

ENVIRONMENTAL IMPACT ASSESSMENT

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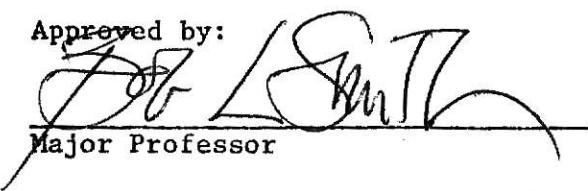
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INTRODUCTION

In 1969 the National Environmental Policy Act (NEPA) was passed by the Congress. A major portion of the Act was to require all federal agencies and organizations receiving federal aid to assess the environmental effects of all ongoing and future projects. It further required that an Environmental Impact Statement (EIS) be prepared to list the results of this assessment. Since federal aid touches almost every level of the public and private sector of society and business, NEPA has had a universal applicability.

This paper presents the requirements for Impact Statements and discusses the much broader and more important area of impact assessment. It presents the principal methods of assessment and discusses their benefit and applicability. It also evaluates the overall effect of NEPA. It should provide the engineer and the governmental reviewer insight into environmental analysis and source material for determining various methodologies applicable to each type project.

The 1950's and 1960's were a period of technological progress unmatched in history. Science expanded rapidly and improved the life style of man quickly. This era was marked by the feeling that technology could accomplish anything and that science was progress. It was also marked by a lack of concern for the social consequences of this scientific progress. In the mid 60's a wave of resentment grew as more and more individuals and groups became aware of the social costs of technology. Among the first effects of this movement was the action taken by citizen

groups against the Cross-Florida Barge Canal proposed by the Corps of Engineers. Citizen action has sought successfully to block this project to date.

On 1 January 1970 Congress reacted to this national concern with the passage of the National Environmental Policy Act of 1969, Public Law 91-190. The stated purposes of this far reaching document were:

To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological system and natural resources important to the nation; and to establish a Council on Environmental Quality (CEQ). (2, p. 267).

This provided a central agency to coordinate the harmonious interaction of man and his environment. It also forced the nation to face squarely the environmental consequences of its construction activities. NEPA provided the legal framework and the administrative process to require that all construction using federal funds would consider environmental concerns as well as the typical cost-benefit ratios used in economic analysis.

FEDERAL REQUIREMENTS

Section 102(2) (c) of NEPA established the fundamental requirement for all agencies of the Federal Government to:

include in every recommendation or proposals for legislation and other major Federal actions significantly altering the quality of the human environment, a detailed statement by the responsible official on

- (i) the environmental impact of the proposed action
- (ii) any adverse environmental effects which cannot be avoided should the action be implemented
- (iii) alternatives to the proposed action
- (iv) the relationship between short-term uses of man's environment and the maintenance and enhancement of long term productivity and
- (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented (2, p. 267).

It further requires these agencies to study, develop, and describe alternatives to those courses of action which would have a detrimental effect on the environment. Section 102(2) (d) requires that any Federal agency which is proposing either a major action or an action significantly affecting the environment must submit an Environmental Impact Statement to the CEQ. This has been extended to include those projects financed in part or in whole by federal aid (7, p. 1696). In 1973 this was further expanded to require impact statements to be prepared on actions "involving a Federal lease, permit, license certificate or other entitlements" (8, p. 20553). This then is not a small coverage. In reality it has had a sweeping effect. In compliance with NEPA, federal agencies had filed 6,466 draft EIS's with the CEQ by June 30, 1975 (4, p. 641).