

FRAMEWORK FOR RESOLVING HAZARDOUS

WASTE CLEANUP LIABILITY

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ABSTRACT

The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA or Superfund) dictates that hazardous waste disposal sites be cleaned up. It also identifies parties who are liable for all costs incurred in cleanup of a facility having a release or threatened release, and damages for injury to, destruction of, or loss of natural resources. The costs incurred in cleaning up a site can become enormous. Most sites are multi-party sites and cleanup actions will involve difficult and complex responsibility determinations. In order to facilitate the process of determining cleanup liability and assure a fair and equitable allocation of this liability, a framework is proposed which is based on problem resolution methodology developed and tested on over 700 contract dispute resolutions.

The framework presented here is based on the identification and management of a common factual data base. This documentation is then used in a systematic approach to identify responsible parties and wastes attributed to each party, and to allocate site cleanup cost responsibility with provisions for expert input and responsible party negotiations. Each responsible party has the opportunity to negotiate based on relevant facts and to resolve the issues before they reach litigation.

INTRODUCTION

The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA or Superfund) was enacted to protect public health and welfare and the environment from the release of hazardous substances. The act dictates that identified hazardous waste disposal sites be cleaned up. It identifies the following persons as being liable for a facility having a release or threatened release: owners and operators of the facility; past owners or operators of the facility at any time hazardous substances were disposed of at the facility; persons who arranged for disposal or treatment of hazardous substances at the facility; and persons who accepted hazardous substances for transport to the facility and who selected that facility. These parties are liable for all costs incurred in cleanup and damages for injury to, destruction of, or loss of natural resources.

Furthermore, CERCLA authorizes the federal government to begin civil action against a liable party who fails to take a cleanup action upon order of the President. Such parties may be liable for punitive damages of three times the amount of cost incurred.

It appears that Congress and the public will continue to demand that government take a strong position on hazardous waste cleanup. The Superfund reauthorization legislative package is expected to be submitted to Congress early in 1985. Costs for cleanup are projected to be \$11.7 to \$22.7 billion.

The costs incurred in cleaning up a site can quickly become enormous. Once a site is identified as a Superfund site by EPA, the remedial investigation and feasibility study (RI/FS) required to define the problem and the alternative solutions to the problem alone can cost in excess of \$1 million. Actual cleanup costs depend on the magnitude of the problem

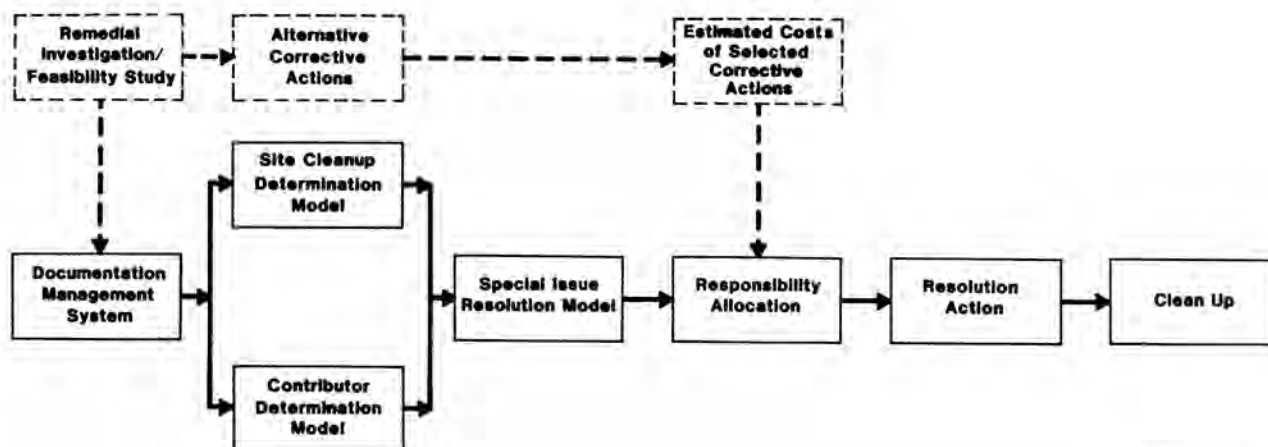
and corrective solutions to the problem and can easily run into the millions. EPA estimates an average cleanup cost per site to be \$8.1 million for some 1,800 sites. Many sites are multi-party sites and cleanup actions will involve difficult and complex responsibility determinations. The process of negotiating the allocation of cleanup costs among the potential responsible parties (PRPs) can be costly if a systematic and organized approach is not utilized. An early systematic analysis of available data and an organized approach to seek a fair and equitable allocation of costs can significantly contribute to: less frequent and more efficient site committee meetings; reducing the cleanup cost for each PRP; and enhancing the negotiating environment for positive and early settlements of cost allocation issues.

Companies participating in a site steering committee can devise and implement a framework within which they can operate to resolve the cleanup cost allocation issue with minimal cost to the parties involved. In developing and implementing this cost resolution framework it is important that: the approach allow all parties to make sound rational decisions; it is based on common factual information; and it is aimed at a fair and equitable allocation of cleanup costs which is acceptable to all parties.

This paper discusses a decision framework for cleanup resolution based on a problem resolution methodology developed and tested on over 700 contract dispute resolutions. The methodology relates directly to resolving hazardous waste site cleanup cost allocation issues. Its application can significantly limit the time required to address the issues and reduce the costs of cleanup attributed to each party.

FRAMEWORK

The framework shown in Fig. 1 consists of a documentation management system used to identify, sort and retrieve all of the information relevant to the



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Fig. 1. Framework for hazardous waste cleanup liability allocation.

site, including input from the remedial investigation; a contributor responsibility determination model used to identify responsible parties, wastes and actions attributed to these parties, and to determine responsibility allocation factors by contributor; a site cleanup determination model used to identify type and quantity of wastes on site and to determine cleanup allocation factors by waste; and a special issue resolution model used to resolve issues which may affect liability allocation. Finally, the framework provides for the assurance that a fair and equitable cost allocation will result, that all aspects of the resolution action will be accomplished, and that proper oversight of the cleanup is achieved in order to control costs and assure that agreed upon cleanup standards are met.

DOCUMENTATION MANAGEMENT SYSTEM

The successful resolution of any dispute starts with a common factual data base. If you have the facts and properly manage them, you will successfully resolve the dispute. The factual data base should be subjected to a rigid documentation management system that provides a sound basis for organizing, controlling, summarizing and retrieving the relevant information required for successful liability resolution.

The documentation management system in Fig. 2 consists of the following steps:

1. Establish criteria for guiding the data documentation;
2. Identify, collect, copy and segregate all information, including that of the remedial investigation and feasibility study, consistent with established criteria;
3. Sort significant documents from nonsignificant;
4. Highlight relevant information in the significant documents;

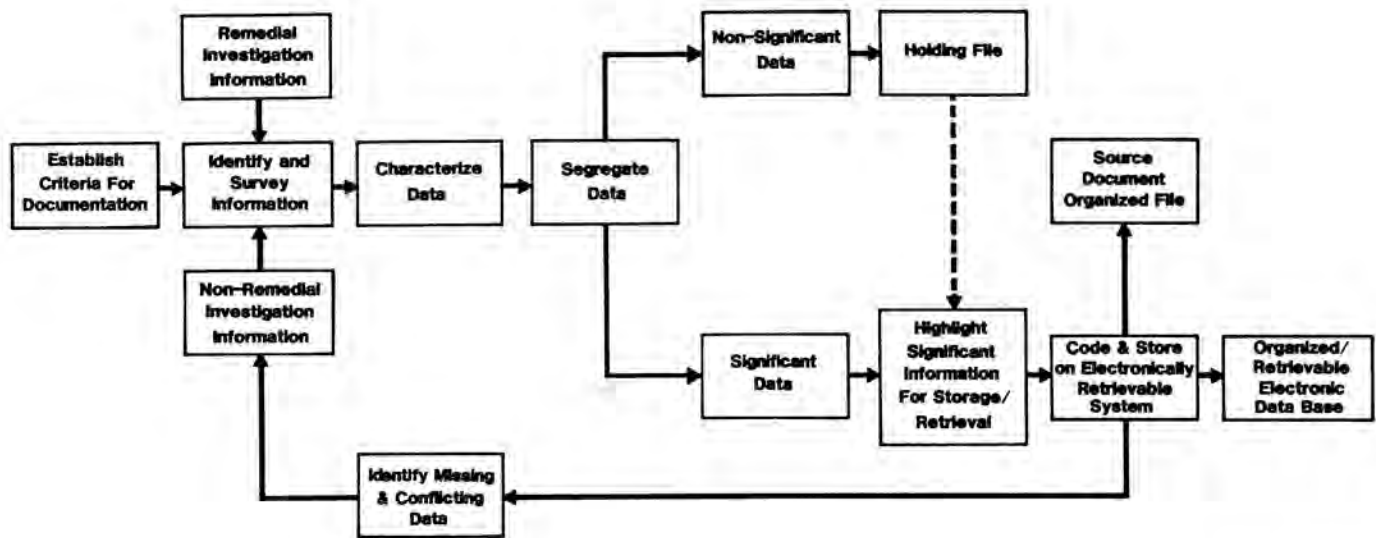
5. Place highlighted information on a computerized retrievable system in accordance with proper coding and indexing formats;
6. Identify missing and conflicting data.

Upon the completion of these steps, a computerized data base exists containing a summary of all available information relevant to the liability issue being addressed. This system provides for: easy identification of important information; identifying the potential responsible parties and contribution of each party; determining the effects of potential responsible party actions; evaluating special issues and the affect they may have on liability allocation; and factual information which will facilitate the negotiation of a fair and equitable liability allocation. Proper development and implementation of this document management system can assure a successful cleanup liability resolution.

CONTRIBUTOR RESPONSIBILITY DETERMINATION MODEL

The contributor responsibility determination model in Fig. 3 uses the documentation management system to analyze all relevant information in identifying responsible parties, wastes and actions attributed to each party and in determining responsibility allocation factors for each party. Case histories are developed for each responsible party which clearly identify the type and quantity of wastes that he deposited and for which he may be liable. The information used for each party's case history is kept separate to maintain the confidentiality of that party's information.

Next, contributor responsibility allocation factors, by waste component, are developed. This allocation is based on cleanup costs related to quantity, biological (toxic) factors and physical factors of the deposited wastes.



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Fig. 2. Documentation management system.

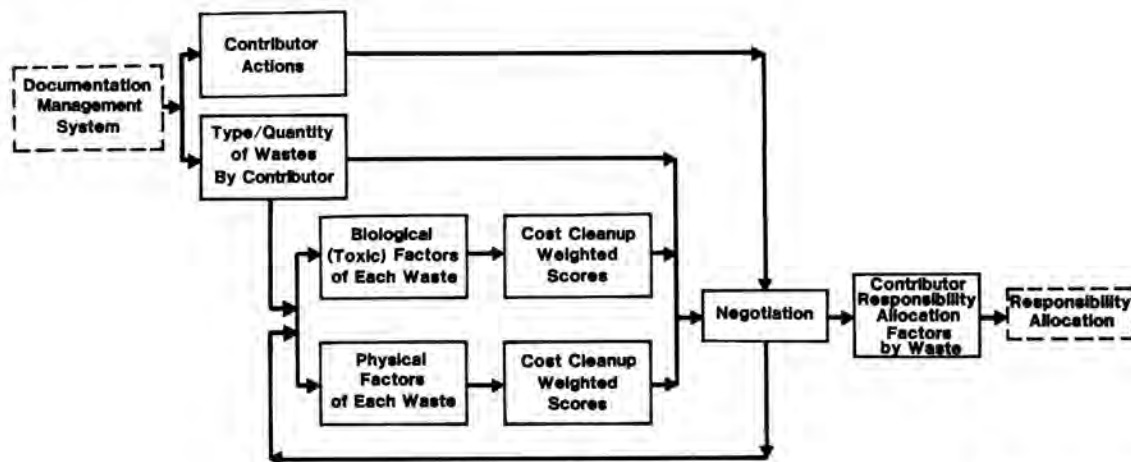
The process of assigning weighting scores for the biological and physical factors provides for the involvement of experts in the appropriate areas. Negotiations, based on the best available information, take place in establishing these scores. Once the quantities and scores for each of the biological and physical factors have been established, they are put into the model and weighted allocation factors for each responsible party are developed. These factors reflect agreement of the responsible parties to the quantity of waste they are responsible for and to the weighted scores for the biological and physical factors of their wastes.

The information developed from this model, along with information from the site cleanup model, the

estimated total cleanup costs, and effects of special issues on allocation, is used for final resolution of the site cleanup liability issue.

SITE CLEANUP DETERMINATION MODEL

This model shown in Fig. 4 focuses on actual site conditions using the information developed in the remedial investigation and feasibility study. The methodological approach is similar to that used in the contributor responsibility determination model. However, whereas the contributor determination model information is kept separate for each responsible party, in the site cleanup determination model all



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Fig. 3. Contributor responsibility determination model.

information on the total site problem is analyzed, but without identification to the contributor. The type and quantity of all wastes on the site are first determined. Next, as in the contributor model, the biological (toxic) factors and the physical factors of each waste in the site are identified. Weighted cost cleanup scores are then assigned to each of the biological and physical factors for each waste in the site. In cases where there is uncertainty or controversy about these scores, experts in the particular field, who are agreed upon by the responsible parties, will be asked a series of questions to establish the fairest score based on the best available knowledge. This exercise is referred to as a "Delphi Study." Once all scores are identified and agreed upon through appropriate negotiations, site cleanup allocation factors by waste are developed. These factors identify the portion of total cost that each waste contributes to site cleanup liability. This information is then combined with the contributor responsibility allocation factors, the total cleanup cost derived from the remedial investigation and feasibility study, and special issue effects, to determine final liability allocation for each party.

SPECIAL ISSUE RESOLUTION MODEL

Before final liability allocation can be achieved, the effects of any special issue on this allocation should be evaluated. The special issue resolution model is specific for the site and issue being analyzed. Special issues might be illegal dumping, insolvent PRPs, and municipal contribution to the waste. Each of these would be evaluated and weighted factors developed by the committee of PRPs would be used along with the information developed in the previously described models and estimated total cleanup costs to determine final liability allocation.

RESPONSIBILITY ALLOCATION

The process of allocating costs can now begin by using the best available data. Most of the data for identifying cost of site cleanup are obtained from the Remedial Investigation and Feasibility Study (RI/FS). This cost will pretty much relate to the remedial action required for each waste. To the extent possible, these costs are identified with each waste and action needed to be taken to provide the remedial action. In order to facilitate a more

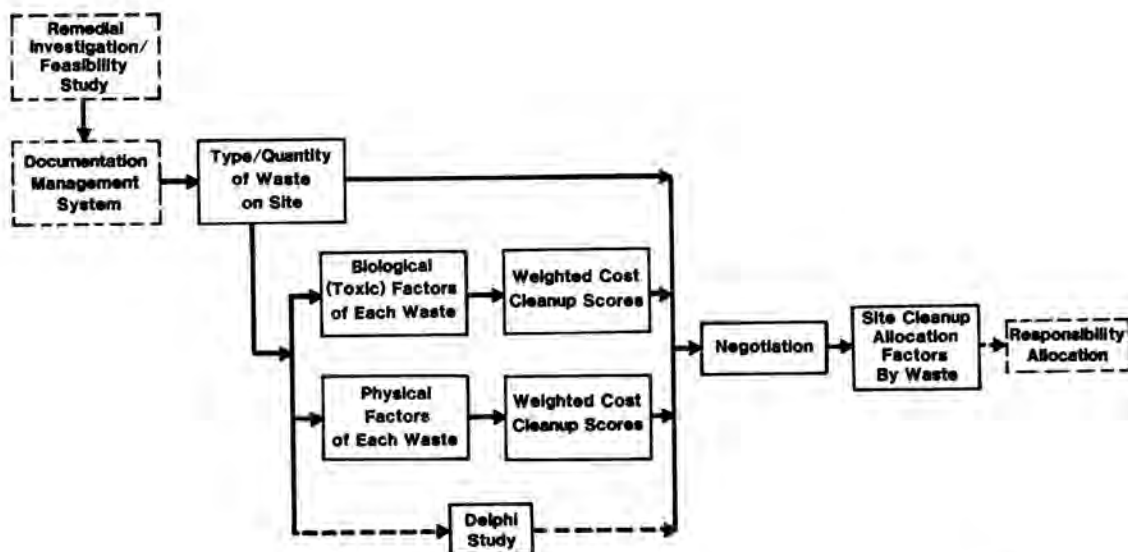


Fig. 4. Site cleanup determination model.

Ultimate effects of the deposited wastes, alternative corrective actions, and associated costs are normally developed in the remedial investigation and feasibility study done by the EPA contractors. Results of the site cleanup model can provide a check on the EPA remedial study. By taking the initiative and using a well structured process, the remedial study could be controlled by those paying the bill.

equitable allocation, these costs are classified into several categories, including: those attributed to wastes not identified with a PRP; common costs; waste specific costs; and ongoing maintenance and monitoring costs. Other cost categories that are site specific and can be identified should be used if they can contribute to a more equitable allocation of costs.

Using these categories, a first allocation can be made by using the weighted quantities of waste for each PRP identified in each cost category. For example, the cleanup cost identified with the specific wastes can be allocated according to each PRP's percent of volume contribution for each specific waste as appropriate. The ongoing maintenance and monitoring costs might be allocated according to the PRP's percent of total volume contribution. Finally, the costs attributed to those wastes that are not identified with any PRP could be negotiated in one of several ways, namely, allocate according to PRP percent of total volume, negotiate to have EPA pick up the costs, or other alternatives as might be appropriate to the specific site. All of the allocation approaches depend on a common factual data base.

Other allocation factors, that might allow for consideration of each waste's contribution to the site pollution or its contribution to the driving force causing contaminants to get into the groundwater, could be developed and used to facilitate a fair and equitable allocation of costs.

Once an initial allocation according to percent of volume is made, an analysis of cost exceptions or special issues that might affect an equitable allocation is conducted. This is commonly referred to as a "but-for" analysis. The costs can be allocated in accordance with volume "but-for" the exceptionally high cost attributed to the special treatment of a certain highly toxic waste. In this case, all PRPs associated with the highly toxic waste would be identified and an allocation of the waste treatment cost would be made among these PRPs in accordance with an agreed upon procedure. After this and other cost exception allocations are negotiated and agreed upon, another iteration of volume allocation is done. This results in an adjustment and finalization of total cleanup liability allocation among all PRPs.

RESOLUTION AND CLEANUP

A word of caution should be made here regarding the control of the final remedial action cost which can affect the amount of allocation arrived at through the previously described negotiation process. Once the resolution of the cost allocation has been reached and the appropriate agreements with EPA and/or the

state have been agreed upon, a PRP should not assume that everything is now under control. The committee of PRPs should consider having an overview contract manager act on behalf of the committee to assure that cleanup costs are kept under control and that the agreed upon cleanup criteria are met. If the cleanup activities are not carefully controlled, a PRP's cost allocation of 20 percent of a \$20 million dollar cleanup may become 20 percent of a \$30 or \$40 million cleanup. Also, the cleanup criteria may not be met thus causing additional work to be done later or the cleanup criteria may be exceeded thus causing excess expenditure of funds. In summary, a business approach needs to be combined with a technical and political approach to the site cleanup. The framework described here provides for this.

RESULTS AND BENEFITS

The application of this cleanup liability allocation framework will result in several major benefits to the companies involved, namely, improve a company's credibility and save time and money. These benefits will come from the following results derived from using this framework. They are:

1. Cohesive and focused management of the issues.
2. Efficiency of site committee meetings can be significantly improved.
3. An independent third party developing and managing the common factual data base can provide for an "even-handed" evaluation.
4. The approach can provide for efficient, fair and equitable settlements.
5. The number of PRPs to participate in the cost allocation can be maximized thus reducing the cost share of each party.

Finally, the parties involved in applying this framework have the opportunity to negotiate based on common relevant facts and to resolve the issues before they reach litigation. By taking the initiative and using this framework, PRPs can control their destiny regarding site cleanup liability rather than leaving this destiny to others.