

SUPERFUND OVERVIEW  
1986 - 1989

ENVIRONMENTAL TECHNICAL  
ASSISTANCE GROUP

THE UNIVERSITY OF TENNESSEE  
INSTITUTE FOR PUBLIC SERVICE

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MEMORANDUM

TO: Tennessee Municipal and County Officials

FROM: Environmental Technical Assistance Group 1986-1989

DATE: June 27, 1989

SUBJECT: Superfund Project, IPS/Environmental Technical Assistance Group (ETAG)  
1986-1989

Beginning July 1, 1986, the Tennessee Department of Health and Environment (TDHE), Division of Superfund, contracted with The University of Tennessee's Institute For Public Service, Municipal Technical Advisory Service, and County Technical Assistance Service, for University Technical Assistance in the implementation of specific aspects of the 1983 Tennessee Hazardous Waste Management Act (Tennessee Superfund Law). This package has been prepared to give the recipient an overview of ETAG project activities through the completion of the contract (June 30, 1989).

ETAG's projects consisted of generating and following an annual workplan; preparing a generic community relations plan (CRP); preparing pamphlets; an 11-minute color video program; and writing Superfund articles for *Tech Trends*, a monthly insert in *Tennessee Town and City*. A range of other special technical assistance projects were completed by various staff members assigned to the ETAG project. Staff members worked with local officials and with TDHE officials in Nashville; with regional offices in Jackson, Nashville, Chattanooga, and Knoxville; and smaller offices in Memphis and Johnson City.

Superfund sites can have a major impact on a city's finances and/or community image when city or county governments are partial or primary contributors of wastes that enter a promulgated site, or when a city or county government is otherwise described as a potential responsible party (PRP). Even when sites are owned by industries, it is in the interest of the local government to check the site status reports, keep citizens informed, and to assist in all practical ways to achieve effective site remediation. Early reporting or recognition of sites and prompt remediation, can minimize the potential spread of pollution.

After reviewing the available references enclosed, if a local government still has suggestions or need current information, the TDHE regional offices can provide interested officials with a copy of the current promulgated list and/or possibly a copy of the Master Suspect site list, by county. In addition, the Superfund TDHE officials can give status information, coordinate public meetings, answer specific questions, and provide assistance to local government. We would encourage local governments to ask for status reports, public meetings, and to be proactive regarding site identification, evaluation, and remediation.

Environmental Technical Assistance Group Consultants:

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# Tech Trends

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*Reprinted from Volume I, No. 5, December 22, 1986, page 1*

## SUPERFUND: NEW KID ON THE BLOCK

by Randy Williams

For the past couple of years, a new word has appeared frequently in the news media and in the vocabulary of many persons interested in the quality of the environment. The word is SUPERFUND.

The Comprehensive Environmental Response Compensation and Liability Act (CERCLA) of 1980, better known as the Federal Superfund Law, authorized the federal government to respond directly to releases or threatened releases of hazardous substances, pollutants or contaminants that may endanger the public health, welfare, or the environment. Recently, the Federal Superfund Law appropriation jumped from the initial 1980 appropriation level of \$1.6 billion, to a new funding authorization in 1986 of \$8.5 billion over the next five years. The fund is financed by the taxes on the manufacture or import of certain chemical and petroleum products, interest and cost recovery from responsible parties, and the balance from the general federal revenues.

There are more than 800 sites listed on the Federal Superfund List. Six of the listed sites are located in Tennessee.

The Tennessee Hazardous Waste Management Act of 1983, referred to as the Tennessee Superfund Law, went into effect in July 1983. The major purpose of the law is to facilitate identification, investigation, containment and cleanup including monitoring and maintenance of inactive hazardous substance sites in Tennessee, through the creation of the state superfund list. Most of the sites on the Tennessee Superfund List have not been determined to rate enough significant potential harm to the public or the environment to be listed on the Federal Superfund List. The Tennessee Superfund Law is funded through the Tennessee hazardous waste remedial action fund. Presently, the fund has a \$5 million balance. The fund is financed through fees levied on hazardous waste generators and transporters and matched by allocations from the state general fund. The level of funding is designated to maintain an unobligated balance of \$3 million to \$5 million.

An important part of both the state and federal superfund program efforts is to encourage voluntary cleanups by private industries and/or individuals when they are responsible for creating the hazardous release or potential release. The state and federal superfunds are reimbursable. The state and federal government can take legal action to recover its costs, including costs for investigations, containment, cleanup, monitoring and maintenance, from those identified as being responsible for creating the problem. Anyone liable for a release who fails to take ordered action, may be liable for punitive damages equal to three times the government's response costs.

The Tennessee Superfund Law is being administered by the Tennessee Department of Health and Environment, Division of Superfund, headed by Director James Ault and Assistant Director Don Shackelford. The Division of Superfund is composed of approximately 28 staff members including five geologists, six environmental engineers, five chemists and one toxicologist. The division has field offices located in Jackson, Chattanooga and Knoxville as well as Nashville.

The University of Tennessee Environmental Technical Assistance group in cooperation with the Tennessee Department of Health and Environment, Division of Superfund, will be conducting Superfund workshops in late January or early February. The workshops will be held in Jackson, Nashville and Knoxville. The workshops will include an overview of the State and Federal Superfund Laws, Superfund site remediation process, state Superfund list priority ranking system and other information. Local officials who suspect potential Superfund sites or inactive hazardous dump sites in your communities are urged to attend these workshops for a better understanding of the Superfund process.

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Reprinted from Volume II, No. 2, April 13, 1987, page 2

## WHAT'S SO SUPER ABOUT SUPERFUND?

by James D. Harless

I was talking to a local government official about Superfund during a break at the Superfund Workshop in Jackson in February. He asked if the state or federal Superfund is a grant to local government or private industry to clean up toxic waste sites. I said no. Then he asked if it is a fund for the state or federal government to come into the community and to pay the costs and to clean up any existing toxic waste sites. I said no, not exactly. Then he asked, "What's so super about Superfund?"

Now that's a fair question, and one that deserves an answer. I will use primarily the Tennessee State Superfund program as my example to take this look at Superfund.

The intent of the 1983 law is to provide responsible management for identification, investigation, containment, and clean-up to include monitoring and maintenance for inactive hazardous waste sites in Tennessee. The money in the fund called the *Hazardous Waste Remedial Action Fund*, comes from service fees on hazardous waste generators and transporters matched by state funding, at about \$3 to \$5 million. If that seems like a "super" amount of money, the federal fund is about \$8.5 billion to be used toward appropriate remedial actions. As you may have guessed by now, the individual site action phases can be very expensive.

Although the state can expend money in some direct ways, and by contract for the accomplishment of the necessary phases of the clean-up of a site that requires remedial action, the major objective is to require responsible party clean-up of the site. When money is used to perform higher or lower priority remedial activity, the state Superfund field staff, in addition to the administrative and legal staff, will seek to recover the costs and additional punitive damages and/or applicable civil and criminal penalties from all responsible parties.

The Superfund program has been in operation about three years, with several sites in status categories of preliminary assessment, site inspection, and further investigation, and other sites in the state of remedial action completed, cost recovery pending, and on-going monitoring and maintenance. The site discovery program uses citizen complaints, industrial leads, other state programs, surveys, a toll-free Superfund Hotline (1-800-251-3479) and other methods to locate possible problem sites. There are presently hundreds of state and federal Superfund sites.

Both the State of Tennessee and the Environmental Protection Agency use a "hazard risk evaluation" approach to determine which sites can be justified for placement on federal or state lists, and in what priority. EPA takes the lead on decisions, follow-up and/or enforcement for federal Superfund sites, while the State of Tennessee Superfund staff will take the lead role for other Tennessee sites.

Well, what *is* so super about Superfund, other than the fact that a good deal of funds are required in order to accomplish the objectives? For one thing, the federal and state legislatures appear to have done a good job to provide the regulators and service providers with a serious legal mechanism to work toward solving and preventing many potential environmental problems involving mishandled toxic wastes.

The State of Tennessee Department of Health and Environment Superfund staff members have made much progress in the three years since the passage of the Tennessee Hazardous Waste Management Act. They have also initiated inter-governmental agreements with The University of Tennessee's Institute for Public Service, MTAS/CTAS units with the utilization of a statewide three-man team known as the Environmental Technical Assistance Group, under Project Director Randy Williams. The state actually interfaces and draws assistance from other University IPS resources and other professional resources.

Take a moment and consider the size of the problems and the current combined and cooperative improvement efforts being made on behalf of the public--is that super or not?

The challenge to all of us is to provide a substantial local governmental endeavor to manage compliance with new regulations and accomplish these goals in the best and most effective manner.

Individuals who are interested in the Superfund program and would like a copy of the Environmental Technical Assistance Group (ETAG) manual, should contact Jim Harless in Knoxville (615) 974-5301; Randy Williams in Nashville (615) 256-8141; or Dick Phebus in Martin (901) 587-7055.

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*Reprinted from Volume II, No. 3, June 8, 1987, page 3*

## FOCUS ON SUPERFUND PRIORITIES

by James D. Harless

In early 1987, The University of Tennessee's Institute for Public Service (IPS) and the Center for Government Training, assisted by several staff members of the Tennessee Department of Health and Environment, coordinated Tennessee Superfund workshops in Jackson and Nashville. The workshops, attended by several interested local officials, were to identify needs and priorities within the state, as well as to inform officials as to the direction of the program.

Randy Williams, Environmental Technical Assistance Group Project Director, and chairman of the Superfund workshops, presented some key issues to local government officials about Superfund sites, phases, and impacts. The Superfund site lists indicate that (excluding federal sites) there are 94 facilities in Tennessee, with others still being added. Of these, 43 percent are in East Tennessee; 32 percent in Middle Tennessee; and 25 percent in West Tennessee. Fifty-four percent are in cities and 46 percent are in non-municipal county sites. Cities own 16 percent and counties own about six percent of the present sites.

The workshops informed officials that there may be Superfund sites not yet identified. It is to the advantage of governmental units to keep records on landfills or other disposal sites, and what commercial or industrial waste was or is being accepted or excluded. Records will be increasingly important with the next emphasis on quality waste disposal and protection of groundwater as well as other assets.

Public education is needed early so that if and when a project reaches a phase that is given media attention, local officials and community citizens are prepared and adequately informed about site status, health and safety issues, or long-term land use options for the site or land adjacent to the site. The new Environmental Technical Assistance Group program and the existing Wastewater Technical Assistance Program, both now headed by Andy Jordan, are programs in which The University of Tennessee's Municipal Technical Advisory Service/County Technical Assistance Service work to educate and communicate to city officials and state public health regulations.

We are all consumers of products and services provided by manufacturers and service companies. In this way, our demand for services is the reason some hazardous by-products and waste products are increasing. Thus, we are all responsible for hazardous and nonhazardous waste generation, due to our consumption of goods and services. This obvious fact, however, has not kept many citizen groups and individuals from opposing area landfills based on their concerns, real or exaggerated, about the disposal site impact on the community.

Many segments of the public still need training and information to understand that the applicable regulations will result in a safe disposal operation. Efforts must be increased to minimize waste volume, recycle wastes, and work toward improved waste handling techniques if we are to maintain a healthy environment.

For further information on Superfund, please contact Jim Harless, Knoxville (615) 974-5301; Dick Phebus, Martin (901) 587-7055; or Andy Jordan, Nashville (615) 256-8141.

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## SOMETIMES FREE COSTS TOO MUCH

by James D. Harless

How often do local governments find themselves in situations where they are being offered "free land" from individuals or companies? Many times cities accept these offers gratefully, yet find they have received a costly "gift." Should a hazardous waste site be discovered on the property, it is the local government, not the previous owner, who is responsible for the cleanup costs. Once the local government becomes the owner of property, either by gift or otherwise, it assumes the role of "responsible party," and thus becomes liable for costs associated with present or future cleanup. These costs can run into the millions in some cases. To further complicate matters, the federal and state governments do not care whether the current owner 1) created the waste site, 2) consented to the waste being dumped there, or 3) even knew about the site.

The practice of using the city attorney to do a title and land use search, having city officials look at adjacent property condition and use, and any other action that might be done if the city were buying the land, is strongly encouraged.

Should a city find itself in a position of owning a site which has been found to contain hazardous waste, MTAS's Environmental Technical Assistance Group consultants suggest the following actions:

1. Work to remedy the situation should be begun as soon as possible.
2. If at all possible, plan to have local staff perform cleanup work instead of contracting Superfund staff to reduce costs and possible penalties.

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*Reprinted from Volume II, No. 5, October 26, 1987, page 4*

## STATE TO STUDY CLOSED WAYNE COUNTY LANDFILL, DECIDE ON CONTAMINATION

by Richard D. Phebus

The Wayne County Landfill, which was opened in 1976, and operated by the county for nine years until it was closed in 1986, is presently a source of allegations of contamination of groundwater. Local residents have complained about contamination of the groundwater downstream from the landfill, which they use as their sole source of drinking water. The State Division of Solid Waste and the State Division of Superfund have been called into the conflict because both divisions have some jurisdiction in the matter. A landfill by itself would not trigger action by the Division of Superfund; however, if hazardous waste is found in the abandoned site, the state can move in, due to the environmental threat. In order to determine if the landfill is in fact the cause of the contamination, the state has joined together with the U. S. Geological Survey to study the flow of water both above ground and underground. Leachate from the landfill will also be studied to determine its chemical qualities.

The study will take approximately 18 months to complete, with status reports due at various intervals. If the study shows that the drinking water and groundwater system is being contaminated by the landfill, Wayne County would become a responsible party in the clean-up of the groundwater. This process could take years and cost millions of dollars. During its operation, the landfill accepted both domestic and industrial wastes; however, the exact contents of the landfill are unknown. Preliminary sampling suggests that polychlorinated biphenyls (PCBs) and other priority pollutants are present. Because the landfill is located on a ridgetop, there exists a possibility that contaminants might migrate down to local water supplies in existing wells.

Local government officials in Wayne County are now awaiting word from the State of Tennessee over the closure of its locally operated landfill. The outcome will determine how two state departments view their policies and regulations toward siting, operation, and closure of landfills in Tennessee. At present there are over 300 landfills in operation, with many of them owned and operated by local government. Many will be anxiously awaiting the outcome of the study concerning Wayne County, as it may affect them in the near future.

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*Reprinted from Volume III, No. 3, March 28, 1988, page 1*

## MAKING SOLID WASTE MANAGEMENT DECISIONS

by James D. Harless

Whether you use a flow diagram (see insert, as attached), or customize an evaluation approach, Solid Waste Management Decisions are clearly complex decisions with major impacts on community environmental quality, service delivery, health/safety, and related issues. All of the system components that are evaluated are looked upon with substantial public interest. The public interest is usually an earnest interest in environmental quality, health/safety, natural resource protection, property value impact in general, service quality, costs to consumers, and often leads to the NIMBY acronym for "not in my back yard."

The local government that holds the leadership role for decisions for the community solid waste management plan has a very substantial responsibility, and often a difficult task. There is the temptation to leave past systems in place, if they seem to be presently working without complaint. However, a substantial lead time is required to open a disposal site and to alter service delivery options. There is also the reality that many Tennessee landfills are almost full, and many collection and transport systems may soon need updating or altering. A range of recycling/waste reduction, and disposal options are worthy of consideration.

As city and county officials work toward making decisions regarding solid waste management, a number of sources of information are available. Some examples are as follows:

1. The University of Tennessee's Institute for Public Service
  - a. Municipal Technical Advisory Service
  - b. County Technical Assistance Service
  - c. Environmental Technical Assistance Group
  - d. Center for Industrial Service
2. Tennessee Valley Authority's Waste Management Institute
3. Private Engineering Consulting Firms
4. Tennessee Department of Health and Environment, Regional Divisions of Solid Waste Management
5. Solid Waste Industry/Service Provider
6. Governmental Refuse Collection/Disposal Association
7. National Solid Waste Management Association.

University based public service programs cannot substitute for the energetic local vision to look beyond the present and gather the information needed to evaluate, decide, and implement. However, we do attempt to provide some decision making models to consider, to provide information on some specific components, and to consult with local officials to help promote timely and thoughtful solid waste management decisions. We also attempt to monitor successful and unsuccessful solid waste systems and programs, and to be able to share some of that information.

In conclusion, we attempt to provide some information and/or examples or organizational/institutional approaches, collection systems, transfer station operation, processing, disposal option examples, special waste considerations, landfill planning recycling/waste reduction, and hazardous waste information regarding superfund sites and related issues.

If you have interest in one or more of these topics, the following list of contacts may be able to assist or provide other resource contacts:

MTAS Engineering and Public Works Consultants:

Elwyn Bembry, Knoxville, 615/974-5301

A. C. Lock, Jackson, 901/423-3710

MTAS/CTAS/ETAG

Environmental Consultants

Environmental Technical Assistance Group

Jim Harless, Knoxville, 615/974-5301

Lauren Heffleman, Nashville, 615/256-8141

Dick Phebus, Martin, 901/587-7055

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*Reprinted from Volume III, No. 4, April 28, 1988, page 1*

## SITE REMEDIATION PROTECTS WATER

by James D. Harless

Clean Water Week will be observed May 2-6. As we look forward to and prepare for that occasion, it is timely that the subject of surface and groundwater pollution be considered.

The state and federal superfund programs represent substantial efforts to improve water quality in Tennessee. The Environmental Protection Agency (EPA), and the State of Tennessee are working to correct hazardous waste sites. Currently, EPA has the lead role on eight sites, and the State on 268.

The first step in the remediation(correction) process is a determination of the facts of the situation. This study is followed by the distribution of fact sheets, and the development of a Community Relations Plan, which recognizes site circumstances and the level of community interest. The 1986 Superfund amendments place an increased emphasis on citizen participation. State law also establishes public meetings and a Community Relations Plan as important priorities.

It is expected that public meetings will be held for many of the sites under study. It is not necessary to wait for a public meeting to get information, however. MTAS/CTAS environmental consultants will provide information and assistance right now. If there are questions or an interest in receiving a status report on the efforts to correct a specific site, the information can be obtained. Contact Jim Harless in East Tennessee (615) 974-5301, Lauren Heffelman in Middle Tennessee (615) 256-8141, or Dick Phebus in West Tennessee (901) 587-7055.

The purpose of the Superfund program is to support the protection and enhancement of water resources. It is important that local public officials become involved in this effort. Clean Water Week reminds us of that. It is a good time to get with it.

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*Reprinted from Volume III, No. 7, July 25, 1988, page 2*

## **SUPERFUND SETTLEMENT PROCESS FOR MUNICIPALITIES: WORK AND DISCUSSION GROUPS FORMED**

by Lauren Heffelman

This is the first in a series of articles on the Superfund Settlement Process concerning municipal liability for hazardous waste sites.

The Environmental Protection Agency (EPA) is currently developing a municipal settlement policy that will provide guidance to the EPA Regions on the participation of municipalities in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or "Superfund") settlement process. One key issue is whether municipalities that are involved with a Superfund site should be treated like other parties involved with a Superfund site (such as industries) in the settlement process, since the cities are units of government. The policy will probably address such issues as: whether the municipalities should be notified, whether cities should be brought into the settlement process, and whether existing settlement tools are adequate or appropriate for reaching settlements with cities.

EPA has formed the **Municipal Settlement Work Group** to develop this policy. This Work Group consists of the EPA and other federal agencies, such as the Department of Justice. The Work Group anticipates that their policy will be in the *Federal Register* in October 1988. Public comments can be made after the release of this draft policy.

To enhance the information exchange with the Work Group, the EPA has formed a **Municipal Settlement Discussion Group (MSDG)**. The discussion group is made up of private firms, trade associations, and local government associations.

You can provide input to the Discussion Group by contacting either of the following:

- Carol Kocheisen  
National League of Cities  
Phone: (202) 626-3020
- Gerard Lavery Lederer  
U. S. Conference of Mayors  
Phone: (202) 293-7330

Next month's article will focus on how one municipality is handling the Superfund settlement process. If you have any questions concerning these issues, feel free to contact Lauren Heffelman at The University of Tennessee, Municipal Technical Advisory Service, Suite 402, 226 Capitol Boulevard Building, Nashville, Tennessee 37219; phone (615) 256-8141.

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*Reprinted from Volume III, No. 8, August 22, 1988, page 3*

## LEWISBURG: A CITY'S PERSPECTIVE ON SUPERFUND LIABILITY

by Lauren Heffelman

Lewisburg's city manager, Eddie Derryberry, is well acquainted with the issue of municipal liability of Superfund sites. In 1986 the EPA notified the City of Lewisburg along with several industries, that they were potentially responsible parties (PRPs) for the Lewisburg Dump, a site which was on the federal list of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or "Superfund") sites, the National Priority List (NPL). EPA stated that a remedial investigation and feasibility study of the site was required. The investigation was to include: taking soil samples; installing groundwater monitoring wells; taking groundwater samples; and other expensive undertakings. The feasibility study was to propose options for cleanup based on the investigation. EPA gave the PRPs the option of performing the work themselves or letting EPA perform the work - with EPA recouping their cost from the responsible parties.

A team composed of the city, MTAS's Environmental Technical Assistance Group, and private industry environmental consultants, took an innovative approach in addressing this challenge. First, the team determined it would be less expensive to take responsibility for the work itself because it could have more cost control than the government. Second, it determined which industries had historically used the landfill. Next, it convinced these industries that they too were responsible parties. Finally, the city and the industries formed a committee called the Lewisburg Environmental Response Committee. Together, the committee developed an organizational strategy, obtained site investigation and feasibility study proposals from environmental engineering consulting firms, and contracted with a firm to do the investigation and study.

Although the Lewisburg Environmental Response Committee appears to have settled with the EPA on the costly tasks of performing the site investigation and feasibility study, the question still remains of who will pay for cleanup. Cleanup is usually the costliest stage in the Superfund process. EPA estimates the average cleanup to cost \$25 million.

Decisions made by the Municipal Settlement Work Group (the group that is formulating policy on municipal settlement issues) could have an effect on who pays for cleanup at the Lewisburg site.

Future articles will discuss EPA's present policy on municipal liability and settlements for Superfund sites, and possible solutions to these issues.

If you have any questions concerning these issues, feel free to contact Lauren Heffelman at The University of Tennessee, Municipal Technical Advisory Service, Suite 402, 226 Capitol Boulevard Building, Nashville, Tennessee 37219; phone (615) 256-8141.

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## PRESENT MUNICIPAL LIABILITY FOR SUPERFUND SITES PART III - SUPERFUND LIABILITY SERIES

by Lauren Heffelman

This article is the third in a series of articles concerning municipal settlement issues for hazardous waste sites listed by the U. S. Environmental Protection Agency (EPA) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or "Superfund").

At the present time the EPA's policy allows EPA to deem a municipality as a potentially responsible party (PRP). Under Superfund Law a responsible party is any entity which has been or is involved in the transportation, generation, or disposition of hazardous substances onto a hazardous substance site; or has owned or operated a hazardous substance site. The EPA can hold a responsible party of a Superfund site strictly liable for cleanup and damages of the site. Two or more responsible parties can be held jointly or severally liable for the cost of cleanup.

In layman's terms...

1. Strict liability - A party is liable if anything goes wrong. A party is liable for damages he causes even if he was not negligent in causing them. (This is usually used in cases of companies which are involved with inherently dangerous work).
2. Joint liability - A party is liable in conjunction with other liable parties and is responsible for part of the cost.
3. Several liability - Each party is liable for the total cost, even if several parties are involved.

As you can see, present law gives EPA a lot of leverage that can be used against municipalities. This includes municipalities that can not afford the EPA estimated average \$25 million cleanup bill.

EPA gets the cleanup job accomplished and paid for in one of two ways. (1) EPA can initially do the cleanup work themselves and recoup the cost of cleanup from the responsible parties, or; (2) EPA can sue the responsible parties to force them to do the cleanup.

Some tools for settlement are available which minimize responsible parties' share of the cleanup cost. These include...

1. De Minimis Settlements - used when a responsible party has contributed only a small percentage of the total volume and toxicity of hazardous substances at the site. EPA would let this party settle out at a specified amount and would release the party from any further liability.
2. Non-binding Allocations of Responsibility (NBAR) - used when responsible parties have disagreements over their respective shares and indicate to EPA that an NBAR would be helpful. EPA then decides the percentage of the total cost for which each party is responsible.
3. Mixed Funding - used when settling responsible parties offer to pay for or to do a substantial portion of the cleanup work and the EPA has a strong case against the responsible parties who refuse to settle. EPA will perform or pay for a portion of the cleanup, the settling responsible parties will do the same, and EPA will try to recoup its costs with non-settling parties. (Variations of this process are included in mixed funding).

The municipal settlement discussion group is discussing the pros and cons of using each of these settlement tools when settlement involves municipalities.

To obtain more information concerning this issue and/or concerning the Municipal Settlement Discussion Group, feel free to contact Lauren Heffelman at The University of Tennessee, Municipal Technical Advisory Service, Suite 402, 226 Capitol Boulevard Building, Nashville, Tennessee 37219; phone (615)256-8141.

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## SETTLEMENT ISSUES AND CONCERNS PART IV - SUPERFUND LIABILITY SERIES

by Lauren Heffelman

This article is the fourth in a series of articles concerning municipal settlement issues for inactive, abandoned hazardous substance sites listed by the U. S. Environmental Protection Agency (EPA) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or SUPERFUND).

Some settlement issues and concerns include:

1. Should municipalities that are owners or operators of facilities that are SUPERFUND sites be notified as potentially responsible parties (PRP) for that site?
2. Should municipalities that are generators or transporters of municipal waste that contain hazardous substances disposed of at a SUPERFUND site, be notified as PRPs and brought into the settlement process?
3. Does being notified as a PRP imply liability?
4. Should some distinction be made between municipalities that operate municipal solid waste facilities as part of their public service responsibilities and municipalities that operate municipal solid waste facilities for profit?
5. What tools are available for reaching settlements with municipal PRPs?
6. Should municipal PRPs settle separately or as part of a PRP group?
7. What options are available for dealing with municipal PRPs facing financial constraints?
8. How can local government play the role of enforcer to an industry, when local government could be implicated as well?
9. How can local government play the role of protector of natural resources when local government could also be a responsible party?
10. There are more constraints placed on cities than industries in raising revenues for cleanups due to limitations for local taxing and deficit spending. What can cities do to fund cleanups?
11. How will cities' limited resources effect their ability to pay for other environmental public works projects?

12. How will listing cities as PRPs affect the "Not In My BackYard" syndrome? How much more difficult will it be to site municipal landfills if cities are listed as PRPs? How will public perception be affected?
13. Hazardous wastes legally get into the municipal waste stream now. The law which regulates disposal of hazardous wastes, the Resource Conservation and Recovery Act (RCRA), does not define household waste as hazardous waste. RCRA also does not prohibit certain small quantities of industrial hazardous waste from being disposed of in a municipal landfill. If municipalities are listed as PRPs for municipal landfill SUPERFUND sites, municipalities could be liable under the CERCLA for wastes that are exempt from regulation under the RCRA. (Even though it is legal under RCRA for small quantities of industrial hazardous waste to be disposed of in municipal landfills, Tennessee's policy is to prohibit disposal of any industrial hazardous waste in municipal landfills. There are industries in Tennessee not aware of this state policy and continue to dispose of their small quantities of hazardous waste -- until the Tennessee policy is brought to their attention).
14. Would a policy designating cities as responsible parties necessitate a new classification of household waste as hazardous waste? Would this cause some municipal landfills to be regulated under RCRA Subtitle C hazardous waste regulation as opposed to being regulated as they now are under RCRA Subtitle D solid waste regulation?
15. If municipalities are not listed as PRPs for municipal landfill SUPERFUND sites, it could foster poor management of municipal landfills (because of decreased incentive to properly manage landfills).
16. If the Municipal Settlement Work Group creates a policy that will allow municipalities not to be listed as responsible parties, could private industry still sue cities for contribution? Would this, in effect, increase cities' costs compared to costs which would be incurred if EPA listed them as responsible parties?

Answers to the questions listed above and discussion of the issues raised will be addressed in future editions of *Tech Trends*. Contact your MTAS-ETAG consultant for additional information or specific concerns.

*For Tech Trends Reprints*

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# Tech Trends

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*Reprinted from Volume III, No. 10, October 24, 1988, page 2*

## **SUPERFUND PUBLIC MEETINGS - EVER WONDERED WHAT THEY ARE LIKE?**

by James D. Harless

On August 31, 1988 a public meeting was conducted in Monroe County, Tennessee for interested citizens. The topic of this meeting was a listed Tennessee SUPERFUND site, its status, and the intended remedial action plan. It was similar to some of the other SUPERFUND site meetings that have been conducted, and is illustrative of future meetings Tennessee cities and counties might conduct.

Held in space provided by the nearby Town of Tellico Plains, the meeting was attended by about 40 people, with presentations and questions lasting almost two hours. City and county meeting facilities are most frequently used for these community service public meetings.

Presentations were made by MTAS/ETAG staff, the responsible parties, the participating Industry Engineering and Environmental Council staff members, and the Council's consulting firm. Ken Church, Coordinator for the Knoxville Regional SUPERFUND Office, provided handouts and an overview of the SUPERFUND process. Steve Foster, TDHE Engineer, provided site specific background information for the location presented, and the consulting engineers presented the Remedial Investigation and Feasibility Study (RI/FS) to the audience.

At the conclusion of the various presentations, questions were received from the audience and minutes were recorded by TDHE. A record of decision (ROD) will be the next step for this specific site, likely to be completed as soon as all citizen comments and information have been reviewed and considered. A few citizen reports or requests were accepted for added field investigation by TDHE/SF regarding sites, considerations, or locations adjacent to the identified site.

Overall the meeting seemed to be a positive step in the overall site remediation process. The State SUPERFUND program is working to continue to strengthen community relations activities as an expanded portion of the entire overall site remediation process. This is due to: the new emphasis indicated by the 1986 Superfund Amendments and Reauthorization Act (SARA); this a way for the state to benefit from local citizens' knowledge; and to provide current information to area officials and citizens. For many simple sites the community relations activities might be informal contacts, small group meetings, or one-on-one questions and answers. For more complex sites the Community Relations Plan (CRP) might involve more meetings, larger groups, news releases, or public meetings. All of the effort to involve the community and to get input is intended to help all interested parties -- permitting the remediation process to remain ongoing.

Local Officials with questions concerning the status of local SUPERFUND sites in Tennessee may contact MTAS/ETAG staff. Officials or citizens who wish to report what might be a "suspect site" location of an abandoned hazardous waste disposal site to the state Division of SUPERFUND officials, may telephone toll free to 1-800-251-3479.

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*Reprinted from Volume III, No. 11, November 29, 1988, page 3*

## ENVIRONMENTAL TECHNICAL GROUP ATTENDS SUPERFUND WORKSHOP

by James D. Harless

The Tennessee Division of Superfund held a workshop at Paris Landing State Park in early September. Andy Jordan, Lauren Heffelman, and Jim Harless of The University of Tennessee's Environmental Technical Assistance Group attended the workshop.

Wayne K. Scharber, acting assistant commissioner for the environment, gave introductory remarks and program information. Topics at the workshop included Superfund laws, underground storage tank legislation, legal case development, new technology, mechanisms to define potential health effects from waste sites, outside training, and integrated environmental protection.

Terry Cothran, Tennessee Division of Superfund director, introduced a panel, which presented its expectations for the Tennessee Superfund Program to the Superfund staff and the environmental assistance group. Ralf Mosley, a consultant to industrial clients, said the Superfund staff will face at least three responsible parties.

The first is the responsible party that knows what is expected of it and is concerned about public opinion. Generally this group takes the lead and cooperates as it proceeds. Several larger companies or public agencies fall in this grouping.

A second responsible party is the group that does not know how Superfund works or what a site definition means. Education is important for this party. This group's project may require more direction and assistance, even some legal definition of options. The recalcitrant responsible party is slow to cooperate or may not come to the door at all. It often talks through lawyers or will take the matter to court.

Recognizing that all potentially responsible parties are not the same helps the state plan and maximize voluntary assistance before eventual necessary enforcement. Communication among technicians, engineers, and middle managers is important to a Superfund site remediation. Site discussions sometimes move away from the technicians to top administrators and lawyers. Site agreements, remediation decisions, and field actions may be slowed unnecessarily.

The remediation process is time consuming, but clear communication and cooperation among the parties can keep progress ongoing. Mosely encouraged state lead on all possible sites because federal lead probably would increase costs. He feels Tennessee industry prefers state to federal regulation because of easier communication with state officials.

Dave Goetz, Tennessee Association of Business, agreed with most of Mosley's information. He emphasized that cooperation is necessary and that the marriage between individual and public interests should be maintained for mutual advantage. Goetz described the Tennessee Association of Business as a state Chamber of Commerce. The association has 1,100 members with about 60 percent in manufacturing. He said larger companies often take the lead on environmental positions and programs.

John Sherman, executive director of the Tennessee Environmental Council, expressed his expectations for the remedial work's completion and the process' privatization as needed for training, funding, and maintaining tools. Sherman said his group emphasizes protecting health and the environment and not project costs.

Sherman encouraged staff members to be aggressive, to look for new, permanent solutions, and to have clear decision trails.

Ruth Neff discussed the Region IV Hazardous Waste Roundtable, which is made up of several Tennessee members reviewing options for waste disposal needs in Tennessee.

Tennessee exports hazardous wastes to more than 20 states, but most of it goes to Alabama and South Carolina. However, generation figures show Tennessee to not be the high volume generator as previously estimated because Tennessee's wastewater streams were removed as part of the hazardous waste generated in the state.

Cothran expressed his own expectations of Superfund staff members. He challenged regional teams to accomplish more final cleanups, keep industry informed, decrease distinction between NPL and non-NPL sites, and place new emphasis on project planning, goals, and objectives.

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# Tech Trends

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*Reprinted from Volume IV, No. 2, February 27, 1989, page 2*

## WHAT IS SUPERFUND?

by James D. Harless and Lauren Heffelman

The federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) - commonly known as Superfund - was passed into law in December 1980. This law was passed to establish a program which would identify sites which have a potential for a release of hazardous substances into the environment; to ensure cleanup of these sites, either by the responsible parties or the government; and to create a reimbursable procedure for expended cleanup costs.

The Tennessee General Assembly passed the Tennessee Hazardous Waste Management Act of 1983 (informally referred to as Tennessee Superfund Law) as the state counterpart to Federal legislation. The state program is funded by fees assessed on generators and transporters of hazardous wastes. The fund is required by law to maintain a minimum balance of \$3 million and maximum cap of \$5 million. The fund is used to clean up inactive hazardous substance sites in Tennessee which do not qualify for federal funds.

### Identifying Potential Superfund Sites

Sites are discovered in many ways including personal reports, aerial photography, industrial notification, crossover information from other regulatory programs, and anonymous phone calls. All sites which have a potential for harm to human health and the environment, are listed on Tennessee's master list of potential Superfund sites. The public is encouraged to notify the Division of Superfund of suspected sites by calling the toll-free number 1-800-251-3479. Over 800 sites are currently included on Tennessee's master list.

### Stages Of The Superfund Process

The first stage of the Superfund process is the Preliminary Assessment/ Site Investigation during which existing data and information about the site is gathered and reviewed to determine the existence of any problems. This information may include geology of the site, any known hazardous substances used or disposed of during industrial processes, location of public water supply intakes and local drinking water wells, general groundwater usage in the area, and any known responsible parties. Site Investigation takes the Preliminary Assessment one step further by trying to expand the information/data base. The Site Investigation is a field visit which may include limited sampling.

Both the state and federal Superfund programs apply a mathematical model in site evaluation called the hazard ranking system. This mathematical model uses data and information gathered during the Preliminary Assessment/Site Investigation to numerically rank a site indicating the potential for harm to health and the environment. If the site ranks high enough, following public comment, it is included

on the National Priority List (NPL). If the ranking is not high enough for the NPL, a site may be placed on the state's promulgated eligibility list for state Superfund expenditures.

The next step in the Superfund process is the Remedial Investigation/Feasibility Study. The Remedial Investigation Process basically defines the type and extent of contamination. The Feasibility Study is a review of various options for cleanup of the site. These two work tasks are often combined into one project. EPA estimates a typical cost for these two tasks together at \$875,000 and a time span of nine to 18 months.

The next step for a National Priority List site is development of the Record of Decision (ROD). The ROD documents background information for the particular remedy chosen and the action plan for the remedy. Also, EPA utilizes the ROD when making claims on responsible parties for recovery of Fund money.

The final two stages of the process for Superfund sites are Remedial Design/Remedial Action. The Remedial Design Phase is basically a design phase for clean up, while the Remedial Action Stage is implementation of this design. EPA estimates the Design Phase to cost \$850,000 and take six to 12 months. EPA estimates a time span of six to 12 months for implementation of the Clean-up and expects this phase to average out at about \$10-12 million per site.

Monitoring and maintenance is the on-going phase which occurs after remediation, to ensure that no hazardous substances are escaping from the site. A monitoring schedule is established and maintained for an agreed upon number of years after closure of the site. Cost recovery action against the responsible party is generally implemented during this phase to recover any expended State or Federal funds.

Tennessee's hazard ranking system is somewhat more strict than the federal hazard ranking system. As a result, while there are only 10 Tennessee sites on the National Priority List, the state promulgated list contains over 250 sites!

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# Tech Trends

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*Reprinted from Volume IV, No. 2, February 27, 1989, page 2*

## ETAG COORDINATES KENNON SUPERFUND SITE

by Lauren Heffelman

On January 9, 1989 the University of Tennessee Environmental Technical Assistance Group coordinated a public presentation by the Tennessee Department of Health and Environment (TDH&E), Division of Superfund, concerning the Kennon (Genesco) Superfund Site. This presentation was given at the City of Brentwood's regularly scheduled city commission meeting.

The Division of Superfund presented a plan of action to provide a temporary solution to the problem of shallow aquifer contamination at the site as well as to begin addressing the source of the contamination. The contamination of the shallow aquifer was caused by land disposal of wastes from the Genesco, Inc. operations.

The plan of action contained in the November 14, 1988 TDH&E commissioner's order was issued against the owner of the site and Genesco, Inc. The requirements of the order are:

- 1) Engineering plans and specifications for construction of a trench to intercept and collect contaminated shallow groundwater from the site, were to be submitted to TDH&E by November 21, 1988.
- 2) A plan for the collection, storage, treatment and/or disposal of contaminated water collected from the trench was to be submitted to TDH&E by January 15, 1989.
- 3) Trench construction must be initiated by March 1, 1989.
- 4) A plan for management of all source area waste at the site, must be submitted to TDH&E by June 1, 1989.
- 5) Construction of the trench is to be completed by September 1, 1989.

The site was used for phosphate mining between November 1972 and April 1974, by Monsanto Industrial Chemicals Company. After mining was terminated, all but one of the mine pits were reclaimed.

In 1978, industrial waste from Genesco, Inc. was disposed of in the unreclaimed mining pit as well as four newly excavated trenches. The drums of waste which were disposed possibly contained adhesives, sealants and solvent based coatings and caulking compounds.

In 1985 Genesco corporate officials learned of the disposal and informed the TDH&E. The TDH&E began investigations at this time to determine which contaminants are present and the extent of contamination.

The geology of the site reveals a shallow aquifer. Underneath this shallow aquifer is a shale zone which appears to restrict water movement from the shallow aquifer zone to the deeper Carters aquifer. Investigations have included installation and sampling of groundwater monitoring wells in both aquifers. Investigations, to date, seem to indicate that the contamination from the disposal site is limited to this shallower aquifer.

In addition to these groundwater investigations TDH&E has taken samples of springs and residential wells in the area.

City water was made available to homes which were within a one-mile radius of the site by Genesco, Inc. and the City of Brentwood.

If you would like information concerning Superfund sites in your city or county, feel free to contact any member of the Environmental Technical Assistant Group located in the MTAS offices in Knoxville or Nashville.

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Reprinted from Volume IV, No. 3, March 27, 1989, page 2

## DEALING WITH PUBLIC ANGER

by Lauren Heffelman

The following article is MTAS's application to Dr. Peter M. Sandman's ideas on public outrage. The ideas discussed in the article were presented at an electronic seminar which Ms. Lauren A. Heffelman recently attended. Dr. Sandman and his colleagues, Billie Jo Hance and Caron Chess have researched public issues for the State of New Jersey, Department of Environmental Protection, Office of Science and Research. Their research culminated in a booklet entitled *Improving Dialogue with Communities*, which further details suggested means of communicating health risks to the public. The booklet can be obtained through: Department of Environmental Protection, Division of Science and Research, CN 409 Trenton, New Jersey, 08625, (609) 984-6072.

Have you ever been involved in a public meeting where people are emotionally volatile? Rutgers University has been involved with a study which suggests reasons for public outrage and suggests solutions to situations where outrage is likely to occur.

In the Environmental Technical Assistance Group's work, we deal with many situations in which people are angry and frustrated over a hazardous waste site. More times than not, anger, fear, and even outrage is present at the public meetings we conduct. At times, anger and fear are warranted due to inaction by a regulatory agency, inaction by a responsible party, or the presence of a serious health risk to the public because of the site.

On the other hand, sometimes the hazardous waste site poses less of a health risk to citizens than the radon in their home or even the chicken sandwich they had for lunch. However, to determine this fact and to communicate it in a credible manner, is a difficult challenge. In spite of the lack of a serious health risk from a particular hazardous waste site, the anger, fear, and outrage may still prevail.

With the number of discoveries of abandoned hazardous waste sites increasing at an alarming number, regulatory agencies have their hands full just keeping up with the location of the sites. In addition to this, the agencies must stay abreast of new cleanup technologies, review contractors work, and perform intricately technical work to investigate the sites and then contain or clean them up. Many times communicating with the affected local government and its citizens regarding the site may take low priority on the agency's list of things to do.

Although putting communication on the back burner may seem like a time saver at first and even justifiable when there is not a significant health risk to the public; fear, anger, and outrage will result if information about a hazardous waste site not presented to the affected community, **EVEN FOR A HAZARDOUS WASTE SITE WHICH DOES NOT POSE A SIGNIFICANT HEALTH RISK.**

The New Jersey Department of Environmental Protection has studied this phenomenon. They wanted to know why people are more concerned about a hazardous waste site that is not affecting them adversely compared to another health risk which is extremely hazardous, for which they may have no concern.

Dr. Peter M. Sandman, Director of the Environmental Communication Research Program at Rutgers University, was involved in the study. He states that risk communication should have the effect of making the public concerned over issues that are real health threats and should diminish public concern over issues that are not real health risks.

Dr. Sandman has stated some of the reasons that public concern may be extremely high regarding matters such as hazardous waste sites regardless of whether they have a significant or insignificant health risk:

**A. VOLUNTARY VERSES INVOLUNTARY**

A risk which is voluntary is much more acceptable than a risk which is involuntary. For example, skydiving is a sport which is thrilling for some people. On the other hand, if forced to parachute from a plane, you may not be too thrilled about the experience.

This principle is also evident in the Not In My Back Yard (NIMBY) syndrome, when people feel that a solid waste landfill is being forced into their neighborhood.

**B. NATURAL VERSES UNNATURAL**

A natural risk usually causes less of a public concern than a risk which is unnatural. For example, although recent reports from the U.S. Environmental Protection Agency have expounded on the health risks from indoor radon exposure, many people are more concerned about a landfill in their area, which may be less of an actual health risk to them than the radon in their own home.

**C. FAMILIAR VERSES EXOTIC**

A good example of this comparison might be that the public may be very concerned about a new industry locating in their area which has all of the necessary environmental controls, while a local industry which has been contaminating the environment for years may go unnoticed.

**D. NON-DREAD VERSES DREAD**

In our society some health risks carry a stigma of dread. For example, although both emphysema and cancer are killers, cancer seems to be the more dreaded.

Also, food contamination can be as toxic as contaminated drinking water, yet people are more inclined to fear contaminated drinking water.

#### E. DIFFUSED IN TIME AND SPACE VERSES SHORT TIME AND SPACE

A theoretical example of this is: "Disease A" wipes out one town in the United States which had the population of 5000. "Disease B" wipes out 5000 people across the entire United States. Although the hazard is the same, (i.e. 5000 people out of the entire population of the U.S.) the "Disease A" will cause much more public concern. Smoking is a real life example of a health risk which is diffused in time and space.

#### F. CONTROLLED BY A PERSON VERSES CONTROLLED BY A SYSTEM

How many of you have held and carved a turkey or a roast? How many of you have held a turkey or a roast while someone else carved?

This explains why many people do not like the idea of agencies controlling our pollution problems and is a reasonable justification for local citizen and local government involvement with hazardous waste issues in their communities.

#### G. FAIR VERSES UNFAIR

One example of this is that it does not seem as bad to a community to have a landfill for waste which they generated compared to having a landfill for wastes generated from another county, or state, etc. Remember the garbage barge?

#### H. MORAL VERSES IMMORAL

Let's face it. Americans do not like to think of themselves as polluters of the environment. In our eyes, it is morally wrong to harm the environment.

#### I. TRUSTED SOURCES VERSES DISTRUSTED SOURCES

As mentioned earlier, people prefer to control a situation themselves. However, compared to project control by industry, agency control is the next best thing to self control in the eyes of citizens. There are also surveys that show that often citizens trust local government more than federal or state government.

Regulatory Agencies and local governments need to be aware of these factors of public fear and need to take the time and effort to gear community relations activities to address them. Although it may seem like a lot of time spent away from "real work" (i.e. technical work for the agency and zoning, paving roads, etc. for the local government), time invested at the beginning of a hazardous waste project to forecast and address these factors of fear, may deter public outrage in the future. In the long run, time invested in risk communication will make the project flow much faster and smoother.

If you would like to find out more about community relations activities for Superfund sites in Tennessee contact one of the ETAG consultants housed in the MTAS offices in Nashville and Knoxville.

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# Tech Trends

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*Reprinted from Volume IV, No. 5, May 22, 1989, page 3*

## SUPERFUND VICTIM OF COMMUNICATION GAP

by James D. Harless

Hazardous waste disposal and Superfund remediation programs still have a communication gap despite the fact that community relations efforts have been established to help close the gap. Current efforts include news articles, formal public meetings, small group meetings, one-to-one consultation, special publications and audio-visual presentations. A National Solid Waste Management Association (NSWMA) survey recently asked "What is the Country's Most Serious Environmental Problem?" The NSWMA reports that there is strong support for more responsible handling of hazardous wastes, but strong opposition for facilities that store, process, incinerate, landfill, or otherwise dispose of wastes in general or hazardous wastes. This is known as the NIMBY - Not In My Back Yard syndrome.

The NIMBY syndrome and perhaps the existence of some of our superfund sites is partly fueled by the real communication gap between scientists/industrialists on the one hand, and other scientists and average citizens on the other. Part of the gap exists because of different human values, different interpretations of the risks of wastes, and the quality of information dissemination. The gap is also fueled by the reality of an ineffective record. We read about environmental problems on a daily basis, some of them in our own backyards. Most of the problems have a potential to impact health and are not limited to aesthetic considerations.

Is it hypocritical to buy product(s) that are produced by a process that generates excessive solid and/or hazardous wastes, and yet oppose community disposal facilities? Should we even go so far as to say that hypocrites father orphan dumps? No, not exactly.

A book entitled *To Have or To Be* by Eric Fromm, suggests a more simple lifestyle, with defined life quality objectives as an alternative to the more materialistic approach. However, the choice is not really between prosperity and preservation, but rather to support "nondestructive prosperity". A Tennessee slogan in use a few years ago, "Safe Growth" seemed to reflect such a view.

Michael R. Greenberg co-authored a book entitled *Hazardous Waste Sites*, copyright 1984, where he often refers to the "credibility gap". The terms communication gap or credibility gap, are both reflective of the same problem. Good communication and public information distribution helps the existing communication/credibility gap.

The state Superfund program, community relations plans, and related activities help give added credibility to efforts directed toward site remediation. A community relations plan is only as effective as the combined educational/information dissemination program. Tennessee Department of Health and Environment (TDHE) recognized this need early in the implementation of the Hazardous Waste Law and attempts to continually strengthen its public information role with in-house staff and with contracted assistance.

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# Tech Trends

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*Tech Trends article - DRAFT*

## SUPERFUND SMOKE SIGNALS

by James D. Harless

It has been said that one custom of the Iroquois Indians was to ask the question: "How will the decision we make today affect seven generations into the future?"

It is my impression that many environmental problems, including many Superfund sites, have become a problem for our population to solve because of short-term views in lieu of long-term views regarding hazardous substance handling and disposal. It is not unusual for some environmental decisions to be made based on anticipated impacts projected for only a year or less. If governmental or private industry programs look at three to five years, or a decade, many of our citizens would describe such programs as having good planning and perhaps as sensitive to environmental quality. But what would the picture be if we looked at a minimum of seven generations, or for that matter, 10 or 50 generations? It would mean looking at long-term impacts on our future generations. What condition do we desire to leave this earth for these children?

I have some good news and some bad news. The good news is that many Superfund sites can be totally remediated so that the impacted area can be safely used for almost any purpose that was suitable prior to the contamination event(s). And, further, we are learning more each day to improve on the engineering remediation and the regulatory or other government/education prevention for such future problems.

But now for the bad news. There are also many Superfund sites where contamination is so severe and/or extensive that we cannot (due to present engineering limitations and/or practical cost considerations) restore the site(s), or the groundwater, to former purity or natural condition. For many sites it appears necessary to leave toxic wastes in place and to construct barriers to help minimize any further or future spread of the existing contaminants. Engineering studies of sites is often very expensive. The construction of barriers, caps, monitoring wells, etc. can also be very expensive. As expensive as these options may be, it can be even more expensive to remove or treat on-site contaminated soils, and/or groundwater within contaminated areas.

After many years of short-term (or low short-term cost) disposal practices, and with our recognition of the reality of path ways for wastes to sometimes spread to locations where they might enter living organisms, the best we can do, for some sites, is to cover wastes with a barrier, and to monitor wells around the sites. Is this not a reminder for us just how important prevention really must be?

Now for more good news. According to the March *Focus* newsletter from Hazardous Materials Control Research Institute, "Prevention is the Focus of EPA FY 1990 Proposed Budget: More Money for RCRA, Superfund, and UST." At a time when the federal budget constraint is facing some programs, EPA proposed a nine percent

increased for Underground Storage Tanks (UST), and the Resource Conservation Recovery Act (RCRA) increased from 265 million dollars for FY 1989, to the proposed 274 million dollars for FY 1990 which reflects higher priority for the Hazardous Waste Management program.

The same report says state RCRA programs will "continue to develop and mature," and that states "will assume more responsibility for managing the nation's hazardous wastes." Finally, enforcement actions under Federal Superfund would increase by 6.9 million dollars from 1989 to 1990, to a proposed 124 million dollars. Overall, the improved funding and focus on prevention is encouraging. The report submitted budget is said to reflect that "The administration acknowledges the American public's support for strong environmental programs."

If we each conducted ourselves or our companies in a manner that recognized that we are just as responsible to the seventh generation as to the first, our own children, would we not be more cautious about our decisions? I would challenge us all to see the wisdom of "looking seven generations into the future." If we do this, all Superfund sites should someday be remediated and/or placed under protective barriers/controls, and the program completed and phased out (except for monitoring and needed follow up). If we fail in our long-term view, then the list of federal and state Superfund sites could continue to grow, generation by generation, as would the potential for negative human health impacts. Again, the choice is not between prosperity and preservation, but rather to support nondestructive prosperity. Can you hear the drums beating?

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# Tech Trends

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*Reprinted from Volume III, No. 12, December 26, 1988, page 2*

## GUIDELINES COULD HELP PREVENT SUPERFUND LIABILITIES PART V - SUPERFUND LIABILITY SERIES

By Lauren A. Heffelman

The ultimate solution for relieving local governments of the responsibility for cleaning up Superfund sites would be new legislation making cities immune to liability for the sites.

Seemingly, Congress did not intend for the local tax base to pay for the cleanup of Superfund sites when it created the Comprehensive Environmental Response, Compensation, and Liability Act. Congress, however, probably did not foresee the magnitude of the number of municipally-owned Superfund sites or the municipal involvement in the Superfund process.

A possible solution to the settlement issues would be for cities to take the lead role in bringing enforcement actions against other potentially responsible parties (PRPs) early in the process. This solution could be more difficult for smaller cities with smaller resources.

Another possible solution would be for the Environmental Protection Agency (EPA) to send cities letters instead of PRP notices, which would lessen the city's perception of liability. The letters could refer to the city's other roles, such as enforcer and protector of natural resources.

EPA also could allow cities to settle early in the settlement process or award credits to them for demonstrating innovative waste management.

Funds could be provided for city cleanup of Superfund sites. The funds could take various forms, such as grants and long-term, interest-free loans. These monies could be gathered on a federal, state, or regional level. Another alternative would be for cities to create their own pool for cleanup.

EPA could require different parties to pay for discrete portions of the cleanup work. For example, the city could pay for capping the site while a private party could pay for groundwater cleanup. Another possible solution would be for natural resource damages to be recovered by suing polluters.

The city's portion of the cleanup payment could be limited to non-cash contributions, such as providing guards for the facility, providing cover material, providing trucks and other equipment, and providing treatment for appropriate liquids through the city wastewater treatment system.

Cities could prevent future municipal Superfund sites by developing systems to ensure that hazardous substances from industrial generators are not placed in municipal landfills. They also could use more innovative waste management practices,

such as recycling and selling wastes. Cities could encourage industries in their area to use these same practices, as well as encourage them to practice waste minimization.

Cities could have their own waste management practices audited to ensure they are minimizing, treating, and disposing hazardous wastes in the best manner. The audits could be performed internally if the city has a hazardous waste specialist on staff. If not, an outside consultant could provide these services.

Cities could sponsor Toxic Roundup Days. Toxic Roundup Days are opportunities for citizens to take household hazardous wastes such as paints and pesticides to a specified area where hazardous waste specialists can properly test, treat, or dispose the waste. Toxic Roundup Days could influence the public's awareness of their responsibility concerning solid and hazardous waste problems.

Increased education of local officials and the public could help cities devise solutions that are plausible and publicly acceptable.

To ensure cities are not stuck with the bill for cleaning the estimated 20 percent of all Superfund sites that were municipal solid waste landfills or other sites, one or more of three approaches may be taken.

First, cities should contact Carol Kocheisen at the National League of Cities and express their views. Kocheisen can be contacted at (202) 626-3020.

Second, the Municipal Settlement Work Group anticipates their municipal settlement policy will be presented in the Federal Register in late November. The group will be seeking comments on their draft settlement policy. Public comments will be received by EPA for 30 or 60 days. Written comments should be sent directly to EPA during this comment period.

Third, municipalities should contact their legislators in Washington and express their views.

To obtain more information concerning these issues, contact Lauren A. Heffelman at The University of Tennessee, Municipal Technical Advisory Service, Suite 402, 226 Capitol Boulevard Building, Nashville, TN 37219 or (615) 256-8141.

#### *For Tech Trends Reprints*

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# Tech Trends

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## SUPERFUND TASK FORCE CONSIDERS LOCAL PROBLEMS

by Rena Steinzor

The Environmental Protection Agency (EPA) is getting ready to draft a policy that could have serious implications for local government treasuries across the country. Two weeks ago, the agency met for the third time with its Municipal Settlement Task Force to hash out how it will treat local governments charged with responsibility for creating the nation's worst toxic waste sites.

EPA is expected to issue a final policy document for general public comment sometime this winter. The taskforce, which is composed of representatives from national organizations such as the National League of Cities, the Chemical Manufacturers Association and the American Petroleum Institute, as well as individual companies and local governments, is not having an easy time arriving at agreements on the wide variety of issues on its agenda.

By and large, industry representatives insist that local governments should be treated and prosecuted in exactly the same manner as corporate defendants. Local government groups reject this theory and have argued strenuously that EPA must recognize the crucial differences between the private and public sectors in crafting a reasonable policy.

The stakes in this debate are very high for local governments in virtually every kind of community across the country. The Superfund is authorized to spend \$8.5 billion in federal funding through 1991 on the cleanup of the nation's worst toxic waste sites. What many local governments do not realize is this money comes with long strings attached. Superfund is not a traditional federal grants program.

Rather, in addition to establishing the federal cleanup fund, the law also imposes strict, joint and several liability on those found responsible for creating the sites in the first place.

Local government site owners, operators and hazardous waste "generators" and "transporters" are liable in the same manner as private parties under this stringent scheme. The goal of the program is to provide federal "seed money" to clean up the worst hazards quickly and then to authorize lawsuits to recoup these funds so that Superfund can go to work.

Estimates of the ultimate bill for cleanup of thousands of toxic waste sites run into the billions. Some experts believe the total could climb as high as \$100 billion over the next few decades.

Some 20 percent of the 1,177 sites on the Superfund National Priorities List are municipally-owned and operated landfills, and local governments are implicated at hundreds of additional sites as parties that "generated" the hazardous substances needing cleanup.

When Congress re-authorized the program in 1986, the sixfold increase in the size of the fund (from \$1.6 billion in 1980 to \$8.5 billion in 1986) sent the signal that EPA should get about the business of cleaning up the sites with federal funding first and worry about recovering the money from potentially liable parties later.

This "shovels first, lawyers later" approach now prevails at the agency, although EPA is coming under increasing pressure to sue responsible parties for cleanup, given the overwhelming size of the toxic waste site problem and the acknowledged limitations on the federal fund's ability to clean up all of the nation's sites.

Unfortunately, local governments lag far behind their corporate counterparts in understanding the Superfund game and how to play it. They could be facing billions of dollars in potential liability, but there is not yet a general recognition of Superfund as a major challenge to the fiscal integrity of local government budgets.

Over the next several years, local government liability for Superfund cleanups will be determined in thousands of lawsuits brought against local governments not only by federal and state governments, but also by private industry defendants who want the local government "deep pocket" to help them pay the tab.

Unless local governments catch up very quickly with the sophisticated strategies employed by the private sector, they may find themselves bearing a grossly disproportionate share of the Superfund burden.

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## APPENDICES

*Superfund Technical Assistance: The Tennessee Experience*

James D. Harless

*State Providing Superfund Technical Assistance To Local  
Governments*

James D. Harless

# Superfund technical assistance: The Tennessee experience

James D. Harless

Cleanup of the nation's inactive hazardous substance sites, as mandated under Superfund, requires a coordinated effort among federal, state and local governments, private industry and citizens. Implementation of state and federal programs is a complex process, however, and such coordination has not always been easy to achieve.

Superfund sites commonly include abandoned dumps; former municipal or county disposal facilities that accepted hazardous wastes; inactive areas of existing disposal facilities; inactive lagoons at existing industrial facilities; contaminated groundwater/well areas; roadway and unpaved areas covered with contaminated oils; properties where mixed chemical/radioactive wastes have been improperly handled or disposed; and private or governmental operations that handle hazardous material, or generate hazardous wastes.

While the law requires the polluter to pay cleanup costs, it is often difficult to determine whether to use state or federal Superfund dollars during investigation. In addition, the sites frequently offer very difficult technical, engineering, political and public health challenges.

In Tennessee, for example, the Hazardous Waste Management Act of 1983, informally referred to as the Tennessee Superfund Law, aims to facilitate identification, investigation, containment and cleanup of inactive hazardous waste sites in the state. It parallels the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or Superfund, approved by Congress in December 1980, but is intended to concentrate on those sites that would not rank high enough to be placed on the National Priority List.

The law created a state Hazardous Waste Remedial Action fund, with a maximum fund balance of \$5 million, and the Tennessee Department of Health and Environment has established regional field offices to implement the Superfund program.

Implementation can be a costly and time-consuming process. The initial site assessment phase typically will take three to six months and cost \$10,000 to \$50,000. The second phase, remedial investigation, takes about a year and may cost \$50,000 to \$500,000, or even more.

Remedial action, the third phase, usually is the most expensive. A typical Tennessee State Superfund Site may cost as much as \$2 million to clean up. The time required can be two to four years, depend-



James D. Harless

**Key to the ETAG mission is the coordination of public meetings to present and discuss remedial options with interested property owners, citizens and affected residents. Two-way communication is a priority.**

ing on the site complexity.

Fortunately, for local officials, help is available. On Oct. 1, 1986, the University of Tennessee's Institute for Public Service was awarded an Environmental Management Technical Assistance Program grant from the Tennessee Department of Health and Environment. With these funds, the Institute and its agencies provide Tennessee cities and counties with technical assistance on inactive hazardous substance dump site cleanup in their respective jurisdictions.

In addition, the Institute for Public Service has formed an Environmental Technical Assistance Group (ETAG) to serve both cities and counties.

ETAG can assist with local projects upon request from the state health department, from the city or county or from the project team itself. An ETAG team will carry out individual or group assignments, and its members are available to work with community officials to address general or specific problems concerning hazardous waste cleanup.

On any given project, ETAG may provide the following:

- Technical assistance to local governments in obtaining answers concerning Superfund regulations, program procedures and timetables;
- Technical assistance to local governments in designing and implementing community relations plans, including assistance with public meetings, public notices, public hearings, press releases, news articles and talks to community groups;
- Technical assistance to the Department of Health and Environment in coordinating and conducting awareness and educational workshops concerning hazardous waste cleanup;
- Technical assistance to local governments in methods of searching for parties with potential responsibility for abandoned hazardous waste sites;
- Assistance will be provided to the Tennessee Municipal League and the Tennessee County Services Association in the development of appropriate policy to deal with future environmental issues.

To enhance the mutual cooperation necessary to accomplish clean-up work, ETAG also will coordinate and facilitate communication between state and local officials.

Key to the ETAG mission is the coordination of public meetings to present and discuss remedial options with interested property owners, citizens and affected residents. Two-way communication is a priority, and citizen opportunity for input is a primary goal of each meeting. An ETAG staff member usually serves as moderator, unless a local official prefers to take that role.

It is important to every community, large or small, to preserve and/or reclaim water, land and air that has been threatened or contaminated by past disposal actions. When sites have been identified, remedial actions implemented and cleanups accomplished, all involved will feel they have done something to benefit both present and future residents. □

*James D. Harless is environmental consultant to the University of Tennessee's Environmental Technical Assistance Group.*

### What damages are recoverable?

CERCLA empowers local governments to recover damages for injuries to the public's interests in *all* natural resources within their borders, including those owned privately. Damages are not limited to the costs of restoring or replacing injured resources (traditional measures of damages in property damage cases). As a result, local governments are entitled to damages for injuries to public lands, drinking water supplies or any other public or private resource from which the community derives a benefit.

For example, damages are recoverable for the loss of benefits the public would have received from direct use of the resources — fishing, hunting, hiking and swimming — and for loss of indirect benefits, such as having the option to use the resource, preserving the resource for future generations, and simply knowing the resource exists. Measuring these damages can be expensive, but the damages are often substantial and defendants are liable for the reasonable costs of the damage assessments.

Congress mandated that damage recoveries be used to restore, replace or acquire the equivalent of injured natural resources. By taking the initiative, a local government can assure that damage recoveries are used to restore the local environment and benefit the community where environmental injuries occurred.

### What problems can be tackled?

Problems that trigger local governments' authority to act include actual or threatened groundwater or surface water contamination, releases of chemical vapors into the air, and contamination of soils with metals, chemicals or radioactive substances. Such authority is *not* limited to sites identified by EPA on the National Priorities List and does not require prior approval by EPA or state governments.

CERCLA's liability provisions reflect a fundamental policy determination by Congress that, regardless of traditional notions of fault, those responsible for the management and disposal of hazardous substances — rather than the taxpayers — should bear the costs of the needed cleanup.

Thus, in enacting CERCLA, Congress designated four broad categories of "responsible parties" — parties who, regardless of fault, are liable for environmental cleanups, governmental expenses and natural resource damages. They include: current owners or operators of a site; a site's owners or operators at the time of disposal of hazardous substances; and persons who accepted substances for transport to sites which they selected.

Because of the broadly defined classes of responsible parties, many CERCLA

enforcement cases include multiple defendants, although there is no requirement that every potential defendant be made a party to such a suit. At a hazardous waste landfill, for example, the roster of responsible parties is likely to include property owners, dump operators and many transporters and generators. Even a small spill can give rise to liability on the part of a transporter and several generators.

### How is liability proven?

CERCLA makes proof of liability easier than under traditional theories. CERCLA imposes liability regardless of fault; the government need not prove negligence or other wrongful conduct. Moreover, there is no need to "fingerprint" wastes and make a traditional showing of causation. In other words, it is unnecessary to prove that the contamination can be traced back to each defendant's hazardous substances.

To establish liability, a local government need demonstrate only that there has been a release or threatened release of a hazardous substance, that the defendant falls within one of the categories of responsible parties, and that some governmental expenses have been incurred in responding to the problem. If these elements are satisfied and no defenses apply, the defendant is strictly liable for cleanup, expenses and damages.

When two or more persons have contributed to a single harm, each is liable under CERCLA for *all* contamination at a site. CERCLA encourages a fair apportionment of damages and costs by providing responsible parties with legal recourse against one another to ensure that each pays its fair share.

### Is the expertise available?

The combined effect of complex statutes,

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lengthy administrative regulations, multiple defendants and extensive discovery typically involved in environmental enforcement cases may cause local officials to question whether they have the resources and expertise to tackle yet another difficult problem.

However, because CERCLA and other statutes authorize recovery of costs, local governments may hire additional staff or employ specialized outside counsel and expert consultants as needed. In many cases, involvement of such outside help may be essential.

Over the last several years, environmental litigation has become increasingly specialized. Defendants today draw upon a pool of sophisticated lawyers and consultants — many of them former government enforcers — with years of experience in litigation under CERCLA and other environmental statutes. Accordingly, local governments seeking to establish an enforcement presence should seriously consider employing experienced outside counsel and technical experts.

**What if the government was at fault?**  
It is generally advantageous to local governments to take the lead in cleaning up toxic

problems, even if they are partially responsible for creating the problem. When, for example, a municipal landfill is leaking hazardous chemicals or a county airport has been identified as the source of solvents in the groundwater, local governments may have two choices.

They can wait and risk becoming defendants in an enforcement action brought by EPA, the state, neighboring landowners or citizen groups. Or they can initiate their own enforcement actions to recover the bulk of their cleanup costs and natural resource damages from generators and transporters of hazardous substances or from operators of the offending facility.

Taking the initiative carries with it several strategic benefits. Local governments prosecuting enforcement actions exert maximum control over the pace and manner of cleanup, permitting them to keep an eye on costs while assuring full protection of the public and the environment. Cleanup costs for which local governments ultimately are held liable may be at least partially offset by natural resource damages awarded to them.

As a practical consideration, it is almost always less expensive to clean up contamination at the earliest possible opportunity,

before it spreads. Thus, the community is better served when the cleanup is spearheaded by local government, even if that government itself is liable for some cleanup costs.

## Conclusion

Federal and state environmental statutes create powerful tools for local governments to protect the public and the environment from problems posed by toxic and hazardous substances. Environmental statutes empower local governments to resolve their problems on a local level, instead of awaiting action from EPA or the state, ensuring the predominance of local priorities and values in environmental cleanup actions.

Because local governments are entitled to recover their expenses from polluters, the use of federal and state enforcement authorities is a realistic and affordable option. As a result, counties, municipalities and special districts have the authority and financial means to take the lead in protecting their communities' environments and economies and the quality of life. □

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## State Providing Superfund Technical Assistance to Local Governments

### JAMES D. HARLESS

Mr. Harless is an Environmental Consultant with The University of Tennessee, Institute for Public Service/Municipal Technical Advisory Service, Environmental Technical Assistance Group, Knoxville, Tennessee.

**C**OMMUNITIES in Tennessee do not have to go it alone in dealing with hazardous waste site clean-up. On October 1, 1986, The Tennessee Department of Health and Environment presented an Environmental Management Technical Assistance Program Grant to the University of Tennessee's Institute for Public Service. With these funds, the Institute and its agencies — including the County Technical Assistance Service and The Municipal Technical Advisory Service — provide Tennessee cities and county with technical assistance on inactive hazardous substance dump site cleanup in their respective jurisdictions. To assist in this effort, the Institute formed an Environmental Technical Assistance Group to serve both cities and counties.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or Superfund, was approved by Congress in December 1980 to address the clean-up of inactive hazardous substance sites. Most environmental protection programs affect ongoing activities whereas Superfund basically affects past actions. The liability provisions,

risk perceptions, extensive corrective requirements, and significant costs in time and dollars may mean that Superfund could be one of the most difficult technical problems facing those affected, including city and county governments.

The first five years of CERCLA involved about \$600 million in private party clean-ups, 580 removal actions started at all sites, 470 completed remedial investigation/feasibility studies, and 200 lawsuits filed by the government. By early 1985 the Environmental Protection Agency said that it considered ten sites as cleaned up, but in late 1986 Congress demanded more action.

The Superfund Amendments and Reauthorization Act (SARA) passed by Congress in October, 1986 is a five-year extension of CERCLA programs to clean up abandoned hazardous waste sites. It is funded with \$8.5 billion and created a separate half billion fund to clean up leaking underground petroleum storage tanks.

The new Superfund sets stricter remedial standards and will increase the potential costs of clean-up. The impact of SARA is to continue the Superfund program and increase enforcement actions. SARA will also increase public and state involvement in the remedial process, including program schedules and deadlines. Remedial actions will materialize through the use of an administrative record. In general, a hazardous mate-

rial is any substance that could damage public health or the environment if it is not handled properly. Hazardous materials include those substances that are flammable, corrosive, reactive, or toxic. A hazardous waste is a hazardous material that has been discarded.

Most recent media attention and government regulation has focused on hazardous wastes because of many reports of improper handling and because of the backlog of sites that need corrective action. However, there are far greater quantities of hazardous materials being used in and transported through most communities every day than there are hazardous waste sites with varied quantities of materials. Industry transports, uses, generates, treats, and disposes of large quantities of hazardous materials.

The Tennessee Hazardous Waste Management Act of 1983, informally referred to as The Tennessee Superfund Law, went into effect on July 1, 1983. The Tennessee Department of Health and Environment has established regional field offices to implement the Superfund program.

The major purpose of the law is to facilitate identification, investigation, containment, and clean-up — including monitoring and maintenance — of inactive hazardous substance sites in Tennessee. The act created the Hazardous Waste Remedial Action fund for the state, with a maximum fund balance of \$5 million. The state program somewhat parallels the Federal program, but the state will concentrate on clean-up of situations that would not rank high enough to be placed on the National Priority (Superfund) List.

Tennessee Superfund sites include eight National Priority List sites (five proposed additions), about 300 proposed list sites, 35 remedial action completed sites, and over 900 "sus-

pect" sites on the master list. A toll free hotline number is available for Tennessee residents.

Direct Federal or state government action may take the following forms: site assessments, including field sampling of soils, water, and involved wastes; immediate removals, when a prompt response is needed to prevent harm to the public health or welfare, or the environment; or planned removals, when a quick, but not necessarily immediate response is needed. Remedial actions are longer term and usually more expensive and are aimed at permanent remedies.

An important part of the Superfund program is a coordinated effort of Federal, state, and local governments; private industry; and citizens. Implementation of Federal and state programs has been a rather complex effort. With the Federal and state governments committed to the objective that the polluter pays, deciding when to utilize Federal or state Superfund dollars is not easy. In addition, the sites often offer very complex technical, engineering, political, and public health challenges. A very important part of the Superfund program effort is to encourage voluntary clean-ups by private industries and individuals, or any other combination of those parties apparently responsible. Goals for Superfund include more money, more clean-ups, more settlements, and expanded public involvement.

Site activity is not inexpensive, as the following time and money estimates show:

- Phase One: Site assessment can take three to six months and may cost \$10,000 to \$50,000.

- Phase Two: Remedial investigation can take about a year and may cost \$50,000 to \$500,000 or more.

- Phase Three: Remedial action will be the most expensive part of the activity for most sites, with a National

Priority List cost that can approach \$2 to \$10 million. A typical Tennessee State Superfund site may cost \$500,000 to \$2 million. Time required for Phase Three can be two to four years, depending on site complexity.

Some of the most common sources for sites that might be potential candidates as state or Federal Superfund sites include the following: Abandoned dumps on farms or other properties, former municipal or county disposal facilities that accepted hazardous wastes, inactive areas of existing disposal facilities, inactive lagoons at existing industrial plants, contaminated groundwater/well areas, roadway and unpaved areas covered with contaminated oils, properties where mixed chemicals/radioactive wastes have been improperly handled or disposed, and private or governmental operations that handle hazardous materials or generate hazardous wastes.

The Environmental Technical Assistance Group (ETAG) can assist with local projects based on a request supplied to the team by the Tennessee Department of Health and Environment (TDHE), upon the request of a city and/or county, or upon the initiative of the project team itself. The ETAG team will carry out individual and group assignments and will work with community officials individually or in groups to address general or special problems concerning hazardous waste cleanup. ETAG will also coordinate and facilitate a variety of communication activities between TDHE and community officials to enhance mutual cooperation in cleaning up hazardous waste site.

To further improve the ongoing need for community relations and information distribution concerning the Superfund process, ETAG may implement the following activities:

- Technical assistance to local governments in obtaining answers con-

cerning Superfund regulations, program procedures, and timetables.

- Technical assistance to local governments in designing and implementing community relations plans, including help in providing information concerning Superfund matters to their citizens, such as assistance with public notices, meetings, and hearings, press releases, news articles, and talks to community groups.

- Technical assistance to TDHE in coordinating and conducting awareness and educational workshops concerning hazardous waste cleanup.

- Technical assistance to local governments in searching for parties with potential responsibility for abandoned hazardous waste sites.

- Assistance will be provided to the Tennessee Municipal League and the Tennessee County Services Association in developing appropriate policy to deal with future environmental issues.

An important aspect of our technical assistance is the coordination of public meetings to present and discuss remedial options with interested property owners, citizens, and affected residents. Two-way communication is a priority, with citizen input a primary goal of the meeting. A staff member of ETAG will usually moderate a public meeting, unless local officials prefer to serve that role. ETAG also will help local governments to set up an advisory board or committee so that a more formal "local environmental agenda" exists.

In conclusion, the objective of the contract with the University of Tennessee's Institute for Public Service is to provide technical assistance and to deliver services to local governments to help assure effective clean up of Superfund hazardous substance sites, thereby preserving and enhancing community environmental quality for present and future generations. □□□

