process or in the preparation of EIS's.
- iv) A number of projects that would earlier have been proposed (or submitted for approval) were not, because of environmental detriments that would have been disclosed by the EIS system.

The problem with these criteria is that, in spite of the fact that they are phrased in quantitative terms, subjective judgments are involved in each, and is difficult to obtain whatever objective information is pertinent.

There is no record of the numbers of projects that would have been covered by the EIS system but that were undertaken (or approved) before the system was established. Hence, comparison cannot be made between the ratio of projects undertaken (or approved) to projects proposed before the system was established and the ratio since. Further, it would be extremely difficult to determine the extent to which a change in the ratio was attributable to the recognition of the environmental consequences of the projects.

We know of only one project that was not undertaken because of environmental conditions disclosed in an accepted EIS submitted in the State system alone. This was a school; it was proposed again later in a different location to avoid the environmental problem associated with the originally-proposed location.

In the case of many of the projects for which Preparation Notices have been issued but EIS's have not yet been submitted, the EIS's are presumably being prepared; and presumably many of the projects will be undertaken. In the case of some, however, the plans for the project may have been abandoned because of recognition of their environmental impacts.

In a few cases, toward the end of the process of formal review of an EIS or after it, the Environmental Center has received a request from the accepting-approving agency for an opinion as to the changes in the impacts that would result from a change in design of the project. The receipt of these requests leads us to believe that, even at this late stage in the process, some modification of projects on the basis of environmental effects is being entertained. From evidences in EIS reviews and comments by reviewers of our preliminary report, we believe that the actual number of projects that have been altered in some way as the result of the analysis of their environmental impacts is quite large. The alterations include choices of alternatives other than those originally considered, modifications of design, and decisions to provide means to minimize detrimental effects. Although the reduction in potential environmental detriments has in some cases been minor, the total reduction effected by the alterations has probably been large.

There is no way in which a satisfactory estimate can be made of the number of projects which would have been proposed but were not, at least formally, because initial consideration of the environmental effects led to the recognition of detriments that would have had to be disclosed in the EIS system.

Evidences of ineffectiveness

There have clearly been limitations to the effectiveness of the EIS system in inducing improvements in decision making. Failures to supply the information that decision makers should have had have resulted from the adoption of unduly broad exempt classes and types, the issuance of negative declarations for projects that would have significant impacts, and the acceptance of EIS's in spite of failures to respond adequately to substantive review criticisms. We recognize that to some extent the identification of failures of these kinds is a matter of judgment. In some cases, however, the exemption, assessment, and EIS acceptance decisions seem to us to represent deliberate attempts to avoid compliance with the intent of the EIS Act rather than the exercise of judgment within that intent. Unfortunately, the tendency to avoid compliance is not restricted to agencies with minimal environmental conservation responsibilities.

Extent of improvement

How much actual improvement in decision making has resulted from the establishment of the EIS system is, of course, a matter of purely subjective judgment.

It is clear that, to some, the establishment of the system has led to undue weight being given in the decision making process to environmental concerns. To them, the significant results of the system have been the delay of desirable projects, and the abandonment of a few. To others, the environmental detriments that they conceive as resulting from projects still being undertaken are still overwhelming, and the EIS system although well intentioned is simply not working effectively.

The majority of those whom we have consulted in the course of our study seem to consider, however, that the establishment of the EIS system has resulted in some significant improvement in decision making.

Integration of environmental considerations in planning

As we have pointed out earlier, the EIS system as it now exists is more effective in identifying and analyzing the impacts of individual projects than broad planning decisions. In recent years, there has been increased address in comprehensive planning to concerns with the control of growth to avoid environmental detriments, with the carrying capacities of natural and artificial systems, and with the minimization of natural hazards. The increased address results, however, from increased awareness of the potential for environmental problems generally, rather than from the use of the EIS system specifically.

Enhancement of environmental consciousness and public participation

We have identified the enhancement of environmental consciousness and public participation in decision-making processes as an important objective of the EIS system, although one incidental to the objective of informing decision makers specifically. Without question, both environmental consciousness and public participation have been considerably enhanced by the institution of the EIS system. The effects have not been limited to those who have read the EIS's, because considerable attention has been given in the news media to the environmental impacts that have been disclosed in EIS's and even the claims of those who consider the disclosures inadequate, and the operation of the system and the nature of the environmental impacts with which it is concerned have been the subject of numerous lectures, seminars, and conferences.

Clientele served

The clientele served by the EIS system have clearly included:

- a) agency officials who have had the power to decide whether projects proposed by their agencies should be undertaken or whether projects proposed by applicants should be approved.
- b) the proposers of such projects.
- c) other parties concerned with the environmental impacts of such projects.
- d) parties concerned with the methodology and role of environmental impact analysis by way of classes, seminars, and workshops, based on EIS system experience.
- e) the public more generally, by way of EIS information carried in the news media.

COSTS

Both direct and indirect costs are entailed in the EIS system. The direct costs include those of preparing assessments, preparing EIS's, reviewing EIS's, and responding to review comments as well as those of the operations of the EQC and OEQC. The indirect costs are those resulting from delays in project undertakings attributable to EIS system requirements.

Environmental detriments resulting from actions are not costs of the EIS system but costs incurred by reason of decision to limit scope of the system, by failures of the system to appraise the detriments adequately, or by judgments that the detriments were outweighed by the benefits of the system. Similarly, benefits foregone because actions were not undertaken are not costs of the system but costs incurred by judgments that the detriments outweighed the benefits.

Direct costs

Costs of assessment

The costs of environmental assessment in the EIS system are borne by the agencies proposing actions or having the approval over them except to the extent that agencies having approval power may require applicants to provide the information on which they may make their determinations whether or not EIS's are required.

Agency representatives whom we have consulted indicate considerable diversity in the extent to which agencies have used their own staffs to make assessments, have hired consultants to prepare assessments, or have relied on applicants to supply the necessary information. From our survey of agency practices and assessment costs we can draw only general conclusions.

The costs seem generally reasonable in the case of agencies making their own assessments and particularly those relying heavily on applicant information--no more than a few hundred dollars of staff time per assessment. In the case of agencies hiring consultants, the costs are considerably greater, amounts in some cases to several thousand dollars.

We recognize that agencies may turn to consultants primarily in the case of major actions whose environmental impacts will be difficult to assess. However, it is our impression that assessment costs would be reduced if agencies were provided with staffs adequate to make the assessments more generally, or were to make wider use of the competence of the staff of other agencies.

Costs of EIS preparation and response to review comments

Because the responsibilities for the preparation of an EIS and for responding to the comments of reviewing of the EIS rests with the same party, and because the extent of response necessary depends on the adequacy of the initial preparation, the costs of EIS preparation and of response to review comments must be considered together.

Costs of preparing EIS's, project by project have been tabulated by a number of State departments. Costs of planning the projects and costs of the actual project undertakings are also presumably available. From these, ratios of EIS

to total project costs might be computed. We are indebted to the Department of Accounting and General Services for a tabulation of EIS costs and construction costs for projects undertaken by that Department that were covered by the EIS system (including estimated costs in the case of few projects not yet undertaken). In the case of one small project, the EIS cost was nearly 7 percent of the project construction cost, but the percentage was less than 2 percent in the case of all the rest, and on the average the EIS costs were only 0.15 percent of the construction costs.

We believe that the EIS/construction cost ratios for other major State projects would not differ greatly from those we have analyzed. However, the data analyzed confirm the impression we received in discussions with reviewers of our preliminary report that there is a negative correlation between the ratio of EIS-preparation costs to other costs and the total project costs. To some extent this is unavoidable. The set content prescriptions of an EIS imply minimum levels of project and environmental description and of impact analysis, and the costs of supplying the minimum must be borne even in the case of the low-cost projects. The minimum costs of EIS preparation are, however, probably greater if fixed price contracts are let for EIS preparation than if the EIS's are prepared in-house. There is no way of determining before the analysis is undertaken, how much analysis of the environmental impacts of a project will be needed for EIS preparation; and consultants are presumably reluctant to contract to prepare an EIS unless they are assured of funding sufficient not only to cover the analysis initially conceived necessary but also the additional analyses for which need arises in the course of EIS preparation or as the result of review criticisms.

In the case of agency-proposed projects, as in the case of assessments, it appears that the costs of EIS preparation, at least for small projects, would be decreased if agencies were provided with better in-house environmental analysis capabilities and were to use more extensively the staffs of other agencies. As we have indicated elsewhere, more extensive use of the OEQC staff for coordination and for environmental analysis and for guidance on EIS preparation would be advantageous.

As indicated earlier, many EIS's contain considerable material that is not pertinent to the identification or analysis of the environmental impacts of the projects to which they pertain. Some reduction of costs could be achieved if the non-pertinent material were not included. Reviewers of our preliminary report have indicated, however, that the costs of securing such material, if already available, and the costs of reproducing it in the EIS are slight. Hence, the major disadvantages of inclusion of extraneous material are the difficulties it causes in review of the EIS rather than extra preparation costs.

Costs of review

The review of EIS's accounts for something on the order of a fifth or a quarter of the overall efforts of the Environmental Center. The associated costs are approximately \$20,000 per year. We are not aware of any estimates of the costs of other institutions in reviewing EIS's.

Many agencies seem disinclined to undertake thorough reviews even of those aspects of EIS's that should be their direct concerns. Overall, then, the costs of EIS reviews are probably very small compared with other costs.

Indirect costs

The indirect costs attributed to delays in the approval of private projects and final clearance of agency projects have probably exceeded the direct costs of the EIS system. The attribution is undoubtedly valid in the case of many projects that were covered by the EIS system in its early years--projects for which the planning was completed or nearing completion when EIS requirements were first imposed. Although there are certain minimum periods prescribed for various stages of the EIS system, more delays in project undertakings and greater costs of delay have been blamed on the EIS system in recent years than are justified.

The only prescriptions as to minimum periods in the system are the following:

- 1) Following issuance of a Preparation Notice: 30 days for concerned parties to indicate desires to be consulted in EIS preparation.
- 2) Following completion of EIS: about 3 to 20 days (in the case of a long weekend) prior to publication of the notice in the EQC Bulletin.
- 3) Following Bulletin publication of notice of EIS submission: 30 days for public review.

It is, of course, expectable, that some time will be necessary to respond to the comments provided in both the consultative phase and review phase. However, there is nothing in the EIS Act or EQC Regulations that prevents an agency or an applicant from identifying and analyzing the impacts of a proposed project while the plans for the project are being developed, preparing a draft EIS while the plans and specifications are being prepared, or anticipating the criticisms of consulted parties and reviewers so that minimal revision of the draft will be necessary to produce an acceptable EIS.

An applicant may be subjected to additional delays if the approving agency fails to make a prompt determination whether an EIS is required or, after response to review, whether an EIS is acceptable. The applicant could avoid a delay of the first kind by preparing an EIS even if the need was questionable, and we have recommended, in any case, that the applicant be able to appeal a failure to make a determination as to the need within 30 days of his application. A delay of the second kind is limited by the present requirement that the acceptability of an applicant's EIS must be determined within 60 days of its submission.

Thus, it is within the power of both applicants and agencies to minimize the delays attributable to the EIS system by substantial early address to the environmental impacts of the projects they propose. As pointed out elsewhere, the purposes of the EIS system will also be met best if the address to the environmental impact of a project begins early.

If the indirect costs of such delays are likely to exceed the direct costs of the EIS system, the proposer of a project would do well to make an extra expenditure in EIS preparation, and increase the extent and depth of environmental impact analysis, so as to minimize the chances that the project will be delayed by EIS-system requirements.

BALANCE OF COSTS AND BENEFITS

Some critics of the EIS system do not accept the premise that reduction of the environmental detriments of actions has much importance. To them, a system intended to reduce the detriments does not warrant expenditures approaching those of the EIS system. Others consider that reductions of the environmental detriments of actions are of very great importance, but do not accept the premise that the reductions can be achieved through the provision of information on the environmental detriments to decision makers. To them, the EIS system is of little value because it does not provide them with adequate opportunity to block project undertakings. Still others consider that the premises underlying the establishment of an EIS system are valid, but the effectiveness of the system is too small or the costs of the system are too great to warrant its continuance.

Few persons openly espouse the elimination of the EIS system, but the attribution by some of costs that are not validly attributable to the system suggests that they would like to persuade others its use should be discontinued.

Few persons believe that a preferable alternative to the EIS system is now available. Even the most ardent supporters of the EIS system believe that its effectiveness should be increased, its costs should be decreased, or both.

Even if we were able to estimate the actual costs of the State EIS systems, we could contribute little to reducing the divergence of opinion concerning the balance of its costs and benefits, because the benefits are so difficult to prove and are ultimately so subjective in nature. The balance of costs and benefits of the system as it now exists seems to us of small importance in any case, because the possibilities for its improvement are so great.

ALTERNATIVES

Some persons have suggested that the requirements for EIS's on individual projects might be eliminated completely if the environmental implications of comprehensive plans were adequately explored and documented. It is interesting to note that at least one person (Hagman, 1974) has suggested the opposite--that comprehensive planning efforts might be discontinued by the adoption of a one-step permit system applying to individual projects which required a very comprehensive EIS as an accompaniment to each project application. As indicated earlier, we consider that the environmental impacts implied by plans, and the social and economic impacts as well, should be much more thoroughly analyzed than they are now, and that the results should be documented. We have recommended intensive study of the potentials of a comprehensive plan impact system that would reduce reliance on the EIS system. We do not believe that it will be possible, however, to analyze the impacts of comprehensive plans in such detail that an EIS system will no longer be necessary. We also consider quite impractical the suggestions that a permit-EIS system applying to individual projects can take the place of comprehensive planning. We agree with Pearlman (1977) that Hagman has not considered the implications of his suggestion. For his system to be effective, each EIS would have to describe, not only the environmental impacts of the proposed project and alternatives to it, but all other possible projects in the area and their alternatives. Essentially, a comprehensive planning effort would have to be undertaken at the time each project was proposed. The cost would be enormous--so great that the system could not actually be made effective.