POTENTIAL CERCLA REAUTHORIZATION ISSUES RELEVANT TO U.S. DOE'S ENVIRONMENTAL RESTORATION PROGRAM

M. R. Siegel, J. A. Jaksch, and M. D. McKinney
Pacific Northwest Laboratory
Richland, Washington

R. L. Dailey
U.S. Department of Energy
Washington, D.C.*

ABSTRACT

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) is currently scheduled to be reauthorized in 1994. The U.S. Department of Energy (DOE) has a significant stake in CERCLA reauthorization. CERCLA, along with its implementing regulation, the National Contingency Plan (NCP), is the principal legal authority governing DOE's environmental restoration program. The manner in which CERCLA-related issues are identified, evaluated, and dispatched may have a substantial impact on DOE's ability to conduct its environmental restoration program.

Many of the issues that will be prominent in the CERCLA reauthorization debate will have little or no relevance to DOE (e.g., private party liability or the extent of liability of municipalities and financial institutions for cleanup costs). However, a number of issues that impact DOE's environmental restoration program could be addressed through CERCLA reauthorization. These issues include the need to 1) address how the National Environmental Policy Act (NEPA) should be integrated into DOE CERCLA actions, 2) facilitate the streamlining of the Superfund process at DOE sites, 3) address the conflicts between the requirements of CERCLA and the Resource Conservation and Recovery Act (RCRA) that are especially relevant to DOE, 4) examine the criteria for waiving applicable or relevant and appropriate requirements (ARARs) at DOE sites, and 5) delineate the appropriate use of institutional controls at DOE sites.

Underlying many of these issues is the fact that many DOE sites are fundamentally different from most private sites on the Environmental Protection Agency's (EPA's) National Priorities List (NPL). CERCLA currently treats Federal facilities and private sites on the NPL in the same manner. Recognizing differences among these sites through appropriate changes in CERCLA could greatly improve the effectiveness and efficiency of DOE's environmental restoration program.

BACKGROUND

The U.S. Department of Energy (DOE) faces numerous obstacles to successfully complete its 30-year environmental restoration program. In addition to addressing technical issues associated with environmental contamination at most of its former nuclear weapons facilities, DOE must carry out its environmental cleanup program within the parameters of existing Federal and State environmental statutes and regulations. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and its implementing regulation, the National Contingency Plan (NCP), establish the regulatory framework for DOE's environmental restoration program.

CERCLA took effect in 1980 before the real magnitude of the nation's hazardous waste problem was generally known. The passage of CERCLA also predated an understanding of the complexity and extent of environmental problems at DOE's nuclear weapons facilities. Even when CERCLA was amended in 1986 by the Superfund Amendments and Reauthorization Act (SARA), the extent of DOE's hazardous waste problems were just coming to light. Among other things, SARA clarified that the provisions of CERCLA applied to Federal facilities, an issue that was previously contested by DOE. CERCLA was again reauthorized, without any substantive changes but for only 3 years, in 1991.

CERCLA is again scheduled to be reauthorized in 1994. Numerous actual or perceived shortcomings in the statute have been evidenced in the over 12 years worth of experience with the implementation of CERCLA. EPA's Superfund program has been closely scrutinized by numerous groups representing congress, business, and environmental organizations. Many of the organizations are already actively preparing for CERCLA reauthorization through the development of specific proposals to air publicly and put before Congress. CERCLA reauthorization will offer an opportunity for DOE to propose changes in the law that would promote the effectiveness and efficiency of its environmental restoration program.

A number of prominent issues in the Superfund reauthorization debate are of little or no relevance to DOE, such as attempts to change the controversial liability scheme established by CERCLA or to protect municipalities and lending institutions from Superfund liability. Other issues of concern, such as addressing conflicts between CERCLA and the Resource Conservation and Recovery Act (RCRA), are shared by DOE and a wide range of Superfund interest groups. Some issues, however, are uniquely the concern of DOE and other Federal agencies responsible for hazardous

* Funding for this work was provided by the U.S. Department of Energy under contract DE-AC06-76RL0 1830. Opinions presented are those of the authors and do not necessarily reflect the official positions or policies of the U.S. Department of Energy.

waste sites. These issues include, among others, clearly defining the role of the National Environmental Policy Act (NEPA) in the Superfund cleanup process and expanding the DOE's ability to waive applicable or relevant and appropriate requirements (ARARs) at its sites.

DOE ISSUES RELATED TO CERCLA REAUTHORIZATION

Listed below are questions related to DOE's environmental restoration program that can be addressed through CERCLA reauthorization. This is not an exhaustive list of all possible issues and concerns, but is meant to highlight issues that either have the greatest potential for impacting DOE or may be most amenable for obtaining a statutory resolution through the reauthorization process.

- NEPA requires that Federal agencies consider the environmental impacts of major actions that they undertake. In many respects, the procedural requirements of CERCLA are very similar to those imposed under NEPA. Accordingly, should CERCLA be amended to exempt DOE environmental activities conducted pursuant to CERCLA from the procedural requirements of NEPA?
- CERCLA now includes a fund-balancing waiver available to EPA stating that remedies meet ARARs. This waiver is intended to provide EPA flexibility to avoid the expenditure of a disproportionate amount of Superfund money at a single site because of ARARs. Since this exemption applies only to money actually from the Superfund, it is not available to DOE or other Federal agencies. Should CERCLA be amended to include a "budget balancing" waiver of ARARs for Federal facilities where compliance will not provide a balance between for protection of human health and the environment at a site and the availability of money to respond to other sites that may pose greater threats?
- DOE's experience with the remedial investigation/feasibility study (RI/FS) process has shown it to be cumbersome, costly, and time-consuming. Both DOE and EPA have spent considerable time and effort developing ways to streamline the process. Should CERCLA be amended to include various approaches to streamline the RI/FS process?
- CERCLA and the NCP emphasize almost exclusively the use of engineered remedies to reduce the toxicity, mobility, or volume of hazardous wastes and associated risks at waste sites. The use of institutional controls (actions that minimize exposure to hazardous substances without reducing its toxicity, volume, or mobility) to minimize exposure to the hazardous substances are of secondary importance. Many of the major DOE sites on the National Priorities List (NPL) differ from private sites on the NPL in that DOE has the ability to ensure the integrity of institutional controls into the future. Accordingly, should CERCLA be amended to give DOE and other Federal agencies greater flexibility to employ institutional controls as part of remedies at their hazardous waste sites?
- There are many overlapping and unclear lines of authority between CERCLA and RCRA at DOE hazardous waste sites. Questions remain regarding the authority under which specific sites are remediated, especially at larger DOE sites that have both RCRA and CERCLA units, as well as the finality of cleanup decisions made under one or the other statutory authority. There is also the more global question regarding the appropriateness of applying many of the RCRA requirements at CERCLA NPL sites. Therefore, should amendments be made to CERCLA to address these and other CERCLA/RCRA interface issues?

ROLE OF NEPA AT DOE CERCLA SITES

NEPA requires that Federal agencies prepare an environmental impact statement (EIS) for any major Federal actions that significantly affect the quality of the environment. Agencies may perform less extensive studies, known as environmental assessments (Eas), to determine whether a proposed Federal action meets any of the threshold requirements for the preparation of an EIS. The Council for Environmental Quality (CEQ) administers NEPA and has established regulations allowing agencies to categorically exclude from the EIS requirements classes of actions that do not individually or cumulatively significantly impact the human environment. NEPA's requirements are strictly procedural rather than substantive.

The Federal courts have created an exception, known as the functional equivalency exemption, to the NEPA requirements. The courts ruled that where one statute requires the functional equivalent of NEPA's procedural review process, a second repetitive review under NEPA is not required. The theory underlying the functional equivalency exemption is that specific environmental statutes or an agency's "organic" or authorizing statute require that the Federal agency address the issues that are at the heart of NEPA's concerns.

Although there are some differences in the procedural requirements between NEPA and CERCLA (e.g., the type of issues to be considered), the procedures for assessing a hazardous waste site and selecting a remedy under CERCLA embody the intent underlying NEPA. Because of this, as well as the organic mission of EPA to protect the environment, CEQ has recognized that EPA's CERCLA activities meet the standard of functional equivalency. CEQ, however, has not extended this recognition to CERCLA actions carried out by other Federal agencies. The issue has become the topic of considerable debate among Federal agencies and CEQ.

DOE is in the process of preparing NEPA documentation at several levels for its environmental restoration and waste management program. An overall programmatic EIS is currently being prepared for DOE's entire environmental restoration program. EIS's for remediation and waste management activities will be prepared for each site. In addition, NEPA documentation is prepared at an operable unit level for DOE environmental restoration work.

For operable units, it is DOE policy to integrate NEPA considerations into its CERCLA program. Frequently, a single site document is prepared to satisfy the requirements of both statutes (e.g. one document is both the RI/FS report and the EA). In addition, many of DOE's removal action are categorically excluded from NEPA requirements. However, those that do exceed the statutory limit on time and *costs must* go through the NEPA process.

Although considerable efforts are being made by DOE to integrate the requirements of NEPA and CERCLA, the imposition of NEPA requirements on various DOE environmental restoration activities can lead to delays in completing the CERCLA assessment and remedy selection process. For example, NEPA regulations require a discussion of a broader range of issues, such as economic impacts on the community and demographics, than the CERCLA process. NEPA regulations also require a broader schedule of public involvement activities than CERCLA.

In addition, because many reports are both NEPA and CERCLA documents, additional offices within DOE must be involved in the review process, adding to the time necessary to finalize the documents and move ahead with the cleanup work. Even obtaining approval for a categorical exclusion adds time to the environmental restoration process. In the past, EPA and State agencies that oversee DOE environmental cleanup work have expressed frustration regarding the time delays inherent in DOE's adherence to NEPA requirements.

DOE has several options for clarifying the question of NEPA's applicability to its environmental restoration program. CERCLA could be amended to specifically incorporate the functional equivalency exemption for CERCLA actions carried out by Federal agencies. Under this option, CERCLA would be amended to state clearly that NEPA requirements need not be followed when a Federal agency adheres to the requirements of CERCLA and the NCP. This would be especially appropriate since EPA already has major oversight responsibilities at DOE environmental restoration sites.

Under a second option, DOE could attempt to gain the concurrence of CEQ that DOE's CERCLA activities are functionally equivalent to the NEPA requirements. Efforts will need to be coordinated with the U.S. Department of Justice (DOJ) and EPA, as well as with other Federal agencies. It is DOJ's and EPA's position that Federal agency activities that adhere to the requirements of CERCLA are functionally equivalent to NEPA. There are ongoing discussions among Federal agencies with CERCLA responsibilities and DOJ regarding this issue. This option faces a number of policy and procedural obstacles both within DOE and external entities whose responsibilities include NEPA enforcement.

As a third option, DOE could independently assert that its CERCLA site-specific activities are functionally equivalent and no longer carry out NEPA-related work. This option has been considered by several Federal agencies. Implementation of this option runs the risk of a legal challenge to a claim of functional equivalency. Whatever option is pursued, DOE will need to assure congress, the public, and other agencies that its actions are *truly* functionally equivalent to the NEPA requirements and that it is not merely attempting to circumvent the requirements for expediency's sake.

BUDGET-BALANCING WAIVER OF ARARS

CERCLA requires that remedial actions meet all ARARs. The ARARs can include all promulgated Federal and State requirements that otherwise have the force of law. The ARARs typically are either chemical-, action-, or location-specific requirements. The NCP requires that as part of the feasibility study, all remedial alternatives be assessed to determine whether they comply with ARARs for a site.

CERCLA and the NCP provide a number of criteria under which the requirement that remedies meet ARARs can be waived. The ARAR requirement can be waived when 1) the alternative is an interim measure where the final action will meet ARARs; 2) compliance with the ARAR will result in a greater risk to human health and the environment; 3) compliance with the ARAR is technically impracticable; 4) the remedial action selected will attain a standard of performance that is equivalent to that otherwise required; 5) with respect to a State ARAR, the State has not consistently applied the requirement; and 6) for Fund-financed response actions, compliance with the ARAR will not provide a balance between the need for protection of human health and the environment at the site and the availability of Fund monies to respond to other sites that may present a threat to human health and the environment.

All of these ARAR waivers are theoretically available to DOE except the "fund-balancing" waiver. This waiver cannot be used by DOE because its environmental restoration activity is funded directly out of its appropriations and not from the Superfund. Nonetheless, the rationale underlying the fund-balancing waiver is equally applicable to DOE's environmental restoration work. As EPA stated in the NCP preamble, "the reason for having a Fund-balancing waiver is to ensure that EPA's ability to carry out a comprehensive national response program is not compromised by the expenditure of the Fund at a single site." DOE's environmental restoration program is similar to the EPA's Superfund program in that both are national programs that often must balance the risks posed by numerous sites across the country against the availability of a finite sum of monies. Currently, there is nothing to prevent the theoretical possibility that DOE would have to spend its entire environmental restoration budget at one site.

DOE could address the need for a budget-balancing waiver by seeking amendment to CERCLA and the NCP to allow DOE, the Department of Defense (DOD), and other Federal agencies to invoke a "budget-balancing" waiver for environmental restoration work that falls under CERCLA but which is not funded by the Superfund. This waiver would be consistent with the rationale underlying the Fund-balancing waiver and will afford DOE the flexibility to address the greatest risks to human health and the environment in an orderly manner.

While expansion of the fund-balancing waiver to a budget-balancing waiver appears to be consistent with the underlying intent of congress, it is likely that such an attempt will be greeted by considerable skepticism and criticism, particularly from states that house major DOE facilities. Such an effort by DOE could be perceived as an attempt to circumvent milestones and requirements established under specific legal agreements. To succeed in such an effort, DOE will need to educate congress and the public that 1) it is sincerely attempting to gain necessary flexibility to be able to prevent the expenditure of a disproportionate amount of funds on a very limited number of sites; 2) DOE is not attempting to circumvent legal agreements with EPA and states; 3) the waiver will be sought only in a very limited number of circumstances; and 4) there will be a positive net effect on the environment at the specific site, state, or nationwide.

STREAMLINING OF THE RI/FS PROCESS

The purpose of the RI/FS process is to characterize the nature and extent of risks posed by uncontrolled hazardous waste sites and to evaluate potential remedial options. The RI is the primary mechanism for collecting data to characterize site conditions, assess risk to human health and the

environment, and conduct treatability testing as necessary to evaluate the potential performance and cost of treatment technologies that are being considered. The FS serves as the mechanism for the development, screening, and detailed evaluation of alternative remedial actions. The RI/FS process is intended to be interactive and iterative.

It currently takes the average Superfund site from 7-10 years to pass from listing on the NPL through final cleanup. The average RI/FS takes 3 years to complete. Because of the complexity of environmental problems at many DOE sites, the process is likely to take longer at these DOE NPL sites. Both EPA and DOE recognize that considerable time and fiscal savings can be achieved by streamlining the RI/FS process. In addition, DOE has entered into a number of agreements with EPA and states that establish legally binding schedules for site-specific environmental restoration activities. Because of the technical complexities of many of the required actions, DOE's chances of meeting these milestones will be enhanced if ways are found to streamline the entire CERCLA process, including the RI/FS phase.

EPA has initiated a number of efforts to speed up both the RI/FS process and the overall CERCLA process. The most prominent such program is EPA's Superfund Accelerated Cleanup Model (SACM), which is intended to include at the front end a one-step site screening and risk assessment process and to reduce the distinctions between the removal and remedial programs. EPA is also implementing a program that will lead to the use of presumptive remedies at many NPL sites, thereby frequently eliminating or minimizing the work that is carried out as part of the FS. Presumptive remedies would establish a regulatory presumption that certain technologies or approaches are appropriate for specific categories of sites (e.g., soil fixation for lead in soils).

DOE has introduced the use of the Streamlining Approach for Environmental Restoration (SAFER). SAFER combines elements of two recognized processes developed to manage uncertainty: the data quality objectives process developed by EPA and the observational approach. The latter provides a framework for managing uncertainty and planning decision-making throughout the environmental restoration process.

Many of the obstacles to streamlining the RI/FS process are either regulatory or administrative. For example, the use of presumptive remedies, which offer great promise for reducing the time needed to complete an RI/FS, may run afoul of the requirement that remedies meet ARARs. This would happen where the presumptive remedy established by EPA was not consistent with State ARARs at a specific site. In addition, the fact that EPA recommends the use of certain streamlining techniques does not necessarily mean that they will be implemented or allowed by the individual EPA regional offices. Finally, there is always a institutional and legal reluctance to deviate from processes and procedures that are already in place.

DOE has several options to "institutionalize" streamlining efforts within the context of CERCLA reauthorization. First, CERCLA could be amended to require that EPA pursue, in consultation with other affected Federal agencies, efforts to continue the development and implementation of streamlining programs. Second, specific barriers to streamlining in CERCLA, such as compliance with ARARs, could be identified and addressed. Third, CERCLA could be amended to mandate specific time frames, with appropriate exceptions, for the completion of various phases of the Superfund process, thereby encouraging the development of streamlining strategies.

USE OF INSTITUTIONAL CONTROLS AT DOE SITES

Institutional controls are mechanisms that minimize risks at a hazardous waste site but do not individually reduce the toxicity, volume, or mobility of the waste. The controls can physically limit access as well as activities at a particular location. Institutional controls take many forms, including fences, security personnel, signs, and legal instruments such as covenants, easements, and zoning restrictions.

Use of institutional controls at a hazardous waste site is an attractive method of allocating scarce financial resources to the worst portions of a hazardous waste site while minimizing risks to the public and environment. These controls, when properly implemented and monitored in the remediation process, can result in minimized exposure risk to the public for a fraction of the cost of permanent treatment.

When institutional controls are available options and identified early in the remediation process, unrealistic hypothetical risks will not drive the cleanup of a site. Instead, realistic expected risks can be addressed by long-term land use planning considered in conjunction with appropriate levels of institutional controls. DOE and other federal agencies are in a unique and advantageous position to ensure compliance with institutional controls, especially when addressing long-term land-use plans. When faced with extensive hazardous waste problems and limited financial resources, DOE's incorporation of institutional controls is a fiscally responsible option which should be available in the cleanup process.

CERCLA allows the use of institutional controls at various hazardous waste sites; however, the statute and, in particular, the NCP place stringent limitations on their use. The NCP discusses in detail EPA's position on the proper role for institutional controls. CERCLA itself expresses a preference for permanent treatment of the hazardous waste and as a result contains limited guidance on the use of institutional controls.

The NCP limits the scope and use of institutional controls at a CERCLA site. EPA expects that treatment will be the means by which threats posed by a site are addressed whenever practicable and whose use should be limited to that of a "necessary supplement" to engineering controls. In the preamble to the NCP, EPA acknowledges specific situations where treatment will be unsuitable and institutional controls could be appropriate as the sole remedy.

In addition to the EPA's expectation that institutional controls will rarely be proper as the primary or sole remedy, the NCP further limits the role of institutional controls with respect to the baseline risk assessment. The baseline risk assessment process is important in establishing both the level of cleanup and the actual remedy. Future land use assumptions are by necessity incorporated in the baseline risk assessment. However, any future land-use considerations which incorporate institutional controls are not to be included in this crucial early phase of the cleanup process. Exclusion of institutional control issues during this stage can result in potentially unresponsive or excessive remedies.

The use of institutional controls could be especially appropriate at many DOE NPL sites. Unlike many private NPL sites, DOE as part of the U.S. government, represents a solvent site owner, holding fee simple title in perpetuity, that has the ability to maintain control of a site long into the future.

In addition, because of its historic weapons mission of these sites, DOE already has in place an extensive system of controls restricting unauthorized access to its sites.

CERCLA could be amended to acknowledge the value of institutional controls, particularly at DOE sites, and explicitly recognize the appropriate role they can play in site cleanup. The statute, as presently written, merely expresses tolerance for these controls, which has been interpreted by the EPA as a limitation. The reauthorized CERCLA could allow institutional controls to be considered early in the cleanup planning process, including the baseline risk assessment and the establishment of cleanup objectives. If a reauthorized CERCLA precisely defined this type of expanded use, the EPA would be required to increase their availability at particular cleanup sites and cleanups would precede in a much more fiscally and environmentally efficient manner.

A reauthorized CERCLA could, in addition to expressing the value of institutional controls, require the EPA to promulgate regulations that will facilitate availability of such controls. These regulations could detail not only the expanded circumstances under which institutional controls can be an option, but could establish monitoring methods and mechanisms which would guarantee the long-term reliability of the controls. CERCLA and the NCP could also recognize the difference between Federal facilities and private sites and allow different and expanded types of controls for these sites.

RCRA/CERCLA INTERFACE

CERCLA is generally intended to address old, abandoned hazardous waste sites. The primary purpose of RCRA is to regulate the storage, treatment, and disposal of hazardous waste. The corrective action authority of RCRA is intended to address the cleanup of hazardous wastes associated with operating RCRA-permitted facilities. RCRA and its implementing regulations set many detailed requirements related to the treatment and disposal of hazardous wastes. Many of these requirements are applied to CERCLA actions as ARARs. In addition, CERCLA differs from RCRA in that it is exclusively administered at the Federal level by EPA. RCRA, for the most part, is run by individual states after their hazardous waste programs have been approved by EPA. Many aspects of the RCRA program, however, continue to be administered by EPA because not all states have had all portions of their RCRA programs approved.

The RCRA regulatory scheme is one of the most complicated of all environmental statutes. In addition, the jurisdictional line between RCRA and CERCLA is often very blurred. This is especially true for many of DOE's former weapons sites. With many of the facilities at these sites still in operation, or only recently shut down, RCRA has both major direct and indirect impacts on DOE cleanup activities. Environmental restoration work at a number of the major DOE sites, such as Hanford, Oak Ridge, and Savannah River, is governed by RCRA and CERCLA, and regulated by both EPA and the respective State where the sites are located. The major DOE sites on EPA's NPL have entered into interagency agreements (IAGs, also known as Federal Facility Agreements or Federal Facility Compliance Agreements) with EPA and the regulating State that establish the framework for the required RCRA and CERCLA cleanup work.

Despite the presence of these IAGs, there exists considerable overlap and potential inconsistencies between CERCLA and RCRA activities. Questions remain regarding the appropriate authority to use when cleaning up a site or whether RCRA corrective action authority can be used to address portions of larger sites that are on the NPL. The answers to these questions are of major import to DOE, for not only do they determine the remedial process to be followed but also whether the regulating agency will be EPA or a State environmental agency. In addition, there are no clear guarantees that non-NPL sites addressed through RCRA authority cannot subsequently be revisited under EPA's CERCLA authority. Under these conditions, DOE runs the risk of being subject to differing processes and requirements depending upon the State where the site is located.

There is also a question of the appropriateness of applying many of the RCRA requirements as ARARs at CERCLA sites. The reasonableness of many of these standards, intended to address generators and disposers of hazardous wastes, diminishes when applied to the types of sites CERCLA is intended to address. For example, there is much sophistry in attempting to ascertain whether there is "placement" of wastes during a CERCLA remediation that would invoke RCRA land disposal restrictions. In many instances, considerable energy is wasted devising approaches to avoid or minimize the imposition of RCRA requirements rather than focusing on actual cleanup activity.

DOE has several options for addressing the issues arising out of the interface of RCRA and CERCLA. The pending reauthorizations of both of these statutes offer potential vehicles for reform. CERCLA could be amended to clarify that environmental restorations conducted under an authority other than CERCLA will not later be the subject of CERCLA cleanup requirements. In addition, the adoption of some type of national risk-based cleanup standards could address the incongruity of attempting to graft many of the RCRA standards onto CERCLA environmental restoration activity.

SUMMARY

CERCLA reauthorization offers a unique opportunity to affect changes in the statute that will improve the long-term effectiveness and efficiency of DOE's environmental restoration program. Even though reauthorization is still at least a year away, DOE should commence an effort to develop a comprehensive, integrated approach to CERCLA reauthorization in collaboration with other Federal agencies, such as EPA and DOD. In doing so, DOE will need to avoid the appearance of seeking to avoid stringent environmental requirements. Rather, the focus should be on proposals to improve the quality of DOE's environmental restoration activities.