AN INTEGRATED APPROACH TO NEPA AND CERCLA COMPLIANCE AT FEDERAL FACILITIES

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LIST OF ACRONYMS

ARAR	Applicable or Relevant Appropriate Requirement
CE	Categorical Exclusion
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
EA	Environmental Assessment
EIS	Environmental Impact Statement
FONSI	Finding of No Significant Impact
FR	Federal Register
FS	Feasibility Study
HRS	Hazard Ranking Score
IAG	Inter-Agency Agreement
NCP	National Contingency Plan
NEPA	National Environmental Policy Act
NOI	Notice of Intent
PA	Preliminary Assessment
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
SI	Site Investigation

CHAPTER I

INTRODUCTION

Due to the increasing environmental degradation and risk of exposure to toxic chemicals, the removal of hazardous waste from federal lands has become one of the major policy problems of the past decade. Two main pieces of legislation are applicable to federal facilities involved in hazardous waste remediation, the National Environmental Policy Act (NEPA) and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Both NEPA and CERCLA were formulated by Congress with specific policy goals. NEPA was formulated in order to direct all federal agencies to consider the impact of their actions on the environment, while CERCLA, formulated 11 years later, specifically addressed the cleanup of hazardous waste sites. Although both NEPA and CERCLA were formulated by Congress with different intentions, Congress failed to realize that in the case of hazardous waste remediation at federal facilities the two regulations overlap. Problems arise in the federal government's confusion over the extent of NEPA involvement at federal CERCLA sites. Confusion will continue to exist among federal agencies until Congress

makes a decision favoring either NEPA or CERCLA or NEPA/CERCLA integration.

Although the two acts are considered to be "functionally equivalent" by certain EPA regional offices, federal agencies feel that failure to comply with the substantive aspects of NEPA during CERCLA cleanup procedures may result in legal challenge. The question of "functional equivalence" could have been clarified if Congress had identified NEPA as an applicable or relevant appropriate requirement (ARAR). An ARAR is any promulgated federal or state environmental standard which achieves a level of cleanup which equals, or exceeds, the cleanup standard of CERCLA. To date, the National Environmental Policy Act of 1969 has not been included on the EPA's list of potential ARARs. Congress has not identified NEPA as an ARAR largely due to the fact that NEPA does not contain specific cleanup standards. By nature, NEPA is an "essentially procedural" set or requirements which aids in the justification and selection of an alternative rather than establishing cleanup standards.

By law, federal agencies are required to administer the CERCLA RI/FS process. However, federal agencies are also required to fulfill the requirements of NEPA. Because the two processes are similar, but not identical, federal agencies are concerned that compliance with both NEPA and CERCLA would result in duplication of efforts, increased expense, and possible delays. The purpose of this research

is to successfully integrate NEPA and CERCLA. Successful NEPA/CERCLA integration would enable federal facilities to comply with the requirements of NEPA and CERCLA while avoiding duplication, increased expenses, and delays. However, before the integration of NEPA and CERCLA can be attempted it is important to understand their basic regulatory requirements.

NEPA

The National Environmental Policy Act (NEPA) directs all federal agencies to consider the impact of their actions on human health and the environment. NEPA requires that "major" federal actions, including hazardous waste cleanup, be initiated by the completion of an Environmental Impact Statement (EIS). "Major" is defined by the federal government as; "the need for any substantial allocation of resources" (Farber & Findley p.22). An EIS is an extensive, costly, and time consuming process that involves the federal government and the public that is directly affected by the proposed "major" action. Basically, an EIS includes (Levine et al. p.3): (1) the environmental impact of the proposed action; (2) any adverse environmental effects which cannot be avoided should the proposal be implemented; and (3) alternatives to the proposed action. The NEPA process is intended to aid public officials in the decision making process and serves to inform the public of the environmental consequences of proposed federal actions. Information from

an EIS allows the decision maker to understand environmental consequences in hopes that actions will be taken to protect, restore, and enhance the environment (Levine et al. p.3). Important steps involved in the NEPA process include: (1) planning and timing of NEPA implementation; (2) determining the need for an environmental impact statement; (3) NEPA scoping; (4) content of EIS; and (5) publication of EIS.

Timing of NEPA Implementation

The Council on Environmental Quality (CEQ) was established under title II of NEPA. The CEQ has the authority to adopt and implement NEPA regulations. CEQ regulations require that the NEPA implementation process be initiated at the "earliest possible time" through a "systematic, interdisciplinary approach" (Levine et al. p.4). Timing of NEPA implementation should be appropriate in order to evaluate the full range of environmental consequences of the federal action required. Environmental consequences include both economic and social effects as well as natural and physical impacts (Levine et al. p.4).

Determination for Environmental Impact Statement

One of the initial steps involved in the NEPA process is to determine if an EIS is required. Generally, NEPA classifies typical agency actions into three categories: (1) actions that normally require an EIS; (2) actions that

normally require an Environmental Assessment (EA); and (3) actions that require neither an EA or EIS, or "categorical exclusions" (Levine et al. p.3). Due to the large amounts of remediation required for the removal of hazardous waste from a federal facility, an EIS is usually prepared. If the federal agency involved in the cleanup is uncertain that the cleanup action requires an EIS, the agency should prepare an EA. Information in the EA is analyzed to determine if an EIS is required, or if there is no significant impact of the proposed action.

NEPA Scoping

Under NEPA scoping is defined as: "an early and open process for determining the major issues to be addressed due to the proposed action" (Levine et al. p.4). The NEPA scoping process generally includes the following processes: (1) allocation of EIS assignments; (2) designation of lead and cooperating agencies; (3) significant EIS issues; and (4) identification of plans related to NEPA documents for integration. The scoping process is continuous throughout the entire EIS preparation.

EIS Content

In order for an EIS to comply with NEPA requirements, the EIS "shall provide full and fair discussion of significant environmental impacts and shall inform decision-makers and the public of the reasonable alternatives which

would avoid or minimize adverse impacts or enhance the quality of the human environment" (Levine et al. p.5). Basically, the EIS contains three main sections: (1) statement of purpose and need for action; (2) description of the affected environment and environmental consequences; and (3) comparison of alternatives. The overriding principal of the EIS is to justify one choice among many options.

EIS Publication

The agency responsible for the preparation of the EIS must distribute a draft EIS to other governmental agencies, and interested members of the public. Included in the draft EIS is the record of decision (ROD) chosen by the lead agency. Interested parties are permitted to comment in the Federal Register concerning the agency's decision. The lead agency must respond to all relative comments in the final EIS by justifying their proposed decisions and actions.

Originally, NEPA was the primary statute to regulate hazardous waste cleanup until the passage of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLA provides a system for evaluating and cleaning up uncontrolled releases into the environment that threaten human health or the environment. Cleanup operations are administered under sub-part F of CERCLA. Sub-part F contains the National Contingency Plan (NCP) which outlines the actions that the federal government must administer in responding to situations in which

hazardous substances are being, or likely are to be released into the environment (Wagner p. 283). The processes in which the NCP administers hazardous waste cleanup under CERCLA include: (1) site discovery and notification; (2) preliminary assessment and site investigation; (3) remedial investigation and feasibility study; and (4) proposed plan and record of decision (Levine et al. p.7).

CERCLA

Site Discovery

The initial step taken by the EPA in the cleanup process is that of site discovery and notification. This step involves the identification of a potentially hazardous site and EPA notification.

Preliminary Assessment and Site Investigation

Generally, the major goal of the preliminary assessment and site investigation (PA/SI) is to collect information to determine if a hazardous substance has been released into the environment (Levine et al. p.7). The PA is the initial informational analysis technique which analyzes existing information about the site. It includes: information on the character of the waste stored at the facility, environmental features of a facility, and determines whether or not additional investigation is required. If additional investigation is required, the next step administered under

the NCP is to complete a site investigation. A SI is conducted to determine the extent of the release by collecting and analyzing samples to determine if further remedial action is required (Levine et al. p.7).

Remedial Investigation and Feasibility Study

Both the remedial investigation (RI) and the feasibility study (FS) are important in the remedy selection process. The overall goal of the RI is to utilize the information prepared in the PA\SI to determine the total extent of the problem. The basic step involved in the RI process includes "scoping", and the implementation of a community relations plan. The "scoping" process involved in the RI phase analyzes existing data to determine what additional information is needed to completely evaluate the total effects of the site on human health and the environment (Levine et al. p.7). In order to be able to evaluate the total effects of a site, the scoping process characterizes the known or suspected contamination, identifies the migration pathways, and determines the potential receptors that may be affected by contaminant migration (Levine et al. p.7). Also included in the scoping process is the development of a community relations plan. The community relations plan provides opportunities for the community to learn about the site and become involved in site-related decisions. Once the remedial investigation is

complete, the information and activities are utilized in the feasibility study. The purpose of the feasibility study is to select a remedial action alternative by the analysis of all existing information. Once a remedy is selected by the lead agency (the agency managing the cleanup), a proposed final plan is issued to the public for a 30-day comment period. The proposed plan and the public comments, are then issued to the EPA and documented.

By comparing the remedial requirements of NEPA and CERCLA it is apparent that although there are significant similarities between the two statutes, there are also many fundamental differences. The major discrepancies between the two statutes can be noted in the NEPA EIS and the CERCLA RI\FS remedial requirements. Some of the differences between the EIS and RI\FS include: (1) timing of implementation; (2) documentation; (3) public participation; and (4) judicial review. Before each specific procedural difference is analyzed, is important to be aware of the differences in the underlying philosophy of NEPA and CERCLA. Although both NEPA and CERCLA require extensive documentation for the remediation of hazardous waste, the intent by Congress in the passage of each statute was different. NEPA enacted in 1969 is a broad statute with the intent to incorporate environmental decision making in all "major" federal actions, which includes the remediation of hazardous waste. In contrast, CERCLA was enacted 11 years after NEPA, with the intent of specifically regulating only

the remediation of hazardous waste sites. Both the EIS and RI\FS processes have their advantages and disadvantages.

NEPA EIS Advantages

The two major advantages from an environmental protection standpoint of the NEPA EIS over the CERCLA RI\FS include the requirements under the sections of documentation and public participation. Documentation of remedial activities under NEPA is substantially different from CERCLA documentation requirements. NEPA's EIS is to be written in plain English and use appropriate graphics so that the decision-maker, and the general public, can fully understand the remedial alternatives and consequences. The agency responsible for the remedial activities must employ writers and editors whose purpose is to review and edit the EIS so it is focused and understandable to the lay citizen. The EIS is limited to 150 pages unless the "major" action is unusual or complex. In unusual or complex situations, 300 pages is the maximum. (Levine et al. p.13). In contrast, the CERCLA RI\FS process neither requires nor encourages that its RI and FS reports be understandable to the public. Instead, the RI\FS is designed to provide technical, focused information on the decision process. Because the EIS is easier for the public to understand, the EIS promotes more public participation then the RI\FS.

Although both the EIS and the RI\FS provide opportunities for public involvement, the EIS directly

involves the public in the decision-making process for the remedy selection. NEPA is focused to "insure that environmental information is available to citizens before decisions are made and before actions are taken" (Westlaw p.1). Public awareness is achieved by the publication of a draft EIS which can be reviewed by interested members of the public and federal agencies. Interested parties have 45 days to comment on the draft EIS. All appropriate comments are to be answered, and taken into consideration, before the final remedy selection is chosen. After all appropriate comments have been considered a final remedy alternative is selected, and a final EIS is prepared. In contrast to the EIS decision-making process, the RI\FS does not directly involve the pubic in its remedy selection. The RI\FS indicates that community relations activities should "focus on providing information to the community with the purpose of educating the public on the chosen remedy selection" (Westlaw p.1). A draft RI\FS is also prepared under CERCLA, but is restricted to review by only interested federal agencies. Once the remedy selection is chosen, the agency responsible for RI\FS educates the public on its decision. The responsible agency educates the public in the remedy selection by means of public meetings and workshops.

CERCLA RI\FS Advantages

The CERCLA RI\FS process is a tailored, focused approach designed specifically for the remediation of

hazardous waste. The two major advantages that the RI\FS process has over the EIS include the timing of implementation and the judicial review process. The RI\FS process is a site specific process which allows for the response actions to be divided into "operable units". Each operable unit is a particular part of the entire response action, for example, a particular contaminated geographic location. By the division of the remediation activities into units, the RI\FS process allows for the remediation, of units which pose a greater risk of exposure to the human health or environment. In contrast, NEPA regulations require that all associated actions must be evaluated together. Under NEPA, "connected actions are cumulative actions" which should all be covered by the same EIS (Levine et al. p.10). CERCLAs operable unit approach is much more effective in reducing the risk of exposure by quickly initiating the remediation process.

One of the strongest aspects of the RI\FS over the EIS is the method in which CERCLA addresses the judicial review process. CERCLA provides that citizens may not bring suit because the remedy selection is a violation of CERCLA provisions until the entire remediation process is complete. This policy allows the federal agency to reduce the level of risk by removing the hazardous substances, instead of being delayed by legal battles over remedy selections. After the remediation process is complete a suit may be filed, but CERCLA limits the judicial review to only the documents that

formed the basis for the remedy selection (Wagner p.250). The CERCLA approach to judicial review is much different from that of NEPA. NEPA contains no specific statutory provisions on judicial review. NEPA allows for judicial review after the EIS has been completed, but before remediation action begins. Initiation of NEPA remediation activities is often delayed due to court proceedings.

Unfortunately, not all agencies have the same preference for NEPA or CERCLA implementation. There are two basic view-points on the NEPA\CERCLA question. One view is that NEPA requirements are not a major burden, and the possibility of pre-remediation judicial review is not a major threat. The other view sees NEPA requirements to be a significant burden, and that the ability of NEPA to be reviewed before remediation would slow the cleanup process increasing the total remediation cost. Because different preferences on NEPA and CERCLA exist, a uniform national hazardous waste remediation program is not being utilized consistently. This lack of uniformity is causing confusion and frustration within both federal and state agencies.

Research Objectives

The general objective of this research is to determine ways in which the efficiency and effectiveness of hazardous waste remediation can be improved by incorporating NEPA values into CERCLA remedial requirements. This research program has three specific objectives:

1) To determine Congressional intent of NEPA, CERCLA, and the question of "functional equivalency".
2) To determine the substantive aspects of NEPA which can be integrated with CERCLA documentation procedures.
3) To develop a flow-chart integrating NEPA values with CERCLA remediation requirements.

CHAPTER II

CONGRESSIONAL INTENT

Before an attempt to integrate NEPA values into the CERCLA documentation requirements, it is important to understand the intent of Congress in the passage of both NEPA and CERCLA.

NEPA

The purpose of this Act is: "to declare a national policy which would encourage productive and enjoyable harmony between man and his environment, and to promote efforts which would prevent or eliminate damage to the environment" (NEPA, PL91-190). Congress enacted NEPA in 1969, with the intention of making NEPA the basic national policy for the protection of the environment. The basic intent of NEPA was to encourage federal agencies to incorporate environmental factors into their decision-making process. This was to be achieved by the completion of an EIS. The EIS is required by Congress for all "major" federal actions significantly affecting the environment. The purpose of the EIS was to review all possible options, and provide a process that would nourish "better" environmentally conscious decisions. The underlying intent of NEPA, is to assure a safe, diverse, and productive human

environment (Benson & Wagner p.113). In order to achieve these conditions, the needs of society must be balanced with the need to protect and maintain the quality of the environment.

It is important to note when analyzing the Congressional intent of NEPA, the following three factors: (1) regulatory requirements of NEPA require federal decision-makers only to be aware of the environmental consequences of the proposed actions; (2) The law does not require the federal agency to implement the most favorable environmental option; and (3) The Council on Environmental Quality (CEQ) requires federal agencies to integrate the NEPA process with other planning and environmental review procedures. The third of these three factors is addressed indirectly in Title II, section 205(2) of PL91-190. Title II, section 205(2) of NEPA states: "The Council shall utilize, to the fullest extent possible, the services, facilities, and information of public and private agencies and organizations, and individuals, in order that duplication of effort and expense may be avoided, thus assuring that the Council's activities will not unnecessarily overlap or conflict with similar activities authorized by law and performed by established agencies". Obviously, Congress realized that compliance with NEPA and other similar environmental regulations could be a substantial burden. However, did Congress require the spirit of NEPA to be integrated with future environmental regulations? This is the question that must be addressed

when federal agencies are involved in hazardous waste remediation. The answer to this question is addressed within the legislative history of the Superfund Amendments and Reauthorization Act.

CERCLA

Cleanup of hazardous waste sites is primarily mandated and controlled by CERCLA, more commonly known as Superfund. In 1980, President Carter signed CERCLA into law. Congress intended CERCLA to address those hazardous waste sites which posed a public health and environmental threat and that were not adequately addressed by existing laws (Benson & Wagner p.109). The basic concept of CERCLA was to eliminate the risk first, and ask questions later. When CERCLA first passed in 1980, it was not clear that CERCLA provisions applied to federal entities. However, this question was answered in 1986 when President Reagan signed the Superfund Amendments and Reauthorization Act (SARA). SARA required that federal facilities comply both substantially and procedurally with CERCLA requirements (Benson & Wagner p.112). Once federal facilities were subject to CERCLA requirements, federal agencies were then involved. The question of NEPA involvement in the CERCLA process is addressed both in the legislative history of CERCLA and SARA.

During a 1980 CERCLA debate, Congress stated: "In some instances, remedial actions are but a continuation of action necessary to resolve the emergency, and such actions can

prevent injury only if they proceed without delay. In such circumstances, remedial actions should not be delayed by the imposition of formal EIS requirements. However, concerning long-term, nonemergency actions, in some circumstances formal EIS requirements may be determined as applicable (Benson & Wagner p.114). It is clear that even before SARA extended CERCLA requirements to federal entities, that Congress was aware NEPA documentation would be a substantial burden. However, it is also clear that Congress wanted CERCLA to preempt the administrative requirements of all existing environmental regulations. Congress realized that if CERCLA preempted other environmental regulations, the cleanup process of hazardous waste sites would be quicker and easier. Regardless, Congress did not formally take into account the preemptive nature of CERCLA until the 1986 SARA amendments.

In the mid 1980s, Congress began to raise concerns that cleanups administered by the EPA were not conducted as quickly as originally imagined. For this reason, Congress included in SARA two provisions that would quicken the cleanup process; cleanup schedules, and permit exemptions. Congress exempted any response action from having to obtain a federal, state, or local permit if the response action was conducted entirely on-site (Benson & Wagner p. 113). The intention by Congress in granting permit exemptions and providing strict cleanup schedules, was to quicken the cleanup process by making it as straightforward as possible. It is clear, that Congress realized that compliance with

other environmental requirements was not favorable to an effective CERCLA cleanup action. Therefore, Congress ensured that CERCLA is preemptive in nature and that strict compliance with other environmental laws is not always necessary (Benson & Wagner p.113).

When federal agencies are conducting cleanups under CERCLA, it is logical to conclude that the legislative history of SARA does not require that the administrative aspects of NEPA be conducted (Benson & Wagner p. 112). Three key issues have been identified in the legislative history of SARA that the intentions of Congress were not to require federal facilities to comply rigidly with NEPA while conducting cleanups under CERCLA. The key issues are as follow: (1) The underlying intent of SARA was to develop a system to expedite cleanup of hazardous waste sites; (2) Congress included language in SARA that suggests that the CERCLA process should preempt administrative environmental requirements, duplicative documentation requirements for example; and (3) Congress intended to include a provision in SARA that explicitly stated that compliance with CERCLA would satisfy the requirements of NEPA (Benson & Wagner p.112). Although the third key issue was discussed by Congress, a formal provision stating that compliance with CERCLA would satisfy NEPA requirements was not included in the amendments. In other words, Congress failed to state if NEPA was "functionally equivalent" to CERCLA.

During the early to mid 1980s the EPA was responsible for conducting almost all of the CERCLA cleanups. The EPA

determined that its CERCLA remedial actions were functionally equivalent to that of NEPAs. This was considered to be appropriate until SARA extended CERCLA to other federal agencies. Unfortunately, not all of the agencies shared the same view as the EPA when it came to CERCLA being considered a functional equivalent to NEPA. Understandably, federal facilities are unsure on how to best meet their environmental compliance requirements. This is largely due to the fact that Congress failed to address the question of functional equivalence with SARA, and the concept of functional equivalence has currently not been settled in the courts.

Congress' main objective in the passage of CERCLA was to cleanup hazardous waste sites as quickly as possible. Accordingly, it is clear that Congress did not always intend compliance with the administrative requirements of other environmental laws. However, Congress to this date has not officially documented if CERCLA is preemptive in nature, or if CERCLA is the functional equivalent to NEPA. Until Congress makes this decision, or a decision is made by the courts, federal entities involved in hazardous waste remediation activities will not know how to best meet their environmental compliance requirements.

CHAPTER III

REVIEW OF THE LITERATURE

Due to the fact that neither Congress nor the courts have directly addressed the NEPA/CERCLA question, a large portion of current research involves interpretation of Congressional intent. The Congressional intent, for the purpose of this research, was determined by an analysis of the legislative history of SARA and NEPA, and Congressional intent research completed by Wagner and Benson (1992). Research by Wagner and Benson indicates that Congress did not intend for federal entities to comply with the administrative aspects of NEPA when conducting cleanups of their Superfund sites. However, Wagner and Benson (1992) also indicate that Congress did not intend to ignore the "spirit" of NEPA while conducting cleanups under CERCLA.

Without clear guidance, tensions are generated within the federal government because different federal entities are attempting to meet their remediation requirements under NEPA and CERCLA in differing ways. Basically, two different view points exist on the NEPA/CERCLA question. One view is that NEPA provides greater public participation and an adequate remediation regulatory program. The other view perceives NEPAs requirements as a substantial burden, and favors the more detailed focused approach required under

CERCLA. There are many legal ambiguities and practical questions continuing over the applicability of NEPA and CERCLA at federal facilities. Sharples and Smith (1991) moderated a panel discussion which gave the Department of Justice (DOJ), the Council on Environmental Quality (CEQ), Department of Energy (DOE), and the United States Air Force opportunities to voice their opinions on NEPA/CERCLA compliance at federal facilities. Sharples and Smith (1991) noted the following:

Department of Justice

After reviewing the legislative history of CERCLA and NEPA, the DOJ viewed compliance with NEPA as having the potential the to violate the Congressional intent. By requiring NEPA compliance at CERCLA sites, additional documentation would be required. Additional documentation would interfere with federal agencies in expediting cleanups as quickly as possible, thus violating Congressional intent. Basically, the DOJ believed that Congress established adequate public participation, legal review, and remediation documentation under CERCLA. The DOJ concluded that cleanups conducted at federal sites under CERCLA are not subject to NEPA. However, this is not a common opinion.

Council on Environmental Quality

The CEQ believed that the DOJ argument that NEPA compliance would slow the remediation process under CERCLA was based on the wrong assumption. The DOJ based their

assumption on the premise that the EIS would be completed after the RI/FS. The CEQ believes that if the EIS and the RI/FS are conducted consecutively, as early as possible, that remediation delay would not be a problem. Therefore, the CEQ believes an integrated EIS - RI/FS approach would be the most favorable alternative. However, the CEQ did agree with the DOJ over NEPAs possibility of delay due to judicial review. Because CERCLA bars citizen suits until after remediation is completed, and NEPA is silent on the question, the CEQ determined that if NEPA was integrated, CERCLAs ban on citizen suits would take precedence.

United States Air Force

The United States Air Force believes that in the case of Air Force installation and restoration projects, that NEPA applies to CERCLA remedial actions. The Air Force believes that NEPA nourishes informed decision-making. Therefore, it is the policy of the United States Air force to integrate selected processes of NEPA into their CERCLA RI/FS proceedings as early as possible.

Department of Energy

The DOE is another federal agency that requires NEPA/CERCLA processes be integrated. In fact, the DOE has been one of the most influential agencies in developing an integrated approach to NEPA/CERCLA compliance. In August 1988, the DOE issued notice 54004.4 "Integration of Compliance Processes". This notice established a DOE policy

to integrate NEPA with the RI/FS processes for remedial actions under CERCLA. The DOE stresses that the key in avoiding delay is to determine the level of NEPA documentation needed, before the RI/FS scoping process begins.

Generally, Sharples and Smith (1991) indicated that throughout the federal government different opinions exist on; (1) if CERCLA is functionally equivalent to NEPA, and (2) if NEPA is not functionally equivalent, what NEPA requirements should be integrated?

Several federal agencies have adopted policies calling for the RI/FS procedures to be integrated with the NEPA process. Integration is a relatively new concept that is currently viewed by the federal government as a feasible option for both NEPA and CERCLA requirements. Integration is defined as, "a proactive, complementary and holistic consolidation of all applicable State and Federal environmental requirements and activities that may directly or indirectly affect environmental restoration programs" (Forth p.1). Research by Forth (1992) defines integration and provides methods in which the goals of integration can be achieved. Forth (1992) indicates that if NEPA values can be integrated successfully into the RI/FS process, remediation at federal facilities would be faster, safer, and cheaper.

The identification of NEPA values which can be successfully integrated into the RI/FS process is a problem that occurs within many federal agencies. By far, the

Department which has taken the lead in attempting to identify NEPA values to be integrated with CERCLA is the DOE. This is evident by NEPA/CERCLA research conducted by Levine et al. (1991). Levine et al. (1991) recommend contents for integrated RI/FS-EIS documents and discuss some of the potential problems in the integration of NEPA and CERCLA. The research provided to the DOE by Eddelmon et al. (1991) has become the basic policy for DOE hazardous waste remediation programs. Furthermore, the DOE has also provided guidance on the implementation of the DOE NEPA/CERCLA integration policy.

In addition to the DOE, the EPA has been very instrumental in determining what NEPA values might be integrated with the procedural requirements of CERCLA. EPA (1991) has reviewed the procedural requirements of NEPA and CERCLA and identified some of the NEPA values which are relative for NEPA/CERCLA integration. EPA (1991) believes that successful integration is readily achievable.

Although Levine et al. (1991) and EPA (1991) have been very useful in the identification of NEPA values, both fall short in a complete identification of all NEPA values for integration. In addition, neither Levine et al. (1991) nor EPA (1991) provides a mean by which successful NEPA/CERCLA integration can be achieved for all federal entities involved in hazardous waste remediation.

In order to avoid the NEPA/CERCLA problem, and similar regulatory conflicts, Congress must improve its policy formation and implementation procedures. Research by Jones

(1970) has indicated the limits of the policy formation process. More specifically, research by Lester and Bowman (1989) has analyzed the formation and implementation procedures for hazardous waste policy. Both Jones (1970) and Lester and Bowman (1989) theorize ways in which the policy formation and implementation procedures can be improved.

CHAPTER IV

NEPA/CERCLA INTEGRATION

Method of Research

Because this research is qualitative, an elaborate mathematical model will not be used. Instead, the primary sources of information will come from existing NEPA/CERCLA documents and from unpublished material received from government agencies involved in hazardous waste remediation. Once the NEPA/CERCLA documents have been reviewed, an attempt to improve the efficiency and effectiveness of hazardous waste remediation will be made by integrating NEPA/CERCLA requirements by means of a flow-chart. However, if NEPA and CERCLA are to be successfully integrated by means of a flow-chart several initial steps are required. These initial steps include: (1) a general description of NEPA and CERCLA requirements; (2) a statement of conflict; and (3) a determination of Congressional intent. Once these initial NEPA/CERCLA steps have been completed, this research will focus on NEPA/CERCLA integration.

Currently, since many federal facilities are unsure on how to best comply with both NEPA and CERCLA while conducting remediation projects, confusion in the hazardous

waste remediation processes exists. Since the obvious answer to this problem lies in successful NEPA/CERCLA integration, integration is the primary focus of this research. If NEPA/CERCLA integration is to be successful, the remediation process for federal facilities must be faster, safer, and cheaper then current federal NEPA and CERCLA compliance methods. For the purpose of this research, successful integration will be suggested by the following: (1) a generic flow-chart of individual NEPA and CERCLA procedures (figures 1 & 2 p.29-30); (2) a specific comparison of NEPA and CERCLA requirements; and (3) an intergrated NEPA/CERCLA flow-chart (figures 3-7 p.44-48).

For the purpose of integration, NEPA and CERCLA comparison will include the differences and similarities between eight different procedural requirements. These eight procedural requirements include: (1) initial review and planning; (2) public participation; (3) scoping; (4) RI/FS and EIS documentation requirements; (5) socioeconomic impacts; (6) cumulative impacts; (7) record of decision; and (8) judicial review. After the comparison of each individual NEPA and CERCLA procedural requirements is complete, the result of integration will be discussed. Once the integration results for all eight NEPA and CERCLA procedural requirements have been completed, an integrated NEPA/CERCLA flow-chart will be developed. With completion of the integrated NEPA/CERCLA flow chart final conclusions over the degree of successful integration will be discussed.

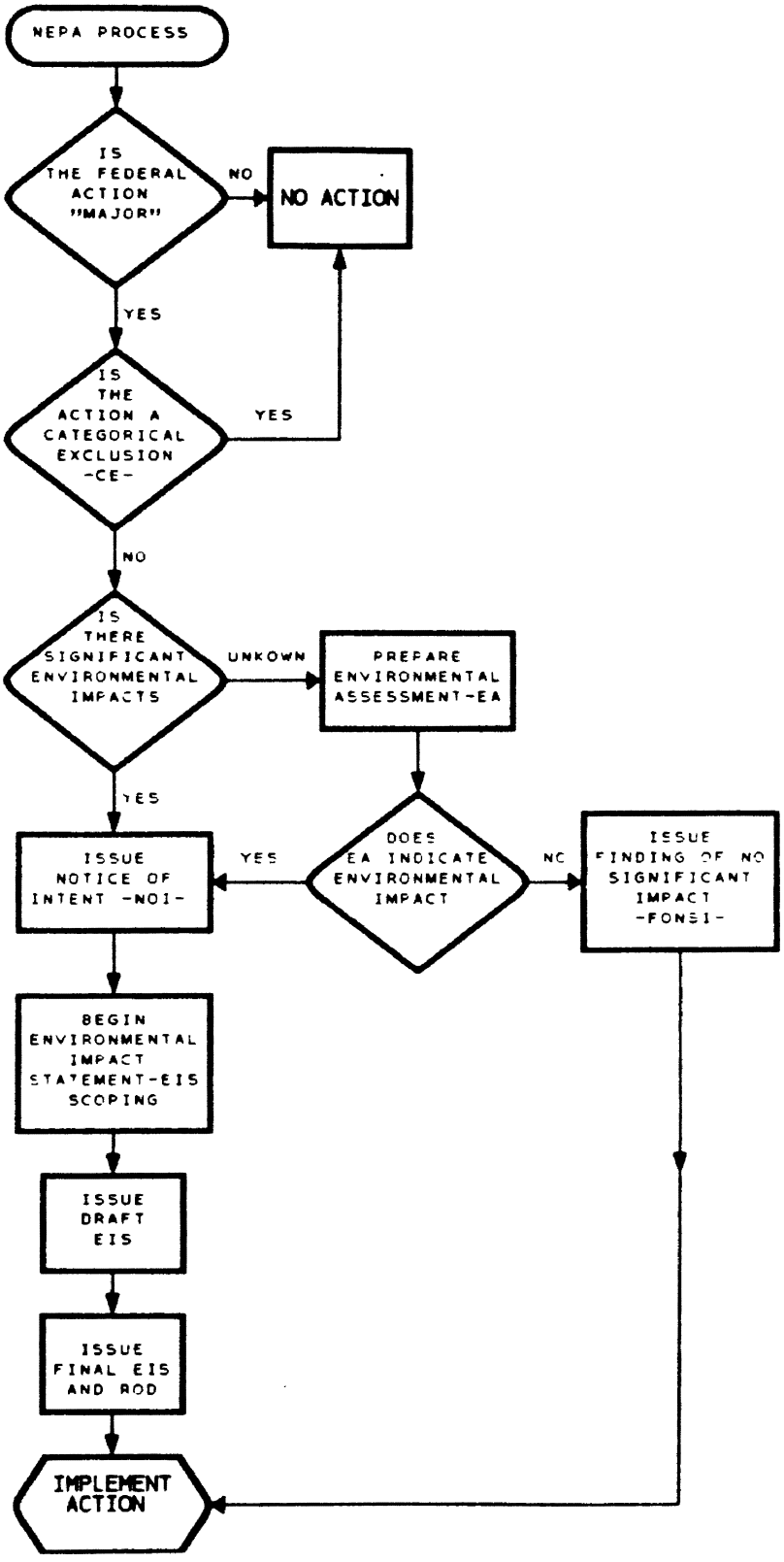
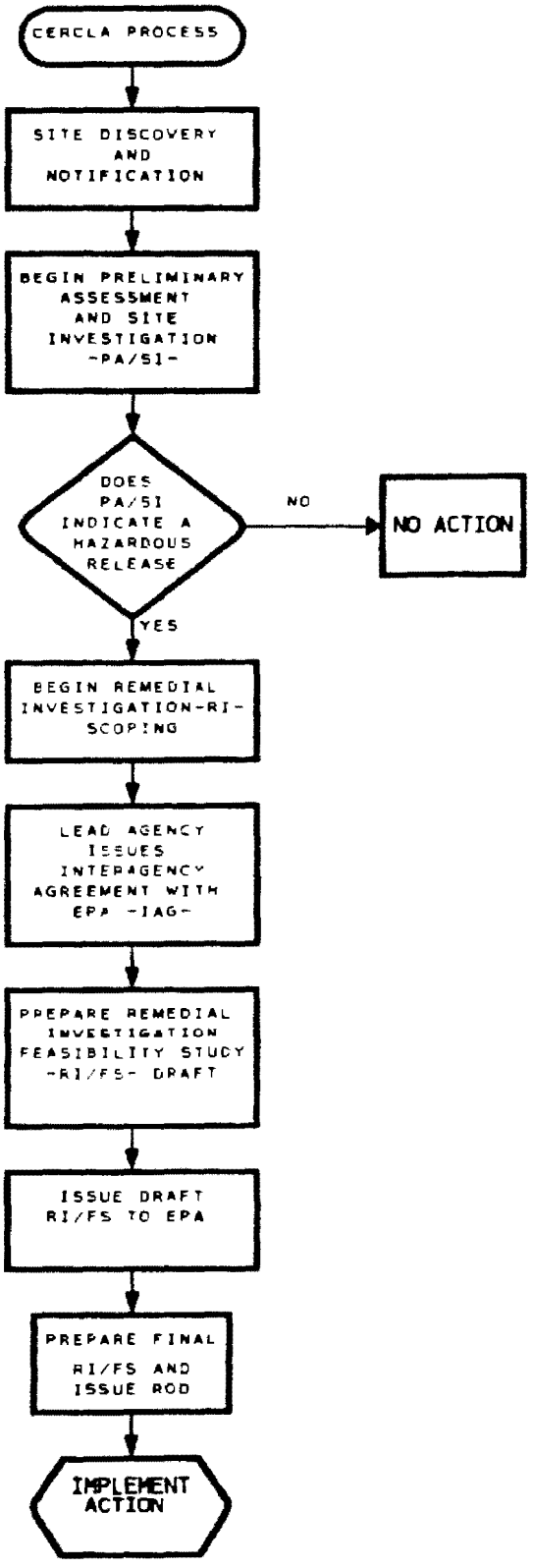


Figure 1. Generic NEPA Process



Generic CERCLA Process

Comparison of NEPA/CERCLA Requirements

Initial Review and Planning

Before integration of the initial review requirements of NEPA and CERCLA is attempted, it is important to review their requirements. Initial review under CERCLA consists of: (1) site discovery and notification; (2) a preliminary assessment and site investigation (PA/SI); and (3) use of the hazard ranking system (HRS). The information in the PA/SI characterizes the site's environmental features and determines if any removal action is required. If removal action is required, the next step under CERCLA is to use the hazard ranking system to determine if the site should be included on the national priority list (NPL). Once the NPL determination has been made, the initial review requirements under CERCLA are complete.

Under NEPA, when federal actions are proposed four possible determinations can be made which will establish the level of NEPA involvement. The four determinations include: (1) categorical exclusion (CE); (2) environmental assessment/finding of no significant impact (EA/FONSI); (3) EA finding of significant impact and; (4) Environmental Impact Statements (EIS). Initial review under NEPA requires this determination for EIS preparation. An EIS is required if the proposed action is not a categorical exclusion, and the EA has determined that there is a significant environmental impact. Once a determination to prepare the

EIS has been made, the initial review requirements under NEPA are complete.

NEPA integration into the CERCLA initial planning process is relatively simple and straightforward. It is important to note that CEQ regulations require NEPA processes to be integrated with other planning processes at the earliest possible time (40 CFR 1501.2). In the case of NEPA/CERCLA initial planning, the earliest possible time for integration is when a decision is made under CERCLA that an action is required. Since the PA/SI and the EA requirements are similar, duplication can be eliminated if the NEPA process begins after CERCLA has determined that remedial action is required.

Result. The initial planning requirements of both NEPA and CERCLA can be achieved through integration. No time delay or duplication would be expected if the NEPA process began once a decision under CERCLA has been made that an action is required. Although the NEPA CE and EA-FONSI documentation requirements would be eliminated, this would not violate the intent of NEPA for the purposes of hazardous waste remediation.

Public Participation

Although both NEPA and CERCLA provide for public involvement in the decision-making process, there are several differences in their requirements for public comments on site related documents. The intent of CERCLA is

not to encourage public participation but rather educate the public on the remedial process. Once a site has been placed the NPL, the agency with jurisdiction most incorporate a community relations plan into the RI/FS work plan. At minimum the community relations plan must: (1) establish a mailing list; (2) provide convenient access to documents; (3) provide an opportunity for a public meeting on the RI/FS report; (4) provide a summary of public comments and agency response; and (5) hold a "kickoff" meeting prior to RI/FS commencement (EPA p.5). In addition, included in the community relations plan are community interviews. Community interviews are required under CERCLA in order to obtain information on the site's history and address community concerns over the remediation process. However, public comment under CERCLA is limited to a 30 day period in which interested parties can comment on the final RI/FS.

In contrast to the limited public comment and review opportunities under CERCLA, NEPA encourages public participation at several points in the remediation process. The general objective of public involvement under NEPA is to incorporate public participation into the decision-making process. Unlike CERCLA, NEPA's objective is not to educate the public on an action, but rather to incorporate public participation into the decision-making process. This incorporation is evident by NEPA's requirement for the employment of professional writers and text limitations. Under NEPA, the purpose of the professional writer is to write the technical information contained in the draft EIS

and the final EIS in a manner which is understandable to lay citizens. Furthermore, NEPA requires technical data to be simplified in the text, while providing technical data in appendices. NEPA guidelines limit EIS text to between 150 and 300 pages. Text limitations are required by NEPA in order to avoid unnecessary bulk.

Initiation of public participation under NEPA begins after the determination for an EIS is made. When an EIS is required, a Notice of Intent (NOI) is published in the Federal Register (FR). The NOI provides the opportunity for the public to become involved in the decision-making process by describing the proposed action, and listing the name and address of a contact person. NEPA guidelines call for a public comment period of the NOI for at least 20 days. In addition to the NOI public comment period, NEPA also permits public comment on the draft EIS. After a draft EIS has been prepared, a 45 day public comment period is permitted in which comments on the proposed action are encouraged. Public comment on the draft EIS allows the agency to consider public opinions before a final decision is made and documented in the final EIS. A 30 day public comment period on the final EIS is also permitted. This 30 day period is consistent with the public review period of the CERCLA final RI/FS.

It is evident that NEPA encourages more public participation in the remediation process than CERCLA; however, integration is possible. NEPA's encouragement of public participation falls primarily into three areas: (1)

the publication of a NOI accompanied with a 20 day public comment period; (2) the opportunity for a 45 day public review of the draft EIS; and (3) a simplified text. Integrated NEPA/CERCLA public review should begin once the PA/SI has determined that an action is required. Once this decision is made, an NOI would be published in the Federal Register and a 20 day comment period would be permitted. Although a NOI is not required under CERCLA, the NEPA NOI can easily be worked into the workplan of the RI/FS. In addition, the minimum time for public comment on a draft EIS is 45 days. This 45 day time period is equal to the period that the EPA requires for its review of the draft RI/FS. Since these time periods are the same, NEPA guidelines of public review can be achieved if the draft RI/FS is made available for public review while the RI/FS undergoes EPA review. The comments received on the draft RI/FS should be taken into consideration before the final RI/FS is issued and a record of decision (ROD) is published and implemented.

Result. The ability to integrate NEPA/CERCLA public review requirements exists without delay and minimal increased expense. However, the RI/FS must refocus its intent in order to incorporate the public review and participation values of NEPA. If NEPA guidelines are to be achieved, the RI/FS must be written in a manner that lay citizens can understand. This would require the employment of professional writers, summarizing technical data, and imposing length constraints. Although the employment of professional writers may increase the expense of RI/FS

preparation, the public would be better informed of the proposed action. Furthermore, additional NEPA values can be achieved if the comments received on the draft RI/FS were taken into consideration before the final RI/FS is issued.

Scoping

Scoping is required for both the NEPA and CERCLA processes. CERCLA scoping characterizes the known or suspected contamination, identifies the migration pathways, and determines the potential receptors that may be affected by contaminant migration. Site characterization under CERCLA scoping is achieved by evaluating existing data, identification operable units, establishing remedial objectives, and identifying ARARS (EPA p.7). In addition to site characterization, the CERCLA scoping process must also develop a community relations plan which would provide opportunities for the community to learn about the site.

Unlike the focused CERCLA scoping, scoping under NEPA is not as site specific. Generally NEPA scoping invites participation of interested parties, eliminates non-significant issues, identifies environmental documents related to the action, and identifies other environmental review requirements (EPA p.7). Although the NEPA scoping process is less focused then CERCLAs, the two processes are similar.

Result. The NEPA/CERCLA scoping processes can be integrated without difficulty. For the purposes of

hazardous waste remediation, the CERCLA scoping requirements are more detailed and site specific then that of NEPA's. Completion of CERCLA scoping should sufficiently cover NEPA compliance.

RI/FS and EIS Documentation

Requirements. The NEPA EIS and the CERCLA RI/FS differ substantially in their documentation requirements. Under CERCLA, RI documentation requirements include a description of: surface features, geology, soil and vadose zone, surface-water hydrology, hydrogeology, meteorology, human populations, land use, and a general description of flora and fauna (EPA p.8). The RI is a comprehensive compilation of data in which length limits are not imposed. Once a characterization of this information is complete, the information is utilized in the FS in order to select a remedial action. Once the remedial action is determined a combined RI/FS is prepared. The RI/FS is the proposed plan which is designed to provide focused detailed information on the selected action.

In contrast to the CERCLA RI\FS documentation requirements, NEPA's EIS requirements are not as well defined. The EIS contains three main sections; a statement of purpose and need for action, a description of the affected environment, and a comparison of alternatives. NEPA guidelines require that the EIS be written in a manner so that decision makers and the public can understand the effects of the alternatives.

Result. It is obvious that the CERCLA RI and FS provide a more detailed and focused approach to site characterization then the NEPA EIS. For the purpose of hazardous waste remediation, the documentation requirements of the RI and FS should satisfy NEPA compliance. However, as discussed in the public review section, CERCLA documentation should be written in a manner that is understandable to the public.

Socioeconomic Impacts

Under the CERCLA RI/FS process, socioeconomic impacts are generally not required. The intent of the RI/FS is to only address those issues which are directly related to the selection and implementation of a remedial action. The only time in which a RI/FS would possibly consider socioeconomic impacts is if the project is related to an action specific ARAR (EPA p.10). CERCLA procedures do not evaluate socioeconomic impacts due to the possibility of delay in the remediation action.

In contrast to the CERCLA process, NEPA guidelines require that the EIS consider socioeconomic impacts. CEQ guidelines require the EIS to consider both social and economic impacts of the proposed action on and off site. Examples of social impacts to be considered in the EIS include any impact of the proposed action on a community, neighborhood, or individual. EIS social impact considerations cover a wide variety of impacts ranging from the use of the site following cleanup, to individual stress

related to cleanup procedures. Economic considerations to be included in the EIS also are very broad. The economic impact of having to reroute local traffic while removing and transporting hazardous waste is an example of an EIS economic consideration. The intent of social and economic consideration under NEPA is to review all the environmental consequences associated with a proposed action in hopes of selecting the most environmentally friendly alternative.

Result. NEPA provides an enhanced discussion on the overall impact of the proposed action due to the fact that it incorporates social and economic impacts into the decision-making process. Although CERCLA does not require social and economic impact analysis, successful integration of NEPA's socioeconomic values with the RI/FS is possible. NEPA's socioeconomic impact considerations can be integrated into the RI/FS scoping process. If NEPA's social and economic considerations were to be integrated with the RI/FS scoping process, RI/FS preparation and expense would not dramatically increase due to the believed limited socioeconomic impacts of the action (EPA p.10). However, since remedial actions and socioeconomic impacts vary due to geographical location, site related socioeconomic impacts to be integrated will have to be addressed on a site by site basis.

Cumulative Impacts

In order for remediation to begin under CERCLA as soon as possible, the CERCLA process allows for the separation of

complex response actions into "operable units". The purpose of the operable unit approach is to allow a site with multiple response actions to initiate remediation for those operable units which pose the greatest risk to the human health and environment. Remedial actions at some operable units may begin before final remedial alternatives are selected for the entire site. Although the operable unit approach of the RI/FS accelerates the remediation process, it fails to consider the cumulative impacts of the remediation actions of the entire site.

NEPA guidelines are substantially different to CERCLA's when considering cumulative impacts. CEQ guidelines discourage the separation of a site into separate units. Under NEPA, actions which are related closely enough to be a single coarse of action shall be evaluated in a single impact statement. Also, NEPA prohibits taking any action prior to issuance of a ROD.

Due to the fact that NEPA discourages segmentation, the integration of cumulative impact values into the RI/FS is difficult. However, compliance with both NEPA and CERCLA is possible if the RI/FS were to integrate the NEPA tiering approach. Tiering under NEPA refers to the coverage of general matters in broader EISs with subsequent narrower matters addressed by EISs or EAs. If a site is divided into operable units under CERCLA, compliance with NEPA can be achieved if the agency responsible for remediation were to integrate the cumulative impacts of the entire site into a site wide EIS-RI/FS. Further NEPA compliance can be

achieved if an EA was completed for each operable unit that was intended to be remediated before the entire site wide EIS-RI/FS was complete.

Result. In order for the Congressional intent of CERCLA to be maintained, risk to human health and environment must be reduced by initiating remediation as soon as possible. This remediation may require federal facilities to divide sites into operable units. Although this segmentation approach under CERCLA is in direct conflict with NEPA, NEPA cumulative impact values can be achieved through an integrated EIS-RI/FS tiered approach. Integration of NEPA's cumulative impact requirements into the RI/FS would require additional documentation; however, only minor time delays and increased expense would be anticipated.

Record of Decision

The decisions reached in both the RI/FS and the EIS are documented by the issuance of a record of decision (ROD) by the agency with jurisdiction. Generally, NEPA/CERCLA RODs must identify the agency's decision and defend it. Although both processes contain unique requirements, an integrated NEPA/CERCLA ROD should not pose problems.

Under CERCLA, the ROD must discuss: (1) risk to the health and environment; (2) remedial goals; (3) purpose of the decision; (4) changes which were made in response to comments; and (5) outline the engineering components of the remedial action (EPA p.12). The ROD must be published in a

major newspaper of regional circulation and made available for public inspection near the facility. Prior to implementation of the remedial action the ROD must be approved by the EPA.

Similar elements are required for the NEPA ROD. Under NEPA, the ROD must: (1) state the decision on the selected alternative, (2) identify the alternatives to be considered, (3) identify the factors which entered into the decision, and (4) summarize the monitoring and enforcement program (EPA p.12). Unlike the CERCLA ROD the NEPA ROD does not require publication in a major newspaper or EPA approval.

Result. Duplication of documentation is not expected if the NEPA/CERCLA ROD requirements were to be integrated. This is largely due to the fact that NEPA's ROD requirements are sufficiently addressed under CERCLA.

Judicial Review

The provisions for judicial review are one of the most substantial differences between NEPA and CERCLA. CERCLA provides that citizens not bring suit over agency decisions until the remediation is complete. This judicial policy is intended to allow the cleanup process to begin promptly in order to limit the risks associated with exposure to toxic chemicals. In contrast, NEPA has no statutory provision on judicial review. NEPA's lack of statutory review allows for judicial review after the EIS has been completed, but before remediation begins. Because initiation of NEPA remediation

activities are often delayed due to court proceedings, the risk of exposure to toxic chemicals increases.

Result. It is apparent that with the passage of CERCLA, Congress intended to cleanup hazardous waste sites as quickly as possible. If judicial review was permitted before the remediation is complete, remediation activities could be delayed due to court proceedings. This delay would violate the Congressional intent of CERCLA and possibly increase the risk of exposure to toxic chemicals. Therefore, because NEPA is silent on the issue of judicial review, successful integration would require that CERCLA's prevention on judicial review take precedence.

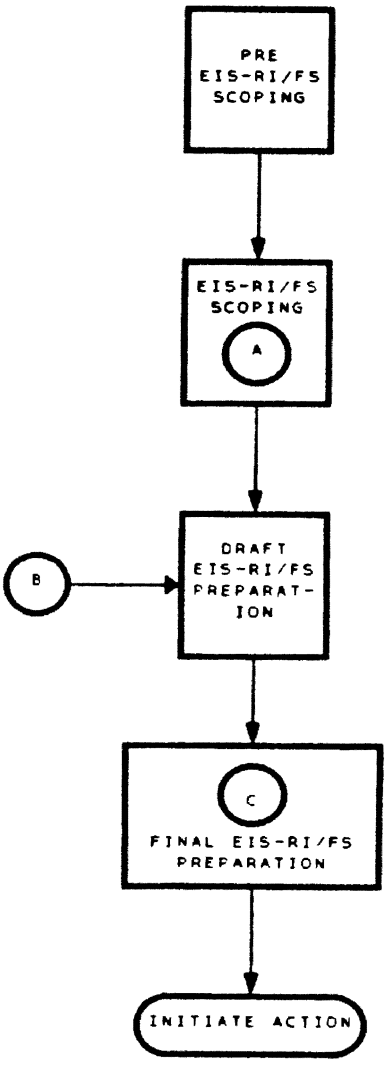


Figure 3. Introduction to NEPA/CERCLA Flow Chart

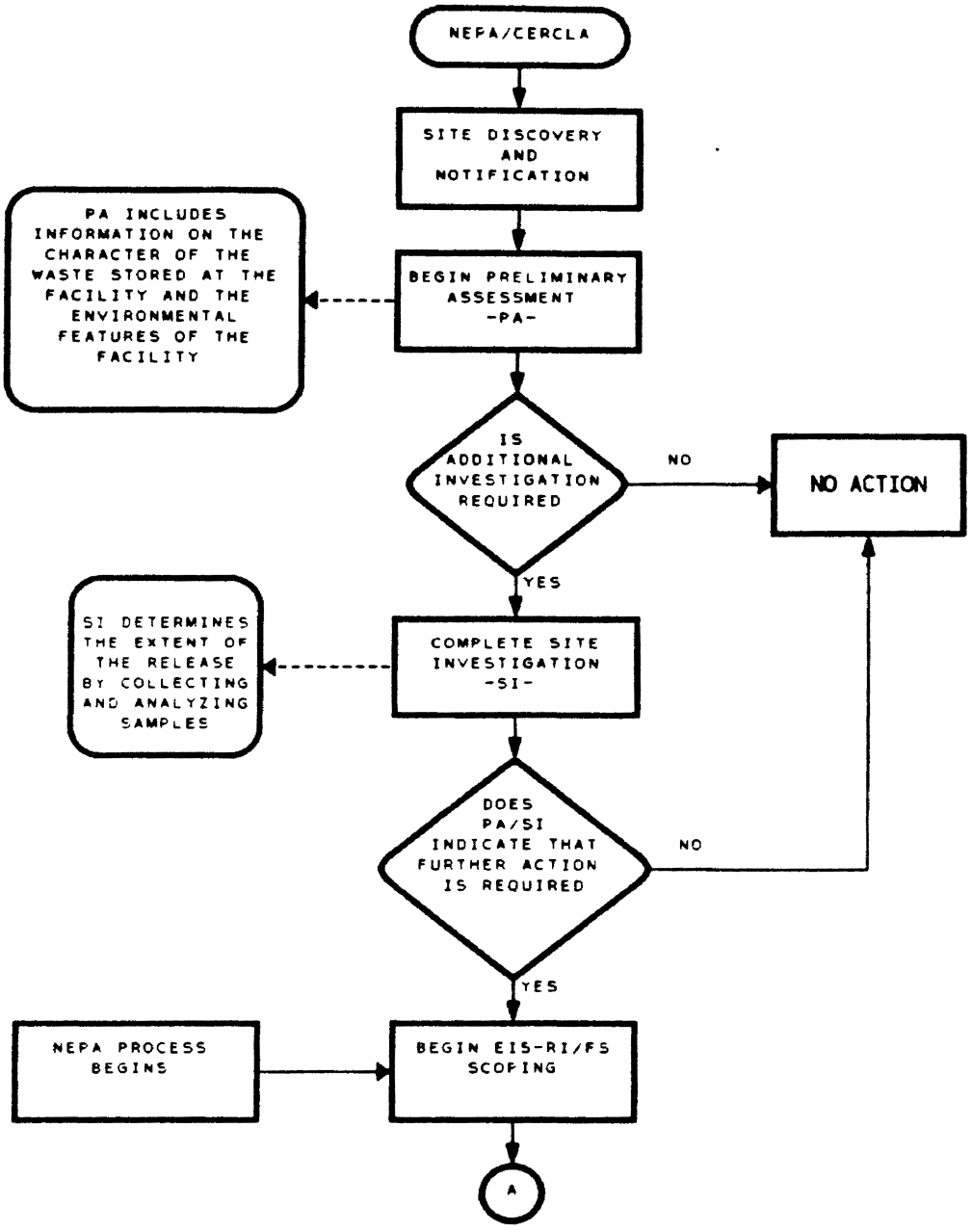


Figure 4. Pre EIS-RI/FS Scoping

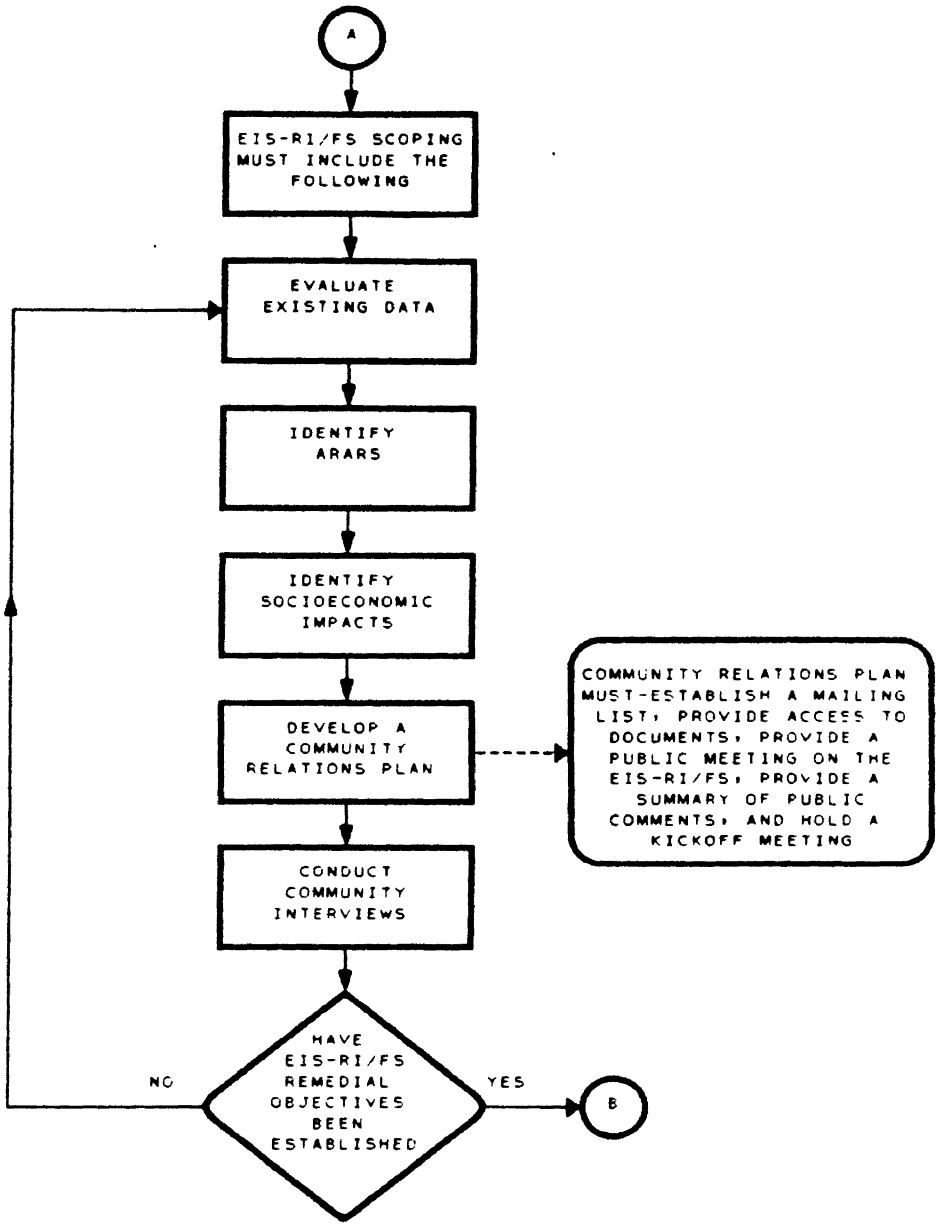


Figure 5. EIS-RI/FS Scoping

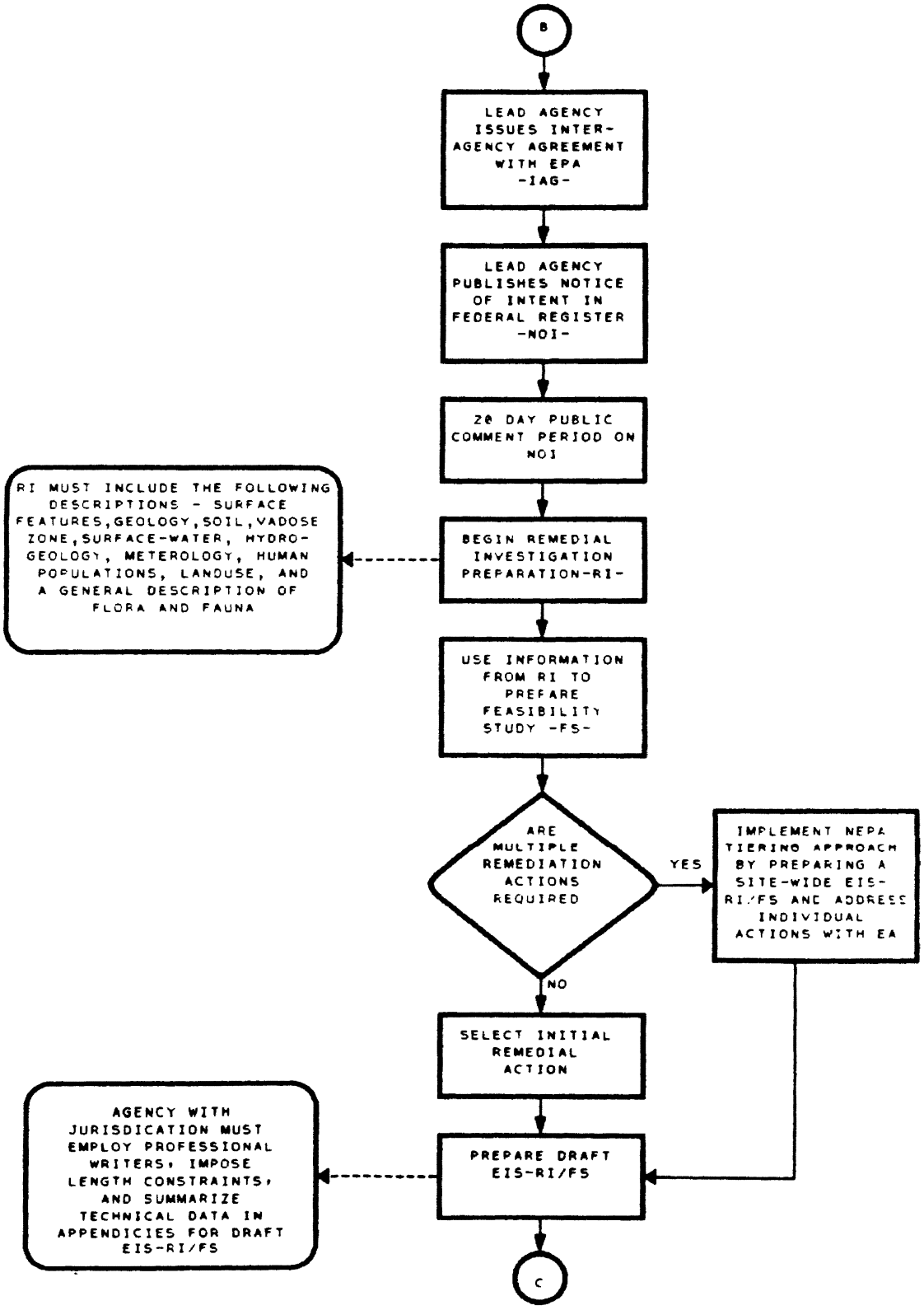


Figure 6. Draft EIS-RI/FS Preparation

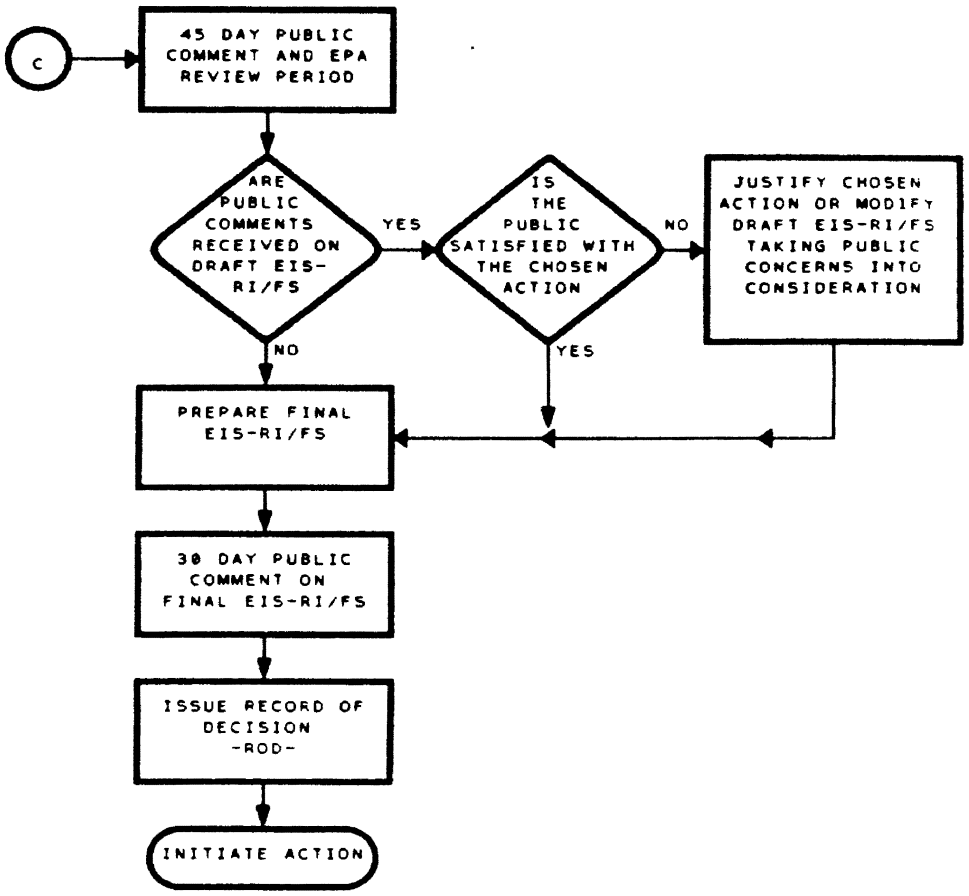


Figure 7. Final EIS-RI/FS Preparation

CHAPTER V

CONCLUSIONS

Currently, confusion exists within different federal agencies involved in hazardous waste remediation projects on federal property. This confusion is largely due to the fact that there are two laws, NEPA and CERCLA, which regulate federal hazardous waste remediation projects. Since individual compliance with both NEPA and CERCLA would result in delays and increased expense in remediation procedures, federal agencies involved in hazardous waste remediation looked to Congress for guidance. Unfortunately, Congress did not address the NEPA/CERCLA problem. This lack of guidance by Congress resulted in federal agencies not knowing how to best meet their environmental requirements.

Although NEPA and CERCLA both have their advantages, the answer lies not in individual compliance but rather in NEPA/CERCLA integration. If NEPA/CERCLA integration is to be successful, federal facility remediation procedures must be faster, safer, and cheaper then current methods. After reviewing the procedural requirements for both NEPA and CERCLA, it was obvious that successful integration was possible. By comparing eight different NEPA and CERCLA procedural requirements, it was noted that increased expenditures and time delays were limited to the NEPA

requirements of public participation, socioeconomic impacts, and cumulative impacts. Although the integration of NEPA values into CERCLA procedures may delay and slightly increase the expense of CERCLA remediation procedures, it is apparent that an integrated approach to NEPA/CERCLA compliance would be more successful then current federal methods.

As proven, successful integration of NEPA and CERCLA is readily achievable. However, if NEPA/CERCLA integration is to be successful on the federal level agencies must approach compliance in an interdisciplinary manner. This requires federal agencies not to limit their scope of view to either NEPA or CERCLA. Since there are obvious advantages in an integrated NEPA/CERCLA approach, future research on NEPA/CERCLA integration should focus on: (1) the ability to implement NEPA/CERCLA integration at a federal CERCLA site; and (2) the integration of NEPA and CERCLA with the Resource Conservation and Recovery Act (RCRA).

In addition, to avoid similar NEPA/CERCLA conflicts future research should focus on the formation of policy. Currently, policy cycle models convey the impression of a process in which laws are clearly formulated and carried into effect. However, in real life the perceived impacts of the policy by Congress are not the actual outcomes. This is the problem that has occurred in the case of hazardous waste remediation projects at federal facilities. In the future, Congress needs to approach policy formation with a greater understanding of the actual impacts of the policy they are proposing.

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