

1 of 3



DOE/EIS-0200

Implementation Plan

Environmental Restoration and Waste Management Programmatic Environmental Impact Statement

January 1994

Prepared by
The United States Department of Energy
Environmental Restoration and Waste Management Program
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EXECUTIVE SUMMARY

IMPLEMENTATION PLAN

BACKGROUND

In November 1989, the Secretary of Energy established the United States Department of Energy Office of Environmental Restoration and Waste Management. This action consolidated the Department's environmental restoration and waste management activities throughout the nation (figure ES-1). In January 1990, the Secretary of Energy decided that the Department would prepare a Programmatic Environmental Impact Statement on the proposed integrated Environmental Restoration and Waste Management Program.

NEED FOR AN INTEGRATED PROGRAM

The Environmental Restoration and Waste Management Programmatic Environmental Impact Statement will evaluate the proposed action of formulating and implementing an integrated Environmental Restoration and Waste Management Program. Currently, the majority of environmental restoration and waste management activities are conducted on a site-by-site basis. An integrated Program would result in a more consistent national approach that could be implemented more efficiently and effectively.

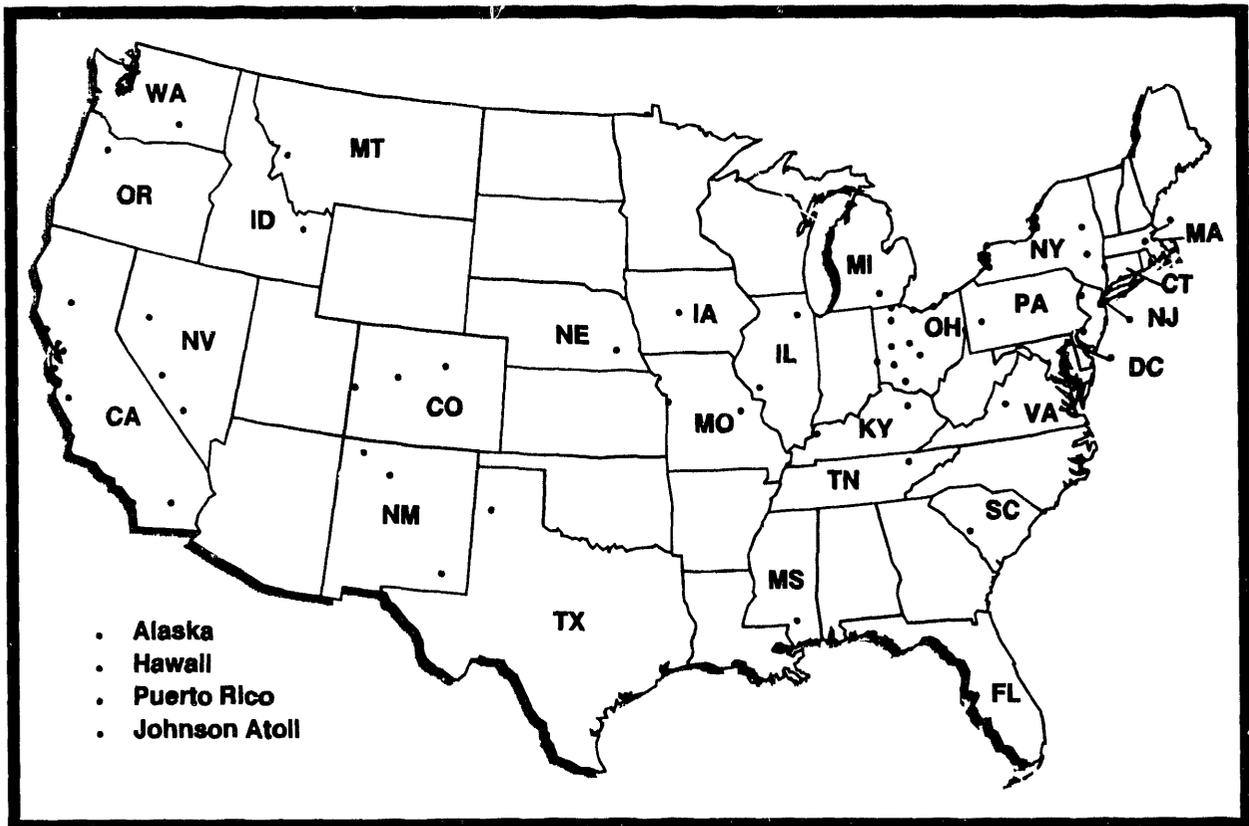


Figure ES-1. Environmental Restoration and Waste Management Activity Locations.

In addition, an integrated Program would enhance the coordination of waste operations, environmental restoration, technology development, and facility transition with other Departmental programs generating wastes requiring management, such as Defense Programs, Nuclear Energy, and Energy Research.

GOALS

The principal focus of the Programmatic Environmental Impact Statement process will be the evaluation of strategies for conducting remediation of Department sites and facilities to ensure the protection of human health and the environment; and the evaluation of potential configurations for waste management capabilities. In addition to the evaluation of environmental restoration strategies and waste management configurations, the Department also seeks to fulfill several goals through the Programmatic Environmental Impact Statement process that were expressed at the Environmental Restoration and Waste Management Advisory Committee meeting in Springdale, (Cincinnati) Ohio, on September 30, 1992. These goals are to:

- "develop the programmatic basis for integrating environmental cleanup and waste management activities;
- plan for the future so as to achieve the vision of the 30-year environmental cleanup as a sustainable program and to promote a vision of the future uses of the land;
- involve and, indeed, engage the various publics in the planning for this program and to help the public see, through readable comparisons, the costs and benefits and tradeoffs that may be made to promote more informed choices from among sometimes seemingly inconsistent paths,

and to portray a systematic analysis of relationships of the various impacts using a multi-disciplinary team-building approach, including all the stakeholders and technical and social disciplines;

- develop a corporate process that will achieve the greatest reduction in real risks over the long term for both workers and the public and then to develop analytical tools for making subsequent site-specific decisions;
- help identify where actions and opportunities exist to achieve equitable regional and national arrangements for waste management systems that can better serve more of the public needs and promote orderly, less contentious processes, and to help reconcile what the Department of Energy has perceived its corporate interests in these issues are with those of the public and try to reach as much consensus as seems possible, and identify perhaps where this may not be practical;
- incorporate waste minimization and pollution prevention in the environmental restoration, waste management and operations programs throughout the Department of Energy to minimize long-term commitment of resources, whether they are materials, the land or human resources, and to minimize the long-term impacts;
- promote the development of technology and appreciation for its limitations; and
- better serve and promote a cohesive overall Federal and state government-wide decision-making in the nationwide cleanup programs, in addition to those under the Department of Energy responsibility."

IMPLEMENTATION PLAN ORGANIZATION

In accordance with the Department of Energy's National Environmental Policy Act implementing procedures in Volume 10 of the Code of Federal Regulations, Section 1021.312, the Environmental Restoration and Waste Management Programmatic Environmental Impact Statement Implementation Plan has two primary purposes: to provide guidance for the preparation of the Programmatic Environmental Impact Statement and to record the issues resulting from the scoping and the extended public participation process. The Implementation Plan identifies and discusses the following:

- Background of Environmental Restoration and Waste Management activities, the purpose of the Programmatic Environmental Impact Statement, and the relationship of the Programmatic Environmental Impact Statement to other Departmental initiatives (chapter 1)
- Need and purposes for action (chapter 2)
- Scoping process and results of the public participation program in defining the scope of the Programmatic Environmental Impact Statement, including a summary of the comments received and their disposition (chapter 3)
- Planned scope and content of the Programmatic Environmental Impact Statement (chapter 4)
- Consultations with other agencies and the role of cooperating agencies (chapter 5)
- Planned schedule of major Programmatic Environmental Impact Statement milestones (chapter 6)

- Responsibilities for preparation of the Programmatic Environmental Impact Statement (chapter 7)

SCOPING PROCESS

The scoping and public participation process that was followed in identifying issues to be considered in the Programmatic Environmental Impact Statement was initiated on October 22, 1990, in a Notice of Intent to prepare the Environmental Restoration and Waste Management Programmatic Environmental Impact Statement. In the Notice of Intent, the Department of Energy invited the public, interested groups, and agencies to provide comments on the scope, issues, and alternatives to be considered in the Programmatic Environmental Impact Statement. After completion of a 120-day scoping period during which 23 public scoping meetings were conducted, the Department of Energy prepared and made publicly available a Draft Environmental Restoration and Waste Management Programmatic Environmental Impact Statement Implementation Plan, dated January 1992. The Department of Energy again invited the public to comment on the Draft Implementation Plan and to participate in one of six regional workshops. Figure ES-2 shows the scoping and meeting locations.

During January 1992, the Department of Energy chartered the Environmental Restoration and Waste Management Advisory Committee to provide independent reviews of the Programmatic Environmental Impact Statement analysis and other Environmental Restoration and Waste Management projects. Environmental Restoration and Waste Management Advisory Committee members, as announced on July 2, 1992, were selected

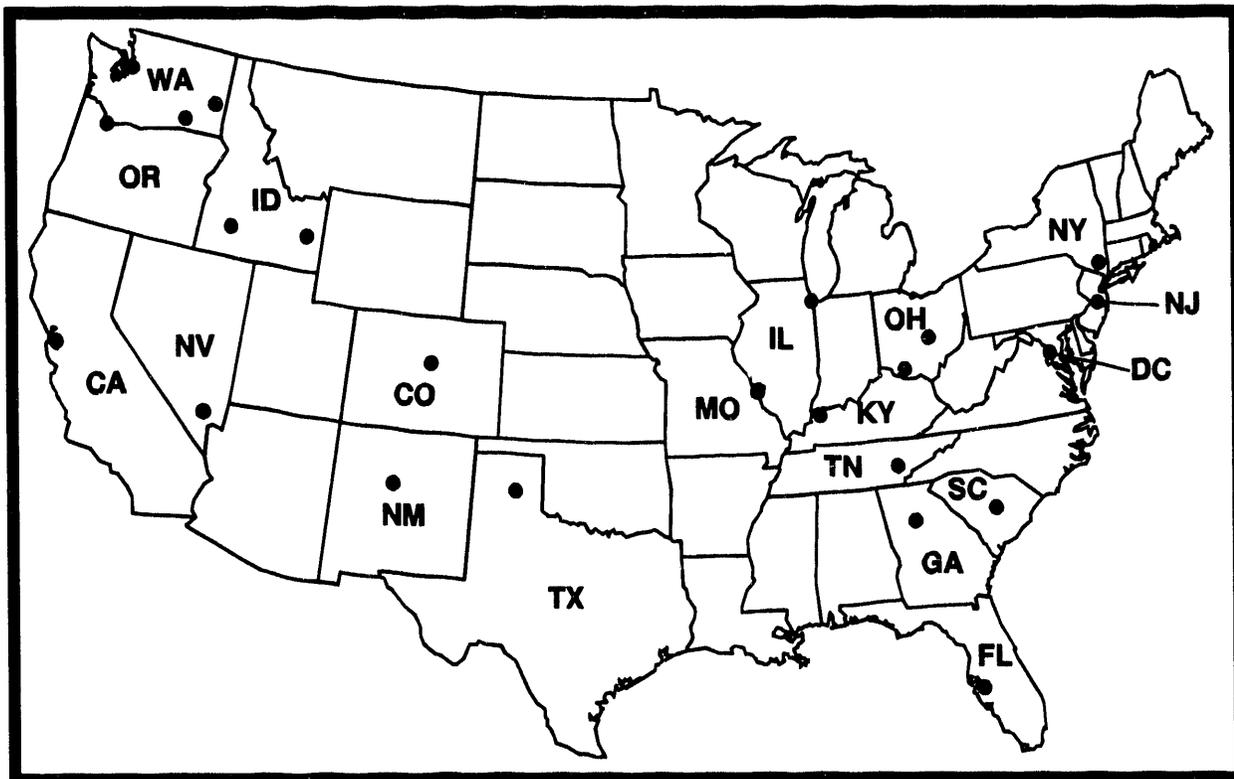


Figure ES-2. Scoping and Workshop Meeting Locations.

from universities; trade associations; Federal, State, and local government agencies; Native American organizations and groups; unions; environmental groups; and other interested parties. The Advisory Committee charter responsibilities include:

- Advising the Department of Energy on the process, content, public participation, scientific, technical, and other aspects of the analyses for the Programmatic Environmental Impact Statement and other Environmental Restoration and Waste Management projects
- Assessing the progress of the Programmatic Environmental Impact Statement
- Reviewing documents produced for the Programmatic Environmental Impact Statement process and other Environmental Restoration and Waste Management projects, as requested

- Issuing reports and recommendations
- Recommending options to resolve difficult issues faced by the Environmental Restoration and Waste Management Program

After considering comments received on the Draft Implementation Plan, the Department of Energy prepared a Working Final Programmatic Environmental Impact Statement Implementation Plan, which was then provided to the Advisory Committee for review and comment. The Department of Energy then prepared this Implementation Plan after consideration of the comments and discussions with the Advisory Committee.

During the scoping process, most issues were related to the necessity for greater public participation and oversight of the Department of Energy's activities, public and worker

health and safety, adequate resources for cleanup, technologies and alternatives for waste management, and environmental standards. In addition, several comments were received about site-specific activities and the Department of Energy's role in nuclear weapons production. During review of the Draft Implementation Plan, the issues of public participation and the Department of Energy's credibility were most frequently raised. Other issues raised during the Draft Implementation Plan review period included cleanup levels and land use, technology development, and the Programmatic Environmental Impact Statement's role in the site-specific decision-making processes for waste management facilities and environmental cleanup. In its review of the Working Final Implementation Plan, the Advisory Committee made many specific recommendations for improving the Programmatic Environmental Impact Statement coverage of alternatives and those issues of public importance that must be addressed for the success of the Environmental Restoration and Waste Management Program. During subsequent review, considerations were focused on the revision of the programmatic alternatives to be considered for environmental restoration. Figure ES-3 summarizes the number of comments by issue which the Department has considered.

ALTERNATIVES

Based on the input from the Environmental Restoration and Waste Management Advisory Committee, the programmatic alternatives for environmental restoration were structured in terms of the factors that affect the selection of remediation goals. In addition to a No Action baseline risk assessment, four other alternatives will be evaluated in detail. The first of these alternatives reflects the current implementation

of the statutory emphasis in the Comprehensive Environmental Response, Compensation, and Liability Act. This emphasis is to provide for the long-term protection of human health and the environment through compliance with environmental standards determined to be applicable or relevant and appropriate and the utilization of various treatment and resource recovery technologies to the maximum extent possible. In implementing the program under the Comprehensive Environmental Response, Compensation, and Liability Act, concerns have been raised as to whether sufficient consideration is being given to potential worker and transportation risks associated with environmental restoration remedy selection, and whether assumptions of potential future public risks from exposure to residual contamination after remedial action is completed are reasonable. The second alternative to be evaluated emphasizes foreseeable land use to better define likely exposure scenarios and appropriate waste management strategies. The third alternative equally balances remedial worker and transportation risks with the risks to a site's surrounding population. Under this third alternative, the environmental restoration program would strive to minimize situations whereby a proposed remedy would result in greater risk due to its implementation than posed by the current state of the contaminants, even if applicable or relevant and appropriate requirements must be waived to do so. The final alternative emphasizes foreseeable land use to establish the initial remediation objectives and also emphasizes the consideration of worker and transportation risks. If the worker and transportation risks associated with implementing a remedy to achieve a desired land use are considered unacceptable, alternative strategies and limitations would be systematically considered to reach an acceptable solution.

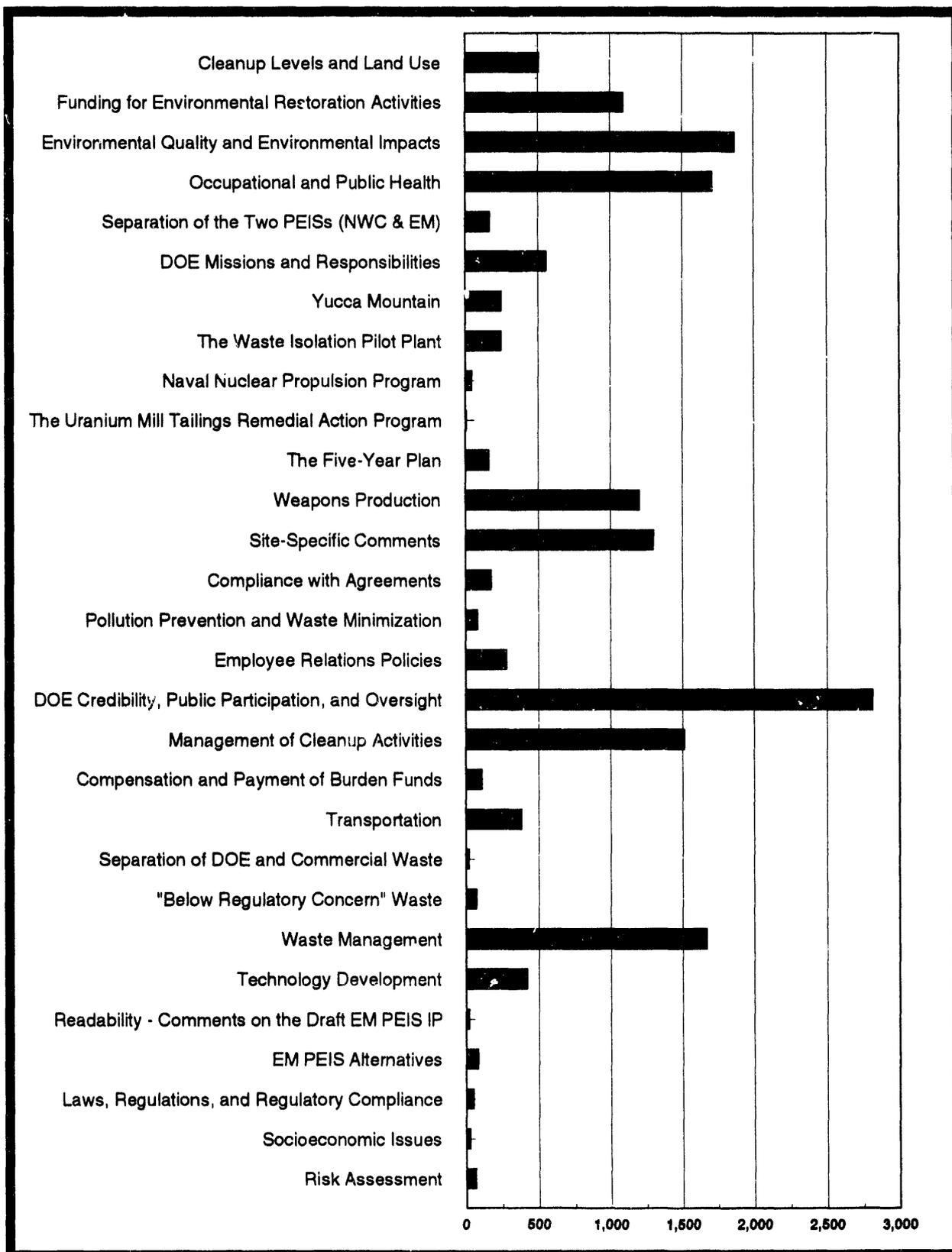


Figure ES-3. Issues and Number of Comments.

Under any of these alternatives, the Department of Energy would implement the program with the concurrence of regulating agencies and input from the local public and stakeholders in compliance with applicable environmental statutes.

The waste management alternatives to be considered in the Programmatic Environmental Impact Statement include a continuation of the current program and various configuration alternatives representing decentralized, regionalized, and centralized approaches appropriate for each of six waste types. The six waste types are high-level waste, transuranic waste, low-level waste, low-level mixed waste, hazardous waste, and Greater-Than-Class-C low-level waste. The Programmatic Environmental Impact Statement evaluation of the waste management configurations alternatives is intended to provide input for decisions about locating new or expanded waste management facilities at the Department of Energy sites; potential improvement in overall management of waste treatment, storage, and disposal by consolidating some wastes at selected sites; and Environmental Restoration wastes. Subsequent, project-level National Environmental Policy Act documents will be tiered to the Programmatic Environmental Impact Statement and will further evaluate implementation of the selected alternatives.

The Department of Energy acknowledges that uncertainties may exist that could preclude the selection of a DOE site for a particular waste management facility. In such a case, the Record of Decision issued on the basis of the Programmatic Environmental Impact Statement for waste management facilities may be at only a broad level (for example, identification of potential candidate Department of Energy sites in a region in which one or more waste facilities could be located based on additional information and

analyses). In addition, the Record of Decision may only make tentative determinations for waste management facilities requiring State permits, pending completion of permit review processes.

For both environmental restoration and waste management, the Programmatic Environmental Impact Statement will evaluate a No Action alternative, as required by the National Environmental Policy Act. The Environmental Restoration and Waste Management Advisory Committee recommended identifying the impacts under No Action of undertaking no further Environmental Restoration actions and operating only existing or approved Waste Management facilities. Approved Waste Management facilities are those for which National Environmental Policy Act review has been completed and appropriate permits received. Although taking no action is unreasonable because it does not comply with the Department of Energy policy and environmental requirements, the evaluation of no action will provide a basis upon which the impacts of further actions can be assessed.

The analysis of impacts presented in the Programmatic Environmental Impact Statement will address public and worker health and safety, environmental and ecological resources, and socioeconomics. As recommended by the Advisory Committee, the Statement will emphasize assessing issues associated with protecting public and worker health and safety.

NUCLEAR WEAPONS COMPLEX

Since the start of the Environmental Restoration and Waste Management Programmatic Environmental Impact Statement and the Programmatic Environmental Impact Statement for

reconfiguration of the Nuclear Weapons Complex, the Department has begun a major downsizing of the weapons complex. The amounts of waste to be generated as a result of operating a reconfigured Nuclear Weapons Complex will be discussed in the Programmatic Environmental Impact Statement for reconfiguring the Nuclear Weapons Complex, and the future waste to be generated by the complex will be considered in preparing the Environmental Restoration and Waste Management Programmatic Environmental Impact Statement. The current downsizing of the weapons complex is anticipated to result in impacts in the areas of workforce utilization and reuse of facilities by non-departmental entities including the public, which are no longer required to support the Department's mission. The Environmental Restoration and Waste Management Programmatic Environmental Impact Statement will address the potential changes in employment at DOE sites as a result of conducting future environmental restoration and waste management activities. Additionally, the Environmental Restoration and Waste Management Programmatic Environmental Impact Statement, through the analysis of alternative environmental restoration strategies, will consider potential future land use as an element of an integrated Environmental Restoration and Waste Management Program.

As part of the scoping process on the revised scope of the programmatic environmental impact statement for reconfiguration of the Nuclear Weapons Complex, the Department of Energy invited comments on whether the reconfiguration programmatic environmental impact statement should be combined with the Environmental Restoration and Waste Management Programmatic Environmental Impact Statement. The Department is considering the comments it has received, and the Department's decision on combining the

programmatic statements will be issued in the revised Implementation Plan for the Reconfiguration Programmatic Environmental Impact Statement.

SPENT NUCLEAR FUEL

Although the Department of Energy had proposed to consider in the scope of the Programmatic Environmental Impact Statement the storage of spent nuclear fuel, the U.S. District Court for the District of Idaho on June 28, 1993, ordered the Department to prepare a comprehensive, sitewide environmental impact statement on the environmental effects of all major Federal actions involving spent nuclear fuel at the Idaho National Engineering Laboratory. The scope of the environmental impact statement, as ordered by the Court, includes evaluating the alternative of transporting, receiving, processing, and storing spent nuclear fuel at sites other than the Idaho National Engineering Laboratory. In view of the breadth of the Court's Order, the Department proposed on September 3, 1993, to expand the scope of the Idaho National Engineering Laboratory Environmental Restoration and Waste Management Environmental Impact Statement to include the analysis of spent nuclear fuel that was being prepared for the Programmatic Environmental Impact Statement. Although the Programmatic Environmental Impact Statement will no longer consider alternatives for spent nuclear fuel, the preparation of the Programmatic Environmental Impact Statement will be closely coordinated with the preparation of the Idaho National Engineering Laboratory Environmental Impact Statement. The Programmatic Environmental Impact Statement will summarize and take into consideration, as part of its analysis of cumulative environmental consequences, the impacts of the programmatic spent nuclear fuel alternatives considered in the Idaho National

Engineering Laboratory Environmental Impact Statement.

TECHNOLOGY DEVELOPMENT

The Programmatic Environmental Impact Statement will describe the process the Department of Energy uses to select Environmental Restoration and Waste Management technologies for development, demonstration, and application. Also, the Statement will evaluate cases in which emerging technologies are believed to offer significant advantages over existing technologies. Moreover, the impact of the emerging technology on the Statement's analysis of Environmental Restoration and Waste Management alternatives will be discussed.

ADDITIONAL ISSUES

As committed to at the Draft Implementation Plan Workshops and recommended by the Advisory Committee, the Programmatic Environmental Impact Statement will discuss a number of significant programmatic issues facing the Environmental Restoration and Waste Management Program. Issues to be addressed include budgeting and prioritization, job retraining programs, stakeholder roles, waste minimization, and public involvement. These issues are important to achieving waste management and cleanup goals and the future implementation of the Program. Many of the issues that will be addressed were expressed during the public scoping process and the reviews of the Draft and Working Final Implementation Plan. These discussions would help the public understand the decisions to be reached as a result of the Programmatic Environmental Impact Statement process. Also, these discussions would present an

opportunity for the public and interested groups and agencies to directly provide their input on ways to improve the conduct of the Environmental Restoration and Waste Management Program in the future.

DRAFT PROGRAMMATIC STATEMENT

The Draft Environmental Restoration and Waste Management Programmatic Environmental Impact Statement is expected to be publicly available between June and September, 1994. After release of the Draft Programmatic Environmental Impact Statement, the Department of Energy will invite comments from the public, interested agencies, and groups on the Draft Statement. During this comment period, the Department of Energy will conduct public hearings at numerous locations near Department of Energy sites, similar to the public scoping meetings. The Department of Energy intends to provide additional time for interaction between the Department and the public. This will facilitate greater public involvement and discussion of analyses in the Programmatic Environmental Impact Statement while providing opportunities to further explore public concerns in conjunction with the public hearings. The details of the public hearings on the Draft Statement will be announced in conjunction with the availability of the Draft Programmatic Environmental Impact Statement. To provide for further involvement of the public, interested agencies, and groups, the Department of Energy also plans to conduct public workshops. Although the format and number of these workshops has not yet been determined, their goal would be to obtain the participants' informal views about the implications of the Programmatic Environmental Impact Statement analyses and about what they considered to be specific issues of importance to the Environmental Restoration and Waste Management Program.

FURTHER INFORMATION

Impact Statement Implementation Plan," appendix L.

The Implementation Plan includes a number of appendices that provide additional supportive and clarifying information on the scope of the Programmatic Environmental Impact Statement, Environmental Restoration and Waste Management's activities, and the roles and responsibilities of participating organizations. The following are appendices that readers may find of particular interest:

- The Environmental Restoration and Waste Management Programmatic Environmental Impact Statement annotated outline, appendix C
- The Environmental Restoration and Waste Management organization and functions, appendix E
- The Environmental Restoration and Waste Management Advisory Committee charter and membership, appendix H
- The Department of Energy and Environmental Protection Agency letter of agreement on Environmental Protection Agency's cooperating agency role in the Programmatic Environmental Impact Statement, appendix I
- The "Memorandum of Agreement Between the Offices of Defense Programs and Environmental Restoration and Waste Management," appendix J
- The "Public Participation Policy for Environmental Restoration and Waste Management," appendix K
- The "Environmental Restoration and Waste Management Advisory Committee Comments and the Department of Energy Responses on the Working Final Environmental Restoration and Waste Management Programmatic Environmental

CHAPTER 1

Introduction

The Department of Energy (DOE) has missions that include energy research, nuclear weapons production, development of a repository for the disposal of high-level radioactive waste and spent nuclear fuel, remediation of contaminated sites, decommissioning of inactive facilities, and management of hazardous and radioactive waste generated by these activities. In November 1989, the Secretary of Energy established the Office of Environmental Restoration and Waste Management (EM) to improve the management of remediation, waste management, and facility decommissioning by consolidating these missions into one office.

In January 1990, the Secretary of Energy decided that DOE would prepare a Programmatic Environmental Impact Statement (PEIS) on formulating and implementing an integrated Environmental Restoration (ER) and Waste Management (WM) Program. This decision was made in accordance with the National Environmental Policy Act (NEPA), as amended, which requires that Federal agencies prepare an Environmental Impact Statement (EIS) on major Federal actions that may significantly affect the environment.

On October 22, 1990, DOE published a Notice of Intent (NOI) to prepare the PEIS (appendix A-1). The NOI described the proposed action; possible alternatives; the scoping process; and the date, time, and location of the public scoping meetings (appendices A-2 and A-3). Moreover, the NOI contained the name and address of the person who would answer questions about the proposed action and the Programmatic Environmental Impact Statement.

In January 1992, a Draft EM PEIS Implementation Plan (IP) was prepared to document the issues raised during the scoping process and describe the proposed approach to preparing the EM PEIS. The Draft EM PEIS IP issued for public comment was distributed to the approximately 2,300 members of the public who had participated in the public scoping process. During March and April 1992, EM held six regional workshops on the Draft EM PEIS IP to allow for continued public participation. On July 28, 1992, EM requested that the Environmental Restoration and Waste Management Advisory Committee (EMAC) provide comments on a Working Final EM PEIS IP. The Working Final EM PEIS IP contained EM's draft responses to the public comments received on the Draft EM PEIS IP.

This EM PEIS IP includes additional information assembled in response to the input provided during the workshops and public comment period on the Draft EM PEIS IP, and from the EMAC comments received on revisions to the Draft EM PEIS IP.

1.1 Background

Over the past decades, DOE operations have resulted in the generation of numerous radiological, hazardous, and mixed (that is containing both hazardous and radioactive components) waste streams. Some of the waste management practices that DOE and its predecessor agencies once considered acceptable under then existing requirements and guidelines have resulted in the need for remediation under applicable current Federal and State requirements and guidelines. As decisions are made for remediating

contamination at various sites and facilities, and surplus facilities, material, and equipment, new waste will be generated that will require long-term management. The DOE's waste management operations include the treatment, storage, transportation, and disposal of wastes. Although an aggressive waste minimization program is being implemented, the Department's existing waste management operations lack the required facilities and capacity necessary for managing wastes.

The DOE is committed to remediating contaminated sites, to complying with all applicable environmental regulations and statutes, and to protecting the public and workers' health and safety. Extensive manpower and financial resources will be required to carry out the remediation activities; maintain and improve waste management operations; and meet current health, safety, and environmental requirements.

The DOE's commitment to meeting these requirements is being implemented by the EM Program. This Program encompasses several activities, including site remediation, decontamination and decommissioning (D&D), waste management (WM), technology development (TD), and transition management. Appendix D contains a list of documents that provide further information on EM Program activities, including the recently issued EM Five-Year Plan for fiscal year (FY) 1994-1998, and the sites at which EM activities are conducted. Appendix E contains additional information on the EM organization and its activities.

1.1.1 EXISTING ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT PROGRAM

The Environmental Restoration and Waste Management activity and process relationship is presented in figure 1.1-1. Figure 1.1-2 illustrates the diversity of EM activity locations, and table 1.1-1 provides a listing of those locations. This listing does not include Uranium Mill Tailings Remedial Action Program (UMTRAP) sites, for which the NEPA process is nearly completed and, at most of which, construction will have started or been finished by the time the EM PEIS process is completed.

1.1.1.1 Environmental Restoration Activities

The primary environmental restoration task is to remediate the environment and facilities at DOE sites across the United States. ER activities include assessing conditions and cleaning sites or facilities contaminated with radioactive, hazardous, and mixed wastes. Contamination assessment is ongoing. Many facilities after having been deactivated and declared surplus will require D&D before reuse or disposal. Both site remediation and D&D activities are included in the ER Program. Site-specific and functional EM Program planning is intended to remediate the FY 1989 inventory of inactive and surplus facilities, and to remediate those sites and facilities that are added to this inventory on a well-defined, nationally accepted schedule.

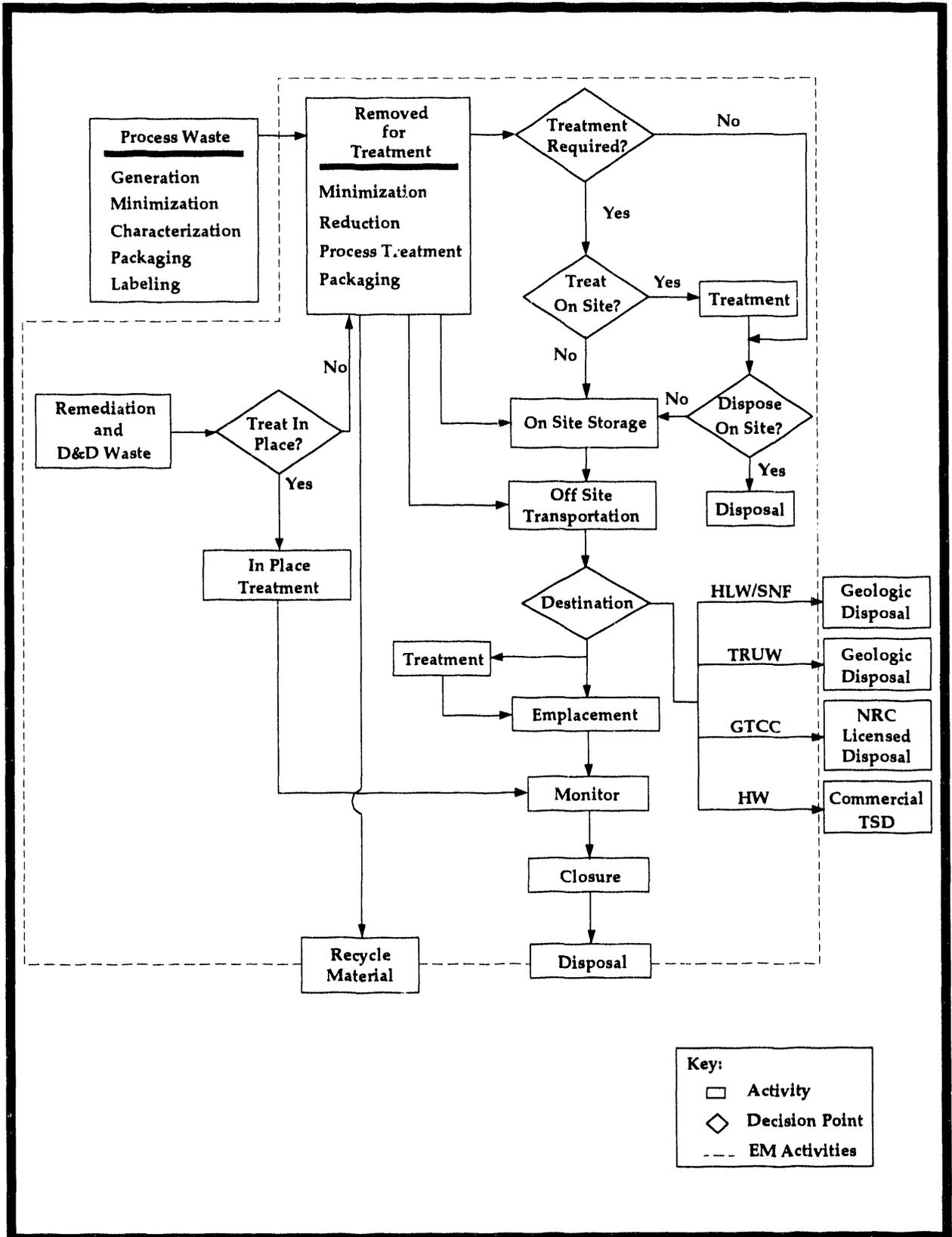


Figure 1.1-1. Current DOE Waste Activity Flow Chart.

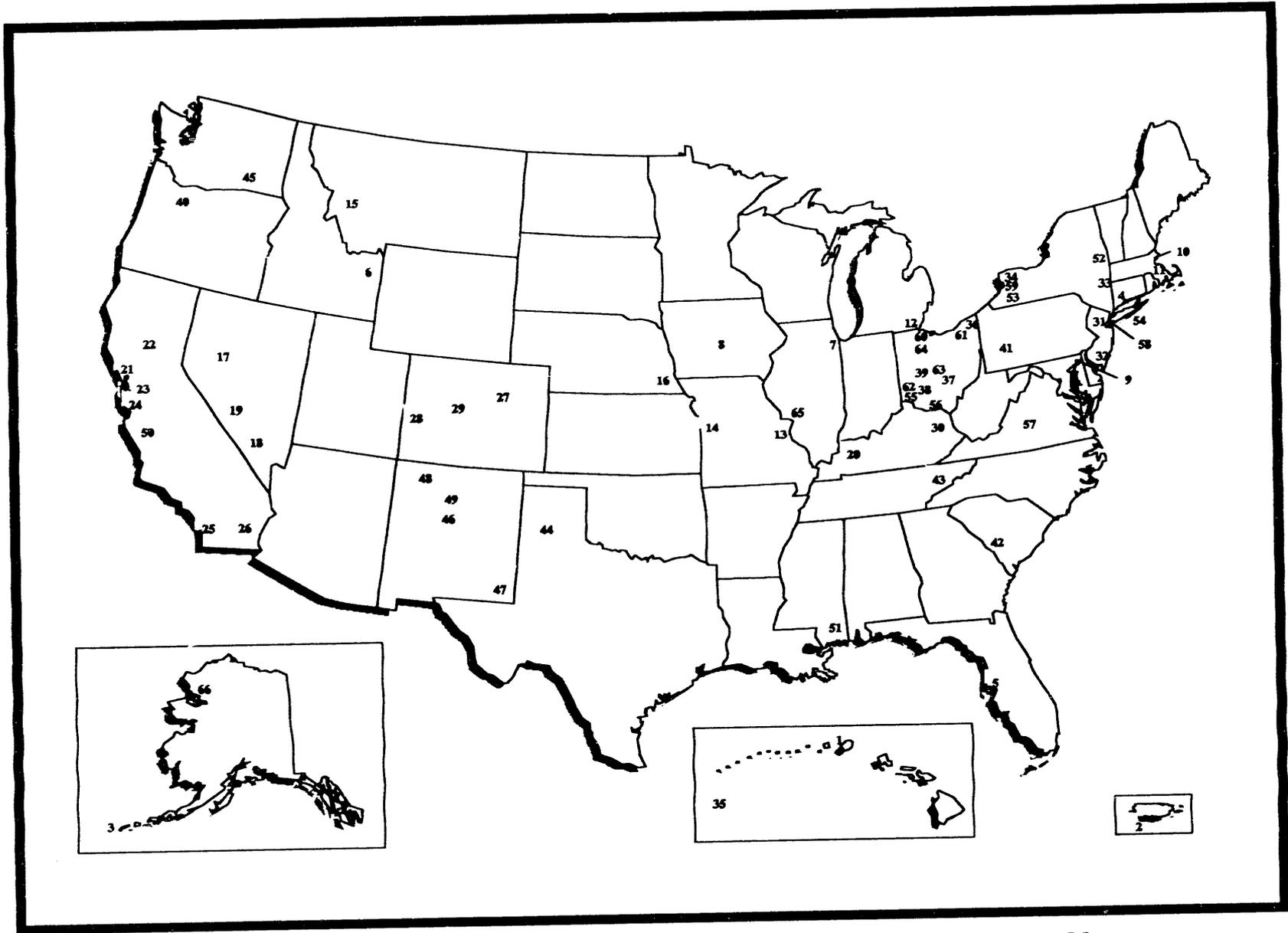


Figure 1.1-2. Environmental Restoration and Waste Management Activity Locations Map.

Table 1.1-1. Sites/Facilities Where Environmental Restoration and Waste Management Activities Are Being Conducted

LOCATION NUMBER	STATE - SITE	FACILITY
3	ALASKA Amchitka Island	Amchitka Island Test Site
66	Point Hope/Kivalina	Project Chariot
	CALIFORNIA	
21	Berkeley	University of California; Lawrence Berkeley Laboratory
50	Canoga Park	Atomics International
22	Davis	Laboratory for Energy-Related Health Research
23	Livermore	Sandia National Laboratories-Livermore; Lawrence Livermore National Laboratory
24	Palo Alto	Stanford Linear Accelerator Center
25	San Diego	General Atomics
50	Santa Susana	Energy Technology Engineering Center
26	Vallecitos	General Electric Vallecitos Nuclear Center
	COLORADO	
27	Golden	Rocky Flats Plant
28	Grand Junction	Grand Junction Projects Office
29	Grand Valley	Project Rulison Site
29	Rifle	Project Rio Blanco Site
	CONNECTICUT	
4	Seymour	Seymour Specialty Wire Formerly Utilized Sites Remedial Action Program (FUSRAP)
	FLORIDA	
5	Largo	Pinellas Plant
	HAWAII	
1	Kauai	Kauai Test Facility
	IDAHO	
6	Idaho Falls	Idaho National Engineering Laboratory; Idaho Chemical Processing Plant; Argonne National Laboratory-West
	ILLINOIS	
7	Chicago	Argonne National Laboratory-East; National Guard Armory; Palos Forest; University of Chicago; Fermi National Accelerator Laboratory
65	Granite City Madison	Granite City Steel (FUSRAP) Madison Site (FUSRAP)
	IOWA	
8	Ames	Iowa State University - Ames Laboratory
35	JOHNSTON ATOLL	Johnston Atoll
	KENTUCKY	
30	Maxey Flats	Maxey Flats
20	Paducah	Paducah Gaseous Diffusion Plant

Table 1.1-1. Sites/Facilities Where Environmental Restoration and Waste Management Activities Are Being Conducted—Continued

LOCATION NUMBER	STATE - SITE	FACILITY
9	MARYLAND Curtis Bay	W.R. Grace & Company (FUSRAP)
10	MASSACHUSETTS Beverly	Ventron (FUSRAP)
11	Norton	Shpack Landfill (FUSRAP)
12	MICHIGAN Adrian	General Motors (FUSRAP)
51	MISSISSIPPI Hattiesburg	Tatum Dome Test Site
13	MISSOURI Hazelwood	Latty Avenue Properties (FUSRAP)
14	Kansas City	Kansas City Plant
13	St. Louis	St. Louis Airport Site and Vicinity Properties (FUSRAP); St. Louis Downtown Site (FUSRAP); Weldon Spring Site Remedial Action Project
15	MONTANA Butte	Component Development & Integration Facility
16	NEBRASKA Lincoln	Hallam Nuclear Power Facility
18	NEVADA Central Nevada	Central Nevada Test Area
17	Fallon	Project Shoal Site
18	Mercury	Nevada Test Site
19	Nellis Air Force Base	Tonopah Test Range
32	NEW JERSEY Deepwater	Du Pont & Company (FUSRAP)
31	Maywood	Maywood (FUSRAP)
32	Middlesex	Middlesex Sampling Plant (FUSRAP)
31	New Brunswick	New Brunswick Site (FUSRAP)
32	Princeton	Princeton Plasma Physics Laboratory
31	Wayne/Pequannock	Wayne/Pequannock (FUSRAP)
46	NEW MEXICO Albuquerque	Inhalation Toxicology Research Institute; Sandia National Laboratory; Ross Aviation; South Valley Site
47	Carlsbad	Project GNOME Site; Waste Isolation Pilot Plant
48	Farmington	Project GASBUGGY Site
49	Los Alamos	Los Alamos National Laboratory

Table 1.1-1. Sites/Facilities Where Environmental Restoration and Waste Management Activities Are Being Conducted—Continued

LOCATION NUMBER	STATE - SITE	FACILITY
	NEW YORK	
59	Buffalo	B&L Steel (FUSRAP)
33	Colonie	Colonie (FUSRAP)
58	New York City	Baker and Williams Warehouses (FUSRAP)
34	Lewiston	Niagara Falls Storage Site (FUSRAP)
52	Niskayuna	Separations Process Research Unit
34	Tonawanda	Ashland Oil Company #1 and #2 (FUSRAP); Linde Air Products (FUSRAP); Seaway Industrial Park (FUSRAP)
54	Upton, Long Island	Brookhaven National Laboratory
53	West Valley	West Valley Demonstration Project
	OHIO	
36	Ashtabula	Reactive Metals Site
37	Columbus	Battelle Columbus Laboratory; B&T Metals (FUSRAP)
63		
55	Fernald	Fernald Environmental Management Project
64	Luckey	Luckey Site (FUSRAP)
38	Miamisburg	Mound Plant
62	Oxford	Oxford Site (FUSRAP)
61	Painesville	Painesville Site (FUSRAP)
39	Piqua	Piqua Nuclear Power Facility
56	Portsmouth	Portsmouth Gaseous Diffusion Plant
60	Toledo	Baker Brothers (FUSRAP)
	OREGON	
40	Albany	Albany Metallurgical Research Center (FUSRAP)
	PENNSYLVANIA	
41	Aliquippa Springdale	Aliquippa Forge (FUSRAP); Springdale Site (FUSRAP)
	PUERTO RICO	
2	Mayaguez	Center for Energy and Environmental Research
	SOUTH CAROLINA	
42	Aiken	Savannah River Site
	TENNESSEE	
43	Oak Ridge	K-25 Site; Y-12 Plant; Oak Ridge National Laboratory
	TEXAS	
44	Amarillo	Pantex Plant
	VIRGINIA	
57	Lynchburg	Lynchburg Technology Center
	WASHINGTON	
45	Richland	Hanford Site

1.1.1.2 Waste Management Activities

The DOE's activities produce wastes that require characterization; transportation; and treatment, storage, and disposal (TSD). WM accepts waste produced by DOE's processing, manufacturing, remediation, D&D, and research activities. Waste is managed using appropriate TSD technologies.

The WM Program manages high-level waste (HLW), transuranic waste (TRUW), low-level waste (LLW), low-level mixed waste (LLMW), hazardous waste (HW), and the storage and disposal of commercially generated Greater-Than-Class-C (GTCC) LLW. WM assumes that untreated HLW and TRUW contain hazardous components and manages the waste streams as mixed waste.

1.1.1.3 Technology Development Activities

Technology Development supports DOE's WM and ER goals. The TD activities have established several broad program areas, including research, development, demonstration, testing and evaluation; technology integration; infrastructure support for developing and improving safe and efficient transportation and packaging systems; emergency response management; and education activities and laboratory analysis. TD supports ER and WM by designing Integrated Demonstrations (IDs) and Integrated Programs for environmental restoration and waste management in which technical solutions to specific problems can be tested.

1.1.1.4 Facility Transition Activities

As DOE's nuclear facilities transition from support of the defense mission to

environmental cleanup, DOE sites, facilities, equipment, and materials with no further defense mission are transferred through a formal process to the Office of Environmental Restoration and Waste Management. The Facility Transition (FT) Program implements and manages the safe, orderly, and cost-effective transition of sites, facilities, and surplus material from donor Secretarial Offices to EM. Specific responsibilities of the FT Program include developing a timely, accurate inventory of facilities and their contents; establishing a firm acceptance policy; retaining needed human resource skills for associated work scope; identifying and documenting facility characteristics and conditions; removing, isolating or mitigating environmental hazards; developing workable standards governing the maintenance of facilities; conducting safety analyses and developing safety envelopes for the deactivation of facilities; and planning for and managing the final disposition of facilities. FT activities are closely integrated with other EM programs, specifically ER for the coordination of decontamination and decommissioning, and WM and TD for the reuse of buildings to support cleanup activities within their respective programs.

1.1.2 REGULATORY FRAMEWORK

Federal laws of major importance to ER and WM activities are the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA), the Atomic Energy Act (AEA), and the National Environmental Policy Act.

Additionally, DOE must comply with other environmental laws, such as the Clean Air Act (CAA), the Clean Water Act (CWA), the Safe Drinking Water Act (SDWA), the Federal Insecticide, Fungicide, and Rodenticide Act

(FIFRA), the Toxic Substances Control Act (TSCA), the Superfund Amendments and Reauthorization Act (SARA), the Occupational Safety and Health Act (OSHA), and applicable State statutes.

1.2 Purpose of the Implementation Plan

This EM PEIS Implementation Plan has two primary purposes: to provide guidance for preparing the PEIS and to record the results of the scoping process. To serve these purposes, this IP has been prepared in accordance with DOE's NEPA implementing procedures in the Code of Federal Regulations in 10 CFR 1021.312. Chapter 2 describes the purpose and need for the proposed action of formulating and implementing an integrated Environmental Restoration and Waste Management Program. Chapter 3 describes the scoping process and the results of the public participation program in defining the scope of the EM PEIS, including a summary of the comments received and their disposition. Chapter 4 discusses the planned scope and content of the EM PEIS. Chapter 5 identifies agencies cooperating in the preparation of the PEIS and consultations anticipated with other agencies. Chapter 6 identifies the planned schedule of major PEIS milestones, and chapter 7 identifies responsibilities for preparation of the PEIS, including the role of contractors and the execution of disclosure statements. Appendices provide documentation on the public participation process, an annotated outline of the PEIS, and more detailed information on EM programs and policies.

1.3 Programmatic Environmental Impact Statement Relationships

The EM Programmatic Environmental Impact Statement relationships to other Department of Energy activities are discussed in the following sections. Some of the issues raised during the scoping and public participation process pertain to these activities and are discussed further in chapter 3.

1.3.1 FIVE-YEAR PLAN

Annually, EM has prepared a Five-Year Plan that identifies EM's planned activities. Activities addressed by the Plan have included those undertaken to comply with regulatory agreements and requirements. The Plan has also documented recent environmental management accomplishments and specific near-term goals and activities to be accomplished at DOE sites. The Record of Decision (ROD) resulting from the EM PEIS process is expected to provide beneficial long-term guidance for conducting EM Programs; guidance that will be reflected in future planning documents for the EM Program.

1.3.2 WASTE MANAGEMENT CONFIGURATION STUDY

In the Notice of Intent to prepare the EM PEIS, DOE stated its intent to issue an EM Configuration Study concurrently with the EM PEIS. The EM Configuration Study was to be a strategic planning study for the next 25 years that would support the definition of waste system configuration alternatives to be evaluated in the EM PEIS.

The EM Configuration Study will not be prepared; instead, the analysis of WM treatment, storage, and disposal (TSD)

configurations that would have been included in the study will be incorporated into the EM PEIS to ensure that potential environmental impacts of different configurations are considered. The EM PEIS, under each of the waste type alternatives discussed in section 4.2 of this EM PEIS IP, identifies and evaluates alternative configurations for new WM TSD facilities.

1.3.3 NUCLEAR WEAPONS COMPLEX RECONFIGURATION

On February 11, 1991, DOE originally announced its intent to prepare a separate PEIS for reconfiguring the Nuclear Weapons Complex (NWC), involving 13 major facilities located in 12 States. In announcing its intent to prepare this PEIS, DOE proposed to develop a comprehensive strategy to accomplish the goal of creating a smaller, less diverse, less costly nuclear weapons complex.

In September 1991, after DOE's Notice of Intent to prepare the PEIS, President Bush announced an initiative to reduce the Nation's nuclear weapons stockpile. In response to this initiative, on November 1, 1991, the Department announced that it would delay decisions on the New Production Reactor (NPR) technology and site and include the environmental analysis for a new tritium production source in the Reconfiguration PEIS. In the light of the significantly reduced nuclear weapons stockpile, this addition to the Reconfiguration PEIS resulted in the need to evaluate the impacts of "down-sized" reactors, to reevaluate alternative technologies, such as accelerators, and to reevaluate the original reactor siting alternatives. On November 29, 1991, DOE published a notice of opportunity for public comment on incorporating the NPR environmental analysis into the Reconfiguration PEIS.

The arms reduction initiatives President Bush announced in September 1991 also provided DOE with the opportunity to accelerate the nonnuclear consolidation portion of the weapons complex without affecting national defense or the remainder of the Reconfiguration Program. Therefore, in December 1991, the Department announced a proposal to accelerate Nonnuclear Consolidation, and on January 27, 1992, DOE published a notice of its plans to prepare a separate environmental assessment (EA) for nonnuclear consolidation within the nuclear weapons complex. In June of 1993, the Nonnuclear Consolidation EA was published, and a Finding of No Significant Impact (FONSI) based on the EA was published in the *Federal Register* on September 14, 1993.

In January 1993, Presidents Bush and Yeltsin signed the START II Treaty. This agreement caused the most significant reductions to date in the planned future weapons stockpiles of both the United States and Russia. To illustrate the magnitude of the nuclear weapons reductions resulting from President Bush's initiative in September 1991 and the Start II Treaty, the Nation is now in the process of reducing its nuclear weapons stockpile to approximately 25 percent of levels planned as recently as 5 years ago. These reductions have prompted a fresh look at, and reevaluation by DOE of its earlier Reconfiguration proposal. Based on its re-evaluation, on July 23, 1993, DOE issued a revised Notice of Intent for preparing the Reconfiguration PEIS. The following are the most notable proposed changes in the Reconfiguration PEIS:

- Addition of consolidated long-term storage facilities for plutonium and highly enriched uranium
- Addition of consolidation of functions involving like materials, including the option of integrating certain research,

development, and testing (RD&T) functions with the storage and processing functions

- Addition of the Nevada Test Site (NTS) in Nevada and deletion of the Hanford Site in Washington as potential sites for future weapons complex facilities
- Changes in the No Action alternative as a result of recently announced mission changes at weapons complex sites, including transferring the Rocky Flats Plant to a cleanup mission and placing the K-Reactor at the Savannah River Site in cold standby

To ensure that the public's concerns and views are fully considered, DOE has been offering the public the opportunity to comment on the proposed revised scope of the Reconfiguration PEIS until October 29, 1993. The DOE has held public scoping meetings near all the sites proposed for analysis in the PEIS. As part of the scoping process on the revised scope of the Reconfiguration PEIS, DOE invited comments on whether the Reconfiguration PEIS should be combined with the Environmental Restoration and Waste Management PEIS. Previously, the Department had determined that the programs to be addressed by each of the PEISs were not so connected as to require a single environmental impact statement.

The DOE has received many comments, including comments from the Military Production Network, suggesting that the Reconfiguration PEIS be combined with the EM PEIS. DOE is considering these comments. The final decision on the suggested combination of the PEISs will be issued in the revised IP for the Reconfiguration PEIS.

Currently, preparation of the two PEISs is being coordinated. The method for coordinating the preparation of the two PEISs

is described in the "Memorandum of Agreement Between the Offices of Defense Programs (DP) and Environmental Restoration and Waste Management (EM) Concerning the Coordination of Environmental Restoration and Waste Management PEIS and the Nuclear Weapons Complex Reconfiguration PEIS." This memorandum is in appendix J of this IP. EM and NWC representatives meet on a monthly basis to discuss the status of their respective PEISs. The PEIS documents are being coordinated as they are prepared by the staffs responsible for the work.

1.3.4 WEAPONS DISARMAMENT INITIATIVES

Recent initiatives to eliminate certain classes of nuclear weapons and to reduce the weapons inventory will have an impact on EM activities. The cancellation of new nuclear weapons and the decontamination and decommissioning of facilities no longer required for weapons production will reduce the quantities of future waste that would have been associated with the production of these new weapons. On the other hand, dismantling existing weapons and the decontamination and decommissioning of facilities no longer required for weapons production will likely increase the resulting waste volumes. The potential changes in waste volume from these two activities will be described in more detail and evaluated in the EM PEIS.

1.3.5 SPENT NUCLEAR FUEL

On June 28, 1993, as an outgrowth of civil lawsuits, the U.S. District Court for the District of Idaho ordered DOE to prepare a comprehensive, sitewide environmental impact statement on the direct and indirect environmental effects of all major Federal actions involving spent nuclear fuel (SNF) at

the Idaho National Engineering Laboratory (INEL). The scope of the environmental impact statement, as ordered by the Court, includes evaluating the alternative of transporting, receiving, processing, and storing SNF at sites other than INEL. The SNF to be considered includes DOE SNF, Naval reactor SNF, and SNF that DOE has committed in the past or may propose in the future to accept at INEL, including certain SNF from power reactors, domestic university research and test reactors, and certain SNF from foreign research reactors.

Because of the breadth of the Court's Order for the analysis of SNF, DOE recently proposed to expand the scope of the INEL Environmental Restoration and Waste Management Environmental Impact Statement (ER&WM EIS) to include the programmatic analysis of SNF alternatives that was being prepared for the EM PEIS. On September 3, 1993, DOE issued a Federal Register Notice inviting public input on the expanded scope of the INEL ER&WM EIS. Comments received were considered in preparing the INEL ER&WM EIS Implementation Plan, which was issued on October 29, 1993.

Preparation of the programmatic SNF section of the INEL ER&WM EIS will be closely coordinated with preparation of the EM PEIS. The environmental consequences of the programmatic SNF alternatives included in the INEL ER&WM EIS will be summarized and taken into consideration as part of the EM PEIS analysis of cumulative environmental consequences.

1.3.6 WASTE ISOLATION PILOT PLANT

The Waste Isolation Pilot Plant (WIPP) is the planned repository for retrievably stored, defense-generated transuranic waste (TRUW). In October 1980, DOE issued a Final EIS on

the proposed development of the WIPP. The January 1981 Record of Decision called for the phased development of the WIPP. In February 1990, DOE issued a Supplemental EIS to the 1980 EIS that considered previously unavailable information. Based on the Supplemental EIS in June 1990, DOE decided to proceed with continued development of the WIPP by implementing the WIPP Test Phase. On October 30, 1992, enactment of the WIPP Land Withdrawal Act permanently transferred public lands from the Department of the Interior to DOE. In addition to withdrawing public lands, the Act established approximately 140 separate requirements, of which about 80 percent are new requirements for DOE and other Federal agencies. Among these requirements is a new regulatory framework in which the Environmental Protection Agency (EPA) must certify WIPP's compliance with radioactive disposal standards before establishing WIPP as a disposal site.

Before making a decision to proceed to the disposal phase, DOE will prepare a second Supplemental EIS. The EM PEIS will not re-evaluate the WIPP, nor will it assess the WIPP's suitability for the disposal of TRUW. However, the PEIS will evaluate alternatives for the treatment of TRUW to provide advanced planning information if TRUW treatment is found necessary under RCRA or under 40 CFR 191 (TRUW Disposal Standards). Also, the PEIS will evaluate a longer period of interim storage of TRUW at existing DOE sites if WIPP is delayed or found unsuitable.

1.3.7 YUCCA MOUNTAIN

Yucca Mountain is the candidate site for a HLW repository. Under the Nuclear Waste Policy Act (NWPA), Congress found that a national problem had been created by the accumulation of spent nuclear fuel (SNF) from

commercial reactors and the accumulation of HLW. The NWPA assigned to DOE the responsibility for managing the disposal of this spent fuel and high-level waste, specified the siting process, and authorized the construction of one geologic repository. Under the NWPA Amendments Act of 1987, the process for selecting this repository was streamlined, and the Yucca Mountain site in Nevada was selected for detailed study as the candidate site for the United States' first geologic repository. Under the National Energy Policy Act of 1992, DOE is required to prepare a study on the need for additional repositories for deep geologic disposal.

The DOE also is proceeding with the construction of facilities for vitrification of defense HLW. Vitrification is the method of immobilizing radioactive waste in a glass form. DOE has completed NEPA reviews that evaluated the environmental consequences of vitrification.

Because the environmental documentation process for geologic disposal was established by the NWPA, the EM PEIS will not analyze environmental impacts of disposal at Yucca Mountain or alternative locations for a geologic repository. However, as a result of the scoping comments and the possibility of the prolonged delay of disposal sites, alternatives for longer interim storage of HLW at existing DOE sites will be addressed in the EM PEIS.

1.3.8 SITE-WIDE NATIONAL ENVIRONMENTAL POLICY ACT DOCUMENTATION

In February 1990, the Secretary of Energy directed that DOE's Guidelines for NEPA be revised to include a new agency policy for developing and updating NEPA documents that assess operations for an entire site. These

documents are referred to as site-wide NEPA documents. The DOE may elect to prepare some site-wide NEPA documents before completion of the EM PEIS. Thus far, the only site-wide EIS that DOE has completed under this policy is for the Lawrence Livermore National Laboratory (LLNL) and Sandia National Laboratory-Livermore (SNL-L). Other site-wide NEPA documentation related to EM activities in progress or being planned includes that for the Hanford Site (HS), the Rocky Flats Plant (RFP), the Idaho National Engineering Laboratory (INEL), the Savannah River Site (SRS), and the Nevada Test Site (NTS). Ongoing site-wide NEPA efforts are being coordinated with the EM PEIS.

If site-wide NEPA documents are completed before completion of the EM PEIS and the NWC Reconfiguration PEIS, the site-wide NEPA documents will be supplemented, as appropriate, to reflect the determinations made as a result of the PEISs.

1.3.9 PROJECT-LEVEL INTERIM ACTIONS

Concurrent with preparation of the EM PEIS, DOE will need to evaluate many diverse, discrete, project-level ER or WM environmental restoration and waste management actions that may be related to the actions being considered in the EM PEIS. The DOE will determine whether a project-level ER or WM action requiring an EIS may proceed before the EM PEIS ROD is issued by applying the test for interim actions found in the Council on Environmental Quality (CEQ) requirements at 40 CFR 1506.1(c). An interim action must be justified independently of the program, not prejudice the ultimate decision of the program by determining subsequent development or by limiting alternatives, and be covered by adequate NEPA documentation. The DOE will review project-level action

proposals to ensure that these conditions are met. The EM PEIS is generally not intended to be sufficient NEPA documentation for project-level actions.

1.3.10 FEDERAL FACILITY COMPLIANCE PLANS

Under Section 3021(c)(1) of the Resource Conservation and Recovery Act, as amended by the Federal Facility Compliance Act of 1992 (FFCA), DOE is required to publish a schedule for submitting plans for each facility at which it generates or stores mixed waste. The plans must describe the development of treatment capacities and technologies that will treat the site's mixed waste. These plans, as required by 3021(b) of RCRA as amended, must be submitted to those States having State law and authority to prohibit land disposal of untreated mixed waste, and EPA-delegated authority to regulate the hazardous component of mixed waste. Sites located in States without such authority must submit the plans to the Environmental Protection Agency for review and approval.

Based on requests from the States and EPA, DOE began early discussions with the States and EPA and is continuing these interactions, including deliberation on technology, capacity, technology development, and regional equity concerns.

Preparation of the EM PEIS and development of the FFCA site plans will be done in parallel and closely coordinated. The Department has entered into a process of coordination with States through the National Governor's Association and expects to consider ideas from the States in the analysis of waste management in the PEIS. With respect to the FFCA plans, the PEIS will clearly present to the public, States, EPA, and DOE the environmental impacts associated with a wide range of

strategic alternatives for configuration of DOE's treatment, storage, and disposal facilities nationwide.

1.4 Cooperating Agencies

As part of the scoping process, DOE invited other Federal agencies to participate as cooperating agencies in the preparation of the EM PEIS. Cooperating agencies have roles and responsibilities in the EIS process defined in the CEQ NEPA regulations. These include participating in the scoping process, developing information and preparing environmental analyses, and lending staff support. The EPA, the Nuclear Regulatory Commission (NRC), and the Department of Health and Human Services (HHS) have agreed to be cooperating agencies for the EM PEIS. The EPA and DOE have agreed that EPA will participate by reviewing EM PEIS draft analyses before issuance to the public. Appendix I contains a copy of the agreement between the two agencies on EPA's role in the EM PEIS process. The Departments of Agriculture, Commerce, Defense, the Interior, Labor, and Transportation have declined to be cooperating agencies. The Nuclear Regulatory Commission (NRC) has stated that it will participate as a cooperating agency in a limited sense. The HHS will cooperate within the scope of the existing agreement between DOE and the Agency for Toxic Substances and Disease Registry.

CHAPTER 2

Purpose and Need for Department of Energy Action

Historically, Department of Energy (DOE) operations have been conducted on a site-by-site basis with inadequate controls for preventing the spread of hazardous and radioactive materials and insufficient procedures to minimize generation of waste. As a result, necessary remediation and decontamination and decommissioning (D&D) activities will result in large amounts of materials requiring future management in addition to the waste generated from ongoing operations.

To date, the DOE has undertaken Environmental Restoration (ER) initiatives on a site-by-site basis with compliance agreements negotiated at the installation level with State, local, and Federal agencies. Sixteen DOE sites are presently on the Superfund National Priorities List. Implementation of ER activities are being undertaken without a system-wide analysis of potential environmental consequences. In implementing ER actions, concerns have been raised as to whether sufficient consideration is being given to potential worker and transportation risks associated with ER remedy selection, and whether assumptions of potential future public risks from residual contamination after remedial action is completed are reasonable.

The analysis and environmental evaluation of alternative ER strategies is needed to provide input into the establishment of potential DOE policies for guiding future DOE remediation efforts that would be undertaken with the concurrence of regulating agencies and in compliance with applicable environmental statutes.

In general, the current configuration of waste management capabilities has been based on major program responsibilities, such as Defense Programs or Energy Research missions, and not on an integrated strategy taking into account system-wide capacities to manage ER generated, stored, and operational wastes. As a result, some DOE sites lack needed waste management (WM) capabilities and have to rely on other DOE sites to treat and dispose of their wastes. Under the Federal Facility Compliance Act, DOE is required to submit plans describing the development and implementation of future mixed waste treatment capacities and technologies for each of its sites at which it generates or stores hazardous or mixed waste. Future implementation of new treatment and disposal capabilities is affected by a number of physical factors (for example, groundwater hydrology) not historically considered in the early selection of DOE sites. Thus, the analysis and environmental evaluation of alternative WM configurations is needed to provide input into determinations on the future deployment of WM capabilities.

The purpose of formulating and implementing an integrated Environmental Restoration and Waste Management (EM) Program is to achieve a long-term plan for future EM actions. Presently, many of the EM Program actions are conducted in response to individual site initiatives and compliance agreements. Through evaluating and determining system-wide ER strategies and alternative WM configurations, major components of a long-term EM Program can be identified to more efficiently and effectively apply resources. By considering system-wide ER strategies and WM configurations as part of an integrated plan, the public and stakeholders can become

involved in a comprehensive process forming a basis for future EM actions that would not otherwise be possible if future actions were to continue on an individual site-by-site basis.

In fulfilling the purpose of formulating and implementing an integrated EM Program, specific objectives of the plan are to:

- Safely and acceptably minimize, handle, treat, store, transport, and dispose of DOE waste
- Ensure that risks to the environment and to human health and safety posed by the inventory of inactive and surplus facilities are eliminated or reduced to prescribed or acceptable levels
- Reduce or eliminate risks to human health and safety and to the environment from environmental restoration and waste operation activities
- Emphasize compliance with laws and regulations for the protection of the environment and the health and safety of the public and workers
- Provide adequate capabilities and arrangements for the management of wastes at all DOE sites on a cost-effective basis.

CHAPTER 3

The Public Participation Process and Results

To determine the range or scope of issues to be addressed and the proposed action and alternatives to be analyzed in an Environmental Impact Statement (EIS), the Council on Environmental Quality (CEQ) regulations [40 Code of Federal Regulations (CFR) 1501.7] requires Federal agencies to engage in an open and early "scoping" process. As part of this process, both the CEQ regulations and the U.S. Department of Energy (DOE) National Environmental Policy Act Implementing Procedures (NEPA) (10 CFR Part 1021) require DOE to invite interested agencies and the public to participate in determining the scope of an EIS and the issues to be analyzed in depth. In fulfilling these scoping requirements, DOE's Office of Environmental Restoration and Waste Management (EM) has gone beyond the required minimum level of public participation to ensure that all relevant issues are identified and addressed in the Programmatic Environmental Impact Statement (PEIS).

On October 22, 1990, a Notice of Intent (NOI) was published in the *Federal Register* announcing DOE's intent to prepare the EM PEIS. The NOI invited interested agencies, affected Indian tribes, and the public to participate and, in particular, to submit comments on the scope of the EM PEIS. After a 120-day public scoping period during which 23 public scoping meetings were held, a Draft EM PEIS Implementation Plan (IP) was prepared. The Draft IP summarized the comments received and identified those issues, as suggested by the comments, that would be considered in preparing the EM PEIS.

Although not required by the public participation requirements under CEQ and DOE NEPA regulations, the Draft EM PEIS IP was made available for public comment on February 4, 1992. All interested agencies, groups, and persons were invited to submit comments on the Draft EM PEIS IP. After a 60-day comment period on the Draft EM PEIS IP, during which six workshops were conducted, the comments on the Draft EM PEIS IP were summarized, additional issues to be included in the EM PEIS were identified, and a Working Final EM PEIS IP was prepared.

In January 1992, DOE chartered the Environmental Restoration and Waste Management Advisory Committee (EMAC). On July 2, 1992, DOE announced the members of this new Committee, who were selected from universities; trade associations; Federal, State, and local government agencies; Native American organizations and groups; unions; environmental groups; and other interested parties. On July 28, 1992, EMAC was asked to review and comment on the Working Final EM PEIS IP. During the EMAC review, DOE received a number of comments from individual members of the EMAC; on December 21, 1992, the EMAC submitted its formal recommendations on the Working Final EM PEIS IP. Following the consideration of the EMAC formal recommendations, revisions to the IP were prepared and submitted to the EMAC. At the EMAC PEIS Subcommittee meetings in June and August, 1993, the revisions made to the IP as a result of the EMAC recommendations were discussed, and then this Implementation Plan was prepared.

This chapter describes the public participation process, including the public scoping process required by CEQ and DOE NEPA regulations, that was followed in arriving at the scope of the EM PEIS. Sections 3.1 through 3.4 describe each of the main steps that were followed. Section 3.5 summarizes the comments and issues raised through the public participation efforts and describes whether and in what ways the issues raised will be addressed in the PEIS.

3.1 Initial Definition of Scope and Issues

The DOE began the scoping process for the EM PEIS on October 22, 1990, by publishing a Notice of Intent (NOI) (appendix A-1) that defined the EM Program's proposed action and alternatives and that identified those issues considered to be both within and outside the PEIS scope. The DOE NOI also invited the public and other government agencies to provide written comments on the PEIS scope and to participate in the scheduled scoping meetings.

The proposed scope of the PEIS was summarized in the NOI. Activities within the PEIS scope included cleanup of contamination at DOE sites and certain other properties; decontamination and decommissioning (D&D) or dismantling of DOE's surplus facilities; and treatment, storage, and disposal of wastes generated by ongoing Nuclear Energy, Energy Research, and Defense Programs and by remediation and other activities for which EM has management responsibility. Issues associated with these activities include land use, cleanup levels, the environmental basis for deciding cleanup priorities, and waste transportation.

In the NOI, DOE identified the following concerns as being within the PEIS scope:

- "(1) The potential impacts (both beneficial and adverse) to worker health, public health, and the environment under various alternatives for environmental restoration and waste management.
- (2) The potential impacts to workers, public health, and the environment under various alternatives from routine transportation of waste and potential transportation accidents.
- (3) The development of needed technologies and methods for environmental restoration and waste management and the potential impacts (both beneficial and adverse) from their implementation.
- (4) Any obstacles to achieving full compliance with all applicable Federal, State, and local environmental statutes, regulations, and requirements.
- (5) The socioeconomic impacts of alternatives for dispersed, regional, and centralized waste management.
- (6) The potential impacts of applying various land-usability strategies to the cleanup of DOE installations and sites."

The NOI also identified a number of issues and activities that DOE did not believe to be within the scope of the PEIS. These included disposal of high-level waste (HLW) in a central repository, demonstration of the disposal of defense-generated transuranic waste (TRUW) in the Waste Isolation Pilot Plant (WIPP), management of commercial spent nuclear fuel (SNF), management of commercial low-level waste (LLW), and cleanup and disposal activities associated with the Uranium Mill Tailings Remedial Action Program (UMTRAP).

3.2 Scoping Meetings

After the NOI was issued, EM held a national workshop, on November 19, 1990, with representatives from environmental and public interest groups to discuss the proposed PEIS scope and ways to improve participation in the public scoping meetings. As a result of this workshop, DOE revised the scoping meeting plan to include distribution of written information in advance of the meetings and to include time during the meetings for informal interaction between the attendees and DOE. *Federal Register* notices published on November 6, 1990, and December 11, 1990 (appendices A-2 and A-3), announced the dates, locations, and times of the scoping meetings. The scoping meetings were also publicized in local media.

Beginning on December 3, 1990, DOE held 23 scoping meetings at the locations shown in figure 3.2-1. The public scoping meetings were held in compliance with CEQ and DOE requirements, and in fulfillment of DOE's policy to facilitate opportunity for public involvement in the NEPA process. The public scoping meetings ended on February 7, 1991. Copies of the meeting transcripts were made available at the DOE Reading Rooms identified in the *Federal Register* notices.

The 120-day scoping period extended from October 22, 1990, through February 19, 1991. However, some comments received after the end of the public comment period were incorporated into the formal record to the extent practicable.

As shown in figures 3.2-2 and 3.2-3, more than 1,200 people provided approximately 7,000 comments, either by commenting in the meetings or by submitting materials and letters to DOE. Although most of comments came from individuals, some 280 organizations, including environmental, public interest, and community groups, also participated. Equal weight and consideration were given to oral and written comments.

3.3 Regional Workshops on the Draft EM PEIS IP

On February 4, 1992, DOE announced that the Draft EM PEIS IP was available for public comment and that regional workshops would be held to encourage public involvement in the process (appendix A-4). The Draft EM PEIS IP was mailed to approximately 2,300 members of the public who participated in the scoping process (note: about 1,200 of these individuals submitted comments). The announcement stated that five regional workshops would be held in Atlanta, Georgia, on March 17, 1992; Las Vegas, Nevada, on March 19, 1992; Denver, Colorado, on March 25, 1992; Spokane, Washington, on March 27, 1992; and Washington, DC, on March 31, 1992. Because of the high level of interest demonstrated in the Cincinnati, Ohio, region, a sixth regional workshop was held in Cincinnati on April 2, 1992 (appendix A-5). The Notice of Availability of the Draft EM PEIS IP also stated that DOE would accept comments until April 10, 1992. This date was later extended to April 25, 1992, as stated in the March 10, 1992, *Federal Register* announcement.

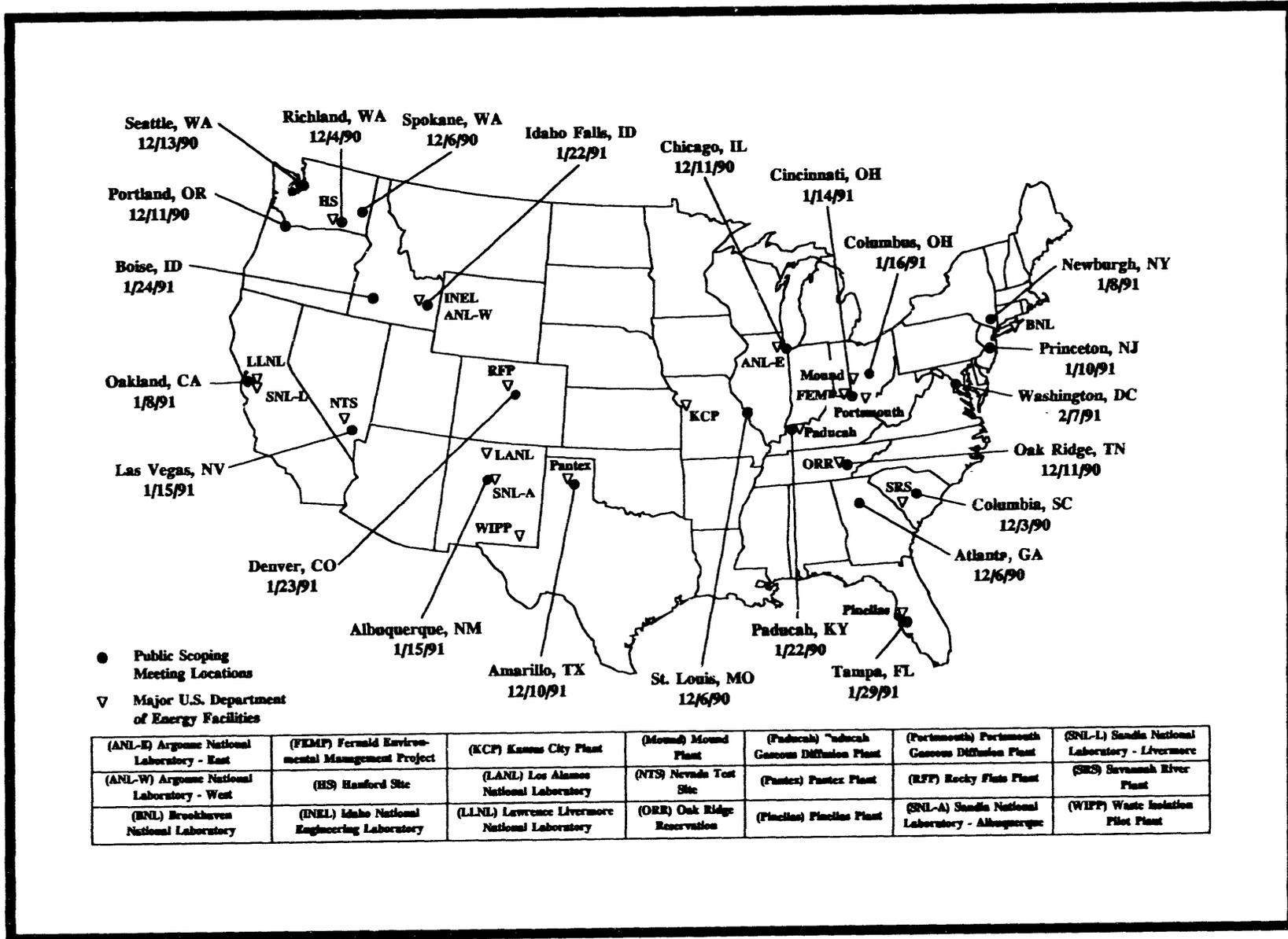


Figure 3.2-1. Locations and Dates of Public Scoping Meetings.

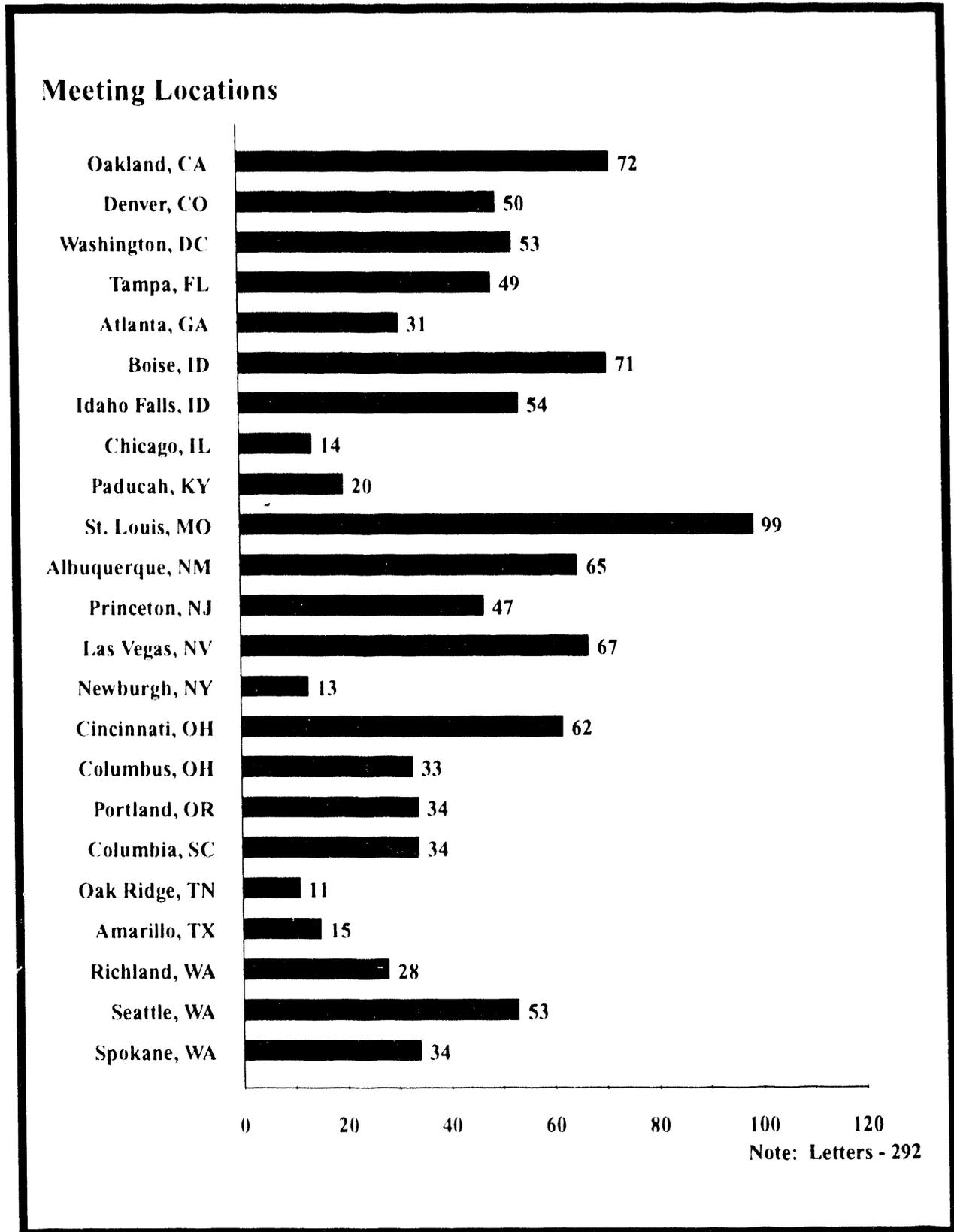


Figure 3.2-2. Number of Scoping Commenters.

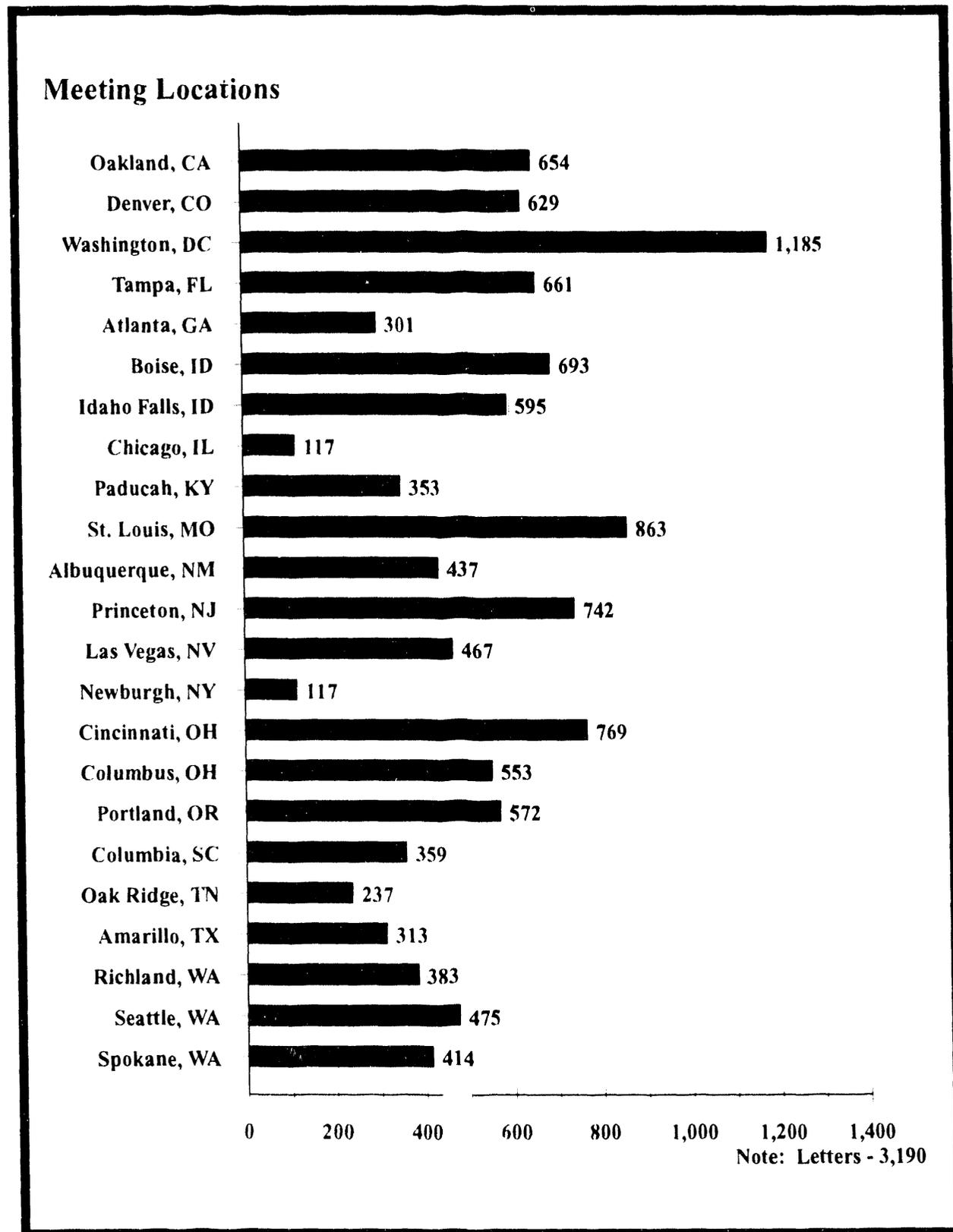


Figure 3.2-3. Number of Scoping Comments.

The workshops were intended to accommodate regional interests and to be responsive to public concerns about DOE sites. The workshop participants included principal DOE managers involved in EM policy. Representatives from DOE field offices in the regions attended the workshops to respond to site-specific questions. Figure 3.3-1 shows the locations of the workshop meetings in relation to major DOE sites.

Because the Draft EM PEIS IP workshops were informal, no transcripts were made. However, non-DOE professional facilitators took notes to record the discussions at the six regional workshops. The workshops consisted of day and evening plenary sessions; small group "break-out" sessions were held during the day. Plenary sessions began with DOE officials making presentations on the Environmental Restoration (ER), Waste Management (WM), and Technology Development (TD) Programs, and the EM PEIS process. Appendix G contains graphics used during the workshops. After the daytime plenary session, the attendees were divided into groups to allow more detailed discussion. As stated in the announcements, the break-out sessions focused on EM Program issues relating to the EM PEIS, including the EM PEIS Process, ER, WM, and TD. Attendees at each of the break-out sessions had the opportunity to participate in discussions of each of these topics. A DOE subject matter expert was available during all sessions to answer questions and to discuss DOE policy. At the end of the day sessions, the issues raised during the discussions were summarized for the attendees. This summary presentation was repeated during the evening sessions. After the evening plenary session, attendees were asked to raise issues and questions for discussion relating to the EM

PEIS. Finally, at the completion of both the day and evening sessions a senior DOE official commented on the discussion, often indicating the action DOE would take on some of the issues raised during that workshop. Attendance varied from location to location and between the day and evening sessions.

Public comments and issues were obtained from three main sources: notes taken at each workshop; letters DOE received on the Draft EM PEIS IP; and comments written on survey forms. One survey form was included with the Draft EM PEIS IP mailing. The second survey was conducted at the six regional workshops. The two survey forms contained different questions. Copies of the summary of notes taken at the workshops are available at DOE Reading Rooms. Figure 3.3-2 shows the total number of people who attended each workshop. Figure 3.3-3 shows the number of comments received.

3.4 EMAC Comments on the EM PEIS IP

In January 1992, the DOE chartered the Environmental Restoration and Waste Management Advisory Committee (EMAC). Their charge is to advise DOE's Assistant Secretary for EM on both the substance of and the process for the PEIS from the perspective of affected groups and state and local governments (appendix H). On July 2, 1992, DOE announced the members of this new Committee, who were selected from universities; trade associations; Federal, State, and local government agencies; Native American organizations and groups; unions; environmental groups; and other interested parties (appendix H).

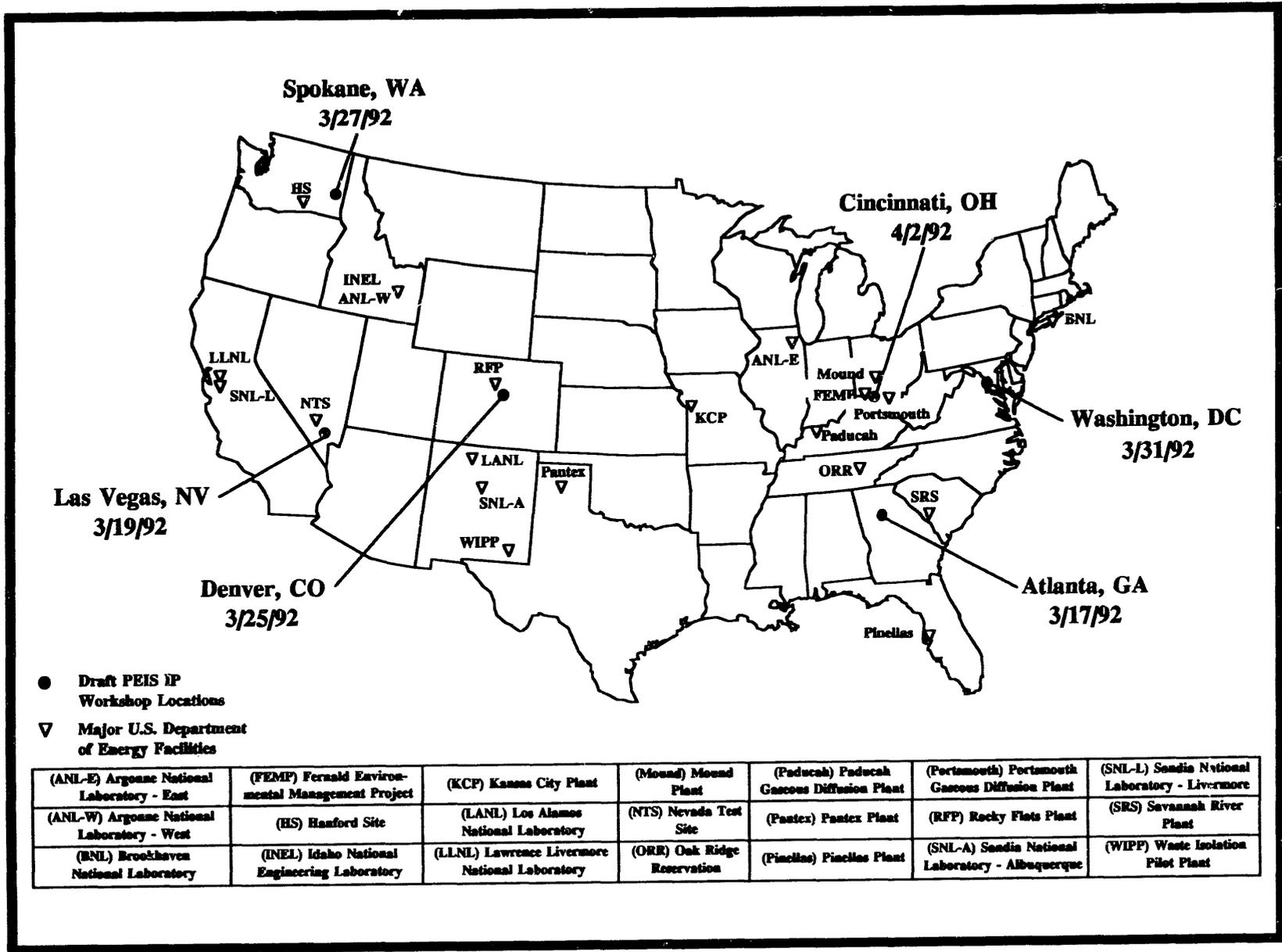


Figure 3.3-1. Locations and Dates of Draft EM PEIS IP Workshops.

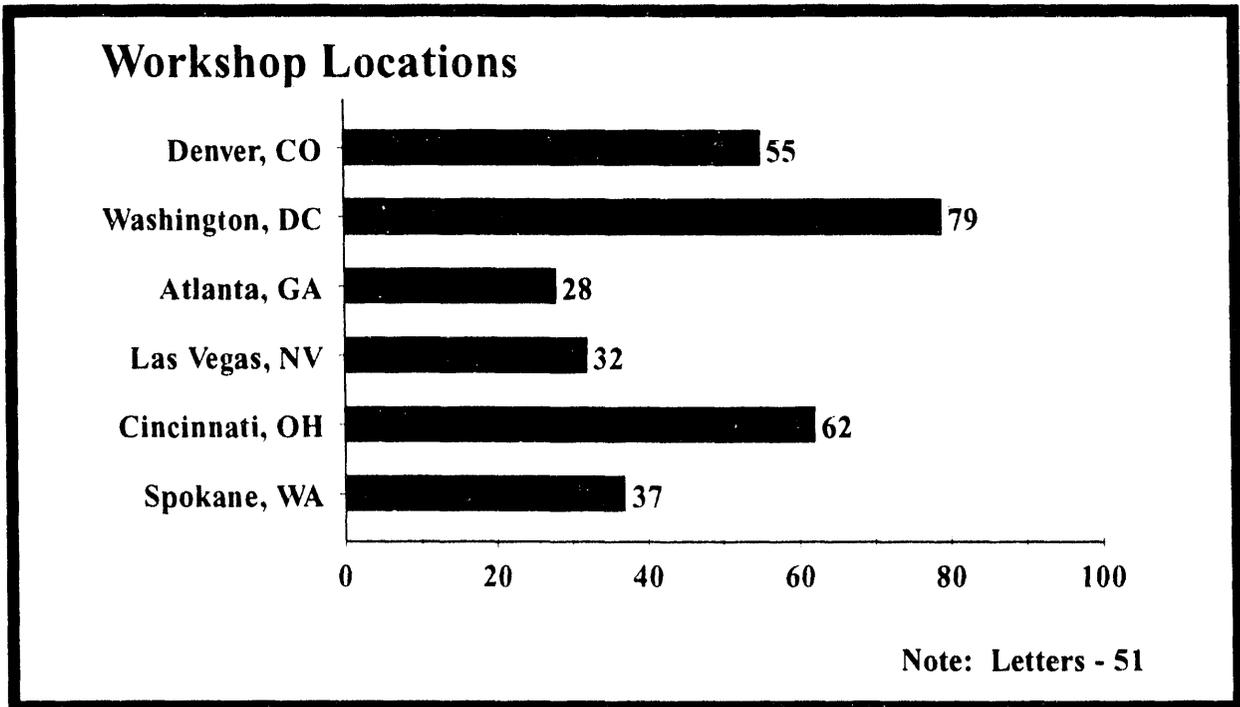


Figure 3.3-2. Number of Commenters at Workshops and Written Submittals Received on Draft EM PEIS IP.

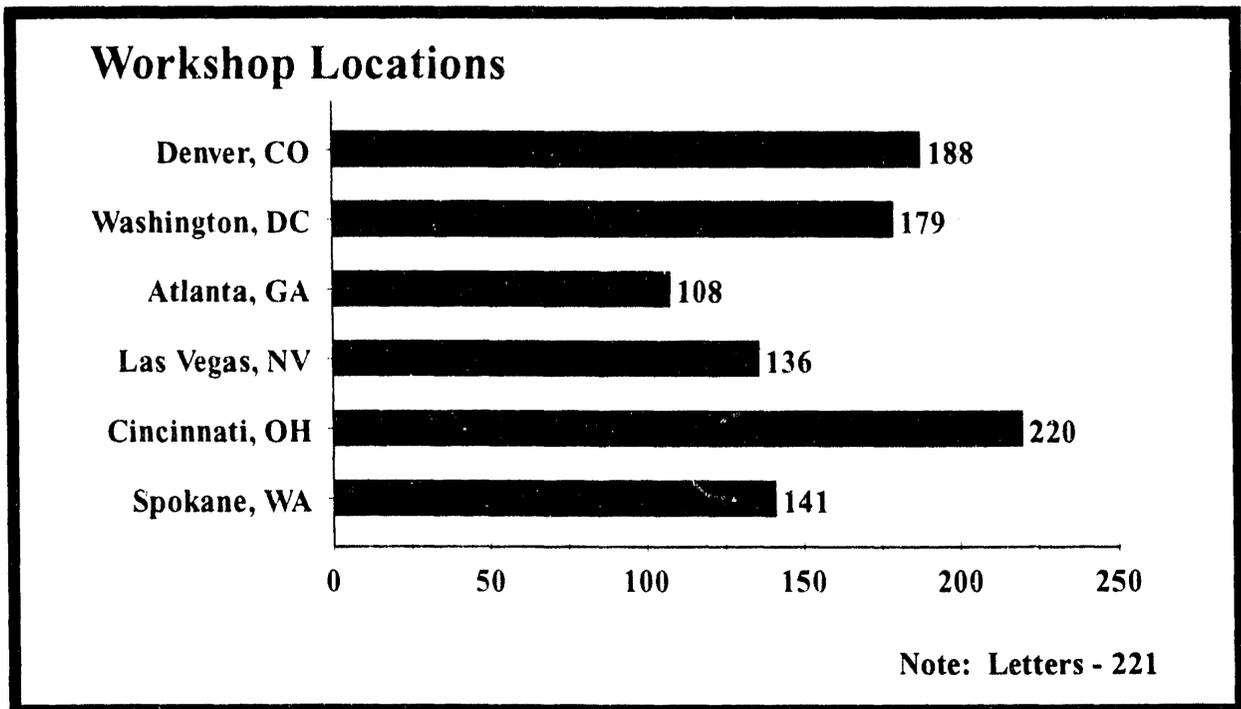


Figure 3.3-3. Number of Comments on Draft EM PEIS IP.

On July 28, 1992, the EMAC was asked to review and comment on the Working Final EM PEIS IP. In the succeeding weeks, meetings as requested by EMAC members were held with EM personnel, and a number of comments from individual EMAC members were received. Following the consideration of the EMAC formal recommendations, revisions to the IP, dated May 11, 1993, were prepared and submitted to the EMAC. At the EMAC PEIS Subcommittee meetings in June and August 1993, the revisions to the IP were discussed, and then this Implementation Plan was prepared.

3.5 Response to Scoping, Draft EM PEIS IP, and EMAC Comments

A comment tracking system was established to identify and categorize the comments received during the public scoping process as an aid in their evaluation. This system organized the public scoping comments according to keywords; when a single comment raised more than one issue, it was assigned multiple keywords. This system identified and categorized more than 15,000 keyword comments into 24 topical issues.

During the public review period on the Draft EM PEIS IP, 103 individuals submitted written comments. Additional comments were recorded from the completion survey forms distributed with the Draft EM PEIS IP and during the workshops and from the comments noted during the workshop sessions. Using the comment tracking system with the comment categories employed for the scoping process comments, approximately 1,000 additional comments were identified as part of the public participation process on the Draft EM PEIS

IP. Because many of the comments were taken from workshop notes, some of the 1,000 identified comments represent a composite of comments expressing similar views of an issue. Based on the range and number of comments received, five additional topical issues were identified. These additional topical issues represented either new issues or subdivisions of a previously identified issue.

From the individual EMAC member comments received on the Working Final EM PEIS IP, more than 150 comments were identified and categorized into issues. The formal EMAC recommendations and the DOE response to these recommendations are in appendix L. The formal EMAC recommendations were not categorized into issues similar to the individual EMAC member comments; however, many of the individual EMAC member comments reflect the same issues in the recommendations because the individual EMAC member comments formed a basis for the EMAC recommendations.

Table 3.5-1 lists the distribution by topical issue of all comments received result of the public scoping process, the public review of the Draft EM PEIS IP, and the individual EMAC member reviews of the Working Final EM PEIS IP.

The discussions that follow summarize the comments received during the public scoping and public participation processes on the scope of the PEIS and summarize DOE's responses by general concern or issue. To distinguish comments received as a result of the scoping process from those received during the remainder of the public participation process, comments received during the scoping process are followed by the word "Scoping" in parentheses;

Table 3.5-1. PEIS Issues and Number of Keyword Comments From Scoping and on Draft and Working Final PEIS IP

Chapter 3 Section	Issues	Number of Scoping Comments	Number of Draft IP Comments	Number of Working Final IP Comments
3.5.1	Cleanup Levels and Land Use	402	95	14
3.5.2	Funding for Environmental Restoration Activities	1041	44	6
3.5.3	Environmental Quality and Environmental Impacts	1840	26	6
3.5.4	Occupational and Public Health	1681	31	3
3.5.5	Separation of the Two PEISs (NWC & EM)	159	13	1
3.5.6	DOE Missions and Responsibilities	542	17	0
3.5.7	Yucca Mountain	229 ^a	16 ^a	6
3.5.8	The Waste Isolation Pilot Plant	229 ^a	16 ^a	5
3.5.9	Naval Nuclear Propulsion Program	46	3	1
3.5.10	The Uranium Mill Tailings Remedial Action Program	9	3	1
3.5.11	The Five-Year Plan	152	11	5
3.5.12	Weapons Production	1194	7	3
3.5.13	Site-Specific Comments	1272	27	5
3.5.14	Compliance with Agreements	159	16	3
3.5.15	Pollution Prevention and Waste Minimization	66	22	1
3.5.16	Employee Relations Policies	273	10	1
3.5.17	DOE Credibility, Public Participation, and Oversight	2296	464	56
3.5.18	Management of Cleanup Activities	1440	60	14
3.5.19	Compensation and Payment of Burden Funds	110	5	1
3.5.20	Transportation	349	35	2
3.5.21	Separation of DOE and Commercial Waste	15	11	1
3.5.22	"Below Regulatory Concern" Waste	67	7	2
3.5.23	Waste Management	1533	124	15
3.5.24	Technology Development	324	95	6
3.5.25	Readability - Comments on the Draft EM PEIS IP	---	20	4
3.5.26	EM PEIS Alternatives	---	82	5
3.5.27	Laws, Regulations, and Regulatory Compliance	---	50	8
3.5.28	Socioeconomic Issues	---	25	6
3.5.29	Risk Assessment	---	59	12

^a The number of 3.5.7 and 3.5.8 comments are consolidated.

comments received during the public participation process on the Draft EM PEIS IP are likewise labeled "Draft IP"; and comments provided by individual EMAC members are identified as "EMAC." The discussion of each of the issues also identifies which issues DOE considers within the PEIS scope. DOE determined that comments were within the PEIS scope if they pertained to how DOE should conduct cleanup or carry out its waste management responsibilities, addressed issues that were timely for analysis in this PEIS, raised programmatic issues not covered by existing environmental documentation, were programmatic and not site-specific in nature, or addressed activities that could be studied for relevant environmental impacts. Although some comments received during the public participation process were not within the EM PEIS scope, DOE will consider the public input received as part of ongoing DOE efforts to improve the programs and activities these comments addressed.

As discussed in section 4.6 of this IP, the PEIS will discuss a number of significant programmatic issues important to the achievement of waste management and cleanup goals and the future implementation of the EM program. Many of these issues were raised or expressed during the public scoping process and the reviews of the Draft and Working Final EM PEIS IP. During the public workshops on the Draft IP, DOE made a commitment to discuss these types of issues in the PEIS because the discussions would help the public understand the determinations to be reached as a result of the PEIS process and would also provide an opportunity for the public and interested groups and agencies to directly provide input on future improvements to conducting the EM program.

3.5.1 CLEANUP LEVELS AND LAND USE

During the public scoping process, commenters asked for a full PEIS discussion of the potential impacts associated with unrestricted, restricted, and dedicated land use options, as well as the effects of these options on tribal rights. The comments were wide ranging, some people suggested that DOE remove all contamination and release the land to the public for unrestricted use. Others suggested that DOE provide for the maximum use of in-place or onsite remediation with waste transported only when necessary to protect human health and the environment and then only to the nearest contaminated site. Commenters wanted clear, sensible standards for cleanup.

During the public participation process on the Draft and Working Final EM PEIS IP, DOE received several comments on cleanup levels and land use. The comments on cleanup levels included those that requested the DOE to involve the public in deciding cleanup levels. Commenters were also concerned about how DOE would determine which standards to use. With respect to land use, commenters expressed their interest in DOE land use decisions, how these decisions will be made, and who will participate in making the decisions. Commenters also stated that DOE needs a land use policy that explains the land use categories to be used and how these categories will be related to cleanup criteria.

Examples of the range of comments on cleanup levels included:

- Sensible standards are needed. (Scoping)
- Standards should be based upon science and established by an independent agency. (Scoping)

- Clean Water Act (CWA) standards should be used. (Scoping)
 - Natural radiation background levels should be used as reference. (Scoping)
 - The DOE should establish limits of toxicity for cleanups. (Scoping)
 - The DOE must get local, State, and broad-based public involvement in setting standards for cleanup levels. (Draft IP)
 - Assurances are needed that future operations will follow standards at least equivalent to those now used for "cleanup" and restoration. (Draft IP)
 - Standards should combine national and site-specific standards that consider background conditions. (Draft IP)
 - Uniform standards should be kept—make the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) regulations work. Do not reinvent processes. (Draft IP)
 - Risk to public health should be considered the only criteria (in determining cleanup levels). (Draft IP)
 - The DOE should get involved in influencing standards (for cleanup levels) set by Federal, State, and other regulatory bodies. (Draft IP)
 - Standards for acceptable pollution levels should either be uniform across the country or variations should be agreed to locally. (Draft IP)
 - Regardless of which standards are used, the methodologies in the EM PEIS, including evaluation of data to be applied, should be described. (Draft IP)
 - The fact that the Nuclear Regulatory Commission (NRC) and Environmental Protection Agency (EPA) differ in their definitions of "clean" is problematic (Before termination of an NRC license, the facility must be decontaminated and decommissioned so that unrestricted use after license termination is permitted.) (Draft IP)
 - The IP should provide a detailed framework for future waste management and cleanup decisions. (EMAC)
 - Because EPA appears to be reluctant or struggling to issue radiation or mixed waste cleanup criteria, DOE should offer proposed cleanup levels for radiation and mixed waste. (EMAC)
 - The DOE needs to state that it will not just meet regulations and standards but will try to do better whenever possible. (EMAC)
 - The as-low-as-reasonably-achievable (ALARA) principle should be adhered to, so that, if economically feasible, the cleanups will go as far below the standards as possible to reduce "cumulative risks." (EMAC)
 - The DOE does not have a realistic handle on risks to either workers or the public, and is predominantly concerned with meeting regulations. (EMAC)
- Examples of the range of comments on land use included:
- The DOE should consider dedicated land use rather than moving waste, which creates risk to the public. (Scoping)
 - The DOE should not create any national dedicated land use areas. (Scoping)

- The DOE should consider restricted land use only as an option of last resort. (Scoping)
- Unrestricted land use should be DOE's cleanup goal. (Scoping)
- The DOE should address traditional Native American land use. (Scoping)
- The DOE should apply land use classifications from the Draft IP: restricted, unrestricted, and somewhat restricted. There should be no "sacrifice zones," and any contaminated sites should be for restricted use only. (Draft IP)
- Specific land use categories, not just general categories, should be used. (Draft IP)
- The DOE needs a long-term land use plan. (Draft IP)
- The DOE should analyze some specific land and water contamination scenarios and relate these to land uses. (Draft IP)
- Local citizens should be involved in making land use decisions. (Draft IP)
- Land use issues must reference specific sites and not be generic. (Draft IP)
- The DOE should relate WM facility locations to ER land uses. (Draft IP)
- The IP should include specific plans for involving local government officials and the public in land use decisions. (EMAC)
- The DOE needs a land use policy. (EMAC)
- The DOE is making no effort to deal realistically with the land use issue. (EMAC)

The DOE is committed to involving local citizens and government leaders in finding better solutions to EM problems, including application of standards to site cleanup. The DOE will seek to improve processes for involving interested persons at the local level. The DOE believes that the most appropriate process for determining site-specific cleanup is through the integrated CERCLA/NEPA process, which maximizes the participation of locally interested individuals and agencies, and tailors the application of policy to site-specific conditions.

In most cases DOE is not the agency with the authority for setting standards. The DOE has the authority under the Atomic Energy Act (AEA) to manage and regulate nuclear materials handled and generated at its facilities and subscribes to the policy of keeping exposures to nuclear materials "as low as reasonably achievable" (ALARA). However, DOE seeks to consider standards issued by EPA as well as those applied to commercial nuclear facilities regulated by the NRC. Furthermore, DOE facilities are subject to numerous environmental laws and regulations primarily administered and enforced by EPA, as well as others enforced by the States. The DOE may participate in the development of these regulations as part of the regulated community by commenting on proposed rulemakings and by providing information on the ability of the technology to meet cleanup standards.

The DOE does and will continue to recommend to EPA proposed cleanup levels on a site-specific basis as part of the ongoing CERCLA process. The DOE agrees that the ALARA principles should be adhered to, as required by DOE Orders. The DOE will urge the appropriate regulatory agencies to propose rulemakings on cleanup standards, where necessary.

Potential areas that require additional legislation will also be identified.

The EM PEIS will analyze cleanup levels from the perspective of foreseeable risks and impacts to workers and the public. Alternative ER strategies will be analyzed to provide input to the establishment of potential DOE policies for guiding future DOE remediation efforts that would be undertaken with the concurrence of regulating agencies and in compliance with applicable statutes. The EM PEIS will describe subsequent site- and project-level NEPA documents in which the public, regulators, and DOE will participate in making future waste management and cleanup decisions. The EM PEIS will also address specific public and local government interactions in accordance with EM's public participation policy. Appendix K contains a copy of this policy.

One of the key goals of the PEIS is to provide a technical basis for establishing a DOE policy on integrating land use decisions into the cleanup decision-making process. Such a policy would be directed at acknowledging the importance of land use considerations and would identify criteria to be considered, rather than establishing a policy that would identify a predetermined future land use for each site or facility to be remediated.

The PEIS will include an analysis of land use as part of the evaluation of ER alternatives and WM facility configurations. The PEIS will also evaluate the potential impacts to current land use, including potential impacts to Native American lands commensurate with the programmatic nature of the PEIS.

The DOE agrees that a land use policy is needed and that local citizens should be

involved in making land use decisions. Accordingly, DOE has implemented a public participation policy (appendix K) that will encourage involvement of the public and local government in land use decisions. One example of this involvement is the Hanford Future Site Uses Working Group. This group was organized to develop a range of future use options for the site and to assess the implications of those uses on the Hanford Site cleanup. The Working Group has brought governments and representatives of a wide variety of constituencies together to discuss their respective future visions for Hanford. The Working Group will endeavor to provide decisionmakers with a full range of potential visions for the future uses of the Hanford Site.

The EM PEIS will discuss land use and potential institutional controls for specific land use options. The DOE's goal is to fully consider land use issues in the cleanup decision-making process. Potential land use options should be evaluated for the potential risk to onsite workers and the general public. Land use restrictions may mitigate these risks; therefore, land use options should be considered in the analysis of risks to workers and the public.

The basic toxic and radioactive exposures to be considered in the PEIS are from contaminated soil/sediment, air, surface water, groundwater, and biota. The potential exposure pathways are by ingestion, dermal contact, inhalation, and external exposure. Potential land use options with appropriate mitigation or land use restrictions would determine which pathways cause human or environmental exposures.

The potential land use options to be analyzed in the PEIS should not be misconstrued as a commitment from DOE to turn over land for the use identified, but to

describe the impacts of such usage. The following potential options are considered to be applicable in the initial phases of the EM PEIS analysis. Land use options for consideration in local decision-making processes would be somewhat different but probably encompassed by these options. Modifications may be appropriate as the Draft EM PEIS proceeds. The potential land use options to be considered are:

- **Unrestricted Use** (this would include residential and agricultural use). In the risk analysis for unrestricted use, all exposure pathways are considered. Property could be turned over to the General Services Administration for sale or transfer to another government agency, if the risk from all exposure pathways is below an acceptable level.
- **Somewhat Restricted Use.** The risk analysis for this use would assume that wells for drinking water would be restricted. All other exposure pathways would be considered.
- **Totally Restricted Use.** Risk analysis for this use would assume no onsite human exposures and no biota pathways. Flora and fauna are exposed onsite.

3.5.2 FUNDING FOR ER ACTIVITIES

During the scoping process, commenters asked about cleanup costs and funding mechanisms and about how DOE will manage resources to ensure adequate support for cleanup activities. It was suggested that DOE and Congress commit to and guarantee long-term funding for cleanup and that the commitment be in the form of a "trust fund" with a specific dollar amount allocated each year. In addition, it was recommended that funds from production be shifted to support

cleanup and that costs for cleanup, waste management, and weapons production be separated into three distinct budgets. Commenters also suggested that waste management costs be borne by the Program producing the waste. During the public participation process on the Draft and Working Final EM PEIS IP, most commenters were concerned that DOE make best use of available funds.

Examples of the public comments included:

- The amount DOE spends on cleanup must be balanced with the amount DOE spends on weapons production. (Scoping)
- The DOE should stop weapons production and redirect resources to cleanup, monitoring, identifying where wastes are buried, recycling, and investigating science and technology. (Scoping)
- Adequate resources should be provided for cleanup, and the adequacy of funding should be addressed annually; Congress should guarantee funding; a trust fund or another "superfund" for cleanup should be established; full cleanup funding should be provided; the Five-Year Plan budget should not be cut or cleanup will fall behind. (Scoping)
- Government programs should be more cost accountable. (Draft IP)
- The DOE should be attentive to efficiency in budgeting to maximize the amount of money going to research. (Draft IP)
- The DOE should stop weapons production and commit the same amount of money to cleanup as DOE did on production. (Draft IP)

- Community service upgrades (for example, road improvements and emergency services) should be funded by DOE. (Draft IP)
- The DOE must not use the EM PEIS to rank cleanup decisions among sites. This may result in cleanup of one site at the expense of another. The DOE must request adequate funding to cleanup the entire weapons complex. (Draft IP)
- The DOE should ensure that future budgets accommodate cleanup. The DOE should consider the costs and benefits of incremental improvements. (Draft IP)
- The DOE should not eliminate cheap solutions that do not meet the standards but are still an improvement. (Draft IP)
- The DOE should strictly monitor research programs, putting a stop to projects that no longer seem promising. (Draft IP)
- The DOE grants to universities should go to research on solutions to waste problems, not on developing new reactor technology. (Draft IP)
- Although DOE does not control the budget process, the PEIS must recognize that various funding levels are probable and evaluate alternatives appropriately. (EMAC)
- A more complete explanation of the funding process and a commitment from EM to seek adequate funding would be appropriate. (EMAC)
- The public needs to be afforded mechanisms and resources to foster involvement, assist in participation, and gain access to site information. (EMAC)

Within the Federal budget process, Congress considers DOE programs and projects,

including the EM program, with those of other Federal departments and agencies to determine their appropriate shares of the total funds available to the Federal Government.

The Federal budget process is set up on a fiscal year basis, with each fiscal year beginning on October 1. During each fiscal year a three-year budget cycle overlaps itself, with Federal agencies beginning their budget planning almost two years before the start of each fiscal year. The three-year cycle consists of a planning year, a budget year, and an execution or operating year. The DOE headquarters initiates the process by sending budget guidance, including guidance received from the Office of Management and Budget (OMB), to the Field Offices. The Field Offices are requested to identify, describe, and estimate the cost of the activities that they would like to conduct in the execution or operating year. The DOE then analyzes these requests and formulates an initial budget request for the entire Department, and then submits the initial budget to OMB. During the budget year, the President, the Congress, and DOE discuss and negotiate the Department's budget proposal. The budget is transmitted to Congress as part of the President's budget request.

EM has and will continue to seek adequate funding for its programs through the annual Federal budget process. An increase in funding for one program or project may necessitate a decrease in another program, an increase in tax revenues, or an increase in the national debt. However, the Federal budget process itself is outside the scope of this PEIS and will not be directly discussed.

The DOE does not have the latitude within the budget process to shift funds unilaterally between its programs, such as shifting funds

from weapons activities to cleanup and waste management activities. Moving funds from one budget category to another requires DOE, OMB, and Congressional approval.

The EM PEIS will discuss potential mitigation measures associated with ER and WM activities. Mitigation measures to be considered will include providing funds for infrastructure improvements to communities in which ER and WM activities could result in a significant influx of new employees.

Although the completion of the PEIS will not result in a ranking of cleanup decisions among sites, the evaluation of ER alternatives will indicate the cleanup actions that pose the greatest risks. Decisions on prioritization of cleanup of contaminated sites must be closely coordinated with cognizant Federal, State, and local regulatory agencies and the public. The evaluation of ER alternatives will include the analysis of a broad range of remediation alternatives that involve different costs. Costs, together with risks and technical feasibility, are important considerations in the selection of a site-specific remediation measure.

Technical assistance grants of up to \$50,000 may be provided by the Federal Government (as administered by the Environmental Protection Agency) to any group of individuals that might be affected by a release or threatened release at a DOE site. These grants are intended to help the public comment on the alternatives considered and remedial actions selected at DOE sites. Congressional grants under the National Defense Authorization Act are also available to facilitate public participation in DOE's planning process.

Information on the EM budget and the budget process will be provided in the PEIS as part of a discussion of the background framework of the EM programs.

3.5.3 ENVIRONMENTAL QUALITY AND ENVIRONMENTAL IMPACTS

3.5.3.1 Environmental Contamination

During the scoping process, several commenters expressed concern about contamination of environmental media with radioactive and hazardous substances, from accidental and intentional releases, both at and near DOE facilities. Specific instances of contamination were identified. Commenters suggested that DOE state what the environmental and socioeconomic impacts of cleanup and waste management activities will be, that any associated adverse impacts be minimized, and that a contamination baseline be established to guide future cleanup activities.

Several of the comments received on the Draft and Working Final EM PEIS IP were concerned with environmental contamination at specific sites. Commenters also stated that it would be unwise to contaminate new sites.

Examples of the range of public comments included:

- Evaluate the presence and determine the extent and impacts of existing and potential contamination. (Scoping)
- Evaluate the extent of air contamination resulting from the release of radioactive dust during movement of waste and during cleanup activities. (Scoping)

- Determine average background levels of radioactivity in air, water, and soil. (Scoping)
- Conduct more studies on atmospheric dispersion of contaminants. (Scoping)
- Consider the environmental impacts of offsite waste disposal. (Scoping)
- Study the benefits and impacts of waste storage in a remote area versus storage in an urban area. (Scoping)
- The DOE past practices have damaged the quality of natural water resources. (Scoping)
- The DOE should ensure that current and past activities at all sites do not have an adverse impact on public health, the environment, and wildlife. (Scoping)
- Cleanup will result in the dispersal of radioactivity to a greater degree than stabilizing in place. (Scoping)
- It is unwise to contaminate new sites, also unrealistic, considering the difficulty of siting new facilities. (Draft IP)
- In terms of environmental contamination, DOE must determine the average background levels of radioactivity in the environment. Such a determination must be made, even at the programmatic level, to determine the near-term and residual risk to workers and the public at the DOE sites and facilities selected for potential waste treatment, storage, or disposal activities. (Draft IP)
- The response in the Working Final EM PEIS IP does not address the important comment about contaminating new sites. (EMAC)

The PEIS will identify and evaluate the environmental and socioeconomic impacts of alternatives for cleanup and waste management. Minimizing adverse impacts will be a key factor in assessing these alternatives. The EM PEIS will analyze environmental contamination issues at the programmatic level; it will not address site-specific contamination issues. Site-specific contamination issues will be addressed as part of the CERCLA and NEPA processes for each of the sites. As discussed in section 4.1 of this IP, the PEIS will assess on a programmatic basis a No Action alternative for ER activities that will provide a baseline assessment of contamination before further remedial actions are undertaken. This assessment of No Action would generally describe the current level of contamination.

In the PEIS, some comparisons of general background levels of radiation may be included to provide perspective. Background levels of radiation, specifically those from naturally occurring sources, are not directly considered under the regulatory framework for ER and WM activities. In general, the approach to regulating manmade sources of radiation has been to limit exposures to these sources to as-low-as-reasonably achievable (ALARA), regardless of naturally occurring radiation sources or background levels.

DOE's practice is generally to avoid deliberate contamination of new sites. For example, DOE's practice is to locate disposal facilities only at sites currently used for such purposes. However, DOE will consider the onsite management of certain wastes in the PEIS (as discussed in section 4.2) as part of alternatives that would avoid intersite and interstate shipments of waste. The PEIS analysis will include the possible disposal of LLW and LLMW at those DOE sites that do not have disposal capability.

Several DOE sites that do not currently have disposal capabilities have facilities and onsite locations contaminated with LLW and LLMW that will require cleanup. Although DOE will conduct an analysis as part of the PEIS on the feasibility of establishing disposal capability at many of its smaller sites, DOE believes that there may be technical barriers to implementing new disposal capabilities at these smaller sites.

3.5.3.2 Environmental Releases

During the public scoping process, commenters recommended that DOE stop all releases to the environment and that activities be conducted in compliance with all applicable regulations to avoid additional environmental contamination. Comments received on the Draft and Working Final IP addressed concerns about DOE's releases of hazardous and radioactive materials. Commenters also asserted that DOE was not held as accountable for its environmental releases as private industry.

Examples of public comments included:

- The DOE must adhere fully with all existing applicable Federal, State, local, and tribal laws and regulations. (Scoping)
- The DOE should consider meeting standards for cleanup and disposal of waste that are at least as stringent as those for non-government nuclear activity and private industry. (Scoping)
- The DOE was not responsive to the comment about adhering to [Hazardous Release] standards equivalent to those for the civilian nuclear industry and for private industry. (Draft IP)

- Emission figures are underestimated because radon is periodically vented, thorium and radium leak into the land and groundwater, uranium and other poisonous wastes are dumped into the river, and breakdown of protective equipment propel emission figures in an upward spiral. (Draft IP)
- The DOE must commit itself fully to minimizing releases. (EMAC)
- The DOE should commit to meeting the most stringent Federal standards and exceeding them, where possible. (EMAC)
- The DOE has not stated that it will adhere to the same standards as the civilian nuclear industry. (EMAC)

The DOE is committed to operating in compliance with all applicable standards for controlling releases as well as for waste remediation and disposal. The DOE monitors its facility releases. To ensure that releases are minimized, DOE regularly updates procedures, employee training, and, where appropriate, equipment.

The DOE fully subscribes to the policy of keeping exposures ALARA in all its operations and activities. The DOE hazardous releases, similar to those of the civilian nuclear industry and private industry, are regulated by standards that EPA and relevant State agencies issue. The DOE is committed to complying with these standards. With respect to unplanned and accidental releases and discharges, including those that may result from the breakdown of protective equipment, DOE has instituted an occurrence reporting system to provide appropriate regulatory agencies with responsive notification of such events.

The PEIS will identify the standards that exist and those that are needed, describe policies and efforts to minimize releases, and discuss DOE's commitment to the ALARA principle and adherence to all appropriate standards.

3.5.3.3 Environmental Monitoring

During scoping, participants stressed the need for accurate and reliable onsite and offsite monitoring systems and for regular monitoring to ensure early release detection and quick response. In addition, commenters asked that monitoring data be made available to the public. Comments on the Draft and Working Final EM PEIS IP requested that the EM PEIS state how often monitoring would be performed.

Examples of public comments included:

- Past DOE monitoring practices were unreliable. Problems cited in Tiger Team reports included temporary cessation of monitoring after large releases, improper sampling techniques, and defective or improperly operated monitoring devices. (Scoping)
- The DOE should perform long-term monitoring of contaminated sites. (Scoping)
- The DOE should perform regular monitoring of nearby drinking water supplies and wells and make the information available to those interested. (Scoping)
- Instead of providing only "regular monitoring," the PEIS should spell out the minimum frequency and the specific time intervals for periodic monitoring. (Draft IP)

- The Draft IP does not indicate how environmental monitoring issues will be addressed in the PEIS. Much can be done on a programmatic level to further improve the quality and consistency of monitoring at DOE sites. (Draft IP)
- The DOE Tiger Team audits have revealed serious deficiencies in environmental monitoring. (EMAC)

The EM PEIS will discuss applicable monitoring requirements for the ER and WM actions under consideration. Because monitoring requirements for a specific facility or contaminated site are considered as part of environmental permit conditions, detailed monitoring requirements will not be considered in the EM PEIS. These requirements will be addressed as part of subsequent tiered NEPA documentation and applicable permits.

The DOE conducts effluent and environmental monitoring programs at its sites and publishes the results annually. Additionally, DOE conducts monitoring required pursuant to permits and as part of contaminated site remediation programs. The DOE reports the results of these monitoring efforts to relevant Federal and State agencies. The DOE is committed to adhering to all monitoring requirements. As a result of its internal reviews and Tiger Team reports of existing monitoring practices, DOE is committed to correcting deficiencies noted by internal reviews as well as reviews conducted by outside agencies.

The Draft EM PEIS will include a description of DOE's environmental monitoring programs and efforts to improve them as well as a description of those conducted by State and other agencies at DOE sites.

3.5.4 OCCUPATIONAL AND PUBLIC HEALTH

Participants in the scoping process expressed concern about health risk to workers and the public from past and ongoing DOE activities. Several examples of health problems were cited and attributed to releases and contamination in and around DOE facilities. Commenters wanted health risk minimized. They believed that DOE significantly underestimates long-term health effects and that risk assessments should be changed to the most conservative available. Commenters also stated the need to involve the public in determining acceptable risk levels.

Commenters recommended that DOE fund an independent organization or Federal or State agency to conduct epidemiologic or dose reconstruction studies at all DOE sites and in all communities potentially affected by DOE activities and that DOE should release all health records and results of internal studies to this independent group. Commenters also suggested that health studies should be guided by a steering panel of technical experts and representatives from affected communities and public groups.

Commenters on the Draft IP were concerned with exposure levels and risks to the public and workers. Other commenters said acceptable exposure levels should be established. The EMAC review of the Working Final IP requested a fuller explanation of the Department of Health and Human Services (HHS) epidemiological studies.

Examples of public comments included:

- The DOE should minimize health risk to workers. (Scoping)
- The DOE should determine how best to protect worker health. (Scoping)
- The DOE should maintain close liaison with affected residents and governments on cleanup progress, environmental quality, and health and safety matters. (Scoping)
- Eating food grown close to DOE facilities is a risk to health. (Scoping)
- There is a fear of cancer developing from exposure to radiation. (Scoping)
- The DOE should reduce health risk from DOE activities. (Scoping)
- The DOE should apply all appropriate health and safety laws. (Scoping)
- The DOE should establish a "superfund" for the future health of workers cleaning up weapons production sites. (Scoping)
- More and better health and safety studies are needed. (Scoping)
- Raw health and safety data should be reviewed and studies conducted by independent agencies or parties. (Scoping)
- The DOE should declassify documents containing employee health information. (Scoping)
- The DOE should pay for long-term health studies and health care. (Scoping)
- The DOE should continue funding for studies disproving DOE's claim of complete safety. (Scoping)
- An independent agency is needed to conduct an independent long-term study of health risk from contamination, production, cleanup, storage, and transportation; conduct dose reconstruction studies at all sites; to study health effects from DOE activities (that is, nuclear radiation fallout,

incineration, acute radiation exposure, and nonradioactive contamination); and to perform "real time" exposure estimates. (Scoping)

- The public should determine acceptable risk levels. (Scoping)
- The DOE needs to acknowledge that risk assessment is uncertain. (Scoping)
- The DOE should consider alternative models to prioritize risk that will be subject to formal, independent review and comment. (Scoping)
- The DOE should establish meaningful criteria for exposure and risk. (Scoping)
- Incomplete scientific knowledge of human tolerance changes makes it difficult to establish standards. (Draft IP)
- Responses to public comments are too brief, insensitive, and lack sufficient information. For example, DOE should provide a fuller explanation of the HHS epidemiological studies. (EMAC)

Minimization of potential health risks and impacts to workers and the public will be critical considerations in the PEIS assessment of alternative ways of implementing cleanup and waste management activities. The DOE acknowledges that risk assessment methodologies need to be improved, and the public should be involved in determining acceptable risk levels.

Through DOE's Office of Health, HHS has been conducting long-term epidemiologic studies. The Office of Health is near completion of the Comprehensive Epidemiologic Data Resource, an information system that will be accessible to the public and that will contain data from past, ongoing, and future research activities.

The DOE is committed to working with other agencies during the EM PEIS process to improve risk assessment methodologies and will involve the cooperating agencies (EPA, HHS, and NRC) to ensure adequate review of the PEIS. The EM PEIS will evaluate risk to the public and to workers. Risk standards are based on available scientific information and will be subject to revision as knowledge improves. The EM has also established the EMAC to provide a review of the PEIS analyses. The DOE is committed to minimizing potential health risks and impacts to workers and the public.

Section 3.5.29 contains more detailed responses to comments about human health risk assessment.

3.5.5 SEPARATION OF THE TWO PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENTS

During the public scoping process, commenters said that the EM PEIS and the Nuclear Weapons Complex (NWC) Reconfiguration PEIS are closely related and should be combined. Commenters on the Draft and Working Final IP disagreed with DOE's decision to separate the Reconfiguration PEIS and the EM PEIS. They were also concerned about how DOE would coordinate crosscutting issues. One commenter approved of separating the two PEISs.

Examples of public comments included:

- Weapons production and reconfiguration should be part of the EM PEIS. (Scoping)
- Splitting the PEISs was arbitrary and capricious. (Scoping)

- The DOE should prepare a single PEIS that combines waste management and weapons production. (Scoping)
- The DOE should clarify the relationship between the Reconfiguration PEIS and the EM PEIS. (Scoping)
- Weapons production and the Reconfiguration PEIS involve numerous questions that are critical to the decision-making process of waste management and should not be separate from the EM PEIS. (Scoping)
- Make the PEISs available to the public. (Scoping)
- Discuss legitimate reasons for separating the PEISs. (Scoping)
- The Draft IP is vague about how the two PEISs will be coordinated. The DOE should clearly define how issues will be coordinated. (Draft IP)
- The EM PEIS should be supplemented after the Reconfiguration PEIS is completed. (Draft IP)
- The DOE should explain why the two programs are not addressed in a single PEIS. (EMAC)
- The DOE should provide assurance that the contractors developing the two PEISs will coordinate their activities. (EMAC)
- The DOE should establish a task force or integration team to coordinate the two PEISs. (EMAC)

The DOE's decision to prepare two separate PEISs—one on reconfiguring the Nuclear Weapons Complex and the other on the Environmental Restoration and Waste Management Program—was made because the decisions to be considered in each were significantly different, and DOE had determined that these two programs were

not so connected as to require a single environmental impact statement. DOE is currently preparing both PEISs, but announced on July 23, 1993, that it would review this initial determination to prepare two PEISs in light of the proposed revised scope of the Reconfiguration of the Nuclear Weapons Complex PEIS. The public was specifically invited to comment on whether the two PEISs should be combined as part of the new scoping process for the PEIS on Reconfiguration of the Nuclear Weapons Complex. The DOE has received many comments, including comments from the Military Production Network, suggesting that the Reconfiguration PEIS be combined with the EM PEIS. DOE is considering these comments. The final decision on the suggested combination of the PEISs will be issued in the revised IP for the Reconfiguration PEIS.

The DOE acknowledges that programs evaluated in the PEISs are related because the weapons complex generates waste for which EM has management responsibility. The future configuration of the weapons complex may affect the EM Program by changing the waste generation locations, rates, and volumes. The EM PEIS will consider these potential changes.

EM and NWC representatives meet on a monthly basis to discuss the status of their respective PEISs. There is also a Memorandum of Agreement between EM and NWC detailing a collective approach to issues common to the PEISs. This Memorandum of Agreement is included as appendix J of this EM PEIS IP. The PEIS documents are being coordinated as they are prepared by the staffs responsible for the work. The Draft EM PEIS will state in more detail how its preparation is coordinated with the Reconfiguration PEIS. The DOE will prepare appropriate

supplemental NEPA documentation, if needed, upon completion of both PEISs.

3.5.6 DOE MISSIONS AND RESPONSIBILITIES

During the public scoping process, commenters raised numerous questions and concerns about DOE's mission. Many of the commenters opposed DOE's role in producing nuclear materials in support of the Nation's policy of nuclear deterrence. Other commenters said that DOE's mission should be to clean up sites, develop alternative energy sources, initiate a national energy conservation program, and create a National Energy Strategy. Several commenters on the Draft IP said DOE's energy policy should examine global issues.

Examples of the public comments included:

- The DOE has a conflict of interest as long as it continues to produce nuclear weapons. (Scoping)
- The DOE cannot continue to produce radioactive waste and clean it up at the same time. Cleanup should be accelerated and production decreased or halted until waste can be safely dealt with. (Scoping)
- The organization doing cleanup must be independent of the production facilities organization to avoid conflict of interest. (Scoping)
- To be credible, DOE's mission must make an effective commitment to action; candidly discuss problems and research and development efforts; make waste management a priority; not promote production over safety; focus on energy and environmental crises; build other kinds of power generating stations; and

develop a National Energy Strategy. (Scoping)

- The DOE should develop a National Energy Policy and promote clean energy. (Scoping)
- The DOE needs a clearly defined national and international waste policy. (Scoping)
- The DOE should develop a national security policy emphasizing the environment. (Scoping)
- Convert DOE facilities to research or non-nuclear facilities. (Scoping)
- The DOE should research alternative energy methods. (Scoping)
- The DOE should have greater interest in alternative energy sources and other peaceful efforts. (Draft IP)
- The DOE should think globally both for environmental and diplomatic benefits. (Draft IP)
- The DOE could gain credibility by building alternative power systems (for example, solar-or wind-powered systems) on current sites. (Draft IP)

The EM PEIS will address the environmental impacts of alternative ER and WM strategies. Issues related to other missions assigned to DOE by law (for example, energy policy, nuclear materials and nuclear weapons production, alternative energy sources) are outside the scope of the EM PEIS.

3.5.7 YUCCA MOUNTAIN

Participants in scoping raised a number of questions about Yucca Mountain. Yucca Mountain is the site being studied for its

suitability for disposing of commercial SNF and defense HLW. Comments during scoping focused on the exclusion of Yucca Mountain from the PEIS; applicable compliance standards; the site's suitability; the performance assessment program; the licensing process; the options DOE is pursuing to geologic disposal, in general, and to Yucca Mountain, in particular and what DOE will do if the site is found unsuitable.

Most comments received on the Draft IP were opposed to DOE's decision not to include Yucca Mountain in the EM PEIS. In addition, a discussion of how DOE SNF would be addressed in the PEIS was requested as a result of the EMAC review.

Examples of the public comments included:

- Yucca Mountain must be licensed. (Scoping)
- The DOE should honestly disclose what risks are posed by the proposed waste disposal at Yucca Mountain. (Scoping)
- Yucca Mountain is a geologically unsafe disposal site. (Scoping)
- The DOE should develop a contingency plan if Yucca Mountain's opening is delayed or prevented. (Scoping)
- If Yucca Mountain is found unsuitable, DOE's cleanup plan will fail. (Scoping)
- Include discussion of Yucca Mountain in the PEIS. (Scoping)
- The PEIS should address the suitability of Yucca Mountain and how its suitability will be determined. (Scoping)
- The DOE should reconsider plans for geologic disposal of waste. (Scoping)
- The DOE should resume studies into disposal technologies other than geologic repositories and should restart the search into alternative locations for disposal sites. (Scoping)
- Siting studies should be done because of uncertainties associated with Yucca Mountain. (Scoping)
- Yucca Mountain must comply with environmental regulations. (Scoping)
- Waste management alternatives must include a review of Yucca Mountain and a discussion of both potential capacity constraints and interactions between waste form and host rock. (Scoping)
- Yucca Mountain can be left out of the PEIS. (Draft IP)
- The PEIS should address the possibility that there would be no HLW disposal site. (Draft IP)
- The PEIS should include data about long-term behavior of waste and repositories during storage to help the public understand Yucca Mountain. (Draft IP)
- The DOE should make a commitment in the PEIS about interim and long-term solutions. (Draft IP)
- The DOE's failure to include Yucca Mountain in the PEIS is an egregious one. The decision to consider what might happen if there is a delay in opening Yucca Mountain, or if this site is found unsuitable is insufficient. (Draft IP)
- The DOE should identify alternatives to the Yucca Mountain site. (Draft IP)
- The PEIS should discuss how DOE will address DOE SNF. (EMAC)

In the Nuclear Waste Policy Act (NWPA), Congress selected geologic disposal as the

solution for managing commercial SNF and DOE HLW. The NWPA also specified the siting process for the repository and assigned to DOE the responsibility for managing the program. Under the NWPA Amendments Act of 1987, the Yucca Mountain site was selected as the candidate site for detailed study for suitability as a repository. The NWPA and its amendments also established the following requirements for environmental documentation and the licensing processes. After characterization studies are completed, if the site is found suitable for repository development, a recommendation for approval, accompanied by a Final EIS, will be sent to the President of the United States. If the President considers the site qualified, the President will then recommend the site to Congress. Congress must act on the recommendation only if the State of Nevada disapproves the recommendation. If the site designation becomes effective, DOE will submit a license application to the NRC for authorization to construct a repository at the site. The DOE is continuing site characterization studies at the candidate Yucca Mountain site pursuant to the NWPA Amendments.

Because the environmental documentation process for geologic disposal was established by the NWPA, the EM PEIS will not analyze alternatives to a geologic repository at Yucca Mountain. As ordered by the U.S. District Court for the District of Idaho, the Department of Energy has proposed to include in the Idaho National Engineering Laboratory Environmental Restoration and Waste Management EIS a comprehensive analysis of the effects of all major Federal actions involving SNF at the Idaho National Engineering Laboratory and a reasonable range of alternatives to those actions at other sites. The scope of this EIS has been proposed to include the evaluation of

transporting, receiving, processing, and storing DOE SNF, Naval reactor SNF, and SNF which DOE has committed in the past or may propose in the future to accept, including SNF from certain power reactors, domestic university research and test reactors, and SNF from certain foreign research reactors. The storage of commercial SNF in monitored retrievable storage before emplacement in a geologic repository is being addressed under DOE's Office of Civilian Radioactive Waste Management (OCRWM) program pursuant to the NWPA Amendments.

The NWPA sets forth a mandated NEPA process with respect to the candidate repository site at Yucca Mountain. DOE is currently storing SNF, and will continue to do so until it can be placed in a permanent repository, as mandated by the NWPA. Under the Energy Policy Act of 1992, DOE is to be required to prepare a study on the need for additional repositories. The results of this study will be discussed in the PEIS.

3.5.8 THE WASTE ISOLATION PILOT PLANT

Several participants in the scoping process wanted DOE to include a discussion of the Waste Isolation Pilot Plant (WIPP) in the PEIS. They said that the site was unsuitable for radioactive waste disposal and that alternatives to WIPP and the need for long-term storage of transuranic waste (TRUW) should be evaluated in the PEIS.

Most commenters on the Draft IP also asked DOE to include a discussion of WIPP in the EM PEIS. After reviewing the Working Final IP, members of EMAC asked DOE to further explain why the WIPP would not be considered in the PEIS.

Examples of the public comments included:

- The presence of brine water at WIPP means it is unsafe. (Scoping)
- The WIPP does not meet current safety standards. (Scoping)
- The DOE should develop a contingency plan in the event that WIPP is delayed or found unsuitable. (Scoping)
- The PEIS should evaluate the geologic suitability of WIPP. (Scoping)
- The DOE should reconsider plans for TRUW disposal at WIPP. (Scoping)
- The DOE should evaluate alternatives to WIPP because the site is unsuitable. (Scoping)
- The WIPP should be included in the scope of the PEIS because the underlying assumption that geologic disposal will resolve waste management problems is wrong. (Scoping)
- Waste management alternatives must include a review of WIPP and a discussion of both potential capacity constraints and interactions between waste form and host rock. (Scoping)
- WIPP should not be eliminated from the EM PEIS. (Draft IP)
- The PEIS should address the possibility of no WIPP disposal site. (Draft IP)
- The PEIS should include data about long-term behavior of waste in repositories during storage to help the public understand WIPP. (Draft IP)
- The DOE should make a commitment in the PEIS for interim and long-term solutions. (Draft IP)
- The decision to consider what might happen if there is a delay in opening WIPP, or if this site is unsuitable, is insufficient. (Draft IP)
- The DOE should identify alternatives to the WIPP. (Draft IP)
- Responses concerning WIPP in the Working Final IP are too brief, insensitive, and lack sufficient information. (EMAC)
- Responses in the Working Final IP are too abrupt to explain why WIPP will not be considered in the EM PEIS. (EMAC)
- The DOE should look at any additional information gathered since the original decision on WIPP was made. (EMAC)

Under Section 213(a) of the DOE National Security and Military Applications of Nuclear Energy Authorization Act of 1980, DOE was authorized to provide a research and development facility to demonstrate the safe disposal of radioactive waste generated by national defense activities. The DOE issued a Final EIS on the proposed development of WIPP in October 1980 (DOE/EIS-0026) and a Record of Decision (ROD) in January 1981, which called for the phased development of the WIPP. The DOE issued a Final Supplemental EIS (DOE/SEIS-0026-FS) in January 1990. In the ROD that followed in June 1990, DOE decided to proceed with the WIPP Five-Year Test Phase to reduce uncertainty in the prediction of long-term repository performance and further evaluate WIPP's subsequent acceptability for the disposal of TRUW. If compliance cannot be achieved, the site will be decommissioned.

On October 30, 1992, enactment of the WIPP Land Withdrawal Act permanently transferred public lands from the Department of the Interior to DOE for the WIPP. In addition to transferring public

lands, the Act established approximately 140 separate requirements, with about 80 percent new requirements for DOE and other Federal agencies. One new requirement is a regulatory framework in which EPA must certify WIPP's compliance with radioactive disposal standards before DOE can establish it as a disposal site.

The need for additional NEPA documentation on WIPP will be assessed during the WIPP Five-Year Test Phase. The DOE made a commitment to prepare a second Supplemental EIS before a decision is made about whether to proceed with waste disposal at the WIPP. Recently, DOE announced a revised test strategy for the WIPP in which tests using radioactive wastes will now be conducted in laboratories rather than underground at the WIPP. The decision about whether to proceed with TRUW disposal at WIPP depends on the information and analyses to be performed as part of the test phase.

However, as a result of the public comments, the PEIS will evaluate a longer period of interim storage of TRUW in the event that the WIPP Disposal Phase is delayed or WIPP does not become operational. The PEIS will also evaluate system configuration alternatives for treating TRUW that will provide advanced planning information if TRUW treatment is found necessary to meet RCRA Part 268 requirements and 40 CFR 191 (TRUW Disposal Standards).

3.5.9 NAVAL NUCLEAR PROPULSION PROGRAM

During scoping, some people asked why Naval Nuclear Propulsion Program (NNPP) facilities were excluded from the PEIS. Specific NNPP facilities were mentioned and

suggested for inclusion in the PEIS. Comments on the Draft IP also indicated that NNPP facilities should be included in the PEIS, and the members of EMAC indicated that DOE's response to public comments on this issue was confusing.

Examples of the public comments included:

- Knolls Atomic Power Laboratory, Bettis Atomic Power Station in Pennsylvania, and Idaho's Naval Reactor Facility are absent from DOE sites listed in the Notice Of Intent, the EM Five-Year Plan, the Environmental Survey Program, the Technical Safety Appraisal Program, the 1988 Needs Report, and the Tiger Team Assessment Plans. (Scoping)
- The omission of Naval Nuclear Propulsion Program facilities is unacceptable. (Scoping)
- The PEIS must include a full and complete discussion of the environmental problems at Naval Nuclear Propulsion Program facilities. (Scoping)
- Management of Naval Nuclear Propulsion Program work should be included in the PEIS. (Draft IP)
- Responses to the NNPP issues in the Working Draft IP are confusing. (EMAC)

The NNPP is a joint Navy/DOE program responsible for all matters pertaining to Naval nuclear propulsion. This program is distinct from the remainder of DOE both by Presidential Executive Order and by statute. However, three areas of interface between NNPP facilities and EM are included within the PEIS scope. The first interface is waste treatment and disposal. In accordance with the Low Level Radioactive Waste Policy Amendments Act of 1985, DOE is

responsible for disposing of radioactive waste generated by NNPP facilities and classified reactor plant components from ships when the waste is transferred to DOE. These waste streams are part of the waste that will be evaluated in the EM PEIS.

All SNF from naval nuclear-powered ships is examined at the Expended Core Facility, Idaho National Engineering Laboratory (INEL), to confirm that the fuel performed in accordance with design parameters and to obtain any necessary technical information. After this inspection, the expended fuel is turned over to DOE. The management of Naval SNF fuel after it is transferred to DOE is to be addressed as part of Idaho National Engineering Laboratory Environmental Restoration and Waste Management EIS (see section 1.3.5).

The NNPP's Knolls Atomic Power Laboratory has one inactive facility, which was a pilot plant for Manhattan Engineering District and Atomic Energy Commission (AEC) fuel reprocessing facilities. This facility, the Separations Process Research Unit, predated the NNPP assuming sole responsibility for the Knolls Site. Thus, D&D of this facility is an EM responsibility and is part of the D&D program that will be considered in the EM PEIS.

The management of waste by Naval Nuclear Propulsion sites is a responsibility of the NNPP and is not an appropriate topic for the EM PEIS. Low-level wastes from shipyards and ships in this program are disposed of at commercial disposal sites. However, some of these wastes are transferred to EM, and these will be addressed in the EM PEIS. Naval Nuclear Propulsion wastes that have been and are being transferred to DOE and that will be included in the PEIS are radioactive wastes from laboratory and land-based prototype

sites and classified reactor components from ships.

LLW, low-level mixed waste (LLMW), and TRUW transferred from NNPP to DOE will be included in the EM PEIS.

3.5.10 THE URANIUM MILL TAILINGS REMEDIAL ACTION PROGRAM

During the public scoping process, participants questioned DOE's decision to exclude activities under the Uranium Mill Tailings Remedial Action Program (UMTRAP) from PEIS analysis. Participants suggested that DOE reconsider and include UMTRAP sites. Commenters on the Draft and Working Final IP also questioned why DOE decided not to include the UMTRAP remediation efforts in the scope of the PEIS.

Examples of the public comments included:

- Consider UMTRAP waste in the PEIS. (Scoping)
- Consider UMTRAP surface water and groundwater remediation activities. (Scoping)
- The Draft IP stated that DOE is considering including groundwater remediation activities of the UMTRAP in the PEIS. However, after issuance of the Draft IP, DOE staff indicated that the PEIS will not include UMTRAP groundwater remediation activities. Therefore, the IP should be revised to reflect this decision. The last sentence of section 3.1 should also be revised in this manner. (Draft IP)
- The DOE should explain why the decision was made not to include UMTRAP groundwater remediation in the EM PEIS. (EMAC)

The UMTRAP is a well-established ER Program, with a clearly defined legislative, regulatory, and technical scope distinct from other EM Programs. The NEPA process is nearly complete for disposal of tailings, and the impacts of UMTRAP are well defined. By the time the EM PEIS process is completed, UMTRAP will have started or finished construction on surface remediation at most sites. Surface remediation at the last UMTRAP site is expected to be completed by 1998. A separate programmatic environmental impact statement for groundwater remediation has been initiated. Because of the near completion of all surface remediation activities and the unique regulatory framework associated with UMTRAP, these sites are considered outside the EM PEIS scope.

3.5.11 THE FIVE-YEAR PLAN

During scoping, commenters said that the Five-Year Plan should not be reissued until the PEIS is completed. They suggested that the Plan could not be a useful document without benefit of the PEIS analysis. They also suggested that DOE think broadly about ER and WM and not be constrained by the Five-Year Plan. Comments received on the Draft IP identified concerns about coordination of the EM PEIS and the EM Five-Year Plan and the definition of the relationship.

Examples of the public comments included:

- The Five-Year Plan should be put on hold until the PEIS is complete (Scoping).
- The Five-Year Plan does not lend itself to NEPA. (Scoping)

- The DOE should coordinate the next Five-Year Plan with the Draft EM PEIS to prevent conflicts or omissions. (Draft IP)
- Since the goal of EM's PEIS is to achieve a system-wide approach for consolidated cleanup and waste management activities, we would fully expect all future Five-Year Plans to incorporate the findings and decisions initiated by the PEIS document. (Draft IP)
- Relevant, significant issues addressed in the Plan include research and development, transportation, cleanup work schedules and goals, waste minimization and recycling, and land use. The implications of PEIS development on the five-year planning process should be kept in context and should be fully explained. (Draft IP)
- The Five-Year Plan relationship to the PEIS process and the evaluation and selection of ER and WM alternatives must be defined. (Draft IP)

The Five-Year Plan serves EM as a planning and management tool that focuses primarily on short-term, site- and facility-specific compliance and cleanup activities to be performed under time- and budget-critical constraints. The Five-Year Plan describes the current EM Program and is a basis for formulating the EM PEIS "current program" ER and WM alternatives.

The EM PEIS process is expected to provide a basis for beneficial long-term guidance for conducting EM Programs. Future EM planning documents will reflect the policies and decisions that result from the long-term PEIS analysis.

3.5.12 WEAPONS PRODUCTION

During the scoping process, many people stated that DOE should stop designing, producing, and testing nuclear weapons. Commenters said that weapons production activities, including eventual disassembly and waste management, create risk to human health and the environment. In addition, the high cost of weapons systems development, reported safety problems at DOE sites, and the lack of adequate treatment and disposal capability and capacity were also mentioned as reasons to stop production, to keep existing production reactors inactive, and to abort plans for developing new production facilities. Further, individuals said that weapons production is no longer necessary because of the current world political climate and the availability of source material in the existing stockpile. A few commenters on the Draft IP were also concerned with weapons production.

Examples of the public comments included:

- The DOE will be unable to commit to cleanup if it continues to build bombs. (Scoping)
 - The DOE should halt or decrease weapons production and accelerate cleanup. (Scoping)
 - Because the Reconfiguration PEIS presents numerous questions, DOE should discuss the NWC reconfiguration for the 21st century in a single PEIS. (Scoping)
 - The DOE should stop all weapons production activities and abandon plans to modernize the weapons complex. (Scoping)
 - The DOE should neither restart existing reactors nor build new reactors. (Scoping)
- With the Comprehensive Test Ban Treaty and the changes in Eastern Europe, production of nuclear weapons should be stopped. (Scoping)
 - The DOE should stop weapons testing. (Scoping)
 - Production activities have contaminated the environment and have caused health problems for workers and residents near DOE sites. (Scoping)
 - If nuclear weapons are still needed, DOE should recycle materials from the existing stockpile. (Scoping)
 - Concern was expressed about weapons dismantling, especially plutonium triggers. (Draft IP)
 - Stop weapons production and commit the same amount of money to cleanup. (Draft IP)

The decision to manufacture and maintain a stockpile of nuclear weapons is beyond the present scope of the EM PEIS. The DOE supports the nuclear deterrent objectives set by the President and endorsed through funds appropriated by Congress.

The environmental issues associated with future nuclear weapons production, including potential releases and waste generation, are to be addressed in the NWC Reconfiguration PEIS. An EA issued in June 1993 addresses the releases and waste generation associated with the nonnuclear missions associated with the NWC. Issues that involve management of waste or the decontamination and decommissioning of obsolete facilities will be addressed in the EM PEIS. Coordination of the two PEIS efforts is discussed in section 3.5.5.

3.5.13 SITE-SPECIFIC COMMENTS

Scoping participants commented often about specific DOE sites. In general, these comments reflected concern about contamination at the sites, described the need to clean-up the sites as quickly as possible, requested increased public participation in the decision-making process, and expressed a desire for DOE to operate all activities in compliance with laws, regulations, and agreements. During the review of the Draft IP, many comments were made about the effect the EM PEIS would have on site-specific concerns. Some commenters cited issues at specific DOE facilities.

Examples of the public comments included:

- To what level of detail will the PEIS consider site-specific information? (Scoping)
- The DOE needs to acknowledge the relationships between facilities. (Scoping)
- Estimate the level of contamination in the Snake River Aquifer in 2131 and what will be happening with the K-64 Silos, Operating Unit 3, and waste pits. (Scoping)
- The DOE does not know what is buried at Palos Park Forest Preserve Plot N from the Manhattan Project, now privately owned property. (Scoping)
- The south plume at Fernald has extended offsite, which is beyond the predicted level of movement. (Scoping)
- The 1957 plutonium fire coverup at Rocky Flats and recent evidence of plutonium in the duct work illustrates a poor safety record. (Scoping)
- Explain how DOE determined that the Nevada Test Site (NTS) was to be the main disposal area for large amounts of out-of-State waste. (Scoping)
- Clarify the plan for bringing TRUW to NTS. (Scoping)
- The Hanford Site (HS) should stop accepting HLW while in the 30-year cleanup phase. (Scoping)
- Groundwater and soil contamination are well documented at the Lawrence Livermore National Laboratory (LLNL). (Scoping)
- Explain why NTS stores waste from other sites. (Scoping)
- Determine how much radioactive waste is at the Savannah River Site (SRS)
- The volcanic risk at INEL has not been adequately addressed, nor has the potential for earthquakes. (Scoping)
- HS, Fernald, Rocky Flats, Los Alamos National Laboratory (LANL), Pantex, NTS, LLNL, Pinellas Plant, and Paducah Plant knowingly released toxic and radioactive substances that exceeded regulatory standards. (Scoping)
- Do not tie HS cleanup to WIPP, start cleanup immediately. (Scoping)
- Establish technologies to clean up HS contamination in place. (Scoping)
- Clean up NTS underground testing and the associated venting. (Scoping)
- Upgrade the monitoring system surrounding Paducah. (Scoping)
- Clean up the SRS and close it down permanently; do not make it a dumping ground for other DOE sites. (Scoping)
- Clean up environmental damage caused by accidental and deliberate releases of

radioactive and hazardous material particularly affecting the Columbia River. (Scoping)

- Fully adhere to the Hanford Tri-Party Agreement, Federal Facility Compliance Agreement, and RCRA Consent Orders. (Scoping)
- Protect Native American land-use rights and fully involve Native American tribes in all HS decisions. (Scoping)
- Comply with NEPA procedures and priorities. (Scoping)
- Cultivate citizen involvement and monitoring of facility activities. (Scoping)
- Comply with all Federal, State, and local laws and regulations during cleanup at Paducah. (Scoping)
- Maintain close communication among DOE, local residents, and the Texas Health Department on cleanup progress, environmental quality, health and safety matters, and accidents. (Scoping)
- Involve the States of Georgia and South Carolina in the SRS activities. (Scoping)
- The DOE should be given credit for their effort for public involvement at Fernald in contrast to DOE's lack of involvement at Miamisburg and Portsmouth. (Scoping)
- In conjunction with EPA, the Department of Defense, and the State, DOE should consider evaluating an adjacent site (the Kentucky Ordnance Works) as a potential Superfund Site. (Scoping)
- The PEIS should establish a mechanism for site-specific decision-making. (Draft IP)

- Effects on individual site activities should be identified in the EM PEIS. (Draft IP)

The PEIS will assess DOE's programmatic alternatives for cleanup and waste management. Compliance with regulations is incorporated in the proposed action and alternatives. The PEIS will provide environmental input into the establishment of DOE policies for guiding future DOE remediation efforts and into determinations on the future deployment of WM capabilities. Future EM projects and activities will be tiered to the EM PEIS, as appropriate. The Draft EM PEIS will describe a mechanism for site-specific decision-making and will discuss how the EM PEIS will affect the sites.

3.5.14 COMPLIANCE WITH AGREEMENTS

Individuals stated during scoping that completion of the PEIS should not interfere with commitments in existing agreements and asked about the penalty and enforcement provisions of the agreements. One commenter also suggested that the agreements should form the basis of the No Action alternative.

Commenters on the Draft IP again stated that the PEIS should not interfere with DOE's commitments in existing agreements. The review of the Working Final IP by the EMAC pointed out that regulators, Indian tribes, and the public should be involved in determining which changes to agreements were beneficial and how they should be renegotiated.

Examples of the public comments included:

- The DOE should explain how existing site-specific agreements will not be delayed or superseded by the PEIS. (Scoping)
- The DOE should not renegotiate the agreements to cut cost. (Scoping)
- The DOE should assess the impact of breaking the Tri-Party Agreement. (Scoping)
- The PEIS should not be used to renegotiate existing agreements. (Draft IP)
- If the PEIS has no effect on agreements, this should be stipulated; if modifications in agreements seem appropriate, identify a mechanism for subsequent renegotiation in the PEIS. (Draft IP)
- The PEIS cannot serve sites well unless EPA (Headquarters and Regional offices) has agreed to PEIS guidelines. (Draft IP)
- The EPA, State regulators, Indian tribes, and the public should be involved in determining which changes to agreements are beneficial and how agreements should be renegotiated. (EMAC)

The DOE is committed to complying with all agreements. These agreements form the foundation for site-specific cleanup actions. However, the purpose of the PEIS is to evaluate how to manage cleanup across DOE, not to focus on site-specific issues. The PEIS will assess the risk, benefit, and cost associated with cleaning to different levels and will evaluate land use issues and alternative waste management configurations. Evaluation of specific agreements or provisions of agreements in

the PEIS is not appropriate. However, after completion of the PEIS, it is likely that environmentally beneficial potential changes to agreements could be identified.

Through the agreements, States participate in developing schedules and milestones, in reviewing and approving documents, and in selecting remedial actions and permits for waste management operations. Local governments and the public also have the opportunity to review and comment on the agreements as well as on documents developed in accordance with the agreements. The Draft EM PEIS will describe a suggested process for, and beneficial changes through, any renegotiation of agreements. Beneficial potential changes can be identified by DOE or the regulators and the agreements renegotiated between the involved parties. The DOE will involve the public in any agreement renegotiation processes with EPA and State regulators.

The EPA has agreed to be a cooperating agency for this PEIS by reviewing draft analyses before they are issued to the public. In doing so, EPA is not relinquishing any of its regulatory authority.

In the PEIS, the No Action alternative for each of the WM waste types will consider only existing or approved waste management facilities. Approved facilities, in the context of no action, are defined as those for which NEPA review has been completed, appropriate permits received, and a decision made to proceed with the activity. These facilities could be, but are not necessarily, within the scope of existing compliance agreements because existing agreements do not cover all waste types and facilities considered in the PEIS. Furthermore, DOE does not believe it is appropriate to use existing compliance agreements as a basis

for no action, because existing compliance agreements require actions for which appropriate NEPA review has not always been completed and that may not yet be permitted.

3.5.15 POLLUTION PREVENTION AND WASTE MINIMIZATION

During scoping, people commented on the importance of pollution prevention and waste minimization. They suggested that DOE propose a Waste Minimization Program, that DOE's principal objective be pollution prevention, and that DOE inform the public about waste prevention and minimization efforts undertaken or planned. Most comments received on the Draft IP stressed the importance of waste minimization and recycling. After reviewing the Working Final IP, members of EMAC recommended that waste minimization be a WM programmatic alternative and that the potential for reducing necessary waste treatment and disposal facilities by stressing waste minimization be discussed in the PEIS.

Examples of the public comments included:

- The DOE needs to address waste recycling and waste reduction. (Scoping)
- Compare U.S. waste minimization efforts to other nations. (Scoping)
- Prevent contaminant releases at the source. (Scoping)
- Use methods for removing radionuclides from wastewater discharges, groundwater, and surface water. (Scoping)
- The DOE should practice pollution prevention. (Scoping)
- The DOE should not produce any more waste. (Scoping)
- The DOE should tell people what it is doing to ensure that it is minimizing waste and preventing the generation of additional waste and pollution. (Scoping)
- Waste reduction is essential. (Draft IP)
- The reduction of waste volumes must be stressed in the PEIS. (Draft IP)
- The DOE should put a priority on waste minimization. (Draft IP)
- Minimize waste in the first place. (Draft IP)
- The DOE does not appear to be fully applying available technology to reduce and minimize waste. (Draft IP)
- An aggressive, all encompassing approach to this area should be included in the analysis for all alternatives. The DOE should develop specific goals and targets for recycling and waste minimization. (Draft IP)
- Contrary to the impression created at the PEIS scoping sessions, the preferred public opinion is not to "recycle radioactive waste into everything nobody is inspecting at that moment." It is merely the "solution" people are least aware of. (Draft IP)
- The PEIS should disclose the lowered environmental impacts that could be achieved with an "enhanced waste minimization" programmatic alternative for WM. (Draft IP)
- The DOE should recycle waste onsite. (Draft IP)
- Recycling should be emphasized in the PEIS. (Draft IP)
- The PEIS should include recycling alternatives. (Draft IP)

- Consider recycling and recovery rather than burial. (Draft IP)
- Waste minimization should become a WM programmatic alternative and the PEIS should disclose the potential for reducing the need for waste treatment and disposal facilities—which would be possible by implementing a fully integrated waste minimization program. (EMAC)
- The PEIS should consider waste minimization quantitatively. (EMAC)

The DOE has a Waste Reduction Policy that includes waste minimization and pollution prevention, and an established program for implementing the policy. WM is responsible for coordinating and consolidating the Waste Reduction Policy. Activities are coordinated within DOE and include interface with EPA and other agencies. Guidance is provided to the field offices for required minimization activities. Meetings and workshops are held to promote the exchange of useful techniques and practices within DOE, between DOE and the commercial sector, and internationally. Technology Development is responsible for developing innovative waste minimization technologies to support DOE activities.

EM believes that waste minimization is an important consideration for all programs because it would reduce the need for waste treatment and disposal facilities. The DOE's waste minimization, reduction, and pollution prevention programs and practices will be addressed in a separate section of the PEIS. Included within that section of the PEIS will be a quantitative evaluation of the potential effect of waste minimization on the need for new waste treatment facilities and the potential effect of reducing the volume of wastes on the need for new waste disposal

facilities, as applicable to each waste type considered in the PEIS. This section of the PEIS will also discuss the relationship between ER and WM Technology Development and waste minimization and reduction. Minimizing the generation of waste from remediation and D&D activities will be emphasized, as well as minimizing waste from WM facilities.

3.5.16 EMPLOYEE RELATIONS POLICIES

During scoping, individuals said that they believe that DOE needs to improve its employee relations policies, especially concerning "whistleblowers." They stated that those who report situations that they think are unsafe or contrary to occupational health or environmental laws should be protected. Commenters also stated that workman's compensation and long-term health care should be provided to all workers, including whistleblowers. Moreover, people thought that better worker-related policies would help to ensure that DOE has adequate qualified personnel to carry out EM activities. People expressed concern about the effects that changing missions at sites might have on jobs. They asked that such impacts be evaluated in the PEIS and that employee retraining be considered.

Several commenters on the Draft IP made statements about DOE's employee policies, including the hiring and retraining of unemployed personnel as environmental specialists and participation of workers at DOE public meetings. Comments on the Working Final IP suggested that the IP include Whistleblower protection regulations.

Examples of the public comments included:

- The DOE should pay more attention to whistleblowers and private citizens and reward people who report violations. (Scoping)
- Workers should be retrained and/or relocated. (Scoping)
- The DOE should assure the Mallinckrodt employees that their jobs will not be lost during cleanup. (Scoping)
- The DOE should set up a fund for training and retraining employees. (Scoping)
- A fund should be established for workers cleaning up weapons production sites. (Scoping)
- The DOE should hire and retrain unemployed scientists and engineers as environmental specialists. (Draft IP)
- The DOE needs more women in positions of authority. (Draft IP)
- If DOE wants the participation of workers at its meetings, the workers will need assurances they will not be reprimanded if they comment or participate. (Draft IP)
- Whistleblower protection regulations should be summarized in the IP. (EMAC)

Those comments specific to effects from changing missions at production sites will be considered in the Reconfiguration PEIS. The DOE does consider retraining a viable option, and such socioeconomic effects will be considered in the Reconfiguration PEIS.

The DOE agrees that personnel issues and policies are important to the continued safety of DOE operations. However, these issues

are not amenable to environmental analysis and will not be analyzed in the EM PEIS.

The DOE is aware of the problems faced by its labor force, as well as the increasing need for skilled personnel to accomplish the EM mission. Under Section 3161 of the National Defense Authorization Act for Fiscal Year 1993, the Secretary of Energy is required to develop a plan for restructuring the work force for a defense nuclear facility taking into account reconfiguration and the most recent nuclear weapons stockpile plan, whenever there is a determination that a change in the work force is necessary. The Act provides specific objectives to guide the preparation of a plan to minimize the impact on workers, to include retirement incentives, retraining, preference in hiring at other facilities, relocation assistance, and consultation with various government and nongovernment groups. A plan is due to the Congress within 90 days of notification to affected workers of a restructuring action, and the notification should occur 120 days in advance of the restructuring.

Although the Act creates two classes of potentially displaced workers ("defense" and "nondefense") the Department believes that the objectives of Section 3161 should be applied Department-wide for all Management and Operating contractors, regardless of program funding source. Further, the Department has proposed that all DOE Management and Operating contractors be directed to review resumes of interested contractor displaced workers and give these displaced workers priority consideration before hiring other offsite applicants.

The DOE, as a Federal agency, follows all affirmative action and equal employment opportunity requirements, and encourages females and other disadvantaged individuals

to seek positions within DOE. As private citizens, DOE and its contractor employees are welcome at all DOE public meetings and workshops. Section 3.5.28 discusses the socioeconomic issues to be addressed in the EM PEIS.

The Whistleblower Protection Act of 1989 applies to DOE employees and requires that no Federal agency may "take or fail to take, or threaten to take or fail to take, a personnel action with respect to any employee or applicant for employment" because of any disclosure of information that the employee or applicant reasonably believes is a violation of any law, rule, or regulation, or is a substantial and specific danger to public health or safety. DOE Order 5483.1A, "Occupational Safety and Health Program for DOE Contractor Employees at Government-Owned Contractor Operated Facilities," applies to DOE contractor employees. The Order includes a provision that "no contractor shall discharge or in any manner demote, reduce in pay, coerce, restrain, threaten, or take any other negative actions against any contractor employee as a result of the employee's filing of a complaint, or in any other fashion, exercising on behalf of himself or herself or others any right set forth" in the Order. In addition to the Whistleblower Protection Act and DOE Order 5483.1A, many other environmental laws also apply to DOE contractor employees and contain protections against career reprisals. For example, the Clean Water and Solid Waste Disposal acts prohibit firing or in any other way discriminating against any employee because of the filing, initiation, or testimony in any proceeding under those laws.

3.5.17 DOE CREDIBILITY, PUBLIC PARTICIPATION, AND OVERSIGHT

According to several commenters during the scoping process, DOE's lack of credibility is attributable to operating in a culture that has supported secrecy over forthright communication and open interaction. Some people suggested DOE review classification procedures and make as much information available as soon as possible. During the scoping process and review of the Draft IP, several commenters suggested that DOE involve the public early and often in decision-making and permit oversight of all activities as a way to improve credibility. During review of the Working Final IP, members of the EMAC believed that several of the DOE responses to comments were not responsive and that the IP responses should be reviewed and revised.

Examples of the public comments included:

- The DOE needs a thorough, comprehensive overview of policy and procedure in order to gain public confidence. (Scoping)
- The DOE needs to demonstrate the capability and willingness to deal with present and future problems and make a deliberate attempt to commit to trust, openness, and honesty in all proceedings. (Scoping)
- The DOE has been unwilling to provide the public with information and has used national security as the excuse for withholding information. (Scoping)
- The DOE has been complacent in dealing with safety issues. (Scoping)
- The DOE lacks commitment to public concerns. (Scoping)

- The DOE subjugates science to public relations. (Scoping)
- The DOE needs to improve public relations. (Scoping)
- The DOE needs to provide an open line of communication with the public, making classified material available for public review, notifying the public of contamination and releases, and educating citizens about all aspects of DOE sites. (Scoping)
- The DOE needs to welcome public participation and make it easier for the public to get involved. Local citizens should be involved in DOE decision-making about safety standards, design, implementation of cleanup and related activities, and approval of emergency plans. Staff from operable units should be included at the public meetings; lessons should be taken from existing citizen involvement actions. (Scoping)
- The DOE should consider having oversight functions performed at three different, independent levels—congressional, other agency, and group/individual; the DOE should support independent inspections and report the findings to Congress and the President; long-term, adequate funding and full oversight authority should be given to regulators independent of DOE. (Scoping)
- The DOE should allow State, local, and tribal entities to be more involved; the DOE should fund States and have them participate in the cleanup and conduct of public involvement programs; give States access to nuclear weapons production information; and address alternatives and transportation scenarios in terms of Indian tribes and treaties. (Scoping)
- The DOE activities and facilities should be subject to external reviews, public reviews, and independent agency investigations; corrective action programs should be followed through; the DOE should hold public hearings and follow-up with involvement of groups and individuals. (Scoping)
- The DOE will never gain public trust while remaining in nuclear weapons production. (Draft IP)
- The DOE needs a cultural transition. (Draft IP)
- The DOE should gather its detractors together and ask them, "What do we need to do to get you to be a believer and a supporter?" (Draft IP)
- The DOE must acknowledge failures of the past openly. (Draft IP)
- Based on past DOE reputation, there is a lack of confidence that DOE is taking seriously any of the comments it has received from the public in these sessions and in past hearings. (Draft IP)
- The DOE must listen to the public. (Draft IP)
- Involvement of DOE decisionmakers at these workshops is appreciated, but greater numbers of meetings are probably more important. (Draft IP)
- The six regional workshops offered a greatly improved format for meaningful dialogue between the public and DOE officials. (Draft IP)
- Both workshops and regular public hearings should be part of the process. (Draft IP)
- The public wants to be part of the decision-making process. (Draft IP)

- Do not confuse public involvement with "selling." The public wants to be involved in selecting technologies. "Do not just try to sell us on what you have already selected." (Draft IP)
- The DOE needs broader representation of the public at meetings—churches, educational communities, for example. (Draft IP)
- Regional workshops covered too large an area to be most effective. (Draft IP)
- The actual location (that is, building and neighborhood) of the workshop needs to appeal to a comfort level (good example: local high school). This workshop's location did not have that type of comfort for many participants. (Draft IP)
- If DOE involved interest groups in planning its meetings, the groups would be more likely to attend the meetings. (Draft IP)
- Participants strongly supported the regional workshop format and requested additional workshops in other places (Idaho and Oregon). (Draft IP)
- The public should have an opportunity to question DOE's rationale. (Draft IP)
- The DOE should hold workshops nearer to those areas affected by DOE waste management activities. (Draft IP)
- People who will be affected should be involved in risk assessments and decisions. (Draft IP)
- The participants want more participation in the PEIS process and review of that process. (Draft IP)
- There was a consensus that these meetings should have been held near DOE facilities where people live. (Draft IP)
- Avoid apparent conflicts of interest as may occur by DOE's direct involvement in the decision-making by creating an interagency committee. (Draft IP)
- The DOE needs to coordinate its cleanup program with other government cleanup programs. (Draft IP)
- The EPA has agreed to participate as a cooperating agency; however, its role has not yet been determined. Once the role is defined, it should be addressed in the IP and PEIS. (Draft IP)
- The DOE should establish local advisory groups tied into the national advisory committee. (Draft IP)
- Inclusion of labor groups is good. (Draft IP)
- The DOE did not respond to the public. (EMAC)
- The DOE gave general and noncommittal responses. (EMAC)
- The DOE avoided responding to the public's request for specific information, thereby implying that the public's informational needs are not important. (EMAC)
- The DOE should expand the number of comments presented. (EMAC)

The DOE recognizes the importance of independent oversight and public involvement in activities to build confidence and trust. The DOE will continue to make information available to the public and respond to public comments.

For the PEIS, EM conducted a national workshop associated with the release of the Notice Of Intent (NOI) to prepare the PEIS and held a series of 23 public scoping meetings to receive comments on the NOI

and proposed scope. Although not required to do so, DOE also made the Draft IP available for public review and comment and held a series of six regional workshops to receive comments and suggestions on the Draft IP and on how to prepare the PEIS. To encourage public involvement, *Federal Register* notices, press releases, and local advertisements have been used to publicize activities. EM will continue to publicize public participation opportunities.

EM activities are regulated under RCRA and CERCLA, which have provisions allowing for public participation. Under CERCLA, interested persons have many opportunities to comment on and provide input for decisions about cleanup actions.

The EPA and the States participate in external oversight of DOE through Federal Facilities Agreements and Interagency Agreements. The DOE has also formed national advisory committees under the procedures described in the Federal Advisory Committee Act (FACA). External oversight of safety issues is being provided by the independent Defense Nuclear Facilities Safety Board, which was established by congressional action. The DOE also participates with other Federal agencies involved in cleanup programs, including the Department of Defense and EPA's Superfund Program.

The DOE is committed throughout the EM Program to involve the public in reviewing the various activities at the national and site levels. The DOE believes that this improves the quality of its work. The DOE plans to use both the workshop and public hearing formats in the future. The DOE agrees that the workshop format is a useful way to obtain public involvement in the PEIS. However, DOE recognizes the need for more involvement at the local level and

intends to use diverse methods of public participation. These concepts have been incorporated into an EM Public Participation Policy, which emphasizes local as well as national participation. Local networks and meetings will be used to achieve greater participation in future PEIS public meetings.

In response to public comment, DOE chartered the EMAC to consider the scope, planning, and process of the PEIS. The EMAC's charter and membership are included as appendix H. This committee has been conducting meetings near DOE sites and obtaining local public input as it conducts reviews of EM issues. The EMAC has reviewed and provided recommendations on the IP. As a result of EMAC's recommendations, DOE has revised the IP to provide further discussion of EM program issues of concern and to identify specific commitments about the discussions and scope of the PEIS.

The NRC has agreed to be a limited cooperating agency in preparing the PEIS. The DOE and EPA have also agreed that EPA will participate in the EM PEIS by reviewing draft analyses before issuance to the public. Appendix I contains more information on EPA's role in the EM PEIS process.

The DOE is informing the public of the EM PEIS process by

- Periodically reporting the EM PEIS status in the EM newsletter, *EM Progress*.
- Reporting the EM PEIS status in local field office ER and WM newsletters.
- Discussing the EM PEIS status periodically with the STGWWG.

- Describing the relationship between the EM PEIS and major ER and WM site-wide EIS documents at the site-wide EIS scoping meetings.

EM has prepared a Public Participation Policy (appendix K) that will improve information sharing with the public. The DOE has requested that the EMAC provide comments on DOE's public participation policy and its ideas on public participation in the EM PEIS process.

In addition, there are several DOE initiatives underway to improve the availability of information to the public, to improve the involvement of the public in waste management and cleanup decision-making at DOE sites, and improve the public accountability of the EM Program. The Secretary initiated a review of formerly classified information for release on December 7, 1993. The DOE is working actively with stakeholders around the complex to establish Site-Specific Advisory Boards (SSABs) pursuant to the recommendations of the Federal Facilities Environmental Restoration Dialogue Committee (Keystone Dialogue). Also, the DOE has established an Office of Public Accountability reporting directly to the Assistant Secretary for Environmental Restoration and Waste Management.

The DOE will invite comments from the public and interested agencies and groups on the Draft PEIS after it is published. During the comment period on the Draft PEIS, DOE will conduct public hearings at numerous locations near DOE sites, such as where the public scoping meetings were held. The DOE intends to provide additional time either before or after the hearing for interaction between the DOE and the public to facilitate more involvement and discussion

of analyses in the PEIS and to further explore public concerns. The details of the public hearings on the Draft PEIS will be announced in conjunction with the announcement of the availability of the Draft PEIS. The Final EM PEIS will address each comment received on the Draft EM PEIS.

Because of the large scope of the PEIS and DOE's interest in obtaining further public involvement, DOE plans to conduct some public workshops even before releasing the Draft PEIS. The workshops are planned even though DOE is not required by DOE or CEQ regulations to share the PEIS analysis before the Draft PEIS is formally issued for public review. Although the format and number of these workshops have not yet been determined, they would gather informal views of the participants on the implications of the PEIS analyses and specific issues of importance to the EM Program. One idea being considered is to request the DOE Site-Specific Advisory Boards that are to be developed around the major DOE sites (for example, the Hanford Site, Idaho National Engineering Laboratory, Rocky Flats Plant, Fernald, and Savannah River Site) to sponsor the workshops and assist in developing the format of the workshops. The workshops could be scheduled to occur in parallel with review of the PEIS analyses by DOE, EPA, and the EMAC.

3.5.18 MANAGEMENT OF CLEANUP ACTIVITIES

During scoping, commenters were concerned that past DOE management practices had resulted in the existing environmental contamination requiring remediation and that contractors used in cleanup may have contributed to that environmental damage. They recommended

either that an independent agency assume responsibility for cleanup operations or that there be external oversight of cleanup activities. Some commenters on the Draft IP expressed concerns similar to those made in the scoping meetings. They believed DOE has a conflict of interest in conducting environmental cleanup and building weapons. Members of the EMAC suggested that a brief explanation of Interagency Agreements may alleviate some oversight and compliance concerns.

Examples of the public comments included:

- The DOE needs to address management of cleanup activities, resources, and procurement; the time spent by citizens monitoring DOE management could have been spent more wisely; DOE's attitude of insufficient cleanup resources is unacceptable; responses to Tiger Team findings are insufficient. (Scoping)
- The DOE should contract out cleanup and storage of waste and enlist an independent body to monitor contractor activity. (Scoping)
- The organization doing cleanup must be independent of the production facilities to avoid conflict of interest. (Scoping)
- Cleanup should be subject to peer review. (Scoping)
- Display the commitment to cleanup by centralizing decision-making and management for expediency and efficiency. (Scoping)
- The DOE should be separated from or completely relieved from responsibilities involving environmental restoration and waste management; Congress should select one agency to do cleanup and another agency for weapons production; Congress should create an independent waste cleanup agency; a non-government agency should be placed in charge of cleanup. (Scoping)
- The DOE needs to present timetables for cleanup activities and make a concerted effort to begin the physical cleanup process as early as possible. (Scoping)
- The DOE should begin cleanup immediately. (Scoping)
- The DOE has not been able to meet deadlines for remediation activities. (Scoping)
- Thirty to forty years is too long for cleanup. (Scoping)
- The DOE needs to provide justification for or against D&D activities for obsolete or unused facilities. (Scoping)
- All obsolete facilities should be decontaminated and decommissioned. (Scoping)
- The DOE needs to develop a responsible cleanup plan; design cleanup activities to minimize health risk to workers and the public; identify important surface streams, aquifers, and arable lands, as well as the previous uses of such land and waters, and protect future uses on or near the site; avoid risk-based exposures as part of cleanup plan. (Scoping)
- The DOE should consider having independent contractors develop alternatives. Alternatives whose end result is unrestricted land use need to be considered. (Scoping)
- Take immediate action to stabilize problem sites. (Draft IP)
- The DOE should have stricter oversight of both DOE and contracted programs. (Draft IP)

- Fear that Environmental Restoration Management Contractor (ERMC) cannot overcome conflict of interest as a result of managing and operating contractors conducting cleanup activities. (Draft IP)
- The CERCLA cleanups must be consistent with the National Contingency Plan (NCP). (Draft IP)
- A brief explanation of Interagency Agreements would alleviate some oversight and compliance concerns. (EMAC)

By proposing an integrated EM Program, DOE believes the management of ER activities will be improved. EM is developing an Environmental Restoration Management Contractor (ERMC) Program to manage cleanup activities at the field offices, a function currently being performed by the management and operating contractors, and to assist the field offices in their compliance activities. This type of procurement action is being used first at the Fernald Environmental Restoration Management Project. The ERMC will have management and oversight responsibilities, as applicable, for Remedial Investigations/Feasibility Studies (RI/FS) and various cleanup activities. As a management-only contractor, the ERMC will subcontract work, and review and evaluate the subcontractor's work and performance. EM believes this approach will provide more efficiency and specialized expertise in cleanup while alleviating concerns about cost, management control, and conflict of interest. Even with the ERMC, DOE will still retain ultimate responsibility for cleanup.

The DOE believes the issued Five-Year Plans were responsible plans. The Plans included efforts to minimize health risk and

to identify important milestones to achieve safe environmental remediation, D&D, and waste management activities. ER's goal is to clean up the FY 1989 inventory of inactive and surplus facilities. Remediation, D&D, recycling, and conversion of sites and facilities added to the inventory after FY 1989 will proceed according to a well-defined, and nationally accepted schedule.

The DOE supports NCP's "bias for action," which encourages early action to address immediate problems. DOE is working with EPA, States, and the public to implement early cleanup actions, where appropriate.

Both EPA and the States provide regulatory oversight of the DOE cleanup process. The DOE compliance activities will abide by agreements and applicable laws and regulations. The PEIS will identify existing Interagency Agreements and as discussed in section 3.5.14 will describe a suggested process for, and beneficial changes through, any renegotiation of agreements.

3.5.19 COMPENSATION AND PAYMENT OF BURDEN FUNDS

During the scoping process, some people stated that they had been harmed by DOE activities and that they should be appropriately compensated. Other commenters thought that states and local governments should receive payment of burden funds as compensation for hosting DOE facilities. Comments on the Draft IP were similar to those made during the scoping process.

Examples of the public comments included:

- There should be a fund for DOE cleanups which includes paying DOE workers who become sick. (Scoping)

- The DOE should compensate the residents near a site for damages to health, property, and relocation. (Scoping)
- The DOE and contractors should be responsible for the health care of those harmed by their activities. (Scoping)
- The DOE should pay "burden funds" to state and local governments of communities in or near which DOE has facilities. (Scoping)
- The DOE must respond and address "real or presumed injury" to people and communities. (Draft IP)
- The DOE should set a dollar value on personal risk and exposure. (Draft IP)
- Discussion of payment of burden funds should be incorporated in a general discussion of socioeconomic impacts. (Draft IP)

Workers at sites are covered by Workmens' Compensation. Information on other socioeconomic issues is contained in section 3.5.28.

3.5.20 TRANSPORTATION

Scoping participants raised a number of questions and concerns about waste transportation and how the issue would be addressed in the PEIS. Commenters suggested the PEIS should evaluate risk to transporters and the public from waste shipments and should clearly identify the strengths and weaknesses of models used to assess these risks. Information on specific waste transportation routes was also requested. On the Draft IP, commenters requested that DOE not transport waste offsite; that if offsite transport is required, it should be minimized; and that DOE should

provide the public with more information on waste transportation.

Examples of the public comments included:

- The DOE should do a risk analysis of transporting waste from each site versus leaving waste onsite. (Scoping)
- Consider risk to public safety caused by transportation of waste. (Scoping)
- Reject waste management options that involve transportation of waste off site for processing, and interim or permanent storage. (Scoping)
- Consider the worst case transportation scenarios. (Scoping)
- Assess the risk of accidents from human error. (Scoping)
- Include transportation risk in a comprehensive risk analysis system. (Scoping)
- Educate residents about transportation risk. (Scoping)
- The RADTRAN (computer model) used to assess risk for radioactive shipments does not factor in human error. (Scoping)
- Rail versus highway transportation needs to be evaluated. (Scoping)
- Address alternatives, transportation scenarios in light of Indian tribes and treaties. (Scoping)
- Include a generic transportation EIS in the PEIS, present advantages and disadvantages, and use as an avenue for communicating citizen concerns. (Scoping)
- Need special rail lines or bypasses to avoid urban areas for the transport of WIPP waste. (Scoping)

- Use the safest routes and best roads. (Scoping)
- Evaluate availability of hazardous material teams along transportation routes. (Scoping)
- The DOE must not ship contaminated waste to Kentucky. (Scoping)
- Waste shipment procedures need development - Who, What, When, How, Where. (Scoping)
- Ban waste transportation across Shoshone-Bannock lands. (Scoping)
- Federal transportation regulations should not preempt state, local and tribal regulations. (Scoping)
- There was some public opposition to transporting waste more than absolutely necessary. (Draft IP)
- General acceptance for necessary transportation, but should keep it minimal. (Draft IP)
- Communities do not want hazardous material/waste transported through their area. Keeping it onsite provides a small measure of security in at least knowing where it is. Concerns were raised about impacts on property values along transportation routes. (Draft IP)
- Transportation is a crucial issue; the public sees transportation as highest risk. (Draft IP)
- If transportation of radioactive and hazardous material/waste is low risk, then DOE must educate the public that the risk is low by demonstrating, for instance, that containers are accident-proof. (Draft IP)
- There is too much emphasis on trucking, not enough on rail. (Draft IP)

- Communicating transportation risk is an opportunity to deal squarely with the public (example: TRUW container safety record). (Draft IP)

The PEIS will analyze both onsite and offsite waste transportation risks, impacts, and costs associated with ER and WM alternatives for the transport of radioactive and hazardous wastes. The risks from transporting wastes will include the risks to populations surrounding the transportation routes, to transportation workers, and to populations and the maximally exposed individual as a result of transport accidents. The PEIS will include a detailed discussion of the transportation risk assessment methodologies and models and uncertainties in the assessment of transportation risks.

The transportation analysis will be based on U.S. Department of Transportation (DOT) routing regulations for the transport of radioactive and hazardous materials. These regulations which will be discussed in the PEIS, generally specify that the transport of hazardous and radioactive materials on highways be limited principally to interstate highways. In accordance with these regulations, individual States have specified alternatives to interstate routes (for example, heavily congested beltways), where appropriate. The PEIS analysis of waste transport will include both highway and rail transport, as appropriate. Where highway or rail routes traverse Native American lands, such as those of the Shoshone-Bannock in Idaho, the PEIS will separately identify the routes that traverse Native American lands, the number of potential shipments, and the potential risks associated the transport of wastes.

As discussed in section 4.2 of this IP, the WM alternatives to be considered in

preparing the PEIS include decentralized, regionalized, and centralized approaches. Under the decentralized approach, the PEIS will consider the establishment of facilities at each DOE site where wastes are generated or stored to reduce or eliminate the need for the intersite transport of waste.

The PEIS will analyze the potential impacts from accidents involving the transport of wastes. While mechanical malfunctions, such as faulty signals or transport equipment malfunctions, are a cause of some transport accidents, the probability of transport accident occurrence to be considered in the PEIS will take into consideration all causes, including human error, which is the predominant cause of transport accidents.

3.5.21 SEPARATION OF DOE AND COMMERCIAL WASTE

During the scoping process and the review of the Draft IP, some commenters requested that DOE consider the use of DOE facilities for commercial waste; others requested that DOE place a greater emphasis on the use of commercial facilities for DOE LLW and LLMW.

Examples of the public comments included:

- Consider the impacts of accepting commercial waste from states. (Scoping)
 - Corporations that produce waste should be held responsible for it. (Scoping)
 - The DOE should include more commercial waste disposal alternatives. (Draft IP)
 - The DOE should consider combining commercial and DOE waste if this is reasonable. (Draft IP)
 - The DOE should consider using commercial plants for LLMW treatment,
- then [have] DOE dispose of radioactive and hazardous residue. (Draft IP)
 - Why is DOE unwilling to send its waste to a licensed and permitted commercial LLW or LLMW disposal facility? An example of such a facility is the Envirocare facility in Utah. (Draft IP)
 - Discussions have begun between DOE, States, and LLW compacts about integrating the management of commercial and DOE LLMW. The PEIS should build on these discussions and address integrating management of these wastes. (Draft IP)

Nonradioactive HW generated at DOE sites is primarily sent to commercial treatment, storage, and disposal facilities permitted in accordance with RCRA requirements.

Some LLW from the cleanup of UMTRAP and Formerly Utilized Sites Remedial Action Program (FUSRAP) sites has been shipped to commercial disposal facilities. Although these UMTRAP and FUSRAP sites are not owned by DOE, DOE is responsible for cleanup of these sites. The PEIS will consider the continued use of commercial facilities for limited quantities of LLW and LLMW generated during ER activities, including FUSRAP-generated LLW and LLMW.

Under the Low-Level Radioactive Waste Policy Amendments Act of 1985, DOE was assigned responsibility for disposal of GTCC LLW from commercial generators. Currently, DOE accepts limited quantities of GTCC LLW for interim storage. These wastes consist of primarily small sealed sources of radioactivity that have been used by commercial companies under a license by NRC or by an Agreement State. The DOE stores these wastes on an interim basis at the request of the NRC and Agreement States to

remove the sources from the public domain and eliminate a potential hazard to public health and safety. The PEIS will consider alternative waste management configurations for the continued DOE interim storage of such commercial GTCC LLW. The PEIS will also discuss the potential options that may be pursued in the future for the treatment and disposal of GTCC LLW.

Under RCRA, the disposal of certain hazardous wastes and hazardous components of LLMW is subject to land disposal restrictions (LDRs). The hazardous components subject to the LDRs are prohibited from land disposal unless either prescribed treatment standards are met or a variance is granted. Currently, there is an inadequate DOE and commercial capability for the treatment of DOE LLMW subject to LDRs. The PEIS, as discussed in IP section 4.2, will assess configuration alternatives for locating LLMW treatment facilities at DOE sites. The PEIS will also discuss the potential use of DOE LLMW treatment facilities for treating commercially generated LLMW.

3.5.22 "BELOW REGULATORY CONCERN" WASTE

During scoping, commenters stated that they did not want DOE to adopt the NRC's "Below Regulatory Concern" (BRC) policy because of potential occupational and public health risks from exposure to LLW. Numerous commenters thought adopting a BRC waste policy would encourage the use of dilution to resolve LLW and LLMW disposal problems.

Examples of the public comments included:

- The NRC's BRC regulation should not be used by DOE because waste could go to ordinary landfills without traceability. (Scoping)
- The DOE should treat BRC waste because it can be hazardous. (Scoping)
- Adopting BRC encourages the use of dilution to solve the LLW and LLMW disposal problems. (Scoping)
- BRC would be contrary to CERCLA. (Scoping)
- Exposure to BRC waste threatens workers and the public. (Scoping)
- The DOE should include BRC waste in the EM PEIS. (Draft IP)
- The country has got to face up to the issue of BRC. (EMAC)
- The public interest in BRC standards has been demonstrated. DOE routinely makes BRC determinations on large volumes of industrial solid waste destined for disposal in landfills on DOE reservations. (EMAC)

BRC is a waste classification that was originally proposed by NRC in accordance with the Low-Level Radioactive Waste Policy Act. Currently, the NRC has instituted a moratorium on BRC policy implementation. Although a BRC regulation for LLW could be advantageous to the Department in disposing of wastes containing insignificant levels of radioactivity, DOE is not authorized to promulgate either a BRC regulation or a BRC standard. That authority lies with other Federal agencies. The DOE manages LLW that might meet future BRC standards and regulations as LLW and will continue to do so until appropriate regulations are implemented.

Although prior DOE practices with respect to offsite hazardous solid waste disposal were inadequate and resulted in the

disposition of wastes contaminated with very low levels of radioactivity, such practices have been halted recently and new procedures are being developed. The PEIS will discuss the category of industrial waste and DOE's efforts to prevent unauthorized disposal of industrial solid wastes contaminated with radioactivity as industrial solid wastes. DOE has adopted practices for screening of waste for disposal in onsite landfills.

3.5.23 WASTE MANAGEMENT

During the scoping process, commenters requested full details of DOE's proposed waste management priorities, policies, and technologies. Many commenters preferred a policy of onsite waste management because the use of offsite facilities was viewed as too expensive and too risky. In addition, some people wanted the PEIS to discuss existing and developing technologies and their impacts to determine which technologies should continue to be used and where they should be used. During the review of the Draft IP, some commenters wanted to know how DOE would determine waste management configuration alternative site locations.

Examples of the public comments included:

- Because of poor waste management practices, DOE needs to develop a comprehensive long-term Waste Management Plan. (Scoping)
- Consider a centralized location for waste. (Scoping)
- Integrate recycling into DOE activities. (Scoping)
- Establish enforceable guidelines for waste disposal. (Scoping)

- Include consideration of all waste generated since weapons activities began. (Scoping)
- The DOE needs a thorough study, including an evaluation of all risks, of onsite storage versus waste transportation. (Scoping)
- Waste storage containers, container standards, and container safety need to be reviewed. (Scoping)
- Storage containers should meet European standards of 100,000 years. (Scoping)
- Waste should stay where it is generated rather than fouling new sites. (Scoping)
- The waste classification scheme is misleading, a risk-based system would permit more refined categorization. (Scoping)
- The analysis of waste alternative site locations must also consider site-specific facts. (Draft IP)

For waste management, the PEIS will examine a number of configuration alternatives for each of the following waste types: HLW, TRUW, LLW, LLMW, GTCC LLW, and HW. The configuration alternatives to be considered for each waste type include, as appropriate, No Action; continuation of the current program; and decentralized, regional, and centralized approaches.

Analysis of waste alternatives will be conducted using representative locations at DOE sites. The impacts that will be assessed will include human health risks from the operation of facilities and from waste transportation, natural resource impacts, socioeconomic impacts, and impacts to biota. After the PEIS process is completed, site-wide or project-level NEPA documents

will be tiered to the PEIS and will further evaluate implementation of the selected configuration alternatives. The project-level analyses will consider in more detail the issues of capacity (including throughput capacity), technologies (including process alternatives), quality (including location-specific performance standards), location-specific environmental impacts (including disturbance to specific habitat types) and more detailed analyses of risks to workers and the public.

The quantities of wastes considered in the PEIS analysis of WM alternatives will include the current inventory of wastes in storage, the quantities of wastes expected to be generated in the future, and the potential quantities of wastes resulting from ER activities. The evaluation of ER alternatives in the PEIS will consider those wastes that have been previously disposed.

The current DOE waste classification system is based on a number of Federal statutes. While some of the waste categories include a wide range of wastes from a risk perspective (for example, LLW), performance-based procedures and requirements ensure that such wastes are managed according to their risk. The PEIS will discuss these performance-based standards and requirements.

3.5.24 TECHNOLOGY DEVELOPMENT

During the scoping and public participation processes on the Draft and Working Final IP, commenters stated that an aggressive technology research and development program was needed to ensure that cleanup and waste management goals and objectives would be met. They recommended that DOE devise specific plans and set priorities for developing the needed technologies. Some

commenters stressed the need for DOE to develop a technology transfer program. Other commenters questioned the need to invest in unproven technologies or to delay cleanup while awaiting new technologies. Several commenters also suggested that greater efforts be made to provide information on the status and effectiveness of technology development (TD) efforts and to involve the public and other groups in technology development.

Examples of the public comments included:

- Technology evaluations and development should be addressed in the PEIS and should include a cleanup program, with flexibility for allowing change and technological advances; evaluation of the availability of new cleanup and waste technologies; analysis of proven technologies versus innovative technologies; regulatory approval of innovative technologies; and an analysis of the effectiveness and validity of present treatment technologies. (Scoping)
- The DOE should set priorities for developing technologies. (Scoping)
- The DOE should evaluate alternatives for unrestrictive land use which may not be possible for all sites. (Scoping)
- The DOE should use proven technology and not wait for exotic research. (Scoping)
- The DOE lacks technological solutions for waste treatment. (Scoping)
- Before disposing, specific treatment technologies should be used to reduce waste toxicity and mobility (for example, halt spread of contaminated groundwater by counter-pumping using strategically located wells). (Scoping)

- Soil contamination remediation technologies need to be developed. (Scoping)
- Super compactors do minimize TRUW volume and handling while maximizing safety but do not reduce radioactivity. (Scoping)
- The DOE should develop TRUW onsite processes. (Scoping)
- The DOE should implement technology to treat waste so that the effluent meets criteria for that waste, thus avoiding the cost of sampling heterogeneous waste for characterization. (Scoping)
- In-place vitrification and vacuum vaporizing should be validated by an advisory panel. (Scoping)
- Need to develop technology to reduce toxicity and mobility of radioactive waste that will be placed in the repository. (Scoping)
- Cryogenic containment exists for LLMW soils and it has low operating cost, is earthquake-proof, and repairable in place. (Scoping)
- Neutralization should be considered as an alternative (for example, accelerator driven transmutation). (Scoping)
- Include recommendations from the Office of Technology Assessment's February 1991 report in the PEIS. (Scoping)
- The public should be involved in the process of technology selection. (Scoping)
- Release information on innovative technologies where available and have all reasonable alternatives evaluated. (Scoping)
- The DOE should use existing scientific resources to develop innovative technologies. (Scoping)
- The DOE could establish National Research Centers for technology development by consolidating facilities. (Scoping)
- Cooperate with businesses and other agencies to develop technologies. (Scoping)
- Adequately fund research and development efforts. (Scoping)
- The DOE should evaluate new technologies that demonstrate legal compliance and that have good benefit/cost ratio compared to existing technologies. (Scoping)
- Focus research on improved groundwater models; non-invasive techniques to locate buried waste; alternatives to geologic storage and more durable long-term storage techniques; techniques for cleaning up LLW, LLMW, and HW and for removing radionuclide contamination from wastewater discharges; techniques for collecting, isolating, and treating plutonium-contaminated soils. (Scoping)
- The DOE should develop new permanent and interim strategies and technologies for containing, monitoring, and cleaning up LLW and LLMW. (Scoping)
- Need to provide the public with the TD Program's budget process. (Scoping)
- Technically based criteria should be used for selecting waste disposal methods. (Scoping)
- Some commenters are comfortable with the abilities, integrity, and willingness of DOE and DOE contractors to identify, evaluate, and implement waste

- minimization, storage, and treatment alternatives. (Scoping)
- Current restoration and cleanup technologies are costly and inadequate. (Scoping)
 - The DOE should study new technologies and pursue new contracting methods to save money. (Scoping)
 - The DOE should address how technology transfer will be done from DOE to private industry; describe how a newsletter, research and training centers, and conferences will be developed to support the transfer (for example, field office personnel need to know such things as the status of intended disposal sites, and the availability of treatment technologies at other facilities). (Scoping)
 - The DOE should consider the French experience where radioactive wastes (such as medical and x-ray wastes) are recycled. (Scoping)
 - Development of plutonium recovery and storage repositories is more sensible than current practices. (Scoping)
 - Implement the pumping and treatment used by LLNL for other locations. (Scoping)
 - Stress sharing information between DOE sites to ensure new technologies get applied to appropriate locations. (Scoping)
 - The DOE should focus on long-term as well as short-term problems. (Draft IP)
 - The DOE should actively support research on transmutation and limit itself to containment as a solution. (Draft IP)
 - The public would like to have an overview of which technologies are being used now and their associated success rates. (Draft IP)
 - Currently, the public is not willing to wait for new technology. If the public were more educated and involved, perhaps there would be a value seen in waiting. (Draft IP)
 - People want new technology. They know "move it and dump it" is not cleanup. (Draft IP)
 - Money spent on developing new technology can save cleanup dollars in the future. (Draft IP)
 - Technology development should be a priority and be funded sufficiently to support necessary research. (Draft IP)
 - Improve existing technologies (for example, storage, containment, incineration, and improved filters). (Draft IP)
 - Do not limit thinking to just "proven" technologies; be open to innovative ones. (Draft IP)
 - The PEIS needs to deal with [TD] issues on a conceptual level, not a site-specific level. (Draft IP)
 - There needs to be a close interface between ER, WM, and TD. (Draft IP)
 - The PEIS needs to be clear about how DOE will address "technical gaps," or deficiencies in the ability of technology, to allow milestones to be met. (Draft IP)
 - If innovative technologies are needed, then more money will have to be devoted to research. (Draft IP)
 - The PEIS needs to reflect the effects of different technologies on waste streams as different alternatives are weighed. (Draft IP)

- The PEIS should build in periodic reviews of evolving technologies so that the technology can be modified if necessary. (Draft IP)
- Since TD impacts so strongly on ER and WM programs, DOE should provide a detailed analysis of some alternatives for TD [(for example, allocation of resources among waste types (new vs. stored); mix of DOE, contractors, university labs; address only DOE problems or broader problems (international)]. (Draft IP)
- Waiting for new technology is what got us where we are today. (Draft IP)
- The PEIS must not oversell technology, otherwise public confidence will be weakened if technology fails. (Draft IP)
- Get maximum industry involvement in technology development. (Draft IP)
- The PEIS needs a better analysis of technology alternatives. (Draft IP)
- Waste for which there is no currently effective technology should be contained; cleanup should be delayed until technology improves. (Draft IP)
- The PEIS should include a matrix of available technologies, applications, and limitations. This matrix would serve as a basis for site-specific decisions. (Draft IP)
- Delay [that is, waiting for new technologies] is acceptable only with conditions. (Draft IP)
- The PEIS should clearly address the role the public and regulators will play in technology development decision-making. (EMAC)
- The DOE should offer inducements to encourage technology development. (EMAC)

A key goal of the TD Program is to enable EM to do a better, safer, more cost-effective, and faster job. The PEIS will discuss processes for setting TD priorities, for evaluating the related health and safety benefits and the cost of alternative technologies, and for ensuring technology integration and transfer.

The DOE recognizes that the ultimate success of the EM Program is largely dependent on the ability to effectively develop and implement new technology. For this reason, a significant portion of EM's budgeted resources is devoted to technology development.

The PEIS will devote an entire chapter to describing DOE's program for developing new technologies. Although the programmatic alternatives analyzed in the EM PEIS do not include TD alternatives, DOE recognizes that new technologies could alter the relative merit of the various WM and ER alternatives. The DOE has been encouraged by the public's comments in this area. The comments fall into six major categories:

- Comments on remediation showed that the public's positions were wide ranging from immediately using available technology to remediate environmental contamination to waiting for development of new technologies that may allow the job to be done better, faster, cheaper, and safer, so long as contamination is controlled to avoid risk to the public.
- The EM Program should set priorities for technology development activities and balance funding between EM activities.

- The DOE must facilitate transfer of technology information to and from the EM Program.
- The DOE must involve, inform, and update the public about its decisions and actions.
- The DOE must explain the approach that will be used to consider existing and emerging technologies in the PEIS analysis.
- The DOE must explain how technology development will be used for solving environmental problems.

The question of remediation has several aspects. As far as the methods of analyzing and comparing the ER and WM programmatic alternatives are concerned, the PEIS analyses initially will be conducted using currently available technologies. Available information on these technologies and their effectiveness and limitations will be described in the PEIS. The impacts and risks of the various ER and WM alternatives will then be evaluated. The sensitivity of the impact evaluation of available technologies to new or emerging technologies will then be analyzed. This sensitivity analysis will be done as follows: Initially, available technologies will be compared with emerging technologies. An emerging technology will be selected to bound the range of expected performance characteristics. Detailed analytical results will be examined to determine what factors (for example, long-term risk, short-term risk, worker risk, transportation risk, or other impacts) are most important in reducing or modifying potential impacts. The extent to which an emerging technology would need to reduce or modify the potential impacts of an available technology it would replace to affect the selection of alternatives will then be assessed.

In like manner, the issue of delay can be tested to evaluate the impacts and risks incurred by applying a "control strategy" for a period of time as an interim action, followed by application of a treatment employing an emerging technology, that may require a period of time for development. This issue will also be discussed with respect to irretrievable or irreversible commitment of resources.

In implementing a programmatic alternative once the PEIS analysis is completed and a ROD has been issued, DOE must be responsive to regulatory requirements for meeting certain schedules and applying approved waste treatment technologies. This has implications in terms of the level of technology development in the EM Program.

The PEIS will not evaluate budget alternatives (see Section 3.5.2). The existing system for determining funding will be described in the EM PEIS. The sensitivity of ER and WM courses of action to the available and emerging technologies will be evaluated. Through this analysis, the PEIS will show the relationship between technology development and the ability to satisfactorily carry out EM objectives. It will also determine conditions under which it may be appropriate to initiate certain activities until new technologies are available. These relationships, and the ER and WM programmatic goals determined through the PEIS, will be important considerations in the TD priority setting process and in the overall determination of balance among ER, WM, and TD Programs.

The DOE has emphasized the need for research, development, and demonstration of new technologies for solution of environmental problems by establishing the TD Program. The technology transfer role

of the TD Program will be described in the PEIS.

The program to involve, inform, and update the public will be described in the PEIS. Some of these actions are required by statute. Public involvement is also built into support programs, and the PEIS will discuss this issue.

The overall process used to conduct the analysis of programmatic alternatives for ER and WM will be described in detail in the PEIS. Depending upon the programmatic alternative being assessed, different technologies could be applied to solve the same environmental problem. This issue will also be discussed in the PEIS.

The PEIS will include a discussion of the role of regulators, the public, and stakeholders in the TD Program including the decision-making process.

Appendix C of this IP contains an annotated outline of the Draft EM PEIS, which will discuss the EM TD process and the relationship of TD to the PEIS process. Chapter 4 further identifies how and where specific TD issues will be addressed in the PEIS.

3.5.25 READABILITY

The issue category of "readability" was identified based on the comments received on the Draft EM PEIS IP. Comments on the Draft EM PEIS IP's readability and clarity included:

- Some said the IP was readable, some liked the graphic material included, and some said it was too wordy and technical. (Draft IP)

- The IP is too general and does not give a concrete idea of what DOE plans to do. (Draft IP)
- People want assurances that the PEIS will address workshop issues. (Draft IP)

The DOE made a significant effort to improve the readability of the IP. All of the comments received are appreciated. The DOE is committed to making documents readable and clear to the public. Wherever possible, detailed explanations and graphic representations will be used in the PEIS to help clarify information. This IP addresses comments received on the Draft EM PEIS IP, including those made during the six regional workshops. This IP will be used as a guide in preparing the Draft EM PEIS. In addition to the comments received on the Draft IP, members of the EMAC recommended several editorial changes that have been made to this EM PEIS IP.

3.5.26 PEIS ALTERNATIVES

The issue category of "PEIS Alternatives" was identified based on the comments received on the Draft and Working Final IP. Comments received on the Draft and Working Final EM PEIS included:

- The no action alternative should be just that; leaving waste where it is. No action should not be the Five-Year Plan. (Draft IP)
- Onsite storage at waste generating sites should be viewed as a real alternative. (Draft IP)
- Costs of alternatives should be estimated in the PEIS, to the extent possible. (Draft IP)

- The PEIS should consider analyzing each alternative in the context of a set of conditions, a "module" (for example, given a certain climate and geologic conditions). (Draft IP)
- If DOE does not choose a preferred alternative, then an explanation is required. (Draft IP)
- Use a "reference alternative" instead of a preferred alternative—this will provide a reference point without DOE committing to a particular choice. (Draft IP)
- The DOE must consider that states have varying views of alternatives, based on geography, population, and other factors. (Draft IP)
- The IP should explain whether the PEIS is addressing only the "existing inventory of inactive and surplus facilities." If so, DOE should declare its intention regarding facilities which will become inactive in future years. (Draft IP)
- The Draft IP does not clearly state whether the EM PEIS will consider the treatment of TRUW before it is packaged for interim storage or permanent disposal. (Draft IP)
- ER activities may generate a significant amount of waste that will have to be treated, stored, and disposed. The analysis of WM alternatives cannot be completely separate from the analysis conducted for the ER alternatives. Therefore, the integration between ER and WM alternatives must be thoroughly discussed in the PEIS. (Draft IP)
- The no action alternative is a continuation of the current ER Program, including undertaking a number of remedial actions. For the purpose of comparing alternatives in the PEIS and in the site-wide NEPA documents that are to be tiered to this PEIS, it would be far more straightforward to define the no action alternative as one in which no new remedial action projects are initiated (although such activities as monitoring would continue). (Draft IP)
- The alternatives identified in the Draft IP for WM and ER are too broad and all encompassing to be of much practical value in the PEIS process. More focused alternatives are necessary to facilitate comparison of the relative environmental impacts and selection of a preferred alternative. (Draft IP)
- Programmatic WM and ER alternatives should include the use of mobile technologies, such as mobile incineration units, and other mobile technologies as alternatives to waste transportation. (Draft IP)
- The PEIS should disclose the socioeconomic impacts resulting from any ER or WM programmatic alternative that shifts waste or otherwise shifts risk potential from one state jurisdiction to another. State governments are required to operate with individually balanced budgets. Further, State governments through State policy, law, and regulation, are allowed, under the U.S. Constitution, to establish separate environmental and socioeconomic goals. The PEIS should disclose the impacts upon differing state socioeconomic "environments." (Draft IP)
- The PEIS should disclose the lowered environmental impacts which could be achieved with an "enhanced waste minimization" programmatic alternative for WM. (Draft IP)

- The alternatives for ER should be discarded, apart from the no action alternative that considers the situation as it is today. In place of the present alternatives, the alternatives should be geared primarily to potential alternative restrictions on land and water use. In the presentation of the alternatives, the risk to present and future generations from various levels of clean-up should be evaluated, so that there is a reasonable basis for deciding among the alternatives. Rather, DOE would carefully consider examples of contaminated land and water throughout the complex to develop several categories for both land and water contamination, ranging from land highly contaminated with long-lived radionuclides, such as the trenches at HS and the areas where TRUW are buried at INEL, to areas that have various intermediate levels of contamination, to those that may not have any detectable contamination. Several categories (on the order of ten) for land and a similar number for water should be developed with due consideration given to the varieties of radioactive and hazardous contamination present throughout the complex. These categories would provide the framework for consideration of the environmental, health, and cost implications of clean-up in a systematic manner. The PEIS would then set forth alternatives for each category of land and water as to the level of restoration, the waste generation from clean-up, and the technologies that may be used for cleanup. (Draft IP)
- The interactions between the ER and WM Programs should be clearly brought out. The ways in which land and water are restored have important implications for the amounts and types of waste that are generated. The options for WM should be geared to management techniques and to waste classification schemes. (Draft IP)
- There is a concern that the no action alternatives are not properly defined. The WM no action alternative includes consolidation of TSD facilities not now present in the WM Program. These differences between the no action alternatives, as defined in the IP, and a true no action WM alternative would be magnified greatly when the ER Program begins to generate significant amounts of waste. (EMAC)
- The EM PEIS no action alternative should consider taking no remedial action for the ER alternative and taking no actions regarding WM activities. (EMAC)
- It is not appropriate to use the PEIS for choosing the specific sites for consolidated waste management facilities. PEIS site characterization and impact characterization would not (and should not) occur at a level of detail sufficient to justify siting of facilities. Siting impacts are highly localized and are dependent upon the technology used, the scale of the project, and the site-specific conditions present. (EMAC)
- DOE should re-examine the PEIS approach and, for WM, emphasize programmatic alternatives that might be used to resolve issues of interregional and interstate equity attendant with possible interstate waste flows, and with the eventual siting of WM facilities which could serve regional functions. (EMAC)
- DOE should provide an environmental analysis of an alternative which

addresses the management of all waste onsite (no-intersite shipments). (EMAC)

- It is not clear that either pre-1970 transuranic waste or remote-handled transuranic waste will be addressed in the PEIS. (EMAC)
- The IP selectively addresses the storage of Greater-Than-Class C (GTCC) waste without any promise of dealing with the difficult programmatic issue of final disposal of GTCC waste. (EMAC)

The Draft IP had proposed that the no action alternative for both the ER and WM Programs was to continue with the current programs as outlined in the Five-Year Plan. Based on the comments received and a meeting with a representative of the Council on Environmental Quality, the no action alternative has been redefined in chapter 4 of this IP. Under the no action alternative as defined in this IP, not undertaking further ER actions and only operating existing or DOE-approved WM facilities (that is, facilities for which a NEPA review has been completed and appropriate permits have been received) will be evaluated. The evaluation of no action will provide a basis to assess the environmental impacts of further actions even though no action would not meet the purpose and need for agency action because it would not comply with DOE policy and applicable environmental requirements.

DOE believes that it is essential to analyze the environmental impacts of a spectrum of alternatives for siting of waste management facilities in the PEIS, because this is an important programmatic aspect of waste management planning. For example, the analysis of environmental impacts of such alternatives should serve as useful input to the development of site specific plans for

treatment of mixed waste under the Federal Facilities Compliance Act. DOE further believes that an adequate NEPA review of strategic solutions would have to include consideration of potential environmental impacts to different geographic areas, and in the case of waste management (WM) facilities, should include the consideration of the extent to which wastes at a given site should be managed on a local, regional, or central scale. This need includes consideration of likely impacts that would occur at the various sites where waste is located and along likely transportation corridors, as well as analyzing real locations.

Siting issues are a major part of arriving at strategic solutions, and therefore, are an appropriate consideration in the EM PEIS. For example, based on a programmatic U.S. Army EIS for the disposition of chemical weapons, tiered project-level NEPA reviews are being used to further evaluate the site-specific environmental issues. Another example in which the siting of facilities was analyzed in a PEIS is the U.S. Air Force PEIS for a Small Intercontinental Ballistic Missile Program.

DOE fully recognizes State sensitivities with respect to potentially reaching specific preferred WM facility siting determinations, and the major regulatory role that States will play in implementing any new or modified WM facilities. The PEIS will clearly indicate that implementing new WM facilities is dependent on acquiring the appropriate State and Federal permits and approvals, including project-specific NEPA reviews, where necessary. EM actively seeks the participation of the States and the public in the decision-making process.

DOE has considered a three-tiered NEPA strategy in which the EM PEIS would

consider only policy issues, a subsequent programmatic NEPA document would address siting of new WM facilities, and project-level NEPA documentation would address project implementation. However, because EM's goal has been—and remains—to bring the complex into full compliance with all applicable environmental, health, and safety requirements as *expeditiously* as possible, a three-tiered approach was rejected in favor of a two-tiered NEPA approach. EM believes that this is essential to DOE conformance with the schedules of the Federal Facility Compliance Act.

DOE acknowledges that in preparation of the PEIS, the analysis may not support siting certain WM facilities at specific DOE sites and that the PEIS WM determinations may be made only at a broad level (for example, identification of potential candidate DOE sites within a region, in which one or more waste facilities could be located). However, a lack of information in project-level analyses, such as uncertainties in detailed characterizations of specific waste streams and quantities of waste that may be generated by environmental restoration activities, need not preclude completion of a programmatic NEPA review or delay expeditious compliance. The DOE has always intended to rigorously evaluate and fully disclose the potential impacts of alternative WM configurations in the PEIS, including identifying uncertainties that might affect potential PEIS determinations.

In response to the concerns and recommendations received from EMAC on the topic of land use and ER alternatives, DOE has restructured the ER alternatives to reflect factors that affect the selection of remediation goals. In addition to a No Action baseline risk assessment, four other alternatives will be evaluated in detail. The

first of these alternatives reflects the current implementation of the statutory emphasis in CERCLA. This emphasis is to provide for the long-term protection of human health and the environment through compliance with environmental standards determined to be applicable or relevant and appropriate requirements and the utilization of various treatment and resource recovery technologies to the maximum extent possible. The second alternative to be evaluated emphasizes foreseeable land use to better define likely exposure scenarios and appropriate waste management strategies. Under this alternative, likely future land use would be given explicit emphasis early in the site evaluation process to better reflect the potential risks that are likely to occur. In implementing this alternative, an entire installation or major segment of an installation would undergo long-range land planning with the goal of informed consensus among stakeholders. If the land use for the foreseeable future is known and if current action/inaction will not preclude revisiting the land use evaluation at the end of the "foreseeable future," then only those environmental pathways resulting in exposures of concern would be addressed and only those ARARs that apply to the pathways would be met. The third alternative equally emphasizes remedial worker and transportation risks with the risks to a site's surrounding population. Under this third alternative, the ER program would strive to minimize situations whereby a proposed remedy would result in greater risk due to its implementation than posed by the current state of the contaminants, even if applicable or relevant and appropriate requirements must be waived to do so. The final alternative emphasizes foreseeable land use to establish the initial remediation objectives and also emphasizes the consideration of worker and transportation risks. If the worker and transportation risks

associated with implementing a remedy to achieve a desired land use are considered unacceptable, alternative strategies and limitations would be systematically considered to reach an acceptable solution. The alternatives identified in section 4.1 of this IP are consistent with Council on Environmental Quality guidance to cover the full spectrum of reasonable alternatives. [Memorandum: Questions and Answers about the NEPA Regulations, 46 FR 18026 (March 23, 1981)].

It is important to note that DOE does not intend to develop land use plans as part of the PEIS analysis. DOE believes that these plans should be based upon a consensus of local stakeholders. It would be neither proper nor feasible to develop land use plans for installations in the PEIS. The analysis of the alternative emphasizing foreseeable land use alternatives will be accomplished by considering several bounding land uses for each of several contamination situations. The resulting impacts of these alternatives will be displayed and compared.

The DOE will identify a preferred alternative in the Draft EM PEIS only if analyses indicate a basis to do so. The important interrelationship between ER and WM alternatives is better defined in chapter 4 and will be described in greater detail in the PEIS. The PEIS will address the large waste volumes expected to be generated under some ER alternatives because this is a key issue in integration of the ER and WM Programs. Various waste management technologies will be considered in the PEIS, including mobile treatment equipment.

The socioeconomic impacts of ER and WM alternatives will be analyzed in the EM PEIS. The potential cost and major cost differentials in WM alternatives will be estimated and included in the PEIS

consistent with the programmatic nature of the PEIS and with preliminary concepts for storage, treatment, and disposal.

DOE agrees with the comment that the no action and continuation of the current program alternative as defined in the Working Final IP, when viewed in the context of potential ER-generated wastes, embody a degree of consolidation not now present in the WM Program. This IP has been modified to specifically consider potential ER-generated wastes, and the No Action alternative has been identified separately from the current program alternative.

The DOE agrees that the PEIS should analyze an alternative that maximizes the management of all waste onsite. This IP has been modified to specifically identify decentralized WM alternatives appropriate to each waste type. It has also been modified to indicate that DOE will undertake specific analyses in the PEIS to define the reasonable WM alternatives for each waste type (for example, in the case of a decentralized alternative, to define the facilities necessary at each site to minimize intersite shipments).

EM agrees that waste minimization is an important consideration that would reduce the need for waste treatment and disposal facilities. DOE has established waste minimization policies. DOE will consider the effects of waste minimization in a separate section of the PEIS that will quantitatively evaluate the potential effect of waste minimization on the need for new waste treatment facilities and the potential effect of reducing the volume of wastes or the need for new waste disposal facilities.

Although not part of the current DOE TRUW program, treatment of TRUW might be required under RCRA to remove, or

reduce to acceptable levels the hazardous LDR components in TRUW or under 40 CFR 191 (TRUW Disposal Standards) before shipment and disposal at the WIPP. Until results of the WIPP Test Phase are available, DOE does not plan to proceed with treatment of TRUW. However, the PEIS will evaluate configuration alternatives for the treatment of TRUW to provide advanced planning information in the event that TRUW treatment is found to be necessary. The PEIS will also evaluate a longer period of interim storage of TRUW if WIPP is either delayed or found unsuitable. Each TRUW alternative evaluated in the PEIS will include both contact handled and remotely handled TRUW.

The PEIS will identify TRUW that was disposed before the implementation of a 1970 Atomic Energy Commission (AEC) determination to retrievably store TRUW. The PEIS will also discuss the activities for this previously disposed waste at each DOE site. The DOE is undertaking a demonstration program on retrieving TRUW disposed at the Idaho National Engineering Laboratory to determine the technical feasibility of retrieval without undue risk to workers or the environment. Based on the results of this demonstration program, DOE will consider whether to proceed with any retrieval of disposed TRUW. Such future decision-making would be subject to an appropriate level of NEPA review.

Most Greater-Than-Class C (GTCC) LLW is associated with commercial utility waste and consists primarily of D&D and some operational wastes. Large uncertainties exist concerning the volumes of these potential sources of GTCC LLW. Among these uncertainties are the effect of concentration averaging and whether a detailed listing of SNF assembly and reactor core components

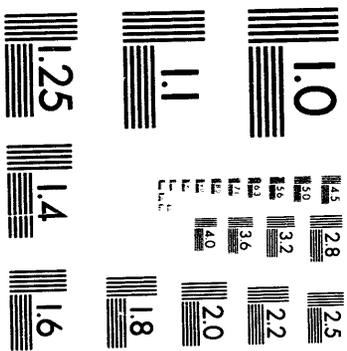
should be considered directly as either SNF or high-level waste rather than GTCC LLW. In addition, the NRC has taken the position in a rulemaking that commercial GTCC LLW should be disposed of in the national geologic repository in the absence of an alternative disposal method. However, disposal of GTCC LLW, other than with SNF, may not be authorized by the Nuclear Waste Policy Act, as amended. Moreover, there is currently no compelling reason for GTCC LLW generators to ship their waste for storage at a DOE site because they would be required to pay DOE storage fees. Because of these uncertainties, DOE believes that proposing an action and reaching a decision on GTCC LLW disposal at this time is not appropriate. However, the EM PEIS will discuss the potential options that may be pursued in the future for the treatment and disposal of GTCC LLW. When the uncertainties surrounding disposition of GTCC are more resolved, the Department intends to undertake a detailed NEPA review of potential methods for GTCC disposition and to fully inform and seek the participation of the public and interested agencies through that review.

3.5.27 LAWS AND REGULATIONS

The issue category of "Laws and Regulations" was identified based on the comments received on the Draft IP. Comments received on the Draft IP included:

- Risk assessment should not be used to avoid compliance with Federal and State laws. (Draft IP)
- The DOE should push for consistency in waste regulation under CERCLA and RCRA. (Draft IP)

- Lack of standards for mixed waste is a big problem. (Draft IP)
- The NEPA and CERCLA regulations should be integrated. (Draft IP)
- Environmental restoration is such a site-specific process, any national standard will fail. (Draft IP)
- Some RCRA regulations are too restrictive. The DOE should work to change these to more reasonable standards. (Draft IP)
- Existing regulations are a good framework—stay consistent. Work cooperatively with other regulatory agencies. (Draft IP)
- There are no regulations (except those concerning UMRAP) on residual radioactivity now. Developing such regulations should be a high national priority. (Draft IP)
- The DOE should describe the authority that regulatory agencies have over DOE. (Draft IP)
- The direction of this program should first be based on what the best technical approaches are to this problem. If regulations are at variance with sound engineering and economics, then there should be an effort to change the regulations. (Draft IP)
- The plan is focused almost exclusively on CERCLA issues, even though there are important sites where the corrective action process under RCRA governs the cleanup. (Draft IP)
- Alternatives considered in the PEIS should assume full compliance with pertinent laws and regulations, as well as agreements with state and tribal governments, and other parties. Any proposed deviations from standards, such as proposals for alternative concentration limits for example, should be made explicit and a rationale given. (Draft IP)
- All applicable or pertinent Federal regulations and statutes such as the Clean Air Act (CAA) and Clean Water Act (CWA) should be identified in appendix C, Draft PEIS Annotated Outline, and appendix F. The regulatory impact of State statutes will obviously differ significantly from State to State. The PEIS should clearly identify the mechanism for addressing how the various State statutes will be accommodated in the evaluation of alternatives. In cases where applicable State statutes/regulations specify "stricter" regulatory requirements than their complementary Federal statutes/regulations, the PEIS should address how these statutes and regulations will be accommodated in the evaluation of alternatives. State consent agreements are an integral part of the "regulatory framework" for ER and WM. Consequently, we believe that such agreements must be identified and considered in the same context as applicable Federal/State statutes, and as part of the evaluation and consideration of alternatives. Tribal treaties and agreements likewise are an essential part of the regulatory framework and should also be identified and considered. (Draft IP)
- The Draft IP states that "following completion of the PEIS, it is likely that environmentally beneficial changes to agreements will be identified and these will be negotiated" openly with DOE Headquarters and EPA. The PEIS must recognize the authority granted in RCRA to EPA and States to regulate environmental cleanup. The DOE should recognize its commitment, in the PEIS,



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that cleanup decisions will comply with Federal and State laws. (Draft IP)

- It is imperative that DOE recognize the sovereign nature of Native American nations, and explicitly state this recognition in the PEIS IP. This would be in keeping with DOE's Indian Policy. (Draft IP)
- In regard to LLMW, the IP and the PEIS should acknowledge the existing framework of joint regulatory control under the AEA and RCRA for the management of LLMW. Specifically, the IP should be revised to state that commercial treatment, storage, and disposal of HW containing source, special nuclear, or byproduct materials would be conducted in accordance with AEA requirements in addition to RCRA requirements. (Draft IP)

In addition to these comments, members of the EMAC suggested several editorial changes to the Working Final IP that were made.

Although NEPA does not require that alternatives considered be consistent with existing laws, DOE is not proposing any alternative that is inconsistent with current law. The DOE agrees that there is joint regulatory control under AEA and RCRA for LLMW and the IP has been modified to so indicate. The DOE will acknowledge authority of regulatory agencies in the PEIS. The DOE agrees that the program should be based on the best technical approaches, but believes that regulations and technology are not at variance. Remedial programs under RCRA and CERCLA are very similar. Other applicable laws are listed in this IP and will be discussed in the PEIS.

State environmental laws are often modeled after Federal laws; therefore, using CERCLA as the basis for programmatic analyses of cleanup alternatives should be adequate. Site-specific actions that would be taken would be consistent with more specific, applicable laws and regulations.

The EM PEIS will include information on compliance agreements and will describe how beneficial changes to agreements would be identified and proposed by DOE. The provisions of DOE's Indian Policy will also be recognized in the PEIS. The DOE will include a description of the applicability of RCRA as well as the AEA to "mixed waste."

3.5.28 SOCIOECONOMIC ISSUES

The issue category of "Socioeconomic Issues" was identified based on the comments received on the Draft IP. Comments received on the Draft IP included:

- The weight of the socioeconomic impacts should be stated in the PEIS. (Draft IP)
- The DOE should not have an important negative impact on any one region. The whole country benefitted from the programs; the burden also should be shared. (Draft IP)
- Consider issues such as water rights and how the tax base is affected. (Draft IP)
- The PEIS should define a mechanism to access socioeconomic impacts which goes beyond traditional cost/benefit analyses and risk assessments. (Draft)
- The DOE should consider the local economy in choosing among alternative land uses. (Draft IP)

- Implementation of new technologies is seen as a threat to the existing work force. Workers should be retained and retrained to do cleanup. (Draft IP)
- Instead of shutting down facilities, build cleanup facilities, and use present workers. (Draft IP)
- The DOE should consider socioeconomic impacts of shutting down facilities, since the host communities have become dependent economically on these facilities (other industries will not locate in these communities because of DOE presence). (Draft IP)
- The mechanism to identify and consider potential socioeconomic and demographic implications for specific candidate sites should be included in the PEIS. Consideration of such impacts to local, potential host communities, and to tribes must be addressed. (Draft IP)

In addition to the comments on the Draft EM PEIS IP, members of the EMAC made several comments about how the socioeconomic impacts would be analyzed in the Draft PEIS and on the suggested response to the socioeconomic comments that were contained in the Working Final EM PEIS IP. The following text incorporates changes as suggested by EMAC members.

The PEIS deals with the EM Program from a national perspective, but will also contain a degree of site-level detail to allow proper analysis of the alternatives. The socioeconomic analysis must balance the programmatic and site perspectives. Traditional socioeconomic impact analyses normally deal with site-specific actions. The challenge for DOE is to adapt these traditional methodologies to execute a meaningful programmatic analysis. This

programmatic framework is being developed by building upon, rather than recreating, the existing work in the field of socioeconomic impact analysis. Recommendations from the Interorganizational Committee on Guidelines and Principles for Socioeconomic Impact Assessment, recommended by one reviewer of the Working Final EM PEIS IP, is an example of one such source being consulted.

While driven primarily by demographics and economics, the socioeconomic impact analysis framework under development is much broader. The areas to be considered include:

- Regional Employment, Population, and Income
- Housing
- Public Services and Facilities
- Land Use
- Public Finance
- Other Affected Social Conditions

The first task in applying the PEIS methodology will be to establish representative baseline social and cultural conditions from a programmatic perspective. The primary output of the task will be representative profiles of population within the regions of influence that describe in particular potential population subgroups that may prove uniquely sensitive to the EM Program impacts. The analysis will be designed to produce an assessment of the capacity, resilience, and flexibility of social organizations, support groups, and the population at large, to deal with the potential impacts associated with the EM Program.

After establishing the baseline conditions, the analysis would identify the potential temporary and long-term impacts of the EM

Program. Representative impacts could include economic conditions, such as employment opportunities and trends; social and human services; and systems for health care, education, police and fire protection, utilities, recreation, and environmental quality. These areas would be evaluated together with the culture and history of the regions of influence. All such effects may influence social organization, relationships, behavior, and overall well-being. The PEIS would include discussions of mitigation programs for such areas as regional equity, job retraining, and stakeholder communications and involvement.

The PEIS will define the methodologies used to conduct the socioeconomic analysis to permit full review.

3.5.29 RISK ASSESSMENT

The issue category of "Risk Assessment" was identified based on the comments received on the Draft EM PEIS IP. Comments on the Draft and Working Final EM PEIS IP included:

- Risk assessments should address both [human] health and the natural environment and should be part of the prioritization of cleanup funding. (Draft IP)
- Criteria are needed for determining risk to the public and workers. (Draft IP)
- The DOE must determine the average background levels of radioactivity in the environment to determine the near-term and residual risks to workers and the public at DOE sites and facilities selected for potential waste TSD sites. (Draft IP)

- The public needs to be involved in assessing risk, have access to backup data and the methodologies used to perform risk assessments. (Draft IP)
- Risk assessment should not be used to avoid blind compliance. (Draft IP)
- Risk assessments are not an exact science and how DOE accomplishes risk assessments must be clearly stated. (Draft IP)
- All risk assessment techniques should be published in peer-reviewed journals. (EMAC)
- The DOE must better explain how risk assessments will be performed, and compare this to the current CERCLA program. (EMAC)

The human health risk impacts for the ER Alternatives analyzed in the PEIS will include as appropriate: (1) risk to local residents from residual contamination at the site; (2) risk to workers from chemical, radiological, and physical hazards of remedial activities onsite; (3) risk associated with transportation of waste offsite; and (4) risk associated with offsite waste treatment and disposal. The results will be used as part of the analysis to compare the overall advantages and disadvantages of No Action and the ER programmatic alternatives.

Background levels of radiation include both natural and manmade (for example, fallout from nuclear weapons tests) sources of radiation. Significant variations in the level of radiation from natural sources may occur because of a change in altitude (for example, in exposure to cosmic radiation) or because of the presence of geologic formations containing naturally occurring radon. The DOE sites that are engaged in nuclear activities routinely measure radiation in

various media such as soils, vegetables, milk, surface water, and groundwater; measurements reflect recent and past releases of manmade radiation to the environment. Radioactive releases from commercial nuclear power plants and DOE nuclear activities are controlled and regulated on the basis of ALARA criteria rather than on the basis of exposure to all radioactive sources from natural and manmade sources. These ALARA criteria limit radioactive releases to several times less than the observed variation in naturally occurring sources of radiation.

The EM PEIS will assess the potential risk to workers and the public from potential TSD facility radiological and chemical releases. In addition, the PEIS will consider cumulative impacts and risk resulting from TSD facility radioactive and hazardous releases and other manmade radioactive and hazardous releases in the vicinity of a proposed TSD facility. These assessments will be performed in the context of the current regulatory framework for radioactive and hazardous emissions from nuclear facilities. This framework presently does not account for naturally occurring radiation or other selected manmade radiation sources such as xrays, cosmic rays, and radon. The risk assessment methodology, input data, and assumptions will be made available to the public for review.

The PEIS will explicitly identify all analytical methodologies employed in assessing environmental risks and impacts. The DOE recognizes that the uncertainties inherent in the mixed radiological and hazardous waste contamination problems within its installations make the risk methodologies a particularly critical element of the scientific basis for the EM PEIS recommendations. The methodologies selected must address the programmatic

issues in appropriate breadth and depth, and in a manner credible to risk experts and the public alike.

The first step in ensuring quality in this area has been to select highly qualified professionals to develop and employ the methodologies. Their qualifications will be described in the PEIS. Validation of the selected methodologies is also important. Model intercomparison is one approach being used to achieve a degree of validation; another is comparison of the model outputs with actual data. The importance of peer review is also recognized. As practicable within the PEIS schedule, DOE will provide opportunities for peer review of the methodologies in professional journals.

To further ensure that the methodologies receive careful scrutiny by independent technical reviewers as well as by experts within DOE, continuing review and comment has been requested from the EPA, a cooperating agency. The risk assessment process used in the EM PEIS will be comparable to that used for the NCP and will incorporate risk guidelines established by EPA. Quality assurance for the input parameters will include using EPA risk parameters where possible. The EM PEIS will disclose the validation and peer review that the risk methodologies have received.

CHAPTER 4

Proposed Action and Alternatives

This chapter discusses the planned scope and content of the Programmatic Environmental Impact Statement (PEIS). It explains the alternatives and incorporates changes to the scope made in response to the scoping process and comments received on the Draft and Working Final Environmental Restoration and Waste Management (EM) PEIS Implementation Plans. The proposed action for the PEIS is to formulate and implement an integrated EM Program. The primary focus of the PEIS will be the evaluation of strategies for conducting remediation of Department of Energy (DOE) sites and facilities, and the evaluation of potential configurations for waste management (WM) capabilities.

The programmatic environmental restoration (ER) alternatives are structured in terms of the factors that affect the selection of remediation goals. In addition to a No Action baseline risk assessment, four other alternatives will be evaluated in detail. The first of these alternatives reflects the current implementation of the statutory emphasis in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The second alternative emphasizes foreseeable land use to better define likely exposure scenarios and appropriate waste management strategies. The third alternative equally emphasizes remedial worker and transportation risks with the risks to a site's surrounding population. The final alternative emphasizes foreseeable land use to establish the initial remediation objectives, and also emphasizes the consideration of worker and transportation risks.

The WM alternatives are structured in terms of six waste types under which alternative

configurations for specific WM capabilities are considered. The waste type configurations include as appropriate continuation of the current program and other configuration alternatives that represent decentralized, regionalized, and centralized approaches for locating new waste management facilities. In addition to waste from the continuing operation of DOE facilities, wastes generated from the environmental restoration activities will, in some cases, become waste streams for WM activities.

As required by the National Environmental Policy Act (NEPA), as amended, the EM PEIS will evaluate a No Action alternative for both ER and WM. Under the No Action alternative, DOE would undertake no further ER actions and would operate only existing or approved WM facilities (that is, facilities for which NEPA review has been completed, appropriate permits received, and a decision made to proceed with the activity). The evaluation of no action will provide a basis upon which to assess the impacts of further actions, even though no action is considered to be unreasonable because it would not comply with DOE policy and applicable environmental requirements.

The potential impact of technology development (TD) also will be discussed in the PEIS. Appendix C contains the Draft PEIS Annotated Outline.

4.1 Programmatic Alternatives for Environmental Restoration

The following sections discuss the alternative ER strategies to selecting remediation goals to be analyzed in the PEIS. The alternative

strategies represent a range of reasonable alternatives that could be implemented to address existing contamination at DOE sites and facilities. As discussed in Chapter 2, DOE ER actions have been undertaken on a site-by-site basis without a system-wide analysis of potential environmental consequences. The evaluation of the alternative ER strategies in the PEIS is intended to provide environmental input to support the development of ER policies. These policies would incorporate consideration of land use and all major elements of human health risks in undertaking future ER activities. In addition to these alternatives, the PEIS will evaluate No Action, as required by DOE NEPA regulations. Policy options resulting from the analysis of alternative strategies and the effect of various policy decisions on the future remediation of sites will be discussed in the PEIS. Any policy decisions will be subject to site-specific decisions as part of the CERCLA regulatory process.

The analysis of alternative ER strategies will also help integrate NEPA values into DOE's ER activities undertaken according to CERCLA. This integration is not intended to represent a statement of the legal applicability of NEPA to environmental restoration activities conducted under CERCLA or other legal authority.

ER activities will generate several waste types that could affect the WM planning process for low-level mixed waste (LLMW), hazardous waste (HW), low-level waste (LLW), and transuranic waste (TRUW). For this reason, ER strategies involving removal, treatment, and disposal of contaminants will be closely integrated with WM alternatives. The PEIS will also discuss the activities for TRUW that was disposed before implementation of a 1970 Atomic Energy Commission (AEC) determination to retrievably store TRUW, and will identify the quantities of TRUW that were

previously disposed at each DOE site. The DOE is undertaking a demonstration program on retrieving TRUW disposed at the Idaho National Engineering Laboratory (INEL) to determine the technical feasibility of retrieval without undue risk to workers or the environment. Based on the results of this demonstration program, DOE will consider whether to proceed with any retrieval of disposed TRUW. Such future decision-making would be subject to an appropriate level of NEPA review.

Each ER strategy alternative will be evaluated with respect to the risk posed to human health and the environment, implementation costs, socioeconomic, and other impacts.

4.1.1 NO ACTION ALTERNATIVE

Under the ER No Action Alternative, DOE would undertake no further remedial actions at ER sites. The Department recognizes that this alternative is not reasonable because it would be contrary to DOE's policy to remediate contaminated sites, and would not meet the compliance requirements of CERCLA and other applicable laws and regulations. However, the evaluation of no action will provide a baseline of potential impacts (that is, the risks to local populations from contaminants already released at sites without any further remediation). Additionally, No Action may be an acceptable site-specific or operable unit-specific decision if, after site investigation, characterization, and evaluation, it is determined that no further action is necessary to ensure the long-term protection of human health and the environment. Because the No Action alternative would involve no remedial actions, no worker or transportation risks would occur.

4.1.2 ALTERNATIVE 1

The current ER Program reflects compliance with applicable laws and regulations, principally CERCLA, the Resource Conservation and Recovery Act (RCRA), and the Atomic Energy Act (AEA). These laws are implemented by regulating agencies at Federal, State, and local levels at each installation. CERCLA procedural requirements are outlined in the National Contingency Plan (NCP). As defined in the NCP, two threshold criteria—protection of human health and the environment, and attainment of applicable or relevant and appropriate requirements (ARARs)—are used as screens prior to a more detailed evaluation of an alternative's effectiveness, implementation, and cost. Environmental standards become remedial goals when they are determined to be ARAR for a site. The requirement to protect human health cannot be waived, but it can be achieved by cleaning up a site or by controlling the contaminants in place and restricting public access.

The implementation of the program under CERCLA often generates what are perceived to be unrealistic assumptions of future land use and associated exposure pathways that may drive unnecessary or overly extensive remediation. For example, an assumption of unrestricted residential land use leads directly to placing an emphasis on the removal and treatment of contaminants to levels protective of human health even if naturally occurring background levels are in excess of human health protection requirements and or there is little likelihood that the land would be developed for unrestricted residential use. Additionally, even though DOE considers remediation and waste management worker and remediation waste transportation risks in its development and evaluation of remedial plans, the statutory preference and remedial implementation process under CERCLA place

an emphasis upon reduction of local public risks, particularly the risk from residual contamination after completion of remedial action. Implementation of a remedial action under the current ER Program, may therefore result in a significant increase in the risk to workers and population along transportation routes while only achieving a marginal reduction in risk to the population in proximity to the site or operable unit.

4.1.3 ALTERNATIVE 2

Under this alternative, likely future land use would be given explicit emphasis early in the site evaluation process to better reflect the potential risks which are likely to occur. In implementing this alternative, an entire installation or major segment of an installation would undergo long-range land planning, with the goal of informed consensus among stakeholders. If the land use for the foreseeable future is known and if current action/inaction will not preclude revisiting the land use evaluation at the end of the "foreseeable future," then only those environmental pathways resulting in exposures of concern would be addressed, and only those ARARs that apply to the pathways would be met. For example, if the foreseeable use of a contaminated site does not require use of the groundwater for drinking, then Maximum Contaminant Levels (MCLs) or other promulgated standards for drinking water would not be considered relevant and appropriate, and therefore, they would not serve as remediation goals. If environmental impacts were of concern (for example, discharges to a stream pose unacceptable ecological impacts), the relevant and appropriate environmental standards would be met. If the site of the release were adjacent to a parcel that has land uses that require or allow the use of groundwater for drinking, subsequent remediation of the contaminated

site would occur to ensure that at a minimum drinking water standards were met on the adjacent parcel whenever practicable.

Contamination would not be left in a condition where it could spread, contaminate more soil or water, and be more difficult and expensive to remediate in the future should land use change from what was anticipated.

Table 4.1-1 summarizes a group of land use options that will be considered in the analysis of alternatives. For brevity, the term "pathway" has been used, recognizing that each separate land use has not only different pathways but also different frequencies and durations of exposure and different population numbers and demographics. These factors can generally be adjusted in weighing the pathway contributions to exposure and risk.

4.1.4 ALTERNATIVE 3

Under this alternative, remedial and waste management worker and remedial waste transportation risks would be equally emphasized with the risks to a site's surrounding population. Further, the Environmental Restoration Program would strive to minimize situations whereby a proposed remedy would result in greater risk due to its implementation than posed by the current state of the contaminants, even if ARARs must be waived to do so. Once public risk reduction and the risk sustained as a result of implementing a remedy are estimated, a comparative review of these data would occur to ensure that the Department is not generating greater risk than posed by the state of contaminants, and if so, re-evaluate and revise the remedial design as appropriate to reduce the worker and transportation risks. Under this alternative, land usability is an output rather than emphasized early in the site evaluation process under alternative 2. Once the remedy

is completed and any necessary engineering or institutional controls are operationally in place, feasible land use would be determined.

4.1.5 ALTERNATIVE 4

This alternative represents an emphasis on both an early evaluation of likely future land uses for a site and the minimization of worker and transportation risks (that is, a combination of alternative strategies 2 and 3). Once a conceptual remedial design is developed to achieve the expected or desired land use, the risk reduction to the public would be considered in light of the risk sustained by remedial and waste management workers, and from the transportation, storage, treatment, and disposal of any remedial waste materials. Modifications of the land use objectives or remedial design would then be made to mitigate any unacceptable risk to public or workers in implementing the remedy. As necessary, ARARs would be waived where appropriate.

4.2 Programmatic Alternatives for Waste Management

The mission of WM is to operate a waste management complex to provide safe, environmentally acceptable management of DOE waste materials. WM is responsible for existing stored DOE waste; waste generated by ongoing DOE programs, including Defense Programs, Nuclear Energy Programs, the Office of Energy Research, and the Environmental Restoration Program; commercial waste, as mandated by statute; and Naval Nuclear Propulsion Program waste transferred to DOE.

For WM activities, the PEIS will evaluate alternative WM configurations by waste type.

Table 4.1-1. Bounding Land Use Options

Land Use Designator	Unrestricted	Somewhat Restricted	Totally Restricted
<i>Exposure Pathways: The following table indicates the exposure pathways normally associated with specific land uses. The remedial action would have to alleviate exposures through these pathways for the land use to be acceptable.</i>			
Groundwater used for drinking	Yes	No	No
Surface water used for swimming/bathing/irrigation	Yes	Yes	No
Air inhalation of vapors or resuspended dust	Yes	Yes	No
Air deposition on the ground and passage through food chain	Yes	Yes	No
Soil ingestion incidental to work or playing on soil	Yes	Yes	No
Direct radiation	Yes	Yes	No
<i>Examples</i>	<i>Farming Unrestricted residential Unrestricted parks and playgrounds</i>	<i>Irrigated crops without resident farming Restricted residential, parks, playgrounds (remote water supply)</i>	<i>Hazardous waste management Special restricted industrial Military test facility</i>

The PEIS evaluation of these alternative waste management configurations is intended to provide input for decisions about potential consolidation of waste treatment, storage, or disposal of waste at existing WM facilities and locating new or expanded DOE waste management project facilities at DOE sites.

The PEIS will assess the environmental consequences of alternative WM configurations using representative technologies that have been demonstrated. Subsequently, project-level NEPA documents will be tiered to the PEIS and will further evaluate implementation of the selected alternatives. The main impacts to be analyzed in the EM PEIS are those resulting from locating and operating representative waste management facilities for each waste type, and from waste transportation associated with each particular configuration. The project-level analyses will consider in more detail the issues of capacity (for example, throughput capacity), technologies (for example, process alternatives), quality (for example, location-specific performance standards), and location-specific environmental impacts (for example, disturbance to specific habitat types). All projects will be managed under the appropriate Federal, State, and local permitting processes.

Decisions about specific waste management configurations must be fully supported by the level of analysis performed in the PEIS. The DOE recognizes that uncertainties in the analysis for some waste type alternatives could preclude the selection of a certain DOE site for a particular activity. In such a case, the PEIS Record of Decision (ROD) for that waste type may be only at a broad level (for example, identifying potential candidate DOE sites in a region at which one or more waste facilities could be located, based on additional information and analyses). The ROD will not be implemented until the various Federal,

State, and local permitting and approval processes have been completed.

4.2.1 DOE WASTE TYPES

The PEIS will consider alternatives for six waste types: high-level waste (HLW), transuranic waste (TRUW), low-level waste (LLW), low-level mixed waste (LLMW), Greater-Than-Class C (GTCC) LLW, and hazardous waste (HW).

4.2.2 CONFIGURATION ALTERNATIVES

DOE is considering a broad range of alternatives for the configuration of new or expanded waste management facilities and the potential consolidation of existing facilities. The alternatives for each waste type reflect, as appropriate, decentralized, regionalized, and centralized approaches, under which several options are possible and are derived from the goals of providing safe, efficient, environmentally acceptable, and effective waste management within the context of applicable regulations. For example, centralized waste management facilities would generally minimize land use impacts but increase waste transportation. On the other hand, decentralized waste management facilities would generally minimize waste transportation, but require a greater commitment of land and resources.

Under each waste type, the PEIS will evaluate a no action alternative that includes only existing or approved waste management facilities. The evaluation of no action will provide an environmental and programmatic baseline upon which the impacts of further actions under the alternatives can be assessed, even though no action would not achieve DOE's WM and environmental missions and would result in noncompliance with RCRA

and other applicable laws and regulations. In addition, the PEIS will evaluate a current program alternative appropriate for each waste type that would consist of the existing facilities plus those additional waste management facilities planned under the current WM program (for example, those found in DOE's Five-Year Plan).

DOE has a specific near-term objective to achieve significant reduction of waste generation by promoting material substitution, process alternatives, and recycling. This objective is an intrinsic part of all alternatives.

HLW, TRUW, LLW, LLMW, GTCC LLW, and HW management involve different volumes and hazards and often very different technologies. Therefore, different alternatives, discussed in the following sections, will be analyzed for each waste type.

4.2.2.1 Programmatic Alternatives for High-Level Waste Management

High-level waste (HLW) was generated from the chemical processing of irradiated fuel to recover special nuclear materials. Because DOE has decided to phase out the chemical processing of fuel as soon as possible, HLW will no longer be generated in the future from special nuclear materials recovery. The HLW usually contains hazardous components subject to regulation under RCRA. DOE now stores HLW in large tanks at the four sites where it was chemically processed. The stored waste is in several forms—liquid, sludge, and salt—and does not meet transportation requirement without further treatment. As a result, DOE is developing treatment facilities to immobilize or solidify HLW into borosilicate glass at the Hanford Site (HS), the Savannah River Site (SRS), and the West Valley Demonstration Project (WVDP). The DOE also plans to develop treatment facilities for the liquid and

calcined HLW at the Idaho National Engineering Laboratory. The immobilized HLW will be placed in special sealed canisters.

Under the Nuclear Waste Policy Act, as amended, the current DOE HLW program is directed at disposing of treated HLW in a national geologic repository. Until a national geologic repository is ready to accept HLW, storage capacity must be available. The smallest number of HLW canisters containing vitrified HLW is projected to be produced at the West Valley Demonstration Project (WVDP) (that is, approximately 300 canisters). The HS, SRS, and INEL sites are expected to produce more than 2,000 canisters each. A large HLW canister storage facility may not be necessary for INEL HLW because immobilization of the liquid and calcined HLW may not occur until shortly before the repository becomes available. The HLW canisters could be stored at the four sites where they were produced and where the HLW was generated and treated (the decentralized approach), or the HLW canisters could be consolidated at one or more storage sites.

The HLW alternatives to be considered in preparing the PEIS are presented below.

No Action (Existing or Approved)

- Continue storage of HLW at WVDP, SRS, HS, and INEL.
- Continue the program to treat (immobilize or solidify) HLW at WVDP, SRS, and double-shell tank HLW at HS.
- Provide interim onsite storage of treated HLW at WVDP and interim onsite storage of limited quantities of treated HLW at SRS and HS (that is, the approved storage capacity for treated HLW at HS and SRS

is inadequate for the entire quantity of treated HLW that would be produced), pending disposal in a geologic repository.

Alternative 1 (Current Program and Decentralization)

- Continue no action.
- Develop treatment and processing technology for HLW at INEL and single-shell tank HLW at HS.
- Provide interim onsite storage at each site for all treated HLW pending disposal in a geologic repository.
- Prepare treated HLW for shipment to geological repository for disposal.

Alternative 2 (Regionalization)

- Same as Alternative 1, except provide interim storage facilities for treated HLW at two or three sites.

Alternative 3 (Centralization)

- Same as Alternative 1, except provide interim storage facilities for treated HLW at one site.

4.2.2.2 Programmatic Alternatives for Transuranic Waste Management

TRUW is waste contaminated with alpha-emitting transuranium radionuclides with half-lives greater than 20 years and concentrations greater than 100 nanocuries per gram of waste at the time of assay. The principal sources of TRUW are research and development, special nuclear materials recovery, weapons manufacturing, decontamination and decommissioning, and disposition of

plutonium bearing residues. Most of the TRUW is in solid form, although there are also some liquid sludges resulting from chemical processing operations. Approximately 60 percent of the stored TRUW generated before 1989 contains hazardous components regulated under RCRA. A much smaller percentage (that is, approximately 10 to 30 percent) of the newly generated TRUW contains RCRA components.

Under the current program, retrievably stored TRUW (that is, TRUW that was not disposed before implementation of a 1970 Atomic Energy Commission (AEC) determination to store TRUW) is to be retrieved, and retrieved and newly generated TRUW is to be prepared (that is, characterized, segregated, packaged, and, or, certified as meeting specific criteria for transport and disposal) and then stored for eventual transport to the planned geologic repository at the Waste Isolation Pilot Plant (WIPP) in New Mexico. The DOE has entered a WIPP Test-Phase to reduce uncertainty in the prediction of long-term repository performance and its subsequent acceptability for the disposal of TRUW.

Most TRUW is stored at nine DOE sites (HS, SRS, Oak Ridge Reservation (ORR), INEL, Nevada Test Site (NTS), Rocky Flats Plant (RFP), Mound Plant, and Los Alamos National Laboratory (LANL), and Lawrence Livermore National Laboratories (LLNL)). More than 95 percent of the TRUW was generated at five DOE sites (HS, LANL, ORR, RFP, and SRS). Newly generated and retrieved TRUW may require additional storage facilities, depending on the timing of retrieval operations and the schedule for the possible WIPP Disposal Phase. Other locations that generate TRUW, including TRUW from decontamination and decommissioning will either have to store TRUW onsite, or will have to transport

TRUW to one of the nine DOE sites now storing TRUW. All DOE sites generating TRUW are responsible for minimizing the quantities of TRUW generated.

The current strategy for managing TRUW is to treat it to meet WIPP Waste Acceptance Criteria (WAC) and dispose it at the WIPP under the RCRA no migration determination rule. However, treatment of TRUW might be required under RCRA Part 268 to remove or reduce to acceptable levels the hazardous land disposal restricted components in TRUW, or under 40 CFR 191 (TRUW Disposal Standards) before TRUW would be acceptable for disposal at the WIPP. The need to undertake the treatment of TRUW to meet these requirements depends on the additional information to be collected as part of the WIPP Test Phase, the completion of a detailed WIPP disposal performance assessment, and the establishment of EPA's criteria for certification of compliance. DOE does not currently plan to proceed with treatment of TRUW to meet RCRA Part 268 and 40 CFR 191 until results of the WIPP test phase are available and an evaluation of alternatives is completed. However, the PEIS will evaluate system configuration alternatives for the treatment of TRUW to provide advanced planning information if TRUW treatment is found necessary. The PEIS will also evaluate a longer period of interim storage of TRUW if the WIPP Disposal Phase is either delayed or WIPP is not operated.

The TRUW alternatives to be considered in preparing the PEIS are presented below. Each alternative to be evaluated in the PEIS will include both contact handled and remotely handled TRUW.

No Action (Existing or Approved)

- Continue to characterize and prepare newly generated and stored TRUW where existing and approved facilities are available.
- Continue storing TRUW in existing storage facilities.

Alternative 1 (Current Program)

- Continue no action.
- Provide additional facilities at HS, INEL, SRS, ORR, NTS, Mound, RFP, LANL, and LLNL, as required, for retrieving, storing, preparing, and packaging TRUW pending shipment to WIPP.
- Transport TRUW to DOE sites with the capability of storing, preparing, and packaging TRUW pending shipment to WIPP.

Alternative 2 (Decentralization)

- Same as Alternative 1, except provide additional facilities at all locations where TRUW is generated to prepare, treat (that is, to meet RCRA and 40 CFR 191 requirements for disposing TRUW at WIPP, if required), package, and store TRUW pending shipment for disposal. Similar requirements to treat LLMW containing transuranic radionuclides will be coordinated with the assessment of TRUW.

Alternative 3 (Regionalization)

- Same as Alternative 1, except treat TRUW (that is, to meet RCRA and 40 CFR 191 requirements for disposing TRUW at WIPP, if required) at between two and eight DOE sites, and store treated TRUW pending shipment for disposal. Similar

requirements to treat LLMW containing transuranic radionuclides will be coordinated with the assessment of TRUW.

Alternative 4 (Centralization)

- Same as Alternative 1, except treat TRUW (that is, to meet RCRA and 40 CFR 191 requirements for disposing TRUW at WIPP, if required) at one DOE site, and store treated TRUW pending shipment for disposal. Similar requirements to treatment LLMW containing transuranic radionuclides will be coordinated with the assessment of TRUW.

4.2.2.3 Programmatic Alternatives for Low-Level Waste Management

Low-level waste (LLW) includes all radioactive waste not classified as either HLW, TRUW, SNF, or most of the byproduct tailings containing uranium or thorium from processed ore. LLW does not contain hazardous components regulated under RCRA. When hazardous components are present with LLW, the waste is referred to as low-level mixed waste (LLMW), which is discussed in section 4.2.2.4. LLW primarily results from a variety of DOE activities, including the processing of special nuclear materials and energy research and development activities. The LLW generated by DOE ranges from low-activity waste that can be disposed of by shallow engineered land disposal techniques to high-activity waste requiring the use of disposal techniques that provide greater confinement than is offered by shallow land disposal. The principal LLW types generated by DOE operations include contaminated equipment (that is, contaminated components and maintenance waste), contaminated dry

solids, and solidified sludges, such as evaporator bottoms.

DOE LLW is generated at more than 30 different sites and is disposed of at six large sites: HS, INEL, ORR, SRS, NTS, and LANL. More than 80 percent of the LLW generated comes from the six DOE sites that dispose of LLW. Other DOE sites that generate LLW transport their LLW to one of these six sites for disposal. Each of the six disposal sites uses appropriate site-specific waste acceptance criteria that affect the type and quantity of LLW that may be accepted from other DOE sites and disposed. All DOE sites generating LLW are responsible for minimizing the quantities of LLW generated. Commercial and onsite volume reduction of LLW will continue to be emphasized to minimize land areas that would be affected by LLW disposal.

Quantities of LLW generated from ongoing and previous ER activities have been shipped to one of the six DOE sites disposing of LLW or have either been stored or retained onsite through the use of engineering controls commensurate with a site-specific plan. As DOE undertakes further ER actions, the number of DOE sites where ER-derived LLW will occur and the quantity requiring management will increase.

Under the decentralized alternative, DOE will consider establishing storage and possibly disposal facilities for all onsite LLW (that is, newly generated ER and non-ER-derived LLW). Under all other alternatives, excluding no action, DOE will consider the use of available commercial facilities or other existing DOE sites for disposing of the ER LLW that cannot be retained onsite using engineering controls.

The LLW alternatives to be considered in preparing the PEIS are presented below. In

considering these alternatives, DOE will first conduct an analysis to determine the extent to which it is reasonable to deploy LLW disposal facilities under the decentralized alternative.

No Action (Existing or Approved)

- Continue at LLW generators to store, package, treat, and ship newly generated LLW in accordance with currently approved arrangements to existing LLW disposal sites at HS, INEL, ORR, SRS, NTS, and LANL.
- Treat and dispose of newly generated LLW at the six DOE sites.
- Treat some DOE LLW at commercial facilities, followed by disposal at the six DOE sites.
- Store, treat, and use engineering controls to retain ER LLW at each DOE site where it is found, and transport ER LLW that cannot be retained onsite either to the six DOE sites disposing of newly generated LLW or to available commercial disposal facilities.

Alternative 1 (Decentralization)

- Same as No Action, except provide onsite LLW storage and possibly disposal facilities at those DOE sites without that capability.

Alternative 2 (Regionalization and Current Program)

- Same as No Action, except treat, package, and ship newly generated LLW to two through six (the Current Program) DOE sites for treatment and disposal, and transport ER LLW that cannot be retained onsite either to two through six DOE sites

or to available commercial facilities for disposal.

Alternative 3 (Centralization)

- Same as No Action, except treat, package, and ship newly generated LLW to one DOE site for treatment and disposal and ER LLW that cannot be retained onsite either to one DOE site or to available commercial facilities for disposal.

4.2.2.4 Programmatic Alternatives for Low-Level Mixed Waste Management

Low-level mixed waste (LLMW) is waste that contains both low-level radioactive and hazardous components. The low-level radioactive component in LLMW is regulated under the AEA, as amended, while the hazardous component contained in LLMW is regulated under RCRA. LLMW generally results from the same processes that generates LLW, with radioactive components in LLMW ranging from low to high activity waste. Under RCRA, the disposal of certain hazardous components in LLMW is subject to land disposal restrictions (LDRs) wherein the hazardous components are prohibited from land disposal unless either prescribed treatment standards are met or a variance is granted. The storage of LLMW subject to LDRs is restricted by EPA regulations. The disposal of LLMW, including LLMW treated to meet LDR standards, must also be in compliance with RCRA standards.

The current program for LLMW is directed at providing treatment (both DOE and commercial where available) capacity for newly generated and stored LLMW, subject to LDRs, and to dispose of treated LLMW in facilities at DOE sites. These facilities would be permitted under RCRA. The DOE

currently has neither adequate treatment capacity for restricted LLMW nor permitted LLMW disposal facilities. The current program, although not presently specified, is being defined pursuant to the Federal Facility Compliance Act of 1992.

Of approximately 50 sites that have inventories or generate LLMW, more than 99.8 percent of the current DOE inventory of LLMW is located at 14 sites (HS, INEL, LLNL, RFP, LANL, Portsmouth, Paducah, Fernald, ORR, SRS, Middlesex Sampling Plant, ETEC, Pantex, and NTS).

As DOE undertakes additional ER actions, the quantities of LLMW generated will significantly increase. LLMW generated from ER actions may be treated and retained onsite by using engineering controls as determined through the CERCLA process, or ER derived LLMW may be treated and disposed in either DOE onsite or offsite facilities permitted under RCRA.

Under the decentralized alternative, DOE will consider establishing and operating LLMW treatment, storage, and possibly disposal facilities for treated LLMW at all DOE sites where LLMW is to be generated or is currently stored.

Some level of treatment is considered practical at every site. Regionalization and centralization alternatives will consider consolidation of selected treatment capabilities, while other treatment continues at every site.

Under all the alternatives, except no action, DOE will consider using available commercial facilities or one or more of the six candidate LLMW disposal sites for disposal of ER LLMW that cannot be retained onsite.

The LLMW treatment and disposal alternatives that will be considered in preparing the PEIS are presented below.

No Action (Existing or Approved)

- Continue to store untreated LLMW in existing and approved storage facilities at current generator/storage locations pending availability of treatment capacity.
- Utilize existing and approved DOE and commercial treatment facilities to meet RCRA LDRs.
- Store, treat, and use engineering controls to retain ER LLMW onsite. Where it is not reasonable to treat or retain ER LLMW onsite, store untreated LLMW onsite until DOE or commercial treatment and disposal capacity is available.

Alternative 1 (Decentralization)

- Continue no action and establish LLMW treatment facilities, including the potential use of mobile treatment technologies, storage, and possibly disposal facilities for treated LLMW at all sites where LLMW is to be generated or is currently stored.
- The PEIS will consider both full treatment to meet LDRs at all sites and practical levels of treatment at all sites with full treatment to meet LDRs at large sites (that is, those with greater than 99 percent of the waste).

Alternative 2 (Regionalization)

- Same as Alternative 1, except consolidate some treatment capabilities and disposal facilities at fewer than the 14 DOE sites (that is, those with greater than 99 percent of the waste).

Alternative 3 (Centralization)

- Same as Alternative 1, except consolidate some treatment capabilities and possibly disposal at one DOE site.

4.2.2.5 Programmatic Alternatives for Greater-Than-Class-C Low-Level Waste Management

Under the Low-Level Radioactive Waste Policy Amendments Act of 1985, DOE was assigned responsibility for the disposal of GTCC LLW from commercial generators. GTCC LLW must be disposed in an NRC-licensed disposal facility, which may be a geologic repository or an alternative facility specifically approved by the NRC that provides isolation of the GTCC LLW.

Currently, DOE accepts for interim storage limited quantities of GTCC LLW, which are primarily small sealed sources of radioactivity that have been used by commercial companies under a license by NRC or an Agreement State. At the request of the NRC and Agreement States, DOE stores these wastes on an interim basis so that they are removed from the public domain and a potential hazard to public health and safety may be avoided. Examples of sealed sources include the use of cesium and strontium for medical therapy research, and americium used in well logging.

Future potential sources of commercial GTCC LLW include nuclear utility waste and waste associated with sealed sources. The largest volume of projected GTCC LLW is associated with nuclear utility waste. Of the projected nuclear utility waste, the largest volume consists of activated metals associated with SNF assemblies and reactor core components. Some uncertainties exist, however, with respect to the potential volumes of nuclear

utility GTCC LLW. These uncertainties include the effect of concentration averaging and a detailed listing of SNF assembly and reactor core components that are to be considered directly as either SNF or high-level waste rather than GTCC LLW. Resolution of these uncertainties could substantially reduce the volumes of GTCC LLW requiring future DOE storage and disposal.

The DOE program for GTCC LLW is composed of a three-phase strategy: (1) continuing to provide interim storage of limited quantities of GTCC LLW that pose a threat to human health and safety; (2) providing a centralized dedicated storage facility, if needed, for all commercial GTCC LLW until an NRC-licensed disposal facility is available; and (3) providing for the disposal of GTCC LLW either in conjunction with a high-level waste repository or in a separate NRC licensed disposal facility. Because the DOE has not initiated efforts directed at a separate NRC licensed disposal facility for GTCC LLW, the current program assumes disposal of GTCC LLW in the high-level waste repository. Before undertaking the second-phase of the GTCC LLW strategy, the uncertainties associated with the volumes of potential nuclear utility waste will have to be resolved to ascertain centralized GTCC LLW storage requirements, potential packaging and treatment requirements, and fee specifications. Because of these uncertainties, it is conceivable that the dedicated storage phase could be merged with the interim storage phase, depending on the extent and timing of the need, which, as mentioned, is closely dependent on decisions about decommissioning the commercial power reactors.

The PEIS will limit the scope of alternatives for GTCC LLW to consideration of alternatives for the current interim storage of limited quantities of GTCC LLW, given the uncertainties associated with projected

quantities of nuclear utility GTCC-LLW and the need to resolve these uncertainties before proceeding with the second and third phase of the DOE GTCC LLW strategy. These alternatives are presented below. The PEIS will also discuss potential treatment and disposal options for GTCC LLW that would be the subject of a future DOE program.

No Action (Existing or Approved)

- Continue to store the limited quantities of commercial GTCC LLW now stored at HS, INEL, LANL, ORR, and SRS in existing and approved storage facilities.

Alternative 1 (Current Program and Decentralization)

- Continue no action and either expand existing or establish new interim storage facilities at DOE locations (that is, store GTCC LLW at additional DOE sites other than those where GTCC LLW is presently stored) as may be required for additional limited quantities of commercial GTCC LLW (for example, GTCC LLW accepted in response to an emergency request by the NRC).

Alternative 2 (Regionalization)

- Same as Alternative 1, except ship and store GTCC LLW at a limited number of DOE sites (for example, between two and five) until an appropriate disposal facility is available.

Alternative 3 (Centralization)

- Same as Alternative 1, except ship and store GTCC LLW at one DOE site until an appropriate disposal facility is available.

4.2.2.6 Programmatic Alternatives for Hazardous Waste Management

Hazardous waste (HW) is waste that is regulated under RCRA and contains hazardous components. HW is generated by a variety of DOE activities including those associated with Defense, Nuclear Energy, and Energy Research Programs. Examples of HW include laboratory solutions, acids and caustics, degreasing agents, and materials such as rags and wipes contaminated with hazardous cleaning compounds.

The EM strategy for managing HW is based on eliminating or minimizing hazardous waste generation; proper characterization; and proper treatment and disposal. A near-term objective is to avoid the need for additional storage capacity by correctly characterizing, treating, and disposing of hazardous waste as it is generated. This involves the use of permitted commercial waste management facilities for treatment and disposal of DOE-generated hazardous wastes. Between 1984 and 1991, DOE shipped approximately 13 million kilograms per year of hazardous waste to offsite commercial waste facilities. Currently, a moratorium imposed by DOE prohibits shipping some hazardous wastes to commercial waste management facilities until EM approves procedures for ensuring that the HW is not radioactive. Current DOE policy allows only hazardous waste shipments to commercial facilities if "no added" radioactivity from DOE operations can be demonstrated and the surface radioactivity meets or does not exceed limits established in DOE Orders. Under this waste type, the PEIS will discuss the category of industrial waste and DOE's efforts to prevent unauthorized disposal of industrial solid waste contaminated with radioactivity.

The DOE uses a mix of DOE and commercial treatment, storage, and disposal facilities for

HW as determined by each DOE site generating hazardous waste. Use of commercial facilities is predominant, and the current program is decentralized in that each DOE site implements its own HW program.

The HW alternatives to be considered in preparing the PEIS follow and are directed at a decision regarding the extent and manner in which DOE should continue to predominantly rely on commercial TSD facilities for hazardous waste. In considering these alternatives, a selected number of commercial TSD facilities will be considered as representative of the spectrum of commercial TSD facilities used by DOE for its hazardous wastes. Although specific DOE installations will be identified for the location of HW TSD facilities, the identification of such installations will be solely for the purpose of analyzing the environmental consequences associated with potential changes to the current DOE reliance on commercial TSD facilities.

No Action (Existing or Approved)

- Minimize generation of HW to the extent possible.
- Maintain and operate existing, approved DOE HW storage facilities and limited treatment facilities at DOE sites in accordance with applicable permit requirements.
- Manifest and package HW for shipment to commercial permitted TSD facilities.

Alternative 1 (Current Program and Decentralization)

- Continue no action but control the use of commercial TSD vendors by optimizing the number of vendors used by DOE.

Alternative 2 (Regionalization)

- Same as Alternative 1, except approximately 50 percent of the HW would be managed by DOE-owned and operated facilities that would have to be permitted under RCRA.

Alternative 3 (Centralization)

- Manage all hazardous waste in a very limited number of either DOE-owned and operated facilities or commercial facilities.

4.3 Alternatives Analysis

The PEIS alternatives analysis differs from that of project-level NEPA documents (Environmental Assessments or EISs). Project-level analyses generally provide detailed quantitative environmental information on the impacts of a site-specific project and its alternatives. On the other hand, the PEIS analyses are to provide environmental information on broad policy and programmatic alternatives. Where appropriate, the PEIS will be more qualitative in nature. This is particularly true for the analyses of the ER alternatives where a quantitative analysis of human health and worker risks for each of the alternatives will be performed, but most of the remaining environmental impact analyses will be descriptive. This is because individual future cleanup decisions cannot be predicted. WM alternative analyses will be more quantitative than the ER analyses. This is because the principal discerning factors of the WM alternatives, including transport of wastes, commitment of land, and the suitability of DOE sites for treatment, storage, and disposal facilities, are more readily quantified. As appropriate, further site-specific project-level NEPA reviews will be conducted

before implementing specific WM alternatives conforming to the PEIS ROD.

The following risks and impacts will be evaluated for each of the ER and WM alternatives:

- **Transportation Risk**—This includes collision risk; radioactive and hazardous material risk to industrial workers and the public from routine shipments; potential radioactive and hazardous materials risk from spillage during transport to workers and the public.
- **Treatment Facility Risk**—This includes risk of construction, operation, and potential effluent releases.
- **Resource Impact**—This includes resource impact on land, water, energy, and construction materials use.
- **Recycling Impact**—This includes potential use of materials for recycle.
- **Environmental Impact**—This includes impact of air quality, noise, biological resources, socioeconomic, archeological resources, surface water, and groundwater.
- **Near-Term Risk**—This includes industrial, radiological, and hazardous material risk to workers and the public during ER and WM Program activities.
- **Residual Risk**—This includes the risk to the public for exposure to radioactive and hazardous material remaining at any remediation or decontamination and decommissioning site. If material is moved to another site, residual risk at the new site will be identified.

The following sections discuss the analytical approaches to be used in evaluating the ER and WM alternatives.

4.3.1 ER ALTERNATIVES EVALUATION APPROACH

In general, the approach to evaluate the environmental impacts of the ER programmatic alternatives is to create a model of the environmental contamination problems across the DOE complex and see how the different strategy alternatives would affect this model. The results of the analysis are measured in a variety of categories, including risk to various groups (both maximum-exposed individuals and total population risk), impacts to wildlife and habitat, cost, schedule, and uncertainty. The model results and impacts calculated in the analysis will form the basis for comparing the alternative policies. The conceptual approach is shown in figure 4.3-1.

The following are the four preliminary tasks that must be accomplished before the actual analysis begins:

- **Identification of Representative Contamination Situations**—There are more than 7,000 sites in the DOE complex where the release of contaminants to the environment is known to have occurred, and there are many structures that must undergo D&D. Each site cannot be individually analyzed because of the time required and remedial investigations/feasibility studies (RIs/FSs) have not been completed for most of the sites. Thus, representative contamination situations must be identified that represent the entire spectrum of actual contamination situations. In CERCLA terminology, the contamination situations are generic operable units and they will contain information typically found in an RI/FS summary.

- **Identification of Available Technologies**—An inventory of available remedial technologies will be defined.
- **Technology Impacts**—To facilitate the analysis of environmental impacts and risks, the resource utilization characteristics and releases, effluent, and secondary wastes of each of the remedial technologies will be defined.
- **Risk Assessment Methodology**—Methodologies to assess risk to a variety of groups will be identified. The exposed groups for which the risk assessment methodology will need to be developed will include current and future residents at the site, remedial workers, and personnel involved with transportation of waste.

Once these tasks have been accomplished, the impacts of each programmatic ER alternative will be evaluated as shown in figure 4.3-1. The following sections discuss the major evaluation and analysis steps.

4.3.1.1 Engineering Analysis

In this analysis step, one or a combination of technologies that best addresses the contamination situations will be selected from the available technologies. Principally, the selection will be determined by the programmatic ER alternative under consideration. In developing the Draft PEIS, the programmatic ER alternatives will be refined beyond the broad statements in section 4.1 to provide the engineering team with clearer guidance. In general, all the alternatives will strive to meet the CERCLA threshold of being protective of human health and the environment. Beyond this goal, the engineers will be allowed to apply professional engineering judgment (as they do in the real world) within the policy guidance provided by

the programmatic alternatives. Then a conceptual design, or "remedial situation," will be developed for the contamination situation under a specific programmatic ER alternative that will include:

- A description of how the technology would be applied
- Estimates of the types and amounts of construction activities and transportation required, including mobilization and demobilization
- Cost estimates
- A general schedule
- An estimate of the ultimate result of remediation in terms of contaminant concentrations, distribution and condition of the land, and any obstructions thereon
- A probability of success, indicating the limits of technical feasibility

4.3.1.2 Environmental Analysis

Based on the "remedial situation," impacts will be evaluated, including overall risk, short-term (construction-phase) and long-term ecological impacts, impacts to physical resources, and other significant impacts. To conduct the overall risk assessment, the long-term environmental fate of the residual contaminants remaining at the site will be projected after the remedy has been applied.

The No Action and programmatic alternative risk assessments will include the risk to the following groups and, as appropriate, to maximally exposed individuals within these groups:

- Current and future residents at the site

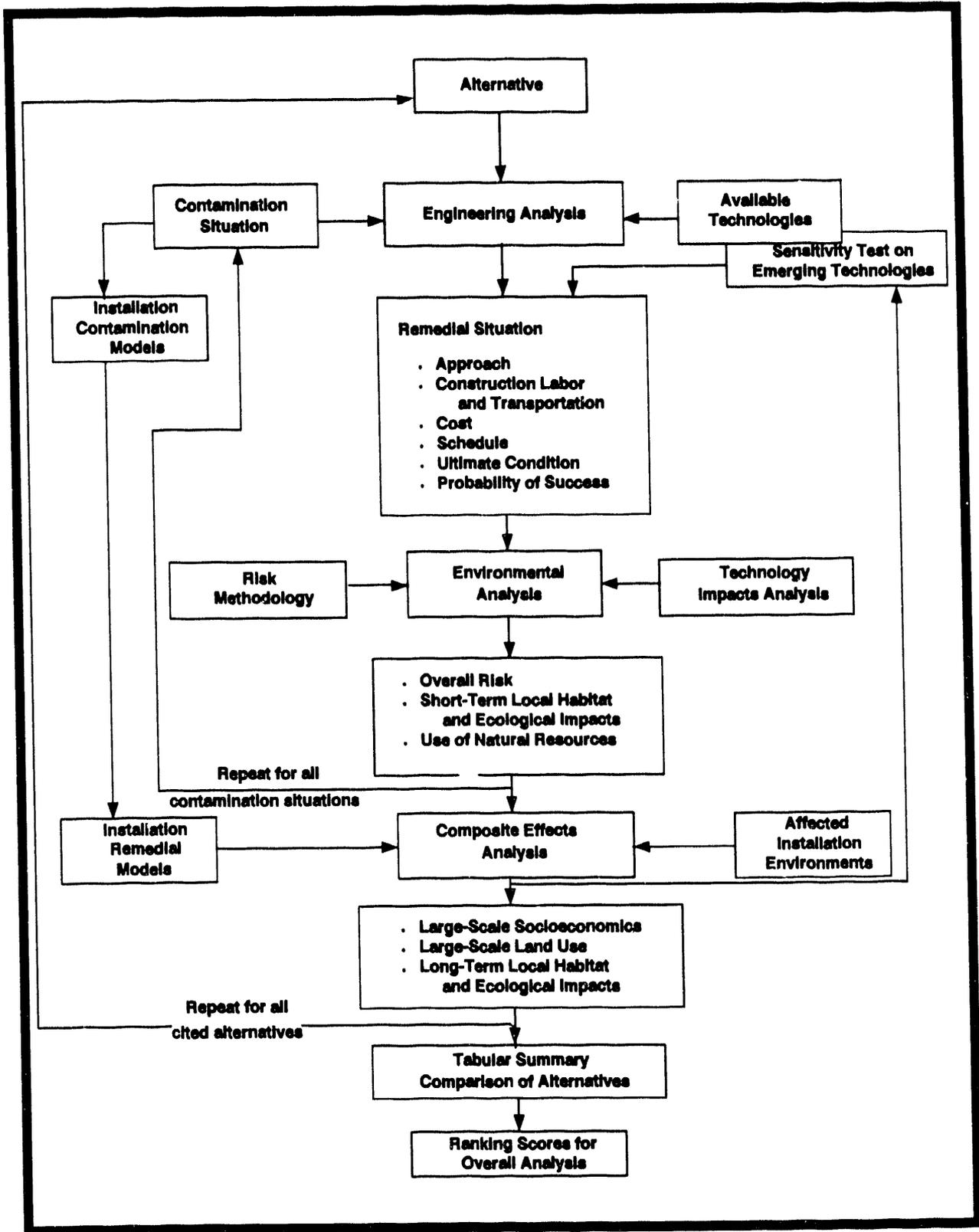


Figure 4.3-1. Environmental Restoration Alternative Analysis Process.

- Remedial and waste management workers
- Personnel involved directly and population indirectly in transport of any waste shipped offsite
- Waste management workers at other sites that may receive the waste
- Current and future residents near any offsite treatment and disposal facility
- Long-term impacts on ecology, physical resources, and manmade environment
- Cumulative impacts

This comparative information and the prior analyses will then be used to identify potential policies for guiding the future ER Program.

4.3.1.3 Composite Effects Analysis

When all contamination situations have been analyzed for a specific programmatic ER alternative, a composite effects analysis will be done. The composite effects analysis will consider impacts such as ecology, land usability, and the socioeconomic effects across the entire DOE complex. The analysis of socioeconomic and land use impacts of the alternatives will include short- and long-term economic viability of neighboring communities and national significance of various ER land use strategies.

4.3.1.4 Alternatives Comparison

When the environmental and cumulative effects analyses are completed for all alternatives, the results will be summarized. Each alternative will be compared using the following categories:

- Overall risk to human health
- Relative cost
- Probability of success
- Land usability impacts
- Socioeconomic impacts
- Short-term impacts on ecology, physical resources, and manmade environment

4.3.1.5 Land Planning Options

In conducting the analysis for the land use-based alternatives (ER alternatives 2 and 4), it will be necessary to evaluate potential land uses for remediation of each contamination situation. To attempt to develop actual land plans for DOE installations is neither feasible nor appropriate for this PEIS. Thus, bounding land use options (presented in table 4.1-1) have been developed, and each contamination situation will be evaluated as though it would be remediated to achieve the bounding land uses.

4.3.1.6 Installation-Wide Composite Effects

As work progresses on analyzing the alternatives, opportunities for automating the process will become evident. One area of work that may be suited to automation is the development of unit risk factors for contaminants in each environmental setting in the DOE complex and unit risk factors for worker and transportation risk. Another area is the development of a computerized decision tree that captures an engineer's thought processes while conceptualizing remedial designs. Once the analysis is complete, these tools can be used to implement the DOE policies that are ultimately selected.

Estimation of Installation-Wide Remediation Impacts

The ER analysis activities have led to an automated system called "Automated Remedial Action Methodology" that allows the individual contamination situations on an installation to be assessed in a computerized set of calculations. This methodology estimates the volume of soil and water that must be remediated, the size of containment structures that must be built, the amount of transportation required and the risk, cost, and related impacts (for example, land disturbance) associated with each programmatic alternative. Because the methodology is computerized, it is feasible to composite the impacts across an entire installation.

Installation-Wide Baseline Risk Analysis

The unit risk factors for public risk caused by (residual) contamination will be used to calculate approximate installation-wide total risk to the public from ER activities. The methodology has been compared to detailed installation-wide risk assessments using installation-specific models where these results are available and good comparisons have been obtained.

4.3.2 WASTE MANAGEMENT ALTERNATIVE EVALUATION APPROACH

The Waste Management alternatives described in section 4.2 represent a range of alternatives from decentralized to centralized approaches for waste management facilities under each waste type.

The assessment of the WM alternatives will focus on the waste management facilities and waste transport requirements of each alternative configuration as the sources of

potential environmental impacts. Figure 4.3-2 shows the planned analysis approach. As indicated in this figure, each of the DOE facilities affected by the waste type configuration alternatives is evaluated under the proposed waste loadings for that alternative. The assessment consists of the following components:

- The identification of the waste sources and characteristics
- The identification of facility and transport requirements
- The identification of the transportation and facility impacts.
- The compilation of impacts according to the waste type alternatives and total DOE facility impacts.

Each of these major components is briefly discussed in the following sections.

4.3.2.1 Waste Sources and Locations

Each of the waste types is located at different DOE sites and installations. For any given waste type there may be a range of characteristics that influence the type of facilities to be considered. For example, mixed and hazardous wastes vary with respect to components. Each may require different types of treatment technologies. The analysis of each waste type will be initiated by compiling available information on the sources, characteristics, and locations of each waste type. Projections of future quantities and characteristics of each waste type will be made taking into consideration:

- Changes in projected generation rates as a result of decisions concerning the nuclear weapons stockpile and production of special nuclear materials

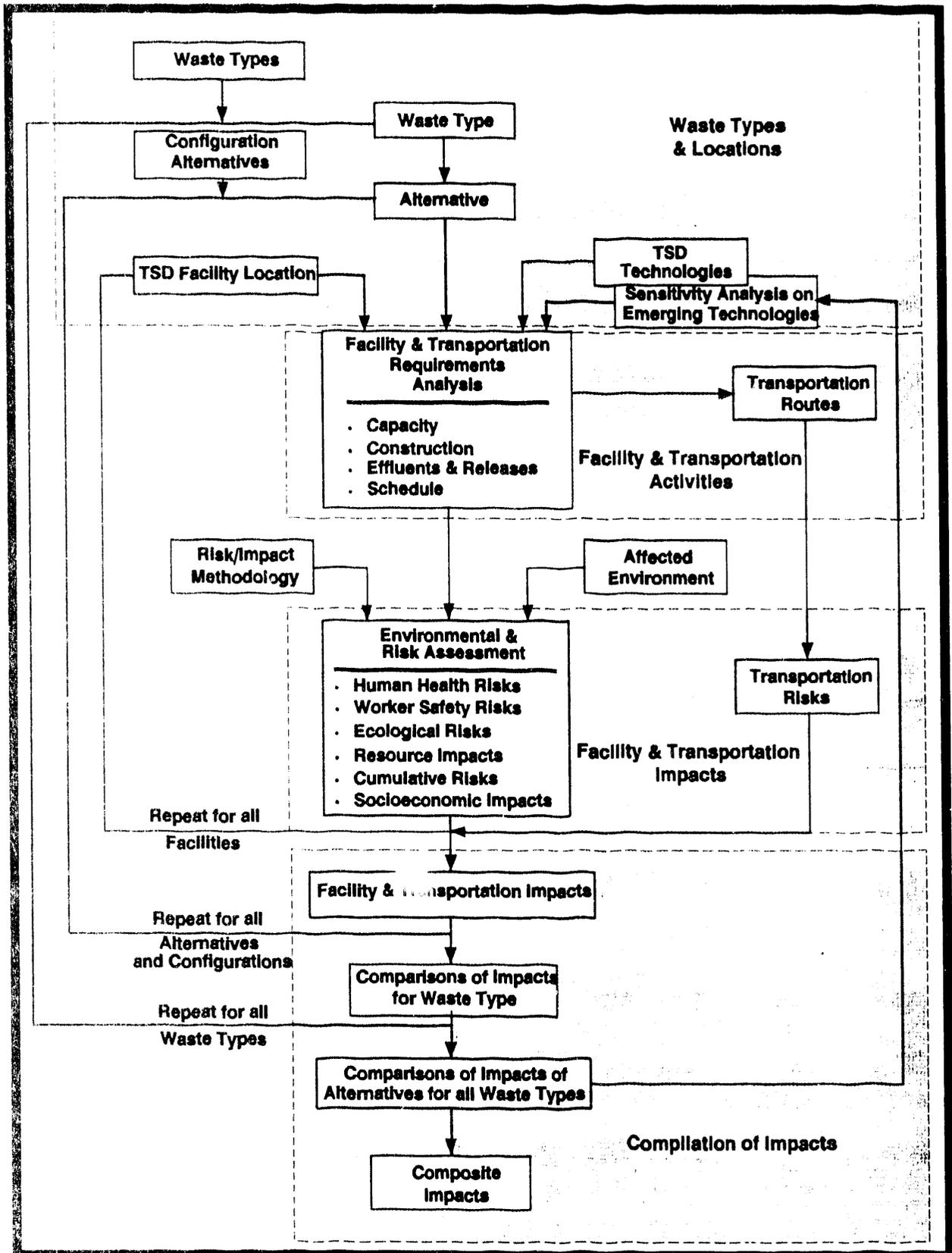


Figure 4.3-2. Process for Analysis of WM Programmatic Alternatives.

- Quantities and characteristics of waste that may result from environmental restoration activities
- Ongoing and future efforts to reduce waste generation as a result of new technologies, substitution of hazardous materials with nonhazardous materials, and continued waste minimization efforts

For each waste type, a range or upper bound of the quantities of waste by characteristic and location will be identified. The PEIS will discuss all major assumptions associated with projected waste type quantities or characteristics.

4.3.2.2 Facility and Transport Requirements

Under this step of the analysis, the specific waste management facility and transportation requirements for configuration alternatives will be developed. Identification of waste management facility requirements will include the following:

- General overall technology
- Process flow
- Estimated throughput capacity
- Volume and characterization of effluent, emissions, and secondary waste streams
- Construction requirements
- Output product form
- Space and resource requirements
- Estimated cost and schedule

Existing DOE facilities and summaries of available technologies and their resource requirements, effluents, and emissions will provide the basis for conceptualizing the

facilities. Similarly, existing packaging configurations and certified transport containers will be used for conceptualizing transport requirements. At this step in the analysis process, each configuration alternative under a waste type is developed and the basis for subsequent evaluation of impacts is identified.

4.3.2.3 Facility and Transport Impacts

During this analysis, the environmental consequences of the waste management facilities and waste transport will be evaluated. The assessment of environmental consequences for facilities will focus on parameters that deal with attaining standards, criteria, and broad environmental resource categories (such as, air, water, and land use impacts). The following guidelines will be used in assessing the detailed TSD facility and transportation parameters.

- The baseline environmental conditions for any affected DOE facility will include current background conditions plus those foreseeable actions which could occur during the construction and operational year(s) of the proposed facility.
- Impacts and risks will be identified for radiological and non-radiological events/releases.
- The assessment process will identify, where appropriate, both on- and offsite impacts and risks under each alternative.
- Impacts and risks will be identified for facility and transportation operations.
- Potential sensitive receptors at affected DOE facilities will be identified for on- and offsite locations according to current regulatory guidance.

- Uncertainties in technology are to be addressed by using best available information.
- Risk assessments will be based on generic locations at each DOE site to accommodate the quantitative nature of the risk assessment models.

4.3.2.4 Composite of Impacts

Under this analysis, the impacts of each waste type alternative will be compiled and compared. The impacts that could result from compositing the combinations of waste type alternatives at a DOE site will be compiled and compared. Comparative criteria will be similar to those listed in section 4.3.1.4

4.4 Technology Development

The PEIS will describe the process DOE uses to select technologies for development, demonstration, and application. Additionally, the PEIS will analyze "bounding cases" where emerging technologies may offer significant advantages over existing technologies. A "bounding case" is a hypothetical technology when it is assumed that anticipated levels of improvement in performance can be achieved and made immediately available. The PEIS analysis of these bounding cases will compare hypothetical technologies with the available technologies to identify emerging technologies that may provide safer, cheaper, better, and faster solution, and the desirability of proceeding with available technologies versus waiting for emerging technologies. The analysis will illustrate whether the environmental impacts of TD integrated demonstrations for new technologies are equal to or less than those from the available technologies considered.

4.4.1 ENVIRONMENTAL RESTORATION WASTE MANAGEMENT TECHNOLOGY DEVELOPMENT PROCESS

DOE has an ongoing process of technology development. TD addresses the technology needs related to EM missions. Advancing the state-of-the-art technology in methods to investigate and remediate contaminated areas and to transport, treat, store, and dispose of waste offers DOE ways to solve environmental problems safer, faster, better, and cheaper. DOE intends to introduce improved technologies as soon as they become available. However, to comply with regulatory schedules DOE must also commit to available technologies to initiate and carry out current programs. As new facilities are designed and new remediation projects begin, the desirability for action must be evaluated against the possibility that an emerging technology may soon be available. The program that DOE uses to develop new technologies is summarized in figure 4.4-1. The process begins when ER or WM identifies a problem requiring a technological solution. DOE's TD Program working with the ER and WM Programs further defines the problem in terms of conditions and requirements that may affect the types of emerging technologies to be considered. Through problem identification, one or more technology development strategies are defined. Emerging technologies that meet the research and development objectives are further evaluated to determine their status, type of applied research, and the development that is required to bring them to proven technologies status. The actual research is conducted using various facilities and resources. The end product is a new technology application for ER and WM Programs.

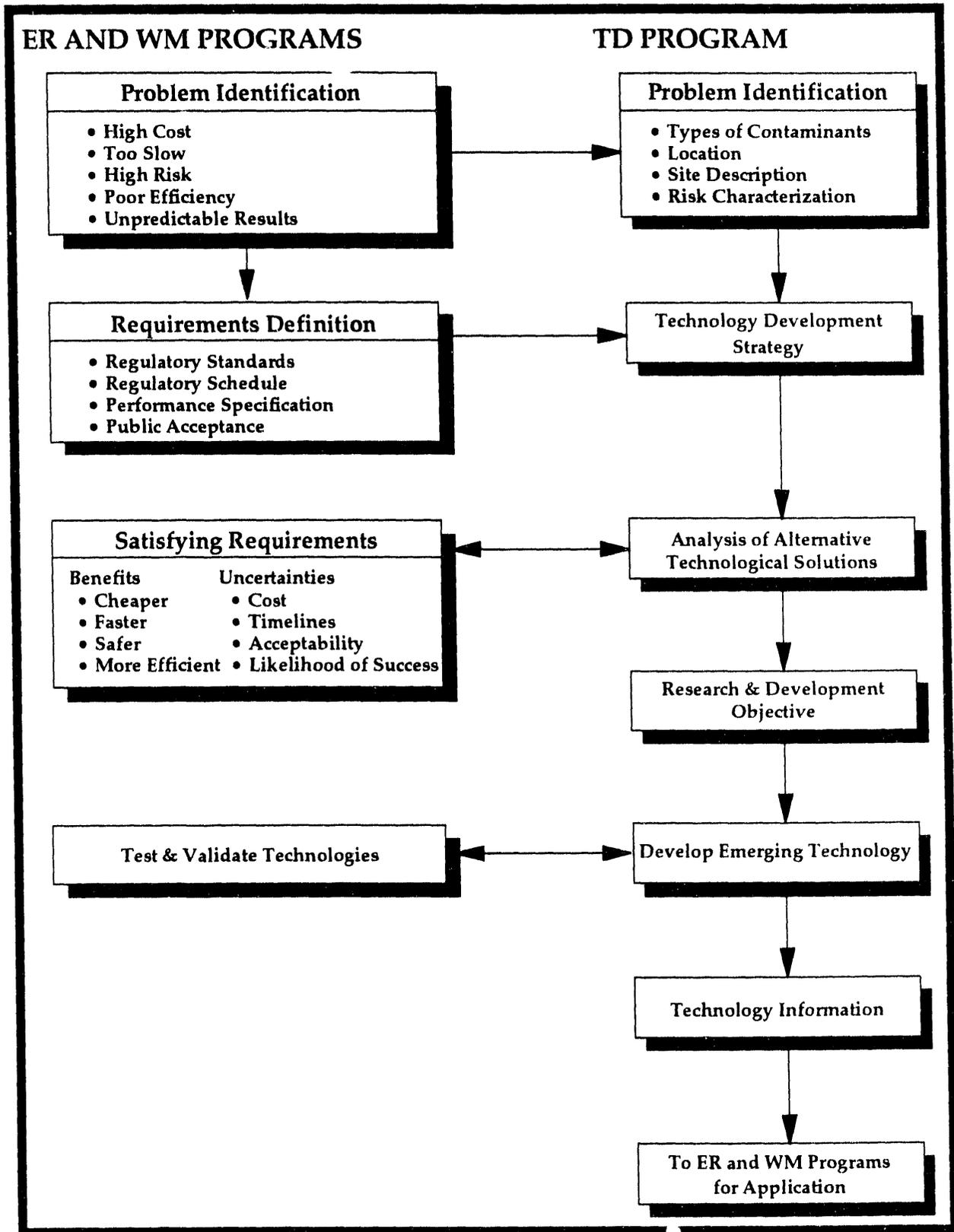


Figure 4.4-1. DOE-EM Program for Developing New Technologies.

4.4.2 PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT ANALYSIS

In the EM PEIS, DOE will analyze impacts based on currently available technologies for the programmatic ER and WM alternatives. For both the ER and WM programmatic alternatives, an engineering conceptual design will be formulated. It will identify estimates of labor, cost, transportation, schedule, and other factors essential for environmental impact analysis. This will include the pollutant emissions and resource consumption associated with constructing, implementing, and operating the technology.

In the case of WM TSD and ER technologies, many of the currently available technologies have been sufficiently developed and documented for the conceptual design process. However, some WM TSD and ER technologies have less history and will require information from existing technology development studies, which are summarized in databases prepared for EPA, DOE, and others.

Upon completing the engineering conceptual design process, the ER and WM alternatives will be evaluated with respect to risks. The risk to various groups including workers and the risk resulting from transportation of waste will be evaluated. Moreover, residual contamination of remediated or waste disposal site risks, as well as ecological, physical resources impacts, and interrelated socioeconomic effects will also be evaluated.

Figure 4.4-2 shows the major inputs and outputs of technology in the PEIS analysis process.

4.4.3 EFFECT OF TECHNOLOGY DEVELOPMENT ON THE PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT ANALYSIS

In evaluating the programmatic alternatives using available technologies, DOE needs to take into consideration emerging technologies. The DOE must consider whether a new technology could change the conclusions drawn from the PEIS analyses that are based on available technologies.

Emerging technologies will be considered in the PEIS in two ways. First, when an available technology is identified, it will be compared with an emerging technology. The results will be used to determine whether the emerging technology will provide improvement in cost, effectiveness, efficiency, environmental consequences and risks if the emerging technology were available today or becomes available within 10 years. Secondly, where a specific emerging technology is not identified, but certain types of improvements are expected, an analysis will be performed by posing the proposition: "How much would an individual engineering parameter or risk parameter need to improve before a different programmatic alternative for ER or WM would be selected?" In this way, it can be determined if the programmatic alternative is susceptible to changes in technology.

4.4.4 IDENTIFYING NEW TECHNOLOGIES

The PEIS analysis process will be useful in identifying problem areas needing new technologies. Given an ER policy and WM waste type configuration, the individual

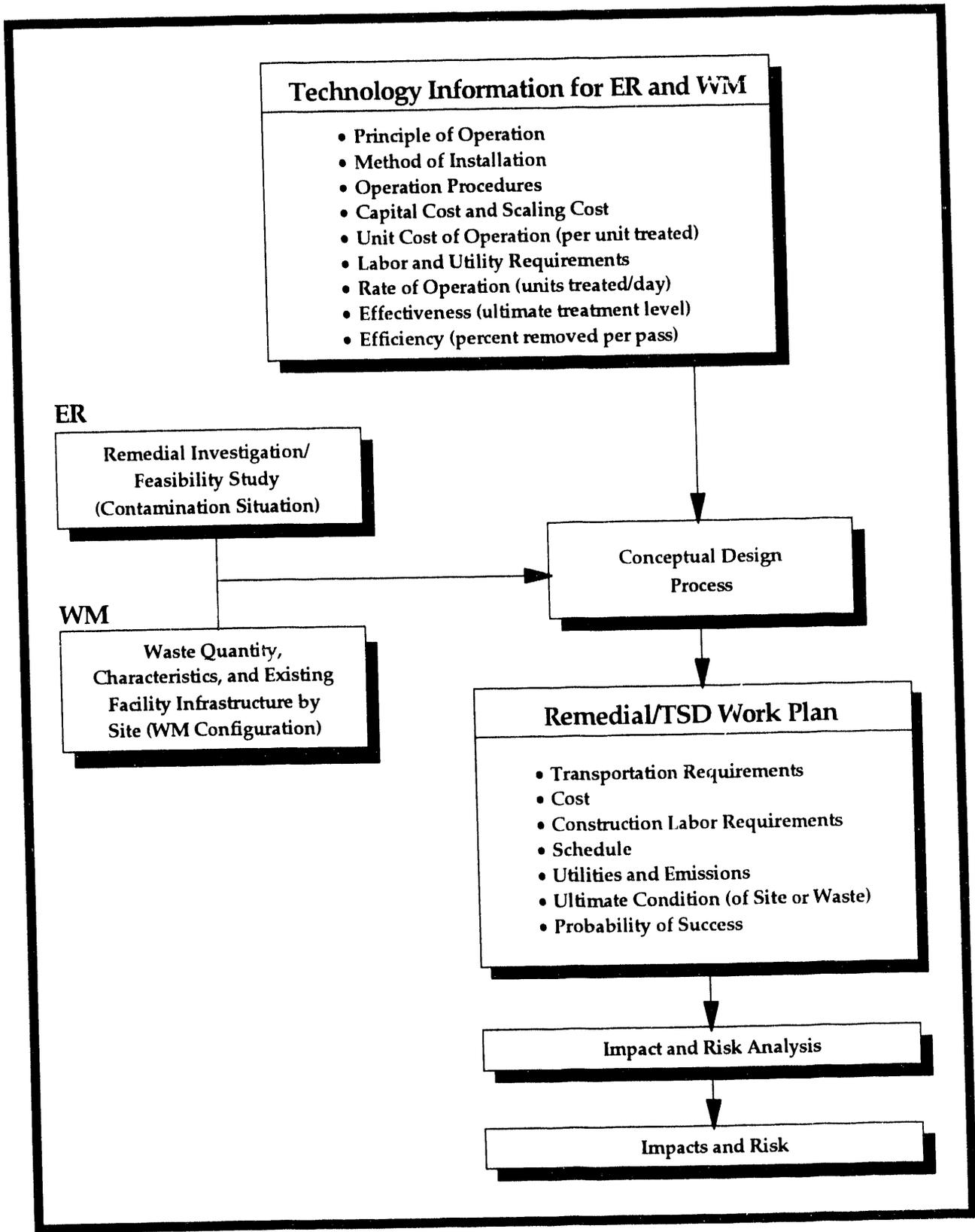


Figure 4.4-2. Process Used to Analyze ER and WM Technology Development.

engineering and risk parameters can be reviewed to determine elements that most strongly influence cost, schedule, overall risk, and probability of success. These will likely be areas for effective development of new technologies. The development of an "Automated Remedial Action Methodology" as discussed in section 4.3.1.6 would help to identify needed new ER technologies by focusing on those environmental pathways and contaminants that account for the major risks under each alternative.

4.5 Other Programmatic Issues

The PEIS will discuss a number of significant programmatic issues facing the EM Program that are important to the achievement of waste management and cleanup goals and the future implementation of the EM Program. Many of the issues that will be addressed were raised during the public scoping process and the reviews of the Draft and Working Final EM PEIS Implementation Plan (IP). During the Public Workshops on the Draft IP, DOE committed to discuss these types of issues in the PEIS. The discussion of such issues would assist the public in understanding the determinations to be reached as a result of the PEIS process. Further, the PEIS discussions would provide an opportunity for the public, interested groups, and agencies to directly provide input on future improvements to conducting the EM Program.

Currently identified issues that would be addressed include:

- Environmental monitoring and protection of human and worker health and safety
- Need for further environmental standards and public involvement in setting such standards

- Public Education
- Land use and its relationship to cleanup
- Relationship of interim actions to permanent actions
- Transportation safety assurance
- Future waste minimization, volume reduction, and recycling efforts
- Capability and weaknesses of current technology
- Transition of facilities to the Office of Facility Transition and Management
- Retraining of workers from nuclear weapons missions for ER and WM missions
- EM budgeting process and possibility of shortfalls
- Relationship of PEIS alternatives and actions to ongoing and future site-wide, and project-level NEPA actions
- Relationship of PEIS determinations to existing agreements and compliance processes
- Roles and responsibilities of stakeholders in the EM program
- Relationship of current and future technologies to environmental restoration and waste management options
- Prioritization of EM program and technology development activities
- Equity in siting waste management facilities

More issues will be identified during preparation of the PEIS and through the conduct of the public participation program for the PEIS. Additional issues that are identified will be addressed in the PEIS.

The DOE's waste minimization, reduction, and pollution prevention programs and practices will be addressed in a separate section of the PEIS. Included within this section of the PEIS will be a quantitative evaluation of the potential effect of waste minimization on the need for new waste treatment facilities and the potential effects of reducing the volume of wastes on the need for new waste disposal facilities, as applicable to each waste type considered in the PEIS. The section of the PEIS will also discuss the relationship between ER and WM Technology Development and waste minimization and reduction. Minimizing the generation of waste resulting from remediation and D&D activities will be emphasized, as well as minimizing waste from WM facilities.

The discussion of these EM program issues will be organized into a logical grouping of chapters and subchapters of the PEIS to promote public understanding and input. This organization is identified in the annotated outline of the Draft PEIS (appendix C).

CHAPTER 5

Environmental Reviews and Consultations

This chapter discusses the planned reviews and consultations on the Environmental Restoration and Waste Management (EM) Programmatic Environmental Impact Statement (PEIS).

5.1 Cooperating Agencies

As part of the scoping process, the Department of Energy (DOE) invited other Federal agencies to participate as cooperating agencies in the PEIS preparation. Cooperating agencies have roles and responsibilities in the Environmental Impact Statement (EIS) process that are defined in National Environmental Policy Act (NEPA) regulations, including participating in the scoping process, developing information and preparing environmental analyses, and lending staff support.

At DOE's invitation, the U.S. Department of Health and Human Services (HHS) agreed to be a cooperating agency on the EM PEIS within the scope of the current agreement between DOE and the Agency for Toxic Substances and Disease Registry. The Nuclear Regulatory Commission (NRC) agreed to participate as a cooperating agency in a limited sense and directed its staff to monitor development of the PEIS technical information base and policy implications. The Environmental Protection Agency (EPA) and DOE have agreed on roles and responsibilities for technical coordination on issues of mutual concern. As described in appendix I of this Implementation Plan (IP), EPA will participate by reviewing the preliminary Draft and Final EM PEIS before they are issued to the public, by helping DOE to define issues and concerns

to address in the PEIS, and by providing information in areas in which EPA has regulatory authority or technical expertise.

5.2 Reviews by Other Agencies

While preparing the EM PEIS, DOE will request consultations and conduct reviews with Federal and State agencies. Reviews of actions and alternatives will be discussed in the light of existing negotiated agreements and those likely to be negotiated in the future. Many Federal and State agencies have regulatory and environmental responsibilities. The PEIS will list and discuss the required permits and approvals required for implementing the alternatives.

During preparation of the PEIS, DOE will coordinate with and request consultations with, as appropriate, the agencies identified in table 5.2-1. The consultations that occur during preparation of the PEIS will focus on identifying the environmental and compliance considerations that would affect the selection and implementation of PEIS alternatives. Subsequently, tiered project-level NEPA documents would discuss in detail those consultation requirements and the status of all required permits and approvals necessary for project implementation.

5.3 Reviews by the Environmental Restoration and Waste Management Advisory Committee

In January 1992, DOE chartered the Environmental Restoration and Waste

Table 5.2-1. Agency Consultations

Subject Area	Legislation	Agency
Endangered species	Endangered Species Act of 1973, as amended; State laws	U.S. Fish and Wildlife Service, State agencies
Migratory birds	Migratory Bird Treaty Act	U.S. Fish and Wildlife Service
Bald and golden eagles	Bald and Golden Eagle Protection Act	U.S. Fish and Wildlife Service, State agencies
Archaeological, historical, and cultural preservation	National Historic Preservation Act of 1966, Archaeological Resources Protection Act, Antiquities Act, American Indian Religious Freedom Act of 1978, Native American Grave Protection and Repatriation Act of 1990	State Historic Preservation Office, President's Advisory Council, Tribes
Discharge of pollutants to water	Clean Water Act, Safe Drinking Water Act	U.S. Environmental Protection Agency, State agencies
Work in navigable U.S. waters	Section 404 of Clean Water Act, Rivers and Harbors Act	Corps of Engineers
Prime and unique farmlands	Farmland Protection Policy Act of 1981	Soil Conservation Service
Floodplains	Executive Order 11988, Fish and Wildlife Coordination Act	Corps of Engineers, U.S. Fish and Wildlife Service, State agencies
Wetlands	Executive Order 11990, Fish and Wildlife Coordination Act, Section 404 of Clean Water Act	Corps of Engineers, U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency, State agencies
Water body alteration	Fish and Wildlife Coordination Act	U.S. Fish and Wildlife Service, State agencies
River status	Wild and Scenic Rivers Act, Anadromous Fish Conservation Act, Hanford Reach Study Act	U.S. Department of the Interior
Air pollution	Clean Air Act	U.S. Environmental Protection Agency, State and local agencies
Water use and availability	Water Resources Planning Act of 1965, Safe Drinking Water Act, and others	U.S. Environmental Protection Agency, Office of Water Policy, State agencies
Noise	Noise Pollution and Abatement Act of 1970, Noise Control Act of 1972	U.S. Environmental Protection Agency, State agencies
Siting and planning	State siting acts, county zoning regulations	State and county agencies
Waste management and transportation	Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act and the Hazardous and Solid Waste Amendments of 1984; Comprehensive Environmental Response, Compensation, and Liability Act; Emergency Planning and Community Right to Know Act; Hazardous Materials Transportation Act	U.S. Environmental Protection Agency, U.S. Department of Transportation, State agencies

Management Advisory Committee (EMAC), and on July 2, 1992, DOE announced the members of this new committee. The EMAC was established by DOE to provide independent reviews of the EM PEIS analysis and other EM projects. EMAC members were selected from universities; trade associations; Federal, State, and local government agencies; Native American organizations and groups; unions; environmental groups; and other interested parties. The Committee's charter (appendix H) provides for its roles of:

- Advising DOE on the process, content, public participation, scientific, technical, and other aspects of the analyses for the EM PEIS and other EM projects
- Assessing the progress of the EM PEIS
- Reviewing documents produced for the EM PEIS process and other EM projects, as requested
- Issuing reports and recommendations
- Recommending options to resolve difficult issues faced by the EM Program

After considering the public comments on the Draft Plan, DOE prepared a Working Final EM PEIS IP and provided it to EMAC for review and comment. Appendix L contains EMAC's formal recommendations on the Working Final IP and DOE's responses to the recommendations. Then, this IP was prepared following discussion of the suggested modifications with the EMAC PEIS Subcommittee.

During preparation of the Draft and Final PEISs, results of analyses will be provided to EMAC for review and comment. Working drafts of the Draft and Final PEISs will also be provided to EMAC for review, comment, and recommendations. The EMAC will also be asked to provide recommendations about

future public involvement activities during the PEIS process. Those activities could include public meetings on the Draft PEIS and workshops or other forums for discussing and providing recommendations on issues important to the PEIS process and the EM Program.

CHAPTER 6

Programmatic Environmental Impact Statement Schedule

Table 6-1 lists the schedule for the major milestones for the Environmental Restoration and Waste Management (EM) Programmatic Environmental Impact Statement (PEIS) process.

Table 6-1. EM PEIS Schedule

MILESTONE	DATE
Published Notice of Intent (NOI)	October 22, 1990
Held Scoping Meetings	December 3, 1990 to February 19, 1991
Issued the Draft EM PEIS Implementation Plan (IP)	January 1992
Held Public Workshops on IP	First Quarter CY 1992
Issue EM PEIS IP	First Quarter CY 1994
Issue Draft PEIS	Third Quarter CY 1994
Hold Public Hearing and Comment Period on Draft PEIS	Fourth Quarter CY 1994
Issue Final PEIS	First Quarter CY 1995
Publish Record of Decision (ROD)	Calendar Year 1995

CHAPTER 7

Preparation of the Programmatic Environmental Impact Statement

The Department of Energy (DOE) Office of the Assistant Secretary for Environmental Restoration and Waste Management (EM) has overall responsibility for the Programmatic Environmental Impact Statement (PEIS). Departmental offices that support this effort are the Deputy Assistant Secretaries for Oversight and Self-Assessment (EM-20), Waste Management (EM-30), Environmental Restoration (EM-40), Technology Development (EM-50), and Facility Transition and Management (EM-60).

Maria Elena Toraño Associates (META), Incorporated, has been selected as the lead contractor by the Department of Energy to assist in the preparation of the PEIS and to support all PEIS procedural requirements. Also, META has the responsibility to ensure that information meets quality assurance requirements for use in the PEIS process. META, a small disadvantaged business, is supported by Louis Berger & Associates (LBA), Incorporated, as subcontractor. Neither META nor LBA has a direct or indirect interest in the conduct of any environmental restoration or waste management work for DOE.

DOE is responsible for the scope and content of the PEIS and supporting documents and will provide direction and supporting documentation to META. "No-organizational-conflict-of-interest statements" from META and LBA are on file at DOE's EM Office of Project Support, Washington, DC. Copies of these statements are included in appendix B.

In support of the preparation of the PEIS, EM has requested assistance from several national laboratories. The laboratories will assist in

preparing supporting information and documentation. Argonne National Laboratories has been requested to provide support in evaluating the human health risks of transporting waste and in characterizations for environmental restoration (ER) and waste management (WM) technologies. Oak Ridge National Laboratory has been requested to provide support in evaluating human health (public and worker) risks of environmental contamination and releases associated with ER and WM alternatives. Battelle Pacific Northwest Laboratories has been requested to provide support in characterizing ER contamination situations and identifying available ER technologies. During the preparation of the PEIS, EM may request the support of additional laboratories or other offices in providing supporting documentation.

The supporting information and documentation prepared by the National Laboratories will be independently reviewed and evaluated by EM, META and LBA. EM, META, and LBA will be responsible for determining the appropriateness and adequacy of incorporating any data, analyses, and or results of work performed by the National Laboratories into the PEIS.

The DOE Office of the Assistant Secretary for Environment, Safety, and Health (EH), supported by the Office of NEPA Oversight, has independent review responsibility for ensuring compliance with National Environmental Policy Act (NEPA) and Council on Environmental Quality (CEQ) regulations. Other reviews will be provided by the Office of the General Counsel, and the Office of Defense Programs. In addition, each affected DOE field office has been asked to

provide information for the PEIS and to review the validity of site data contained in the PEIS. EM has responsibility for coordination of these field office reviews.

Upon completing all reviews, the Assistant Secretary for EM will forward the preliminary draft and final PEISs to the Assistant Secretary for EH for approval. After resolution of any issues, EH will request authority for approval from the Secretary. Following approval, EH will authorize issuance of the documents by EM. Following completion and filing of the Final PEIS with the Environmental Protection Agency (EPA), a Record of Decision (ROD) will be forwarded to the Secretary for action.

Appendices

Appendix A

Federal Register Notices

Appendix A-1

Federal Register Notices October 22, 1990

DEPARTMENT OF ENERGY**Intent To Prepare a Programmatic Environmental Impact Statement on the Department of Energy's Proposed Integrated Environmental Restoration and Waste Management Program, and To Conduct Public Scoping Meetings**

AGENCY: U.S. Department of Energy (DOE).

ACTION: Notice of intent (NOI) to prepare a programmatic environmental impact statement (PEIS).

SUMMARY: The Department of Energy announces its intent to prepare a PEIS pursuant to the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321, *et seq.*), as amended, and to conduct a series of public scoping meetings nationwide. The PEIS will assess the potential environmental consequences of alternatives for implementing an integrated environmental restoration and waste management program.

The purpose of DOE's proposed integrated environmental restoration and waste management program is to provide a broad, systematic approach to addressing cleanup activities and waste management practices. The Department is committed to ensuring that potential risks to human health and the environment from the cleanup of contamination resulting from past operations and from future waste management activities are at safe levels. DOE is further committed to full compliance with environmental regulations and to a goal of completing environmental restoration by 2019.

INVITATION TO COMMENT: To ensure that the full range of issues related to this proposal are addressed, comments on the proposed scope of the PEIS are invited from all interested parties. Written comments to assist DOE in identifying significant environmental issues and defining the appropriate scope of the PEIS should be directed to Mr. Wisenbaker at the address indicated below. Agencies, organizations, and the general public also are invited to present oral comments pertinent to the preparation of the PEIS at the public scoping meetings to be held nationwide, as described below. Written and oral comments will be given equal weight.

Following the completion of the public scoping process, a PEIS Implementation Plan will be issued for public comment. The Implementation Plan will record the results of the scoping process and define the alternatives and issues to be evaluated in the PEIS. DOE intends to

complete the draft PEIS in early 1992. Its availability will be announced in the *Federal Register*, and public comments again will be solicited. Comments on the draft PEIS will be considered in preparing the final PEIS, scheduled for 1993.

DATES: The public scoping period will continue until February 19, 1991. Written comments should be postmarked by February 19, 1991 to assure consideration. Comments received after that date will be considered to the extent practicable. The public scoping meetings will begin in December 1990. The dates and locations of the meetings will be announced in a subsequent *Federal Register* notice and in local public notices in advance of the planned meetings.

ADDRESSES AND FURTHER INFORMATION:

Written comments on the scope of the PEIS, questions concerning the program, and requests for copies of the draft PEIS should be directed to: Mr. W. E. Wisenbaker, Acting Director, Division of Program Support, Office of Environmental Restoration (EM-43), U.S. Department of Energy, 1000 Independence Avenue SW., Washington, DC 20585, (202) 353-2950.

For further information on the DOE NEPA process please contact: Ms. Carol M. Borgstrom, Director, Office of NEPA Oversight (EH-25), U.S. Department of Energy, 1000 Independence Avenue SW., Washington, DC 20585, (202) 586-4600.

PUBLIC SCOPING MEETINGS: Public scoping meetings will be held in the following cities beginning in December 1990. The dates and locations of these meetings will be published in a subsequent *Federal Register* notice. This information will also be announced in local public notices before the planned meetings.

Oakland, California
Denver, Colorado
Washington, DC
Tampa, Florida
Atlanta, Georgia
Boise, Idaho
Idaho Falls, Idaho
Chicago, Illinois
Paducah, Kentucky
St. Louis, Missouri
Las Vegas, Nevada
Princeton, New Jersey
Albuquerque, New Mexico
Newburgh, New York
Cincinnati, Ohio
Columbus, Ohio
Portland, Oregon
Columbia, South Carolina
Oak Ridge, Tennessee
Amarillo, Texas
Richland, Washington
Seattle, Washington
Spokane, Washington

SUPPLEMENTARY INFORMATION:

Background. In November 1989, the Secretary of Energy established the DOE Office of Environmental Restoration and Waste Management (EM) for the purpose of consolidating the Department's environmental restoration and waste management activities. In January 1990, the Secretary determined that DOE will prepare an Environmental Impact Statement on a newly proposed integrated environmental restoration and waste management program.

Some of the waste management practices that DOE and its predecessor agencies once considered safe and prudent under then existing requirements and guidelines have resulted in the need for remediation under applicable current Federal and state requirements and guidelines. DOE's environmental restoration activities include the assessment and physical cleanup of contamination at DOE installations and other properties. Environmental restoration activities also include the decontamination and decommissioning (D&D) of DOE's surplus facilities. These facilities and properties may have contamination from radioactive, hazardous, or mixed (radioactive and hazardous) waste. As decisions are made for the handling of contamination at various sites and facilities, new wastes will be generated that will require management.

DOE's waste management operations include the treatment, storage, transportation, and disposal of wastes generated by ongoing nuclear energy, energy research, and defense activities; by environmental restoration activities; and by other sources. These wastes include: high-level radioactive waste (HLW); low-level radioactive waste (LLW); transuranic waste (TRU); mixed waste (MW); greater-than-Class C waste (GTCC) waste; and hazardous waste.

The Affected Installations. DOE's environmental restoration and waste management activities occur throughout the U.S. The largest number of facilities that require environmental restoration or that generate or store the largest volumes of radioactive, hazardous, and mixed waste are located at these installations: Hanford Reservation (Washington); Savannah River Site (South Carolina); Oak Ridge Reservation (Tennessee); Rocky Flats Plant (Colorado); Feed Materials Production Center, Mound Plant and Portsmouth Gaseous Diffusion Plant (Ohio); Idaho National Engineering Laboratory (Idaho); Lawrence Livermore National Laboratory (California); Argonne National Laboratory (Illinois); Paducah Gaseous Diffusion Plant (Kentucky); Nevada Test Site (Nevada); Los Alamos

National Laboratory and Sandia National Laboratory (New Mexico); and Pantex Plant (Texas). The Appendix contains a listing of DOE locations where current environmental restoration and waste management activities occur that DOE believes are within the scope of this PEIS. Additional sites may be added in the course of the development of the PEIS.

The Regulatory Framework. Federal laws of major importance to DOE's environmental restoration and waste management activities include, among others, the Atomic Energy Act of 1954 (42 U.S.C. 2011, *et seq.*), as amended; the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (42 U.S.C. 9601, *et seq.*), as amended; and the Resource Conservation and Recovery Act (RCRA) (42 U.S.C. 6901, *et seq.*), as amended. The Atomic Energy Act requires the management, processing, and utilization of radioactive materials in a manner that protects the public health and the environment. CERCLA requires responses to releases or threatened releases of hazardous substances into the environment and establishes a process to clean up abandoned or uncontrolled hazardous waste sites which may endanger public health or the environment. RCRA requires management of waste currently being generated, including the treatment, storage, transportation, and disposal of hazardous waste, and cleanup of hazardous waste releases from past and present operations that pose a threat to human health and the environment. It is DOE's policy to apply NEPA to its waste management and cleanup activities. To minimize delay and duplication of effort in meeting these responsibilities, DOE is supplementing, where necessary, and integrating the procedural documentation and public participation requirements for CERCLA and RCRA to facilitate compliance with NEPA requirements (DOE Order 5400.4, Comprehensive Environmental Response, Compensation, and Liability Act Requirements).

DOE environmental restoration and waste management activities are subject to other applicable Federal and state requirements and to enforceable agreements. Additionally, certain Federal statutes require DOE to undertake specific environmental restoration and waste management activities. For example, under Title I of the Uranium Mill Tailings Radiation Control Act, DOE must remediate inactive uranium milling sites in accordance with Environmental

Protection Agency standards (40 CFR part 192) established for that purpose.

Wastes are categorized in accordance with Federal statutes and regulations and DOE Orders. High-level waste is defined in the Nuclear Waste Policy Act of 1982 (42 U.S.C. 10101(12)). Low-level, transuranic, and radioactive mixed wastes are defined in DOE Order 5820.2A (Radioactive Waste Management). Hazardous wastes are those wastes that are defined as hazardous by U.S. Environmental Protection Agency regulations implementing RCRA (40 CFR Part 261) and by applicable state regulations.

Current Practices for Waste Management. To date, DOE's waste management operations have focused on site-by-site treatment, storage, transportation, and disposal of waste. Transuranic, low-level, hazardous, and radioactive mixed waste are generated at many DOE installations; only a few installations generate high-level waste.

DOE generates or stores high-level waste at four installations: the Savannah River Site, the Hanford Reservation, the Idaho National Engineering Laboratory, and the West Valley Demonstration Project. To date, high-level waste has undergone only limited treatment. DOE intends to immobilize the waste in a stable, solid form acceptable for disposal in a geologic repository. Under current law, only one potential repository site (at Yucca Mountain, Nevada) for this waste is currently being characterized.

Most TRU waste has been generated at DOE's Rocky Flats Plant in Golden, Colorado. Transuranic waste is currently stored at several facilities including the Rocky Flats Plant, the Idaho National Engineering Laboratory, the Hanford Reservation, the Oak Ridge Reservation, the Nevada Test Site, Los Alamos National Laboratory, and the Savannah River Site. The Idaho National Engineering Laboratory has the largest management program for this waste. The Department is currently evaluating the Waste Isolation Pilot Plant in Carlsbad, New Mexico, as a potential disposal site for TRU waste.

Low-level waste requires relatively minimal treatment. Although in some instances other methods may be used, DOE currently disposes of the majority of its LLW in near-surface facilities, including installations at the Savannah River Site, the Oak Ridge Reservation, the Nevada Test Site, the Hanford Reservation, Los Alamos National Laboratory, and the Idaho National Engineering Laboratory.

DOE Order 5820.2A (Radioactive Waste Management) requires that the DOE waste equivalent to commercially

generated Greater-than-Class C (GTCC) waste be handled as a special case by each site. The Department is also responsible for disposal of commercially generated GTCC waste. DOE has developed a three-part strategy for managing this waste. The first phase would provide a storage facility for those generators that cannot continue to store the waste. The second phase would provide a central storage facility for all commercially generated GTCC waste.

The final phase would transfer the stored waste to a high-level waste repository or provide for the development of a separate GTCC disposal facility.

For hazardous waste, DOE's near-term objective is to treat the waste as it is generated, thereby minimizing the need for storage capacity. DOE disposes of treated hazardous waste in permitted DOE or commercial facilities.

Mixed wastes are generated at many DOE installations. Mixed waste may include high-level waste, transuranic waste, and low-level waste. DOE stores these wastes until they can be treated and disposed of in permitted facilities. The Department currently treats a small amount of MW by thermal destruction to eliminate some hazardous components. In addition, DOE treats some low-level MW by solidification.

The PEIS will address these practices and any reasonable alternatives that are amenable to environmental analysis. (See Scope of PEIS, below)

Current Practices for Environmental Restoration. DOE will continue to seek, to the extent possible, to negotiate a comprehensive Federal Facilities Agreement with the Environmental Protection Agency (EPA) and the involved state to cover its remediation activities at an installation. Such agreements establish technical requirements and schedules for characterization, feasibility assessment and cleanup at each of the affected sites, and delineate the roles and responsibilities of each party to the agreement, to comply with the requirements of Section 120 of CERCLA. DOE is in the early stages of site assessment and characterization at many facilities. These initial activities are being reviewed in compliance with NEPA. DOE has determined that these early remediation activities are normally categorically excluded under its NEPA guidelines (55 FR 37174, September 7, 1990).

Decontamination and decommissioning activities have several objectives: (1) To maintain facilities awaiting additional D&D activities in a manner that protects workers, the

public, and the environment; (2) to decontaminate facilities intended for reuse; and (3) decommission other facilities in accordance with requirements set forth in an approved environmental compliance plan. Currently, D&D activities are planned and executed on a site-by-site basis.

The PEIS will address these practices and any reasonable alternatives amenable to environmental analysis.

Need for an Integrated Environmental Restoration and Waste Management Program. The fundamental goal of DOE's Office of Environmental Restoration and Waste Management is to ensure that potential risks to human health and to the environment posed by wastes under its jurisdiction are at safe levels. To help achieve this goal, DOE proposes to conduct an integrated environmental restoration and waste management program.

Historically, DOE environmental restoration and waste management operations have been conducted on a site-by-site basis. This practice has led to differing approaches to cleanup and waste management among DOE sites. DOE's recent consolidation of waste program responsibilities (environmental restoration and waste management) provides the opportunity to establish a systematic approach to programmatic requirements and practices.

Remediation and D & D activities result in large amounts of waste that will require management, in addition to the wastes generated from production, research, and other activities. Because environmental restoration activities will be a significant source of waste, cleanup and waste management activities are closely related. The resolution of certain key issues, such as future land-usability objectives, will determine the amount, type, and timing of environmental restoration waste being introduced into the waste management part of the system. Land-usability policy relates to cleanup standards and the degree of reliance on institutional controls for long-term health and environmental protection.

PROGRAMMATIC ENVIRONMENTAL IMPACT

STATEMENT: On January 12, 1990, the Secretary of Energy determined that a PEIS should be prepared for DOE's newly proposed integrated environmental restoration and waste management program. The Secretary stated that preparation of this PEIS will ensure that a comprehensive and cumulative environmental analysis of waste management proposals and alternatives will be available to DOE decisionmakers and the public.

The PEIS will assess broad programmatic issues and integrated approaches to DOE's environmental restoration and waste management activities. DOE aims, to the extent this is feasible, for the PEIS to provide the primary environmental basis for selecting waste management methods and technologies and the locations at which they would be implemented. However, DOE does not intend the PEIS to assess impacts related to alternative choices of locations within a site. Such detailed decisions would be based on site-specific NEPA documents tiered to this PEIS.

PRELIMINARY DESCRIPTION OF

ALTERNATIVES: *Scope of PEIS.* DOE solicits public input on all aspects of the proposed program described in this notice. DOE plans to structure this PEIS in two sections to facilitate public review and comments. One section of the PEIS will focus on key environmental restoration issues. The second section will analyze reasonably foreseeable potential impacts associated with various waste management alternatives within the integrated program.

As discussed previously, current environmental restoration and waste management practices for which reasonable alternatives that are amenable to environmental analysis can be identified are within the scope of the PEIS. Under the Nuclear Waste Policy Act of 1982 (42 U.S.C. 10101, *et seq.*), as amended, DOE currently plans to dispose of high-level waste resulting from Departmental activities in a repository to be developed for spent fuel from commercial nuclear utilities. In addition, under section 213(a) of the Department of Energy National Security and Military Applications of Nuclear Energy Authorization Act of 1980 (42 U.S.C. 7272, *et seq.*), as amended, the Department plans to demonstrate the disposal of defense transuranic waste at the Waste Isolation Pilot Plant in Carlsbad, New Mexico. These decisions will not be revisited in the programmatic EIS. In addition, there is a national program, under Congressional direction, to address the management of commercial nuclear reactor spent fuel. The activities associated with that program will be considered in separate NEPA documentation and not in this PEIS. Commercial LLW is not the Department's responsibility and therefore is outside the scope of the PEIS. Uranium Mill Tailings Remedial Action Program (UMTRAP) tailings cleanup and disposal activities are within DOE's purview, but are expected to be close to completion prior to the

issuance of the Record of Decision and will not be considered in the PEIS. The groundwater remediation activities associated with UMTRAP are just beginning, however, and therefore are within the scope of this PEIS.

Proposed action. The proposed action is to formulate and implement an integrated Environmental Restoration and Waste Management Program in a safe and environmentally sound manner, and in compliance with applicable laws, regulations and standards. Alternative approaches are discussed below.

Environmental Restoration Analysis. NEPA requires DOE to analyze reasonable alternatives to its proposed actions. DOE realizes that in the current environmental restoration decisionmaking framework for remediation activities there are statutory and regulatory requirements that must be fulfilled. DOE will continue to follow established processes in conducting ongoing environmental restoration activities.

For example, the framework Congress established under CERCLA for remedial actions imposes a strong preference for permanent remedies that comply with all applicable and appropriate requirements established under environmental laws. Consequently, DOE's overall environmental restoration efforts have focused on cleaning up sites adequately for unrestricted future use. The framework also requires that cleanup requirements and remedies be selected site-specifically. This produces final decisions made both discretely and diversely.

DOE believes, however, that there are important national issues that it should analyze in carrying out its responsibilities. These issues include, but are not limited to, (1) the degree to which DOE should rely on proven technologies in contrast to making strong resource commitments to developing innovative technologies; (2) the manner in which DOE should manage wastes until adequate treatment and disposal capacity is available; (3) whether DOE's installations should invariably be cleaned up for unrestricted use; and (4) the environmental basis for deciding cleanup priorities.

DOE seeks to develop and analyze programmatic alternatives that bear on these issues. DOE believes that important information on the costs and benefits of alternative program management strategies could thereby be obtained. DOE is especially interested in receiving public comments on these issues.

Decontamination and decommissioning activities are not subject to the decisionmaking framework that governs remediation activities. DOE proposes, therefore, to approach all D&D activities in an integrated, systematic fashion.

Waste Management Analysis: Waste treatment, storage, transportation, and disposal alternatives primarily depend on the waste category (such as radioactive, hazardous, or radioactive mixed waste). Alternatives will reflect centralized, regional, or installation-specific strategies. The analysis would provide environmental information for deciding which waste management capabilities should be established centrally, regionally, or at each site. Transportation of waste and the potential associated impacts will also be evaluated.

No Action. This alternative would continue present practices. DOE would not adopt and integrated environmental restoration and waste management program. DOE would continue to operate its environmental restoration activities and its waste operations as discrete site-specific actions. If site requirements dictate the need for offsite or new facilities, management decisions would be made on a project specific basis.

DOE would maintain existing facilities for waste management operations. New waste management activities, projects, and technological development would be considered case-by-case.

IDENTIFICATION OF ENVIRONMENTAL ISSUES: The following environmental issues have been identified for analysis in the PEIS. This list is presented to facilitate discussion on the scope of the PEIS and is not intended to be all-inclusive or to predetermine the scope. Therefore, DOE invites comments on these and additional issues relevant to this PEIS.

(1) The potential impacts (both beneficial and adverse) to worker health, public health, and the environment under various alternatives for environmental restoration and waste management.

(2) The potential impacts to workers, public health, and the environment under various alternatives from routine transportation of wastes and potential transportation accidents.

(3) The development of needed technologies and methods for environmental restoration and waste management and the potential impacts (both beneficial and adverse) from their implementation.

(4) Any obstacles to achieving full compliance with all applicable federal, state, and local environmental statutes, regulations, and requirements.

(5) The socioeconomic impacts of alternatives for dispersed, regional, and centralized waste management.

(6) The potential impacts of applying various land-usability strategies to the cleanup of DOE installations and sites.

RELATIONSHIP TO OTHER ACTIONS: *Five-Year Plan.* DOE issued a Five-Year Plan for Environmental Restoration and Waste Management (DOE/S-0070) in August 1989 that was subsequently revised, updated, and reissued (DOE/S-0078P) in June 1990. The Plan summarizes current DOE practices and identifies short- and long-term goals. The activities described are for the near-term (e.g., remediation of seepage basins at the Savannah River Site, and radioactive storage upgrades at the Kansas City Plant). Only general objectives, criteria, and guidance, in addition to those set in applicable environmental regulations and statutes, are specified for implementing environmental restoration and waste management activities on a long-term basis. For example, the Plan states that the majority of solid low-level waste generally will continue to be disposed of using shallow land burial, but recognizes that this may not be suitable for all locations. The Plan also states DOE's general intent that facilities and sites be returned to a condition suitable for unrestricted use, but recognizes that in-place remedies may sometimes be preferred.

The Five-Year Plan is not a proposal within the context of NEPA. Rather, it is preliminary to the Environmental Restoration and Waste Management PEIS in which DOE will evaluate integrating its long-term environmental restoration and waste management activities. The PEIS will specifically address the long-term goals and issues generally summarized in the Five-Year Plan.

As the Plan states, completion of the PEIS process may result in changes in specific programs, which would be reflected in future editions of the Plan.

Environmental Restoration and Waste Management Configuration Study. The Environmental Restoration and Waste Management Configuration Study is a strategic planning study for the long-term (the next 25 years). The study will support the definition of waste system configuration alternatives in this PEIS. DOE intends to issue the draft configuration study concurrently with the draft PEIS for public information and use in reviewing the draft PEIS.

Many factors influence the configuration and updating of DOE's waste management operations, including: (1) Increasingly strict

environmental, safety, and health standards and requirements; (2) facilities dating from the late 1940s to the middle 1960s becoming obsolete; (3) increasing costs to maintain and upgrade these facilities; (4) difficulties in managing widely dispersed waste storage facilities in different environmental settings; (5) potential changes in the locations, volumes, and types of waste to be managed, after consideration of a PEIS on reconfiguring (modernizing) the nuclear weapons complex; (6) availability of improved technologies; (7) population growth near once-remote facilities such as areas near Rocky Flats, Colorado, Fernald, Ohio, Oak Ridge, Tennessee, and Livermore, California, which has led to local demands for restricting DOE operations; and (8) transition from waste accumulation and storage to waste treatment and disposal.

PEIS for the Nuclear Weapons Complex (NWC). In concert with the decision to prepare this PEIS, the Secretary decided that a separate PEIS on DOE's proposal to modernize (reconfigure) the nuclear weapons complex will also be prepared. The reconfiguration of the nuclear weapons complex would affect DOE's program for environmental restoration and waste management because it would change the locations, volumes, and types of waste to be managed. The environmental restoration and waste management PEIS, therefore, will take into account, to the extent practical, the materials generated in the preparation of the NWC PEIS. Separate statements are being prepared, however, because the programs are driven by distinct missions, requirements, and schedules. If the PEIS on the NWC is not issued first, DOE will prepare a supplement to the Environmental Restoration and waste management PEIS, if appropriate.

PUBLIC SCOPING MEETINGS AND INVITATION TO COMMENT: DOE is committed to providing opportunities for the involvement of interested individuals and groups in this and other DOE planning activities.

DOE will conduct a series of public scoping meetings nationwide and invites all interested people to attend and to present oral comments concerning: (1) the scope of the PEIS, (2) the issues that should be addressed, and (3) the alternative integrated approaches to be analyzed in the PEIS. DOE also invites written comments.

Oral and written comments will be given equal consideration. Instructions for submitting written comments are given above. People desiring to speak at the public scoping meetings should submit their requests to do so to the

contact persons to be designated in a subsequent Federal Register notice. Oral presentation requests for each meeting should be received by DOE at least two days before the meeting.

The meetings will be chaired by a presiding officer. They will not be conducted as evidentiary hearings. Speakers will not be cross-examined, although the DOE representatives present may ask them clarifying questions.

To ensure everyone an adequate opportunity to speak, five minutes will be allotted for each speaker. Depending on the number of persons requesting to speak, the presiding officer may allow more time for speakers representing multiple parties or organizations. Persons wishing to speak on behalf of organizations should identify the organization in their request. Persons who have not submitted a timely request to speak may register at the meetings, and will be called on to speak if time permits. Written comments also will be accepted at the meetings, and speakers are encouraged to provide written versions of their oral comments for the record.

The public scoping meetings will begin in December 1990. Detailed information on the meetings will be provided in a subsequent Federal Register notice. This information will also be announced in local public notices before the planned meetings.

DOE will make a transcript of each meeting. Copies will be made available for inspection at the DOE Freedom of Information Reading Room (Room 1E-190), Forrestal Building, 1000 Independence Avenue SW., Washington, DC 20585, during business hours, Monday through Friday and in local DOE reading rooms. Locations of local reading rooms will be provided in the subsequent Federal Register notice regarding the scoping meetings.

RELATED NEPA DOCUMENTATION: DOE expects to prepare additional NEPA documents for implementing programmatic and facility-specific decisions based upon this PEIS. These generally site-specific documents will analyze future technology and siting alternatives for implementing DOE's environmental restoration and waste management activities. Their analyses will address such local concerns as floodplains and wetlands, historic and archaeological sites, land use, and threatened and endangered species. The PEIS will examine these issues only to the degree necessary for selection of an integrated program.

Interim Actions. DOE may need to conduct many diverse and discrete site-

specific environmental restoration and waste management activities while the PEIS is being prepared. Many of these activities are required by Federal and state regulatory agencies under environmental compliance agreements and some are required by court decrees. DOE will have to determine case-by-case whether site-specific actions may proceed before the PEIS is completed. This will be done in accordance with all applicable requirements, including the test for interim actions found in Council on Environmental Quality's NEPA Regulations (40 CFR 1506.1(c)).

Other DOE has prepared, or is currently preparing, NEPA documents for many of DOE's site-specific actions. Examples of some major relevant waste management NEPA documents are listed below:

1. Final Environmental Impact Statement, Disposal of Hanford Defense High-level, Transuranic and Tank Wastes, Hanford Site, Richland, Washington. DOE/EIS-0113, December 1987. U.S. Department of Energy, Washington, DC.
2. Final Environmental Impact Statement, Waste Management Activities for Groundwater Protection, Savannah River Plant, Aiken, South Carolina. DOE/EIS-0120, December 1987. U.S. Department of Energy, Washington, DC.
3. Final Supplemental Environmental Impact Statement, Waste Isolation Pilot Plant, DOE/EIS-0026-FS, January 1990. U.S. Department of Energy, Washington, DC.
4. Draft Environmental Impact Statement, Decommissioning of Eight Surplus Production Reactors at the Hanford Site, Richland, Washington. DOE/EIS-0119d, March 1989. U.S. Department of Energy, Washington, DC.

These documents, the Five-Year Plan (DOE/S-0078P), transcripts from the public scoping meetings (when they become available), and other related documents will be available for inspection at DOE Freedom of Information Reading Rooms.

Issued in Washington, DC, this 15th day of October 1990.

Peter N. Brush,

Acting Assistant Secretary, Environment, Safety and Health.

Appendix: Locations of Activities Embraced by the PEIS

Name	Location
Amchitka Island.....	Amchitka Island, AK.
Lawrence Berkeley Laboratory.	Berkeley, CA.
University of California.....	Berkeley, CA.
Atoms International.....	Canoga Park, CA.
Laboratory for Energy-Related Health Research.	Davis, CA.
Sandia National Laboratory-Livermore.	Livermore, CA.
Lawrence Livermore Laboratory	Livermore, CA.

Name	Location	Name	Location
Bayo Canyon.....	Los Alamos, CA.	Linde Air Products.....	Tonawanda, NY
Stanford Linear Accelerator Center.	Palo Alto, CA.	Seaway Industrial Park.....	Tonawanda, NY
General Atomics.....	San Diego, CA.	Ashland Oil Co. #1.....	Tonawanda, NY
Energy Technology Engineering Center.	Santa Susana, CA.	Brookhaven National Laboratory.	Upton, Long Island NY
General Electric Vallecitos Nuclear Center.	Vallecitos, CA.	West Valley Demonstration Project.	West Valley, NY
Rocky Flats Plant.....	Golden, CO.	Reactive Metals Inc.....	Ashtabula, OH.
Grand Junction Project Office.	Grand Junction, CO.	Battelle Columbus Laboratories.	Columbus, OH.
Project Rufison Site.....	Grand Valley, CO.	Feed Materials Production Center.	Fernald, OH.
Project RioBlanco Site.....	Rifle, CO.	Mound Laboratory.....	Miamsburg, OH.
Seymour Speciality Wire.....	Seymour, CT.	Piqua Nuclear Power Facility.....	Piqua, OH.
Pinellas Plant.....	St. Petersburg, FL.	Portsmouth Gaseous Diffusion Plant.	Portsmouth, OH.
Kaui Test Facility.....	Kaui, HI.	Albany Metallurgical Research Center.	Albany, OR.
Ames Laboratory.....	Ames, IA.	Universal Cyclops.....	Aliquippa, PA.
Idaho National Engineering Laboratory	Idaho Falls, ID.	Center for Energy and Environmental Research.	Mayaguez, PR.
Argonne National Laboratory—West.	Idaho Falls, ID.	Savannah River Site.....	Aiken, SC.
Argonne National Laboratory—East.	Chicago, IL.	Oak Ridge National Laboratory	Oak Ridge, TN.
National Guard Armory.....	Chicago, IL.	Oak Ridge Gaseous Diffusion Plant.	Oak Ridge, TN.
Palos Forest.....	Chicago, IL.	Y-12 Plant.....	Oak Ridge, TN.
Fermi National Accelerator Laboratory.	Batavia, IL.	Pantex Plant.....	Amarillo, TX.
University of Chicago.....	Chicago, IL.	Hanford Reservation.....	Richland, WA.
Johnston Atoll.....	Johnston Atoll.	24 Site Covered under Title I of the Uranium Mill Tailings Radiation Control Act.	Various Locations
Paducah Gaseous Diffusion Plant.	Paducah, KY		
Ventron, Beverly.....	Beverly, MA.		
Shpack Landfill.....	Norton, MA.		
W.R. Grace & Co.....	Curts Bay, MD.		
General Motors.....	Adrian, MI.		
Hazelwood (Latty Avenue).....	Hazelwood, MO.		
Kansas City Plant.....	Kansas City, MO.		
St. Louis Airport Storage Site.	St. Louis, MO.		
Mallinckrodt, Inc.....	St. Louis, MO.		
St. Louis Airport Storage Site Vicinity Properties.	St. Louis, MO.		
Weidon Spring Site Remedial Action Project.	St. Charles, MO.		
Tatum Dome.....	Tatum Dome, MS.		
Component Development & Integration Facility	Butte, MT		
Hallam Nuclear Power Facility	Lincoln, NE.		
Du Pont & Company.....	Deepwater, NJ.		
Kellogg/Pierpont.....	Jersey City, NJ.		
Maywood.....	Maywood, NJ.		
Middlesex Landfill.....	Middlesex, NJ.		
Middlesex Sampling Plant.....	Middlesex, NJ.		
New Brunswick Laboratory.....	New Brunswick, NJ.		
Princeton Plasma Physics Laboratory.	Princeton, NJ.		
Wayne/Pequanmock.....	Wayne/Pequanmock, NJ.		
Inhalation Toxicology Research Institute.	Albuquerque, NM.		
Sandia National Laboratory—Albuquerque.	Albuquerque, NM.		
Rosa Aviation.....	Albuquerque, NM.		
Project GNOME Site.....	Carlsbad, NM.		
Waste Isolation Pilot Plant.....	Carlsbad, NM.		
Project GASSBUGGY Site.....	Farmington, NM.		
Los Alamos National Laboratory.	Los Alamos, NM.		
Acid/Pueblo Canyon.....	Los Alamos, NM.		
Chupadera Mesa.....	White Sands Missile Range, NM.		
Central Nevada Test Area.....	Central Nevada Test Area, NV.		
Project Shoal Site.....	Fallon, NV.		
Nevada Test Site.....	Los Vegas, NV		
Tonopah Test Range.....	Nellis Air Force Base, NV.		
Colonie.....	Colonie, NY.		
Niagara Falls Storage Site Vicinity Properties.	Lewiston, NY		
Niagara Falls Storage Site.....	Niagara Falls, NY		
Ashland Oil Co. #2.....	Tonawanda, NY		

Appendix A-2

**Federal Register Notices
November 6, 1990**

DEPARTMENT OF ENERGY**Announcement of Dates, Locations and Times for Public Scoping Meetings on the Programmatic Environmental Impact Statement (PEIS) for the Department of Energy's Proposed Integrated Environmental Restoration and Waste Management Program**

AGENCY: U.S. Department of Energy (DOE).

ACTION: Notice.

SUMMARY: DOE announced on October 22, 1990, (55 FR 42633-8) that it intends to prepare a PEIS on the Department's proposed Integrated Environmental Restoration and Waste Management Program pursuant to the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321, et seq.) as amended, and to conduct a series of public scoping meetings nationwide. Today's Notice supplements the October 22, 1990, issuance and provides the dates, locations, times and DOE points-of-contact for the scoping meetings to be held in December 1990. The first two meetings will be held in Columbia, South Carolina, and in Richland, Washington, on December 3, and December 4, 1990, respectively. Subsequent meetings will be held in the following locations: Atlanta, Georgia; St. Louis, Missouri; and Spokane, Washington, on December 6, 1990; Amarillo, Texas, on December 10, 1990; Oak Ridge, Tennessee; Portland, Oregon; and Chicago, Illinois, on December 11, 1990; and Seattle, Washington, on December 13, 1990. The dates and locations of scoping meetings to be held in January and February 1991 will be published in a subsequent Federal Register notice.

Background

The PEIS will assess the potential environmental consequences of alternatives for implementing an integrated environmental restoration and waste management program. This program is expected to provide a broad, systematic approach to addressing cleanup activities and waste management practices. The Department is committed to ensuring that potential risks to human health and the environment from the cleanup of contamination resulting from past operations and future waste management activities are at safe levels. DOE is further committed to full compliance with environmental regulations and to the goal of completing environmental restoration by 2019.

ADDRESSES AND FURTHER INFORMATION: Written comments on the scope of the

PEIS, questions concerning the program, and requests for copies of the draft PEIS should be directed to: Mr. William E. Wisenbaker, Acting Director, Division of Program Support, Office of Environmental Restoration (EM-43), U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585, (301) 353-2950.

For further information on the DOE NEPA process please contact: Ms. Carol M. Borgstrom, Director, Office of NEPA Oversight (EH-25), U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585, (202) 586-4600.

PUBLIC SCOPING MEETINGS AND INVITATION TO COMMENT:

For the reader's convenience, the following is repeated from the October 22, 1990, Notice referenced above. DOE is committed to providing opportunities for the involvement of interested individuals and groups in this and other DOE planning activities. The public scoping process began with the October 22, 1990 Federal Register announcement that DOE will prepare a PEIS on its environmental restoration and waste management activities; this process will continue until February 19, 1991.

The public is invited to present oral or written comments concerning: (1) The scope of the PEIS, (2) the issues that should be addressed, and (3) the alternative integrated approaches to be analyzed in the PEIS. Written comments may be addressed to Mr. William E. Wisenbaker or the contract for the specific scoping meetings. These comments should be postmarked by February 19, 1991, to ensure consideration. The Department is also holding scoping meetings to facilitate receipt of public comment on the PEIS. These meetings will begin in December 1990; a total of 23 scoping meetings will be held nationwide. The schedule for the December scoping meeting is shown below.

Oral and written comments will be given equal consideration. Instructions for submitting written comments are given above. People desiring to speak at the public scoping meetings should submit their requests to do so to the contact persons designated for that meeting. Oral presentation requests for each meeting should be received by DOE at least two days before the meeting.

The meetings will be chaired by a presiding officer. They will be conducted as evidentiary hearings. Speakers will not be cross-examined, although the DOE representatives present may ask them clarifying questions.

To ensure everyone an adequate opportunity to speak, five minutes will be allotted for each speaker. Depending on the number of persons requesting to speak, the presiding officer may allow more time for speakers representing multiple parties or organizations. Persons wishing to speak on behalf of organizations should identify the organization in their request. Persons who have not submitted a timely request to speak may register at the meetings, and will be called on to speak if time permits. Written comments also will be accepted at the meetings, and speakers are encouraged to provide written versions of their oral comments for the record.

DOE will make a transcript of each meeting. Copies will be made available for inspection at the DOE Freedom of Information Reading Room (room 1E-190), Forrestal Building, 1000 Independence Avenue SW., Washington, DC 20585, during business hours, Monday through Friday and in local DOE reading rooms. Locations of local reading rooms for the December meetings are included in this Notice. The Reading Rooms for the January and February meetings will be provided in the subsequent Federal Register notice regarding these scoping meetings.

Issued in Washington, DC, this 2nd day of November 1990.

Paul L. Ziemer,

Assistant Secretary, Environment, Safety and Health.

Scoping Meeting Schedule

Meeting: Columbia, SC

Date: Monday, December 3, 1990

Time: 9 am-9:30 pm

Location: Park Inn International, 773 St. Andrews Road, Columbia, SC 29210, (803) 772-7275

Meeting: Atlanta, GA

Date: Thursday, December 6, 1990

Time: 9 am-9:30 pm

Location: Holiday Inn, Atlanta Peachtree Corners, 6050 Peachtree Industrial Blvd., Norcross, GA 30071, (404) 448-4400

Contact for the Two Meetings Above:

Mr. Stephen R. Wright, Director Environmental Division, U.S. Department of Energy, Savannah River Operations Office, P.O. Box A, Aiken, SC 29802, 1-800-242-8269

Public Reading Rooms for the Two Meetings Above:

Aiken—Public Reading Room—DOE, Gregg Graniteville Library, 171 University Parkway, Aiken, SC 29801

Hours: 8 am-6 pm, Mon.-Fri. 12 pm-6 pm, Sat.

Oak Ridge—U.S. Department of

Energy, Oak Ridge Operation Office, Public Reading Room, P.O. Box 2001, Oak Ridge, TN 37831

Hours: 8:30 am-4:30 pm, Mon.-Fri.

Meeting: St. Louis, MO

Date: Thursday, December 6, 1990

Time: 9 am-9:30 pm

Location: Clayton Plaza, 7730 Bonhomme Avenue, St. Louis, MO 63105

Meeting: Oak Ridge, TN

Date: Wednesday, December 11, 1990

Time: 9 am-9:30 pm

Location: American Museum of Science and Energy, 300 South Tulane Avenue, Oak Ridge, TN 37830

Contact for the Two Meetings Above:

Oak Ridge—Nelson Lingle, U.S. Department of Energy, Oak Ridge Operations Office, 200 Administration Road, Mail Stop EW-91, Oak Ridge, TN 37831-8541, (615) 576-0727

Public Reading Room for the Two Meetings Above:

Oak Ridge—U.S. Department of Energy, Oak Ridge Operations Office, Public Reading Room, P.O. Box 2001, Oak Ridge, TN 37831, Hours: 8:30 am-4:30 pm, Mon.-Fri.

St. Louis, MO—St. Louis County Library, 1640 S. Lindbergh Blvd., St. Louis, MO 63131, Hours: 8:30 am-9 pm, Mon.-Fri.; 8:30 am-8 pm, Sat.

St. Charles, MO—St. Charles County Library, Kisker Road Branch, Kisker Road, St. Charles, MO 63305; Hours: 8:30 am-9 pm, Mon.-Thurs.; 8:30 am-6 pm, Sat.

Meeting: Richland, WA

Date: Tuesday, December 4, 1990

Time: 9 am-9:30 pm

Location: Federal Building Auditorium 825 Jadwin Avenue, Richland, WA 99352

Meeting: Spokane, WA

Date: Thursday, December 6, 1990

Time: 9 am-9:30 pm

Location: Ridpath Hotel, W. 515 Sprague Avenue, Spokane, WA

Meeting: Portland, OR

Date: Tuesday, December 11, 1990

Time: 9 am-9:30 pm

Location: City Hall Council Chambers, 1220 SW Fifth Avenue, Portland, Oregon

Meeting: Seattle, WA

Date: Thursday, December 13, 1990

Time: 9 am-9:30 pm

Location: Henry M. Jackson Federal Building, North Auditorium 915 Second Avenue, Seattle, WA

Contact for the Four Meetings Above:

Richland—Ken Morgan, U.S. Department of Energy, 825 Jadwin, Mail Stop A775, Richland, WA 99352, (509) 376-7162

Public Reading Room for the Four Meetings Above:

Richland—Department of Energy, Richland Operations Public Reading Room, Federal Building, room 157 825 Jadwin Avenue, Richland, WA 99325 (509) 376-8583

Hours: 8 am-12 pm, and 1 pm-4:30 pm, Mon.-Fri.; 9 am-1 pm, Sat.

Spokane—Crosby Library, Gonzaga University, E. 502 Boone, Spokane, WA 99258, (509) 328-4220 Hours: 8 am-12 am, Mon.-Thurs.

Thursday—8 am-9 pm, Fri.: 9 am-9 pm.; Sat. 11 am-12 am, Sun.

Portland—Portland State University Library, 934 S. W. Harrison, Portland, OR 97207, (503) 464-4617, Hours: 8 am-5 pm, Mon.-Fri.; Closed Saturdays and Sundays

Seattle—University of Washington, Suzzalo Library, FM-25 Government Publications, Seattle, WA 98195, (206) 543-4664 Hours: 10 am-5 pm, Mon.-Fri.; Closed Saturdays and Sundays—8 am-8 pm, Mon.-Fri.; 8 am-6 pm, Fri.; 10 am-5 pm, Sat.

Meeting: Chicago, IL

Date: Tuesday, December 11, 1990

Time: 9 am - 9:30 pm

Location: Sheraton International Hotel at O'Hare, 6810 N. Mannheim Road, Rosemont, IL 60018

Contact for the Meeting Above:

Argonne, IL—Ms. Kimberly Phillips, U.S. Department of Energy, Chicago Operations Office, 9800 S. Cass Avenue, Argonne, IL 60439, (708) 972-2028

Public Reading Room:

Argonne, IL—U.S. Department of Energy, 9800 S. Cass Avenue, Argonne, Ill 60439, Hours: 8:30 am-5 pm, Mon.-Fri.

Meeting: Amarillo, TX

Date: Monday, December 10, 1990

Time: 9 am-9:30 pm

Location: Amarillo Civic Center, 401 S. Buchanan, Amarillo, TX 79101

Contact: Patrick J. Higgins, Jr., Division Director, Environmental Management Staff, Albuquerque Operations Office, Department of Energy, P.O. Box 5400, Albuquerque, NM 87115, (800) 633-7156 (24 Hours)

Public Reading Room: DOE Public Reading Room, Reference Department, Lynn Library and Learning Center, Amarillo College, 2201 South Washington, 4th Floor, Amarillo, TX 79109, 806-371-5400; Hours: 7:45 am-10 pm, Mon.-Thur.; 7:45 am-5 pm, Fri.; Closed Sat.; 2-6 pm, Sun.

[FR Doc. 90-26295 Filed 11-2-90; 11:56 am] BILLING CODE 6450-01-M

Appendix A-3

**Federal Register Notices
December 11, 1990**

ACTION: Notice.

SUMMARY: DOE announced on October 22, 1990, (55 FR 42833-8) that it intends to prepare a PEIS on the Department's proposed Integrated Environmental Restoration and Waste Management Program pursuant to the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 et seq.) as amended, and to conduct a series of public scoping meetings nationwide. A second notice was published on November 6, 1990, which identified the dates, locations, times and DOE points-of-contact for the ten (10) scoping meetings to be held in December 1990. Today's Notice supplements the October 22, 1990, and November 6, 1990, issuances and provides the dates, locations, times and DOE points-of-contact for the thirteen (13) scoping meetings to be held in January and February 1991. This notice also repeats the information on the first 10 scoping meetings, i.e., the complete listing of dates, locations, times and DOE points-of-contact are available in this one notice. The first two meetings were held in Columbia, South Carolina, and in Richland, Washington, on December 3, and December 4, 1990, respectively. Subsequent meetings will be held in the following locations: Atlanta, Georgia; St. Louis, Missouri; and Spokane, Washington, on December 6, 1990; Amarillo, Texas, on December 10, 1990; Oak Ridge, Tennessee; Portland, Oregon; and Chicago, Illinois, on December 11, 1990; and Seattle, Washington, on December 13, 1990; Oakland, California and Newburgh, New York, on January 8, 1991; Princeton, New Jersey, on January 10, 1991; Cincinnati, Ohio, on January 14, 1991; Albuquerque, New Mexico, and Las Vegas, Nevada, on January 15, 1991; Columbus, Ohio, on January 16, 1991; Idaho Falls, Idaho, and Paducah, Kentucky, on January 22, 1991; Denver, Colorado, on January 23, 1991; Boise, Idaho, on January 24, 1991; Tampa, Florida, on January 29, 1991; and Washington, DC., on February 7, 1991.

BACKGROUND: The PEIS will assess the potential environmental consequences of alternatives for implementing an integrated environmental restoration and waste management program. This program is expected to provide a broad, systematic approach to addressing cleanup activities and waste management practices. The Department is committed to ensuring that potential risks to human health and the environment from the cleanup of contamination resulting from past operations and future waste

DEPARTMENT OF ENERGY

Announcement of Dates, Locations and Times for Public Scoping Meetings on the Programmatic Environmental Impact Statement (PEIS) for the Department of Energy's Proposed Integrated Environmental Restoration and Waste Management Program

AGENCY: U.S. Department of Energy (DOE).

50870

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management activities are at safe levels. DOE is further committed to full compliance with applicable environmental requirements and to the goal of completing environmental restoration by 2019.

ADDRESSES AND FURTHER INFORMATION: Written comments on the scope of the PEIS, questions concerning the program, and requests for copies of the draft PEIS should be directed to: Mr. William E. Wisenbaker, Acting Director, Division of Program Support, Office of Environmental Restoration (EM-43), U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585, (301) 353-2950.

For further information on the DOE NEPA process please contact: Ms. Carol M. Borgstrom, Director, Office of NEPA Oversight (EH-25), U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585, (202) 586-4600.

PUBLIC SCOPING MEETINGS AND INVITATION TO COMMENT: For the reader's convenience, the following is repeated from the October 22, 1990, Notice referenced above. DOE is committed to providing opportunities for the involvement of interested individuals and groups in this and other DOE planning activities. The public scoping process began with the October 22, 1990, Federal Register announcement that DOE will prepare a PEIS on its environmental restoration and waste management activities; this process will continue until February 19, 1991.

The public is invited to present oral or written comments concerning: (1) The scope of the PEIS; (2) the issues that should be addressed; and (3) the alternative integrated approaches to be analyzed in the PEIS. Written comments may be addressed to Mr. William E. Wisenbaker or the contact for the specific scoping meetings. These comments should be postmarked by February 19, 1991, to ensure consideration. The Department is holding scoping meetings to facilitate receipt of public comments on the PEIS. These meetings will begin in December 1990; a total of 23 scoping meetings will be held nationwide. The schedule for all 23 scoping meetings is shown below.

Oral and written comments will be given equal consideration. Instructions for submitting written comments are given above. People desiring to speak at the public scoping meetings should submit their requests to do so to the contact persons designated for that meeting. Oral presentation requests for each meeting should be received by DOE at least two days before the meeting.

The meetings will be chaired by a presiding officer. They will not be conducted as evidentiary hearings. Speaker will not be cross-examined, although the DOE representatives present may ask them clarifying questions.

To ensure everyone an adequate opportunity to speak, five minutes will be allotted for each speaker. Depending on the number of persons requesting to speak, the presiding officer may allow more time for speakers representing multiple parties or organizations. Persons wishing to speak on behalf of organizations should identify the organization in their request. Persons who have not submitted a timely request to speak may register at the meetings, and will be called on to speak if time permits. Written comments also will be accepted at the meetings, and speakers are encouraged to provide written versions of their oral comments for the record.

DOE will make a transcript of each meeting. Copies will be made available for inspection at the DOE Freedom of Information Reading Room (Room 1E-190), Forrestal Building, 1000 Independence Avenue SW., Washington, DC 20585, during business hours, Monday through Friday and in local DOE reading rooms. Locations of local reading rooms for the scoping meetings are included in this Notice.

Issued in Washington, DC, this 6th day of December 1990.

Paul L. Ziemer,

Assistant Secretary, Environment, Safety and Health.

Scoping Meeting Schedule

Meeting: Columbia, SC
Date: Monday, December 3, 1990
Time: 9 a.m.-9:30 p.m.

Location: Park Inn International, 773 St. Andrews Road, Columbia, SC 29210, (803) 772-7275

Meeting: Atlanta, GA
Date: Thursday, December 6, 1990
Time: 9 a.m.-9:30 p.m.

Location: Holiday Inn, Atlanta Peachtree Corners, 6050 Peachtree Industrial Blvd., Norcross, GA 30071, (404) 448-4400

Contact For The Two Meetings Above

Mr. Stephen R. Wright, Director, Environmental Division, U.S. Department of Energy, Savannah River Operations Office, P.O. Box A, Aiken, SC 29802, 1-800-242-8289

Public Reading Rooms For The Two Meetings Above

Aiken: Public Reading Room—DOE, Gregg Graniteville Library, 171 University Parkway, Aiken, SC 29801. Hours: 8 a.m.-6 p.m. Mon.-Fri., 12 p.m.-6 p.m. Sat.
Oak Ridge: U.S. Department of Energy, Oak Ridge Operation Office, Public Reading

Room, P.O. Box 2001, Oak Ridge, TN 37831. Hours: 8:30 a.m.-4:30 p.m. Mon.-Fri.

Meeting: St. Louis, MO
Date: Thursday, December 6, 1990
Time: 9 a.m.-9:30 p.m.
Location: Clayton Plaza, 7730 Bonhomme Avenue, St. Louis, MO 63105

Meeting: Oak Ridge, TN
Date: Tuesday, December 11, 1990
Time: 9 a.m.-9:30 p.m.
Location: American Museum of Science and Energy, 300 South Tulane Avenue, Oak Ridge, TN 37830

Contact For The Two Meetings Above

Oak Ridge: Nelson Lingle, U.S. Department of Energy, Oak Ridge Operations Office, 200 Administration Road, Mail Stop EW-91, Oak Ridge, TN 37831-8541, (615) 576-0727

Public Reading Rooms For The Two Meetings Above

Oak Ridge: U.S. Department of Energy, Oak Ridge Operations Office, Public Reading Room, P.O. Box 2001, Oak Ridge, TN 37831. Hours: 8:30 a.m.-4:30 p.m. Mon.-Fri.
St. Louis, MO: St. Louis County Library, 1640 S. Lindbergh Blvd., St. Louis, MO 63131. Hours: 8:30 a.m.-9 p.m. Mon.-Fri., 8:30 a.m.-6 p.m., Sat.

St. Charles, MO: St. Charles County Library, Kisker Road Branch, Kisker Road, St. Charles, MO 63305. Hours: 8:30 a.m.-9 p.m., Mon.-Thurs., 8:30 a.m.-6 p.m., Sat.

Meeting: Richland, WA
Date: Tuesday, December 4, 1990
Time: 9 a.m.-9:30 p.m.
Location: Federal Building Auditorium, 825 Jadwin Avenue, Richland, WA 99352

Meeting: Spokane, WA
Date: Thursday, December 6, 1990
Time: 9 a.m.-9:30 p.m.
Location: Ridpath Hotel, W. 515 Sprague Avenue, Spokane, WA

Meeting: Portland, OR
Date: Tuesday, December 11, 1990
Time: 9 a.m.-9:30 p.m.
Location: City Hall Council Chambers, 1220 SW Fifth Avenue, Portland, Oregon

Meeting: Seattle, WA
Date: Thursday, December 13, 1990
Time: 9 a.m.-9:30 p.m.
Location: Henry M. Jackson Federal Building, North Auditorium, 915 Second Avenue, Seattle, WA

Contact For The Four Meetings Above

Richland: Ken Morgan, U.S. Department of Energy, 825 Jadwin, Mail Stop A775, Richland, WA 99352, (509) 376-7182

Public Reading Rooms For The Four Meetings Above

Richland: Department of Energy Richland Operations, Public Reading Room, Federal Building, Room 157, 825 Jadwin Avenue, Richland, WA 99325, (509) 376-8583. Hours: 8 a.m.-12 p.m., and 1 p.m.-4:30 p.m., Mon.-Fri., 9 a.m.-1 p.m., Sat.

Spokane: Crosby Library, Gonzaga University, E. 502 Boone, Spokane, WA 99258, (509) 328-4220. Hours: 8 a.m.-12 a.m., Mon.-Thurs., 8 a.m.-9 p.m., Fri., 9 a.m.-9 p.m., Sat., 11 a.m.-12 a.m., Sun.

Portland: Portland State University Library, 934 S.W. Harrison, Portland, OR 97207, (503) 464-4617. Hours: 8 a.m.-5 p.m., Mon.-Fri. Closed Saturdays and Sundays
 Seattle: University of Washington, Suzzallo Library, FM-25 Government Publications, Seattle, WA 98195, (206) 543-4664. Hours: 10 a.m.-5 p.m., Mon.-Fri. Closed Saturdays and Sundays 8 a.m.-8 p.m. Mon.-Fri., 8 a.m.-6 p.m., Fri., 10 a.m.-5 p.m., Sat.

Meeting: Chicago, IL

Date: Tuesday, December 11, 1990

Time: 9 a.m.-9:30 p.m.

Location: Sheraton International Hotel at O'Hare, 6810 N. Mannheim Road, Rosemont, IL 60018

Contact For The Meeting Above

Ms. Kimberly Phillips, U.S. Department of Energy, Chicago Operations Office, 9800 S. Cass Avenue, Argonne, IL 60439, (708) 972-2028

Public Reading Room

Argonne, IL: U.S. Department of Energy, 9800 S. Cass Avenue, Argonne, Ill 60439. Hours: 8:30 a.m.-5 p.m., Mon.-Fri.

Meeting: Amarillo, TX

Date: Monday, December 10, 1990

Time: 9 a.m.-9:30 p.m.

Location: Amarillo Civic Center, 401 S. Buchanan, Amarillo, TX 79101

Contact For The Meeting Above

Patrick J. Higgins, Jr., Division Director, Environmental Management Staff, Albuquerque Operations Office, Department of Energy, P.O. Box 5400, Albuquerque, NM 87115, (800) 633-7156 (24 Hours)

Public Reading Room

DOE Public Reading Room, Reference Department, Lynn Library and Learning Center, Amarillo College, 2201 South Washington, 4th Floor, Amarillo, TX 79109, 806-371-5400. Hours: 7:45 a.m.-10 p.m., Mon.-Thurs., 7:45 a.m.-5 p.m., Fri., closed Sat., 2-8 p.m., Sun.

Meeting: Oakland, CA

Date: Tuesday, January 8, 1991

Time: 9 a.m.-9:30 p.m.

Location: Hyatt Regency Oakland, 1001 Broadway, Oakland, CA 94607, (415) 893-1234

Contact For The Meeting Above

Ray Corey, U.S. Department of Energy, Lawrence Livermore Site Office, 7000 E. Avenue L-574, Livermore, CA 94550, (415) 423-2884

Public Reading Rooms For The Two Meetings Above

Oakland: U.S. Department of Energy, Public Reading Room, San Francisco Operations Office, 1333 Broadway, Oakland, CA 94612, (415) 273-4429. Hours: 8:30 a.m.-4:30 p.m. Mon.-Fri.

Berkeley: Berkeley Public Library, 2090 Kittredge Street, Berkeley, CA 94704, (415) 844-8100. Hours: 10 a.m.-9 p.m., Mon.-Thurs., 10 a.m.-6 p.m., Fri.-Sat., 1 p.m.-5 p.m. Sun.

Davis: Davis Branch, Yolo County Library, 315 East 14th St., Davis, CA 95616. Contact:

Mae Bolton, (916) 756-2332. Hours: 1 p.m.-9 p.m., Mon., 10 a.m.-9 p.m., Tues.-Wed., 10 a.m.-6 p.m., Thur.-Fri., 10 a.m.-6 p.m., Sat.

Palo Alto: Palo Alto Public Library, 1213 Newell Road, Palo Alto, CA 94303, contact Roger Bonilla, (415) 329-2436. Hours: 10 a.m.-9 p.m., Mon.-Fri., 10 a.m.-6 p.m., Sat., 1 p.m.-5 p.m., Sun.

Semi Valley: Semi Valley Public Library, 2969 Tapo Canyon Road, Semi Valley, CA 93063, Contact: Gail Demirtos, (805) 526-1735. Hours: 10 a.m.-9 p.m., Mon.-Thurs., 10 a.m.-5 p.m., Fri. Sat. 1 p.m.-4 p.m., Sun.

Livermore: Livermore Public Library, 1000 South Livermore Ave., Livermore, CA 94550, (415) 373-550. Hours: 10 a.m.-9 p.m., Mon.-Thurs., 10 a.m.-5 p.m., Fri.-Sat., 1 p.m.-4 p.m., Sun.

Meeting: Newburgh, NY

Date: Tuesday, January 8, 1991

Time: 9 a.m.-9:30 p.m.

Location: Holiday Inn, 90 Route 17K, Newburgh, NY 12550, (Across from the airport) (914) 5469020

Contact For The Meeting Above

Charles F. Baxter, U.S. Department of Energy, 28 Federal Plaza, Room 3437, New York, NY 10278, (212) 264-1021

Public Reading Rooms For The Meeting Above

U.S. Department of Energy, 28 Federal Plaza, Room 3437, New York, NY 10278, Contact: Charles F. Baxter, (212) 264-1021 Hours: 7 a.m.-5 p.m., Mon.-Fri.

Albany: New York State Library, Cultural Education Department, Madison Avenue, Empire State Plaza, Albany, NY 12230, Contact: Gerome Yavarkovski, (518) 473-1189. Materials available at the Circulation Desk. Hours: 9 a.m.-5 p.m., Mon.-Fri.
 Springville: Concord Public Library, 23 N. Buffalo Street, Springville, NY 14141, (716) 592-7742, Contact: Annette Gernatt, Hours: 2 p.m.-9 p.m., Mon., 2 p.m.-7 p.m., Tues., 10 a.m.-12 noon and 2 p.m.-9 p.m., Thurs., 2 p.m.-9 p.m. Fri., 10 a.m.-12 noon, Sat.

Meeting: Princeton, NJ

Date: Thursday, January 10, 1991

Time: 9 a.m.-9:30 p.m.

Location: Ramada Inn at Princeton, 4355 Route 1, Princeton, NJ 08540 (609) 452-2400

Contact For The Meeting Above

Nelson Lingle, U.S. Department of Energy, Oak Ridge Operations Office, 200 Administration Road, Mail Stop EW-91, Oak Ridge, TN 37831-8541, (615) 576-0727

Public Reading Room For The Meeting Above

Trenton: Mercer County Library, Lawrenceville Branch, Lawrenceville, NJ, Hours: 9:30 a.m.-9 p.m., Mon.-Thurs., 9:30 a.m.-5:30 p.m., Fri., 10 a.m.-3 p.m., Sat.

This space was filled with incorrect information about Princeton. It has been blocked out.

Meeting: Cincinnati, OH

Date: Monday, January 14, 1991

Time: 9 a.m.-9:30 p.m.

Location: Hilton North, 3855 Hauck Road,

Cincinnati, OH 45231 (512) 563-8332

Meeting: Columbus, OH

Date: Wednesday, January 16, 1991

Time: 9 a.m.-9:30 p.m.

Location: Hyatt on Capital Square, 75 State Street, Columbus, OH 43215, (614) 228-1234

Contact For The Two Meetings Above

Nelson Lingle, U.S. Department of Energy, Oak Ridge Operations Office 200 Administration Road, Mail Stop EW-91, Oak Ridge, TN 37831-8541, (615) 576-0727

Public Reading Rooms For The Two Meetings Above

Cincinnati: Lane Library, 800 Vine Street, Cincinnati, OH 45202, Hours: 9 a.m.-9 p.m., Mon.-Thurs., 9 a.m.-5 p.m., Fri.-Sat.
 Columbus: Portsmouth Public Library, 1220 Galia Street, Portsmouth, OH 45667, Hours 9 a.m.-8 p.m., Mon.-Fri., 9 a.m.-5:30 p.m., Sat.

Meeting: Albuquerque, NM

Date: Tuesday, January 15, 1991,

Time: 9 a.m.-9:30 p.m.,

Location: Albuquerque Convention Center, 401 2nd Street NW., Albuquerque, NM 87102

Contact For The Meeting Above

Patrick J. Higgins, Jr. Division Directors, Environmental Management Office, Department of Energy, P.O. Box 5400, Albuquerque, NM 87115, (800) 633-7156 (24 Hours)

Public Reading Rooms For The Meeting Above

Albuquerque: U.S. Department of Energy, National Atomic Museum Public Reading Room, Building 20358 on Wyoming Blvd., Kirtland Air Force Base, Albuquerque, NM 87115, Contact: Loretta Helling, (505) 845-4378 Hours: 9 a.m.-5 p.m., Mon.-Fri.
 Albuquerque: General Publications Department, Zimmerman Library, University of New Mexico, Albuquerque, NM 87139, Contact: Eulalie W. Brown, (505) 277-5441, Hours 6 a.m.-9 p.m., Mon.-Thurs., 8 a.m.-5 p.m., Friday, 1 p.m.-5 p.m., Sat.-Sun.

Carlsbad: Carlsbad Public Library, 101 South Halagueno Street, Carlsbad, NM 88220. Contact: Mrs. Mary Elms, (505) 885-8776. Hours 8 a.m.-5 p.m., Mon.-Fri. 12 p.m.-5 p.m., Saturday.

Los Alamos: Mesa Public Library, 1742 Central Avenue, Los Alamos, NM 87545. Contact: Kathy Bjorklund, (505) 862-8253. Hours: 10 a.m.-9 p.m., Mon., 10 a.m.-6 p.m., Fri., 9 a.m.-5 p.m., Saturday, 11 a.m.-5 p.m., Sunday

Meeting: Las Vegas, NV

Date: Tuesday, January 15, 1991

Time: 9 a.m.-9:30 p.m.

Location: U.S. Department of Energy, Nevada Operations Office Auditorium, 2753 South Highland Drive, Las Vegas, NV 89109

Contact For The Meeting Above

Karen Randolph, DOE Nevada Operations Office, P.O. Box 96518, Las Vegas, NV 89193, (702) 295-3521

Public Reading Rooms For The Meeting Above

Las Vegas: Government Documents Department, James R. Dickinson Library, University of Nevada, Las Vegas, 4806 South Maryland Parkway, Las Vegas, NV 89154. Contact: Ken Schott, (702) 739-3409. Hours 8 a.m.-6 p.m.

Department of Energy 2753 S. Highland Drive, Las Vegas, NV 89109. Contact: Cynthia Ortiz, (702) 295-1274. Hours: 7:30 a.m.-4:30 p.m., Mon.-Fri.

Beatty: Beatty Community Library, P.O. Box 129 Betty, NV 89003 Contact: Jay Wolf, (702) 553-2257. Hours: 8:15 a.m.-4:45 p.m.

Meeting: Idaho Falls, ID

Date: Tuesday, January 22, 1991

Time: 9 a.m.-9:30 p.m.

Location: West Bank Inn, 475 River Parkway, Idaho Falls, ID 83402 (208) 523-2310

Meeting: Boise, ID

Date: Thursday, January 24, 1991

Time: 9 a.m.-9:30 p.m.

Location: Red Lion Riverside, 2900 Chinden Blvd., Boise, ID 83714, (208) 343-1871

Contact For The Two Meetings Above

Jackie Clements, INEL Public Affairs Office, 785 DOE Place, MS 1215, Idaho Falls, ID 83415, (208) 528-8121

Public Reading Rooms For The Two Meetings Above

Idaho Falls: DOE-ID Public Reading Room, INEL Technical Library, 1776 Science Center Drive, Idaho Falls, Idaho 83402, (208) 528-1191 or (208) 528-1144. Hours: 8 a.m.-7 p.m., Mon.-Thurs., 8 a.m.-5 p.m., Fri. 9 a.m.-1 p.m., Sat., 8 a.m.-5 p.m., Summer, (Mon.-Fri.)

Pocatello: INEL Pocatello Office, 215 North 9th Pocatello, Idaho 83201, (208) 233-4732. Hours: 9 a.m.-7 p.m., Mon., 9 a.m.-5 p.m., Tues.-Fri.

Twin Falls: INEL Twin Falls Office, 1062 Blue Lakes Blvd. North, Suite 106, Twin Falls, Idaho 83001, (208) 734-0463. Hours: 8 a.m.-7 p.m., Mon., 8 a.m.-5 p.m. Tues.-Fri.

Information Repositories

Boise: Boise Public Library, 715 South Capitol Boulevard, Boise, Idaho 83702, (208) 384-4076. Hours: 10 a.m.-6 p.m., Mon., 10 a.m.-6

p.m., Tues.-Thurs., 10 a.m.-6 p.m., Fri., 1 p.m.-5 p.m., Sat. & Sun.

Moscow: Moscow-Latah County Library, 110 South Jefferson, Moscow, Idaho 83843, (208) 882-3925. Hours: 10 a.m.-9 p.m., Mon. & Thur., 10 a.m.-6 p.m., Tues., Wed. and Fri., 10 a.m.-5 p.m., Sat.

Idaho Falls: Idaho Falls Public Library, 457 Broadway, Idaho Falls, ID 83402, (208) 529-1450. Hours: 9 a.m.-9 p.m., Mon.-Thurs., 9 a.m.-5:30 p.m., Fri.-Sat.

Twin Falls: Twin Falls Public Library, 434 2nd Street East, Twin Falls, ID 83301, (208) 733-2964. Hours: 10 a.m.-6 p.m., Mon. & Fri., 10 a.m.-9 p.m., Tues., Wed., & Thurs., 12 p.m.-5 p.m., Sat.

Pocatello: Pocatello Library, 812 East Clark, Pocatello, ID 83201, (208) 232-1283. Hours: 10 a.m.-9 p.m., Mon.-Thurs., 10 a.m.-6 p.m., Fri. & Sat.

Meeting: Paducah, KY

Date: Tuesday, January 22, 1991

Time: 9 a.m.-9:30 p.m.

Location: J.R.'s Executive Inn, 1 Executive Boulevard, Paducah, KY 42001 (502) 443-8000

Contact For The Meeting Above

Nelson Lingle, U.S. Department of Energy, Oak Ridge Operations Office 200 Administration Road, Mail Stop EW-81, Oake Ridge, TN 37831-8541, (615) 576-0727

Public Reading Room For The Meeting Above

Paducah: Paducah Public Library, 555 Washington Avenue, Paducah, KY 42001. Hours: 10 a.m.-9 p.m., Mon.-Fri., 10 a.m.-6 p.m., Sat., 2 p.m.-6 p.m., Sun.

Meeting: Denver, Colorado Area

Date: Wednesday, January 23, 1991

Time: 9 a.m. to 9:30 p.m.

Location: Westminster City Park Recreation Center, 10455 N. Sheridan Blvd., Westminster, CO 80030

Contact For The Meeting Above

Ms. Beth Brainard, Office of Public Affairs, Attn: ER/WM PEIS, U.S. Department of Energy, Rocky Flats Office, P.O. Box 928, Golden, C 80402-0928, 1-800-448-7840

Public Reading Rooms For The Meeting Above

Rocky Flats Environmental Monitoring Council, 1536 Cole Blvd., Suite 150 Golden, CO 80401 (303) 232-1966, Contact: Howard Brown. Hours by appointment

Front Range Community College Library, 3645 West 112th Avenue, Westminister, CO 80030, (303) 489-4435. Hours: 12-8 p.m., Mon. & Tues., 9 a.m.-3:45 p.m., Wed.-Fri.

Meeting: Tampa, FL

Date: Tuesday, January 29, 1991

Time: 9 a.m.-9:30 p.m.

Location: Tampa Convention Center, 333 S. Franklin Street, Tampa, FL 33602 (813) 223-8511

Contact For The Meeting Above

Patrick J. Higgins, Jr., Division Director, Environmental Management Staff, Albuquerque Operations Office, Department of Energy, P.O. Box 5400, Albuquerque, NM 87115 (800) 833-7156 (24 Hours)

Public Reading Room For The Meeting Above

Largo: Largo Public Library, 351 East Bay Drive, Largo, FL 34640. Contact: Joanna Bromberg, (813) 587-8715. Hours: 9:30 a.m.-8 p.m., Mon.-Thurs., 9:30 a.m.-5 p.m., Fri.-Sat.

Meeting: Washington, DC

Date: Thursday, February 7, 1991

Time: 9 a.m.-9:30 p.m.

Location: Holiday Inn Capitol, 550 C Street, SW, Washington, DC 20024 (202) 479-4000

Contact For The Meeting Above

W.E. Wisenbaker, Acting Director, Division of Program Support, Environmental Restoration (EM-43) U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585, (301) 353-4500

Public Reading Room For The Meeting Above

Department of Energy, Freedom of Information Reading Room, 1000 Independence Ave., SW, Room 1E190, Washington, DC 20585, (202) 586-6020. Hours: 9 a.m.-4 p.m., Mon.-Fri.

[FR Doc. 90-28887 Filed 12-10-90; 8:45 am]

BILLING CODE 6450-01-M

Appendix A-4

**Federal Register Notices
February 4, 1992**

DEPARTMENT OF ENERGY**Draft Implementation Plan for the Environmental Restoration and Waste Management Programmatic Environmental Impact Statement**

AGENCY: U.S. Department of Energy (DOE).

ACTION: Notice of availability for public comment and announcement of public workshops.

SUMMARY: DOE announces the availability for public review and comment of the Draft Implementation Plan (IP) for the Environmental Restoration and Waste Management (EM) Programmatic Environmental Impact Statement (PEIS). DOE also plans to conduct a series of workshops to discuss the Draft IP. The purpose of the Draft IP is to record the results of the public scoping process and to serve as a plan for the preparation of the PEIS. The Draft IP also states the alternatives and issues to be evaluated in the PEIS.

BACKGROUND: On October 22, 1990, DOE issued a Notice of Intent (NOI) to prepare the EM PEIS, which identified the proposed scope of the PEIS and initiated the public scoping process. The proposed action is to formulate and implement an integrated EM program in a safe and environmentally sound manner and in compliance with applicable requirements. This proposed action will be achieved by defining a broad, systematic approach to DOE remedial activities and waste management practices. The PEIS will analyze the existing EM program (the no-action alternative) and evaluate alternatives for an integrated program.

In the NOI, DOE requested comments concerning the scope of the PEIS. The public comment period was from October 22, 1990 (the publication date of the NOI) to February 19, 1991. Beginning on December 3, 1990, DOE held 23 scoping meetings at various locations across the country to ensure adequate opportunity for participation by the public and other government agencies. During the public comment period, over 1,200 people provided approximately 7,000 comments, either by participating in the meetings or by submitting materials and letters to DOE. The majority of comments came from individuals. However, about 280 organizations also participated. A statistical analysis of scoping comments shows that most concerns were related to the public perception of the DOE culture and to environmental, health, and safety issues.

In the NOI, DOE stated that the IP would be issued for public comment.

DOE has prepared the IP to record the results of the public comments on the scope of the PEIS and to serve as a plan for the preparation of the PEIS. The IP also states the alternatives and issues to be evaluated in the PEIS.

The IP contains seven chapters, seven appendices, and an executive summary. The bulk of the information is presented in chapters one through four and in Appendix C, which are briefly described below. Background, bibliographic, organizational, and administrative information are included in the other sections of the IP.

Chapter one, Introduction, provides historical and background information, discusses the regulatory framework under which DOE operates and explains the relationship of the EM PEIS to other DOE activities. Chapter two, Purpose of and Need for the Proposed Action, relates the proposed action to the fundamental mission of DOE's EM program.

The third chapter, The Scoping Process and Results, describes the DOE scoping process and the results of the scoping meetings. This chapter describes how public comments will be addressed in the preparation of the PEIS.

Chapter four, Proposed Action and Alternatives, gives details on the proposed scope of the PEIS. The overall EM proposed action addresses both environmental restoration and waste management. The PEIS will analyze the current environmental restoration program (no action alternative) and three alternatives. The PEIS also will assess the current waste management program (no action alternative) and alternatives for each of six waste classifications and for DOE spent nuclear fuel. The alternatives will be analyzed in an integrated way since environmental restoration activities generate waste. The last section of chapter four, Alternatives Analysis, describes the approaches to be used in studying risks and impacts related to environmental restoration and waste management alternatives and the impacts of technology development.

Appendix C provides a proposed annotated outline for the PEIS. **INVITATION TO COMMENT:** All interested parties are invited to comment on the IP. In an effort to encourage public involvement, copies of the IP, with an invitation to comment and notice of the workshops, will be sent to all those who participated in the scoping process or who asked to be on the mailing list. Written comments should be directed to Mr. Glen L. Sjoblom at the address and by the date

indicated below. Also, agencies, organizations, and the general public are invited to take part in any one of five planned regional public workshops. The dates, locations, and contact information for the five workshops are listed below and will be announced in local public notices in advance of the planned workshops. Following completion of the comment period and consideration of the written comments, DOE will revise the Draft IP as appropriate and issue an IP for the PEIS.

ADDRESSES AND FURTHER INFORMATION: Written comments on the IP and questions concerning the program should be directed to: Glen L. Sjoblom, Special Assistant to the Assistant Secretary, Environmental Restoration and Waste Management (EM-1), U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585.

To request copies of the IP, call (800) 862-8860.

For further information on the DOE NEPA process, contact: Carol M. Borgstrom, Director, Office of NEPA Oversight (EH-25), U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585. (202) 586-4600 or (800) 472-2756.

DATES: The comment period on the IP will continue until April 10, 1992. Written comments should be postmarked by April 10, 1992, to ensure consideration.

PUBLIC WORKSHOPS: Five regional public workshops on the IP are planned. They will be held at the following times and places:

Date: Tuesday, March 17, 1992.

Location: Atlanta Penta Hotel, 590 West Peachtree Street, NW., Atlanta, GA 30308-3586. (404) 881-6000. (800) 633-0000.

Date: Thursday, March 19, 1992.

Location: St. Tropez Hotel, 455 East Harmon Avenue, Las Vegas, NV 89109. (702) 369-5400. (800) 666-5400.

Date: Wednesday, March 25, 1992.

Location: Regency Hotel, 3900 Elati Street, Denver, CO 80216. (303) 458-0808. (800) 525-8748.

Date: Friday, March 27, 1992.

Location: Airport Ramada Inn, Spokane International Airport, Spokane, WA 99219. (509) 838-5211.

Date: Tuesday, March 31, 1992.

Location: Georgetown University Convention Center, 3800 Reservoir Road, NW., Washington, DC 20007. (202) 687-3200. (800) 448-0478.

These workshops will be different in format from the scoping meetings in order to facilitate interactive communication between participants

and senior DOE representatives of the EM program and to solicit individual viewpoints. The workshops will be informal in nature and no formal transcript will be recorded. Anyone wishing to ensure that DOE will consider his or her comments in the preparation of the IP should submit them in writing.

Each workshop on the IP will consist of day and evening plenary sessions and four small-group breakout sessions during the day. These workshops will focus on DOE EM program-wide issues relating to the PEIS, not site-specific issues. The plenary sessions will consist of presentations on the PEIS process and the IP. Registration is required for the small-group breakout sessions of the workshops, but not for the plenary sessions. Anyone who wishes to participate in the breakout sessions at one of the five workshops should call (900) 862-8880 to register at least two weeks before the date of the desired workshop.

The breakout sessions will focus on four topics related to the PEIS: the PEIS process, Waste Management, Environmental Restoration, and Technology Development. The breakout sessions will be repeated to allow the participants to cover all four topics. Registration will be on a first-come, first-served basis. The number of breakout attendees will be limited to approximately 60 persons (15 for each of the breakout sessions) to promote an interactive atmosphere.

The tentative agenda for the workshops is as follows:

Day Session

- 8:00-8:15 Welcome
- 8:15-8:30 Presentation on the PEIS Process
- 8:30-9:15 Presentation on the IP
- 9:15-9:45 General Questions
- 9:45-10 Break
- 10-11 Breakout Sessions (Four parallel sessions: PEIS Process, Waste Management, Environmental Restoration, and Technology Development)
- 11-12 Repeat Breakout Sessions
- 12-1 Lunch
- 1-2 Repeat Breakout Sessions
- 2-3 Repeat Breakout Sessions
- 3-3:30 Break (facilitators organize for final plenary session)
- 3:30-5 Breakout Summary Report (from facilitators) & comments

Evening Session

- 6:30-6:45 Welcome
- 6:45-7 Repeat of Presentation on the PEIS Process
- 7-7:45 Repeat of Presentation on the IP
- 7:45-8:15 Repeat of Breakout Summary Report (from facilitators) and comments
- 8:15-8:30 Break
- 8:30-8:30 General Questions and Comments
- 8:30-10 Summary Remarks

Issued in Washington, DC, this 30th day of Jan., 1992.

Paul L. Ziemer,

Assistant Secretary, Environment, Safety and Health.

(FR Doc. 92-2687 Filed 2-3-92; 8:45 am)

SHAWNS CODE 6450-01-02

Appendix A-5

**Federal Register Notices
March 19, 1992**

the sixth workshop and the extension of the comment period. The purpose of the Draft IP is to record the results of the public scoping process and to serve as a plan for the preparation of the PEIS. The Draft IP also states the alternatives and issues to be evaluated in the PEIS.

Background

On October 22, 1990, DOE issued a Notice of Intent (NOI) to prepare the EM PEIS, which identified the proposed scope of the PEIS and initiated the public scoping process. The proposed action is to formulate and implement an integrated EM program in a safe and environmentally sound manner and in compliance with applicable requirements. This proposed action will be achieved by defining a broad, systematic approach to DOE remedial activities and waste management practices. The PEIS will analyze the existing EM program (the no-action alternative) and evaluate alternatives for an integrated program.

In the NOI, DOE requested comments concerning the scope of the PEIS. The public comment period was from October 22, 1990 (the publication date of the NOI) to February 19, 1991. Beginning on December 3, 1990, DOE held 23 scoping meetings at various locations across the country to ensure adequate opportunity for participation by the public and other government agencies. During the public comment period, over 1,200 people provided approximately 7,000 comments, either by participating in the meetings or by submitting materials and letters to DOE. The majority of comments came from individuals. However, about 280 organizations also participated. A statistical analysis of scoping comments shows that most concerns were related to the public perception of the DOE culture and to environmental, health, and safety issues.

In the NOI, DOE stated that the IP would be issued for public comment. DOE has prepared the IP to record the results of the public comments on the scope of the PEIS and to serve as a plan for the preparation of the PEIS. The IP also states the alternatives and issues to be evaluated in the PEIS.

The IP contains seven chapters, seven appendices, and an executive summary. The bulk of the information is presented in chapters one through four and in Appendix C, which are briefly described below. Background, bibliographic, organizational, and administrative information are included in the other sections of the IP.

Chapter one, Introduction, provides historical and background information.

DEPARTMENT OF ENERGY

Draft Implementation Plan for the Environmental Restoration and Waste Management Programmatic Environmental Impact Statement

AGENCY: U.S. Department of Energy (DOE).

ACTION: Amendment of notice of availability for public comment and announcement of public workshops; extension of public comment period.

SUMMARY: DOE announced on February 4, 1992 (57 FR 4193), the availability, for public review and comment, of the Draft Implementation Plan (IP) for the Environmental Restoration and Waste Management (EM) Programmatic Environmental Impact Statement (PEIS) and plans to conduct a series of five regional workshops to discuss the Draft IP. DOE is now announcing plans to hold a sixth public workshop on the Draft IP in the Cincinnati, Ohio, area, and extending the end of the public comment period from April 10, 1992, to April 24, 1992. For the convenience of the public, DOE is also republishing the information from the February 4 Notice concerning the purpose and format of the workshops. The only amendments to that notice are the date and location of

discusses the regulatory framework under which DOE operates and explains the relationship of the EM PEIS to other DOE activities. Chapter two, Purpose of and Need for the Proposed Action, relates the proposed action to the fundamental mission of DOE's EM program.

The third chapter, The Scoping Process and Results, describes the DOE scoping process and the results of the scoping meetings. This chapter describes how public comments will be addressed in the preparation of the PEIS.

Chapter four, Proposed Action and Alternatives, gives details on the proposed scope of the PEIS. The overall EM proposed action addresses both environmental restoration and waste management. The PEIS will analyze the current environmental restoration program (no action alternative) and three alternatives. The PEIS also will assess the current waste management program (no action alternative) and alternatives for each of six waste classifications and for DOE spent nuclear fuel. The alternatives will be analyzed in an integrated way since environmental restoration activities generate waste. The last section of chapter four, Alternatives Analysis, describes the approaches to be used in studying risks and impacts related to environmental restoration and waste management alternatives and the impacts of technology development.

Appendix C provides a proposed annotated outline for the PEIS.

Invitation to Comment

All interested parties are invited to comment on the IP. In an effort to encourage public involvement, copies of the IP, with an invitation to comment and notice of the workshops, were sent to all those who participated in the scoping process or who asked to be on the mailing list. Written comments should be directed to Mr. Glen L. Sjoblom at the address and by the date indicated below. Also, agencies, organizations, and the general public are invited to take part in any one of six planned regional public workshops. The dates, locations, and contact information for the six workshops, including the one added by this notice, are listed below and are being announced in local public notices in advance of the planned workshops. Following completion of the comment period and consideration of the written comments, DOE will revise the Draft IP as appropriate and issue an IP for the PEIS.

Addresses and Further Information

Written comments on the IP and questions concerning the program should be directed to: Glen L. Sjoblom, Special Assistant to the Assistant Secretary, Environmental Restoration and Waste Management (EM-1), U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585.

To request copies of the IP, call (800) 862-8860.

For further information on the DOE NEPA process, contact: Carol M. Borgstrom, Director, Office of NEPA Oversight (EH-25), U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585, (202) 586-4600 or (800) 472-2756.

Dates

The comment period on the IP will continue until April 24, 1992. Written comments should be postmarked by April 24, 1992, to ensure consideration.

Public Workshops

Six regional public workshops on the IP are planned. They will be held at the following times and places:

Date: Tuesday, March 17, 1992.

Location: Atlanta Penta Hotel, 590 West Peachtree Street, NW., Atlanta, GA 30308-3586, (404) 881-6000, (800) 633-0000.

Date: Thursday, March 19, 1992.

Location: St. Tropez Hotel, 455 East Harmon Avenue, Las Vegas, NV 89109, (702) 389-5400, (800) 666-5400.

Date: Wednesday, March 25, 1992.

Location: Regency Hotel, 3900 Elati Street, Denver, CO 80216, (303) 458-0808, (800) 525-8748.

Date: Friday, March 27, 1992.

Location: Airport Ramada Inn, Spokane International Airport, Spokane, WA 99219, (509) 838-5211.

Date: Tuesday, March 31, 1992.

Location: Georgetown University Convention Center, 3800 Reservoir Road, NW, Washington, DC 20007, (202) 687-3200, (800) 446-9476.

Date: Thursday, April 2, 1992.

Location: The Cincinnati Terrace Hilton, 15 W. 6th Street, Cincinnati OH 45202, 513-381-4000.

These workshops will be different in format from the scoping meetings in order to facilitate interactive communication between participants and senior DOE representatives of the EM program and to solicit individual viewpoints. The workshops will be informal in nature and no formal transcript will be recorded. Anyone

wishing to ensure that DOE will consider his or her comments in the preparation of the IP should submit them in writing.

Each workshop on the IP will consist of day and evening plenary sessions and four small-group breakout sessions during the day. These workshops will focus on DOE EM program-wide issues relating to the PEIS, not site-specific issues. The plenary sessions will consist of presentations of the PEIS process and the IP. Registration is required for the small-group breakout sessions of the workshops, but not for the plenary sessions. Anyone who wishes to participate in the breakout sessions at one of the six workshops should call (800) 862-8860 to register at least two weeks before the date of the desired workshop.

The breakout sessions will focus on four topics related to the PEIS: The PEIS process, Waste Management, Environmental Restoration, and Technology Development. The breakout sessions will be repeated to allow the participants to cover all four topics. Registration will be on a first-come, first-served basis. The number of breakout attendees will be limited to approximately 60 persons (15 for each of the breakout sessions) to promote an interactive atmosphere.

The tentative agenda for the workshops is as follows:

Day Session

- 8:00-8:15—Welcome.
- 8:15-8:30—Presentation on the PEIS Process.
- 8:30-9:15—Presentation on the IP.
- 9:15-9:45—General Questions.
- 9:45-10—Break.
- 10-11—Breakout Sessions (Four Parallel sessions: PEIS Process, Waste Management, Environmental Restoration, and Technology Development).
- 11-12—Repeat Breakout Sessions.
- 12-1—Lunch.
- 1-2—Repeat Breakout Sessions.
- 2-3—Repeat Breakout Sessions.
- 3-3:30—Break (facilitators organize for final plenary session).
- 3:30-5—Breakout Summary Report (from facilitators) & comments.

Evening Sessions

- 6:30-8:45—Welcome.
- 6:45-7—Repeat of Presentation on the PEIS Process.
- 7-7:45—Repeat of Presentation on the IP.
- 7:45-8:15—Repeat of Breakout Summary Report (from facilitators) and comments.

8:15-8:30—Break.

**8:30-9:30—General Questions and
Comments.**

9:30-10—Summary Remarks.

Issued in Washington, DC., this 13th day of
March, 1992

Paul L. Ziemer.

*Assistant Secretary Environment, Safety and
Health*

(FR Doc. 92-8442 Filed 3-18-92; 8:45 am)

BILLING CODE 6450-01-M

Appendix B

Contractor Disclosure Statements

QUALIFICATION CRITERION NO. 1

**NEPA DISCLOSURE STATEMENT FOR
PREPARATION OF PEIS FOR DOE
ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT**

CEQ Regulations at 40 CFR 1506.5(c), which have been adopted by the DOE (10 CFR 1021), require contractors who will prepare an EIS to execute a disclosure specifying that they have no financial or other interest in the outcome of the project. The term "financial interest or other interest in the outcome of the project" for the purposes of this disclosure is defined in the March 23, 1981 guidance "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations," 46 FR 18026-18038 at Question 17a and b.

"Financial or other interest in the outcome of the project" includes "any financial benefit such as a promise of future construction or design work in the project, as well as indirect benefits the contractor is aware of (e.g., if the project would aid proposals sponsored by the firm's other clients)." 46 FR 18026-18038 at 18031.

In accordance with these requirements, the offeror and any proposed subcontractors hereby certify as follows: (check either (a) or (b) to assure consideration of your proposal).

- (a) Offeror and any proposed subcontractor have no financial interest in the outcome of the project.
- (b) Offeror and any proposed subcontractor have the following financial or other interest in the outcome of the project and hereby agree to divest themselves of such interest prior to award of this contract.

Financial or Other Interests:

- 1.
- 2.
- 3.

Certified by:



Signature

C.W. Craven

Name

Vice President and Chief Operating Officer

Title

March 30, 1993

Date

META DISCLOSURE STATEMENT

NEPA DISCLOSURE STATEMENT FOR
PREPARATION OF PEIS FOR DOE
ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT

CEQ Regulations at 40 CFR 1506.5(c), which have been adopted by the DOE (10 CFR 1021), require contractors who will prepare an EIS to execute a disclosure specifying that they have no financial or other interest in the outcome of the project. The term "financial interest or other interest in the outcome of the project" for purposes of this disclosure is defined in the March 23, 1981, guidance "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations", 46 FR 18026-18038 at Question 17a. and b.

"Financial or other interest in the outcome of the project" includes "any financial benefit such as a promise of future construction or design work in the project, as well as indirect benefits the contractor is aware of (e.g., if the project would aid proposals sponsored by the firm's other clients)". 46 FR 18026-18038 at 18031.

In accordance with these requirements, the subcontractor hereby certify as follows: check either (a) or (b) to ensure consideration of your proposal).

(a) Louis Berger & Associates, Inc. has no financial or other interest in the outcome of the DOE Environmental Restoration and Waste Management PEIS Project.

NAME

(b) _____ has the following financial or other interest in the outcome of the DOE Environmental Restoration and Waste Management PEIS Project and hereby agree to divest themselves of such interest prior to award of this contract.

NAME

Financial or other Interests

- 1.
- 2.
- 3.

Certified by:


Signature

Larry D. Walker
Name

Vice President
Title

August 10, 1993
Date

Louis Berger & Associates, Inc. Disclosure Statement

Appendix C

Draft Annotated Outline for the Programmatic Environmental Impact Statement

APPENDIX C

Draft Annotated Outline for the Programmatic Environmental Impact Statement

The following Draft PEIS Annotated Outline together with the commitments in chapter 3 and the discussion of the proposed action and alternatives in chapter 4 is intended to assist in guiding the preparation of the Draft PEIS. All commitments to address issues will be identified in a PEIS commitment tracking system.

Inside Cover

The inside cover of the main volume of the Programmatic Environmental Impact Statement (PEIS) will contain a brief statement of the Department of Energy's (DOE) environmental restoration and waste management mission.

Cover Sheet

The cover sheet will list the title of the PEIS; the responsible agency; an abstract of the PEIS; the name of a DOE contact from the Environmental Restoration and Waste Management (EM) organization who would respond to questions regarding the PEIS; the name, address, and phone number of a DOE contact from the Office of NEPA Oversight for written comments and questions about DOE's National Environmental Policy Act (NEPA) process; a summary of the public comment process; and a statement inviting comments. This same information will also be included in the Summary and in the first volume of the PEIS.

Summary

- The summary will be a separately bound, stand-alone section of the PEIS.
- The summary will present the major themes of the PEIS in clear, non-technical language with amplifying illustrations and graphics.
- The summary will compare the risks, environmental impacts, and costs of the alternatives.
- The summary will present DOE's vision for environmental restoration and waste management into the future.
- The summary will include issues from PEIS chapters of particular interest to the public, as determined from scoping and workshop comments, such as:
 - Land use
 - Regulatory standards and cleanup levels

- PEIS relationship to site-specific regulatory and NEPA processes
- Technology development and timing for technology application
- Public and stakeholder involvement
- Public and worker health and safety
- Environmental and health monitoring
- Waste minimization
- Necessary regulatory improvements

Table of Contents

All volumes of the PEIS will have a Table of Contents.

List of Figures

All volumes of the PEIS will have a List of Figures.

List of Tables

All volumes of the PEIS will have a List of Tables.

List of Acronyms and Abbreviations

This section will list all acronyms and abbreviations that are used in the PEIS. This includes acronyms and abbreviations from common English language usage, discipline-specific acronyms, and DOE-specific acronyms and abbreviations.

Users Guide

This section will describe, in nontechnical language, how the PEIS is organized. It will elaborate on what information is required in an environmental impact statement in accordance with the CEQ regulations.

CHAPTER 1

Purpose and Need for DOE Action

This chapter is required by 40 CFR 1502.13.

1.1 The Purpose and Need for Action

In this section, the existing DOE EM mission will be summarized, followed by a description of the past policy of decentralized execution. Current Environmental Restoration (ER) Programs will be described as directed toward regulatory compliance at each installation. The Waste Management (WM) facilities will be described as responsive to individual installation needs but not operating as an integrated system. This section will establish the underlying need to achieve greater integration in the EM Program through:

- An integrated system of waste management facilities at selected DOE locations
- Appropriate policy guidance to ensure that remediation solutions consider human health risks and land use consistently throughout DOE.

The purposes to be achieved by the underlying need for action will also be described.

1.2 The Proposed Actions

This section will briefly summarize the proposed actions:

- Through analysis in the PEIS, to develop an integrated system of WM facilities
- To develop the information and policy guidance to address the needs cited in section 1.1. More details will be included in chapter 2.

1.3 Background

EM Program management actions which lead to the PEIS will be summarized.

1.4 Scope

Issues considered to be within the scope of the PEIS and those not analyzed in depth will be summarized. A supporting rationale for scope decisions will be presented.

1.5 Relationship of PEIS to Site-Specific NEPA and Regulatory Processes

This section will describe how future site-specific and project-level NEPA documents will be developed from the PEIS and how existing regulatory processes and agreements will also be considered in the implementation of any PEIS alternatives. A list will be included of the existing, anticipated, or ongoing site NEPA and regulatory processes and how the PEIS relates to them.

CHAPTER 2 Proposed Action and Alternatives

This chapter is required by 40 CFR 1502.14. It will present the environmental impacts of the alternatives in comparative form based on information provided in chapter 3.0, "Affected Environment," and on analysis from chapter 4.0, "Environmental Consequences of Environmental Restoration Alternatives" and chapter 5.0, "Environmental Consequences of Waste Management Alternatives." Background information necessary to define the issues and clarify the comparative merits of the alternatives will also be included in this chapter.

2.1 DOE Complex—Mission and Layout

2.1.1 DOE MISSION, ORGANIZATION, AND FACILITIES

2.1.2 LOCATIONS OF WASTE

2.1.3 DOE 5-YEAR PLAN FOR EM: MANAGEMENT AND FUNDING

2.1.4 SPENT NUCLEAR FUEL

2.1.5 THE NUCLEAR WEAPONS COMPLEX (NWC) RECONFIGURATION

2.2 Regulatory Setting

An overview of the regulatory framework in which DOE must function will be presented, including its relation to remedial strategies and standards and requirements for siting WM facilities.

2.2.1 OTHER FEDERAL ENVIRONMENTAL STATUTES

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Resource Conservation and Recovery Act (RCRA); Atomic Energy Act (AEA); Clean Air Act; Clean Water Act; Safe Drinking Water Act; and others will be discussed. Federal programs and plans, including the National Contingency Plan, will also be included.

2.2.2 STATE STATUTES AND TRIBAL AGREEMENTS

2.2.3 DOE POLICIES AND ORDERS

2.2.4 SUMMARY OF REGULATORY STANDARDS

2.3 Comparison of ER Alternatives

This section will present the comparison of ER alternatives. The No Action and alternative ER strategies will be defined. Each alternative description will be as detailed as possible (without being site-specific), and comprehensive and logically consistent with the other alternatives. Each strategy will represent a distinct programmatic alternative. The alternatives are meant to provide guidance for making policy decisions, not for making site specific determinations.

Environmental impacts, including assessed risk, benefit, and cost by alternative strategy will be limited to a concise descriptive summary in comparative form. A more detailed presentation of the analysis of impacts will be given in chapter 4.0. The framework for and results of comparing the alternatives will be presented in sufficient detail to permit reasoned choices for ER Program guidance.

2.3.1 DESCRIPTION OF THE ALTERNATIVES

The description of the alternatives will include a summary of the technologies employed, with greater detail about the technologies contained in chapter 7.0.

2.3.1.1 No Action Alternative

2.3.1.2 Alternative 1

2.3.1.3 Alternative 2

2.3.1.4 Alternative 3

2.3.1.5 Alternative 4

2.3.2 COMPARISON OF ALTERNATIVE STRATEGIES

2.3.2.1 Risks to Human Health

2.3.2.2 Impacts to the Ecology

2.3.2.3 Impacts to Air Quality and Noise

2.3.2.4 Impacts to Water Resources

2.3.2.5 Impacts to Social, Economic, Cultural Elements, and the Built Environment

2.3.2.6 Land Use

2.3.2.7 Costs

2.4 Comparison of WM Alternatives

This section will compare the reasonable configurations of an integrated system of WM facilities. The waste types will be described. The categories will be based on regulatory and technical considerations. A brief summary of the locations where waste are stored and where new waste will be generated, and of waste amounts by waste type, will be provided.

The description of the alternatives will include existing treatment, storage, and disposal (TSD) facilities, many of which would continue to be employed under the decentralized alternative, alternative consolidation configurations, and transportation network requirements to consolidate and integrate the system of WM facilities.

Tables and other descriptive material will provide, in concise comparative form, the assessed environmental risks, impacts, and costs for each configuration of WM facilities. Under the category of Hazardous Waste (HW), the PEIS will discuss the category of industrial waste and DOE's efforts to prevent unauthorized disposal of industrial solid wastes contaminated with radioactivity as industrial solid wastes. More detailed information on impacts and costs will be contained in chapter 5.0.

2.4.1 HIGH LEVEL WASTE (HLW)

2.4.1.1 Characterization of Waste—Classification, Locations, and Sources

2.4.1.2 Description of Programmatic Alternatives for HLW

2.4.1.3 Comparison of Installation and Transportation Impacts, Risks, and Costs by Resource and Alternative

2.4.2 TRANSURANIC WASTE (TRUW)

2.4.2.1 Characterization of Waste—Classification, Locations, and Sources

2.4.2.2 Description of Programmatic Alternatives for TRUW

2.4.2.3 Comparison of Installation and Transportation Impacts, Risks, and Costs by Resource and Alternative

2.4.3 LOW-LEVEL WASTE (LLW)

2.4.3.1 Characterization of Waste—Classification, Locations, and Sources

2.4.3.2 Description of Programmatic Alternatives for LLW

2.4.3.3 Comparison of Installation and Transportation Impacts, Risks, and Costs by Resource and Alternative

2.4.4 LOW-LEVEL MIXED WASTE (LLMW)

2.4.4.1 Characterization of Waste—Classification, Locations, and Sources

2.4.4.2 Description of Programmatic Alternatives for LLMW

2.4.4.3 Comparison of Installation and Transportation Impacts, Risks, and Costs by Resource and Alternative

2.4.5 GREATER-THAN-CLASS C (GTCC) LLW

2.4.5.1 Characterization of Waste—Classification, Locations, and Sources

2.4.5.2 Description of Programmatic Alternatives for GTCC LLW

2.4.5.3 Comparison of Installation and Transportation Impacts, Risks and Costs by Resource and Alternative

2.4.6 HAZARDOUS WASTE (HW)

2.4.6.1 Characterization of Waste—Classification, Locations, and Sources

2.4.6.2 Description of Programmatic Alternatives for HW

2.4.6.3 Comparison of Installation and Transportation Impacts, Risks and Costs by Resource and Alternative

2.5 Waste Minimization

The potential effects of Waste Minimization on the need for new waste treatment and disposal facilities will be summarized.

2.6 Cumulative Effects of Integrated ER and WM Programs

The cumulative effects of the EM integration measures developed in the PEIS analyses will be summarized.

2.6.1 FRAMEWORK FOR COMPARISON

Methods for achieving overall equity will be addressed. The framework used for comparison of composite risks/impacts and costs, considering ER and WM waste types and both site and transportation effects, will also be presented.

2.6.2 COMPOSITE AND CUMULATIVE IMPACTS, IMPACTS, RISKS, AND COSTS

The focus of this section will be the cumulative effects of the alternatives when added to other past, current, or reasonably foreseeable actions, including those being considered for nuclear weapons complex reconfiguration and SNF. Of particular concern will be the combined impacts to any one location from all EM activities. This section will also highlight key results of the analysis (for example, significant impacts and their cause, costs, and relationships among decision criteria).

2.6.3 REGIONAL EQUITY ISSUES

This section will discuss the opportunities for equitable regional and national arrangements for waste management, including the issues and factors involved in developing such arrangements.

2.7 Identification of Preferable Alternatives

2.8 Technology Development Strategies

Determination of programmatic alternatives for ER and WM activities is affected by and in turn affects technology choices. This section will discuss the interrelationship of technology development and the ER and WM programmatic alternatives, showing the improvements in waste management and environmental restoration that could result from technology development. Also discussed will be the conditions under which it may be appropriate to consider interim actions rather than permanent solutions pending the availability of emerging technologies.

2.9 Policies for an Integrated ER and WM Program

This section will present DOE's vision of environmental restoration and waste management. Quantitative and qualitative comparisons of the risks, potential land uses impacts, and costs of the alternatives will generate policy considerations. This section will outline the policy options that emerge as a result of the alternatives evaluation.

CHAPTER 3 Affected Environment

This chapter is required by 40 CFR 1502.15. It will describe the environments of the areas affected by the alternatives.

3.1 Description of Resources and Methodology

This section describes the components of the human environment to be evaluated, the geographic regions of influence considered, and the methods and sources of data to be used in describing the affected environment.

3.1.1 LAND USE: THE NATURAL AND MANMADE ENVIRONMENT

A general description of the DOE installations will be provided that includes a discussion of the activities occurring on an installation and in the geographic region of the installation. Activities to be described will include potable water treatment and distribution, wastewater, solid waste facilities, and energy systems.

Physical characteristics of the installations and their surrounding areas will also be described. Characteristics to be described will include residential, commercial/industrial, recreational, open space, vacant, and agricultural lands. Projected changes without EM action will be addressed.

The region of influence includes the installation and adjacent areas. Data will be assembled from various sources, including installation and county land use plans, county comprehensive plans, county zoning maps, existing county profiles, aerial photographs, the United States Census of Population and Housing, and interaction with installation, local, and State land use agencies.

3.1.2 GEOLOGY AND SOILS

Geologic elements are described in the overall context of the regional setting and include geologic structures, topography, mineral deposits, seismicity, subsidence, and presence of faults and fractures. Soil elements include type, permeability, porosity, and erodability.

The region of influence is the installation and the surrounding geologic region. Data will be compiled from the U.S. Geological Survey maps, DOE site reports, and U.S. Department of Agriculture soil surveys.

3.1.3 AIR QUALITY

Elements include local meteorology, background pollutant levels, adjacent sources of air pollutant emissions, receptors, and local air quality requirements.

The region of influence is the local airshed. Meteorologic data will be compiled from the National Weather Service and site observations. Current contamination and background levels will be determined from the Air Monitoring Network. Receptor population will be derived from Bureau of Census statistics and Bureau of Economic Analysis projections. Additional sources of emissions will be obtained from DOE installations. Local air quality requirements will be obtained from state sources.

3.1.4 WATER RESOURCES AND SYSTEMS

Elements include surface water bodies, groundwater, and availability for human use. Water quality parameters include conventional characteristics and priority pollutants. Aquifers and other drinking water sources will be identified.

Region of influence includes installation water bodies and groundwater, and adjacent water bodies and groundwater where contamination has been documented. A regional context as well as a local context will be provided. Data will be compiled from site reports, state agency databases, U.S. Geological Survey maps and resource reports.

3.1.5 ECOLOGICAL RESOURCES

Elements will include Federal and State threatened and endangered species, wetlands and other sensitive habitats, recreational fish and wildlife, agriculture and forestry, parks and other public lands, and measures of biodiversity. The region of influence includes the installation and the immediate adjacent ecological resources. Data will be compiled from environmental monitoring reports, natural resource site plans and documents, and installation personnel. Pertinent documents from state planning agencies and federal agencies (such as the Fish and Wildlife Service, Bureau of Land Management, Geological Survey, and Soil Conservation Service) will also be consulted.

3.1.6 SOCIOECONOMICS

Elements include production earnings and income for both the current environment and projections out to the year 2040; current employment and unemployment; housing stock; community services; and demographic and social characteristics, with population projections to 2040.

The region of influence includes the area adjacent to the installations and any counties with significant numbers of the workforce for the installations being analyzed. Descriptive information for this section will be drawn from secondary sources, including the U.S. Bureau of the Census 1990 population statistics, the Bureau of Economic Analysis Regional Economic Information System, and State and regional population and economic projections. Social and cultural data will be developed from regional sources.

3.1.7 CULTURAL RESOURCES

Elements include paleontological resources—sites that contain fossil evidence of previous geological periods; prehistoric resources—sites such as campsites, hearths, shelters, foundations, and evidence of rudimentary tools that date from the pre-history of the region; and historical resources—sites identified as being listed or having the potential for being listed in National and State Registers of Historic Places. Additional information on Native American settlements in the region will also be included.

The region of influence is the installation. Sources of data will be developed primarily from secondary materials including the National Register of Historic Places, state registers, and local archeological and historic surveys at each installation.

3.1.8 LOCAL OVERLAND TRANSPORTATION NETWORK

The relevant components of a region's transportation network for the PEIS are the road system and rail system. Airports and navigable waterways will not be assessed.

USGS maps will be utilized to list and map interstate highways, U.S. highways and State highways located in and around an installation. USGS maps will also be employed in the identification of rail corridors.

3.2 The Environment at Affected DOE Installations

A summary will be provided by installation, using the resource headings of section 3.1, of the existing environmental conditions at the DOE installations and surrounding regions of influence chosen for analysis in the PEIS. Projections of demographic, economic, and other data will also be made as appropriate.

3.2.1 REGIONAL INSTALLATIONS

This section describes the environmental conditions that will be impacted at each of the installations chosen for analysis as regional candidates. The resource areas of section 3.1 will be provided, by installation, in sufficient detail to establish a baseline for the impact assessments

and comparison of regional alternatives. These baseline conditions will also support the ER impact assessment for impacts that are best measured at the installation level.

3.2.2 OTHER INSTALLATIONS

This section provides environmental conditions for those additional DOE locations chosen for analysis in the PEIS, which are not candidates for regionalization of WM activities. These locations include representative installations chosen for analysis in the decentralized WM alternatives. The level of data included is consistent with the impact assessment approach selected, which uses representative locations rather than engaging in an exhaustive analysis to examine the decentralized alternative. The data is summarized to focus across a number of locations on those elements most important to decision-makers.

3.3 The Transportation Corridors Environment

General characteristics of the regional and national transportation corridors which could be influenced by transport of radioactive, hazardous, and mixed wastes will be summarized. These features will be those assumed in transportation models used for PEIS analysis and those which were developed for use in special analyses for determining transportation impacts. Local transportation features in the vicinity of the installations chosen for analysis will be presented by installation, in section 3.2.

CHAPTER 4 Environmental Consequences of ER Alternatives

This chapter is required by 40 CFR 1502.16. It will provide the scientific and analytic basis for the ER comparisons in section 2.3.2.

4.1 Overview of Impact Analysis Methodology for Programmatic ER Alternatives

The methodology used to analyze the ER alternatives will be discussed in this section. The methodology consists of creating a model of the DOE environmental contamination problem and evaluating the risks to humans, ecological impacts, air and water impacts, socioeconomic impacts, land usability, and cost under each ER alternative. The model is composed of a group of "contamination situations" that are selected to qualitatively represent the types of sites found in the DOE complex. Using each of the various ER alternatives as policy guidance, alternative engineering solutions are devised for each contamination situation.

From these conceptual remedial designs, cost, worker labor, waste generation for off-site management, waste transportation requirements, area of soil disturbance, area committed to institutional control, and residual levels of contamination are calculated. Worker labor hours are used to calculate worker risk. Transportation mileage requirements are used to calculate transportation risk.

These factors are used with the listing of known contamination problems at each DOE installation to scale the results up to represent individual DOE installations. Socioeconomic and ecological impacts will be evaluated following scale-up. Information from the contamination scenarios will be mapped to a set of existing DOE situations. The resulting installation descriptions will be used to describe the impacts of an action in actual settings.

The baseline (No Action) risk to local populations is calculated using an exposure and risk analysis model based on the inventory of contaminants currently present at each installation. Based on the predicted post-remedial inventory of contaminants and control measures applied to reduce risk under each respective alternative, the post-remedial risk is calculated in the same way the pre-remedial (baseline) risk is calculated. Risk to current local populations due to the combined emissions expected from remedial activities is also calculated for each alternative at each installation. The computations of the analysis are rendered into a computer code, which will be documented with details of the methodology and results in the appendices.

4.2 Human Health

This section summarizes the methodology and provides risks for the alternatives. Several different methodologies are used to calculate the various categories of human risk for the respective populations. For remedial workers, risks due to physical, chemical and radiological hazards are calculated. Physical hazard risks are estimated from labor category, labor hours worked and statistical experience with accidents (an actuarial approach). Chemical and radiological risks are calculated from estimated exposures and known dose-response factors.

Transportation risks are calculated from mileage needed to transport waste and construction materials for the conceptual designs. Physical risks from collisions are based on accident statistics. Risk from chemical exposure is assumed to be eliminated by containment and radiological risks are calculated from estimated dose and dose-response factors. The possible effects of an accident accompanied by release of contaminants are calculated.

Risk to current and future generations of residents in the vicinity of an installation are calculated using models that calculate dispersion of contaminants from the release point and the resulting levels of exposure and relate these exposures to risk using dose-response factors.

The results of the various risk analyses will be presented both in general discussions and in tables. The data will be arrayed such that, for each of the model contamination situations studied, worker and transportation risk can be compared for each ER alternative. More importantly, other tables will be organized to show combined risk for various exposed groups by hazard type for each installation, for each ER alternative, and the baseline (No Action).

4.2.1 IMPACT ANALYSIS METHODOLOGY

4.2.2 IMPACTS TO HUMAN HEALTH

4.2.2.1 No Action Alternative

4.2.2.2 Alternative 1

4.2.2.3 Alternative 2

4.2.2.4 Alternative 3

4.2.2.5 Alternative 4

4.3 Ecology

This section will summarize the methodology and provide estimated ecological impacts for the alternatives. The ecological impacts associated with remedial alternatives will include those associated with exposure to residual contamination at contaminated sites, habitat damage due to remedial construction and treatment activities, and transportation accidents. For each emitted contaminant, information will be provided on hazards including acute toxicity, chronic toxicity, and potential bioaccumulation. Appropriate endpoints will be selected and defined (for example, reduction in recreational opportunities or wildlife abundance and adverse impacts on threatened or endangered species). Risks will be categorized to facilitate comparisons of impacts across installations and alternatives. To the extent possible, environmental transport models will be used to quantify contaminant exposures.

4.3.1 IMPACT ANALYSIS METHODOLOGY

4.3.2 IMPACTS TO ECOLOGY

4.3.2.1 No Action Alternative

4.3.2.2 Alternative 1

4.3.2.3 Alternative 2

4.3.2.4 Alternative 3

4.3.2.5 Alternative 4

4.4 Air Quality

This section will summarize the methodology and provide estimated air quality impacts for the alternatives. The impacts to air quality associated with remedial alternatives will include fugitive emissions from remedial construction and emissions from treatment activities.

4.4.1 IMPACT ANALYSIS METHODOLOGY

4.4.2 IMPACTS TO AIR QUALITY

4.4.2.1 No Action Alternative

4.4.2.2 Alternative 1

4.4.2.3 Alternative 2

4.4.2.4 Alternative 3

4.4.2.5 Alternative 4

4.5 Water Resources

This section will summarize the methodology and provide estimated water resource impacts for the alternatives. The human health risks associated with remedial alternatives will include those posed by residual contamination in ground and surface waters at contaminated sites. Remedial action construction and waste treatment water usage will also be included.

4.5.1 IMPACT ANALYSIS METHODOLOGY

4.5.2 IMPACTS TO WATER RESOURCES

4.5.2.1 No Action Alternative

4.5.2.2 Alternative 1

4.5.2.3 Alternative 2

4.5.2.4 Alternative 3

4.5.2.5 Alternative 4

4.6 Socioeconomic Impacts

This section will summarize the methodology and provide estimated socioeconomic impacts for the alternatives. Following establishment of the baseline conditions, an investigation will be conducted to identify the potential temporary and long term impacts of the EM Program. Impacts will be considered under the resource areas that follow:

- National: Economic; Equity; and Social Policy
- Regional: Population Size, Density and Growth, Employment, Income; Production Earnings; Community Fiscal Impacts; Housing; and Social Environment
- Transport: Public Services and Affected Social Conditions

4.6.1 IMPACT ANALYSIS METHODOLOGY

4.6.2 SOCIOECONOMIC IMPACTS

4.6.2.1 No Action Alternative

4.6.2.2 Alternative 1

4.6.2.3 Alternative 2

4.6.2.4 Alternative 3

4.6.2.5 Alternative 4

4.7 Cultural Resources

This section will summarize the methodology and present impacts to cultural resources for each of the alternatives.

4.7.1 IMPACT ANALYSIS METHODOLOGY

4.7.2 IMPACTS TO CULTURAL RESOURCES

4.7.2.1 No Action Alternative

4.7.2.2 Alternative 1

4.7.2.3 Alternative 2

4.7.2.4 Alternative 3

4.7.2.5 Alternative 4

4.8 Land Use

Land use is an input to ER alternatives 2 and 4, and land use is an output of ER alternative 3. The relationship between land use and exposure pathways will be discussed, including clarification of frequency and duration of exposures and demographics of exposed populations. Pathway-specific contributions to public unit risk factors will be discussed and examples presented.

Although it is not the purpose of the PEIS to define land use categories, example land uses for key combinations of exposure pathways will be discussed.

4.8.1 DESCRIPTION OF ALTERNATIVE LAND USES

How land-use selection determines essential remediation levels will be discussed for the ER alternatives 2 and 4.

4.8.2 IMPACTS AND BENEFITS TO LAND FOR PROGRAMMATIC ALTERNATIVES

4.8.2.1 No Action Alternative

4.8.2.2 Alternative 1

4.8.2.3 Alternative 2

4.8.2.4 Alternative 3

4.8.2.5 Alternative 4

4.9 Irretrievable or Irreversible Commitment of Resources

Implementation of remedial strategies will result in the commitment of land and other resources (such as energy requirements and conservation potential) and in some cases, an irreversible sustaining of risk. The remedial alternatives will be compared with respect to commitment and flexibility maintained for future actions.

4.10 Land Use Plans, Policies, and Controls

This section will discuss how programmatic alternatives might conflict with the objectives of Federal, regional, State, local, and tribal land use plans, policies, and controls for an area.

4.11 Emerging Technologies: Effects on Risks and Other Consequences

The analysis described in the preceding sections is based on the use of available technologies. The effect of new technologies on the relative cost, risk, and benefits of the various ER alternatives is a subject of considerable interest. However, because emerging technologies are not known or evaluated, it is problematic to directly predict how they might affect the relative desirability of the ER alternatives. This problem has been addressed in two ways. First the questions will be posed: " Given the results that have been described above, what parameters (risk, cost, benefits) are most sensitive to the technology used and how much would each of these parameters need to change to make a significant difference in the relative order of the alternatives?" Then the question will be asked: "What improvements, if any, can be expected in technologies in this area in the foreseeable future?" If no reasonable technologies can be presented that would alter the relative order of the alternatives, then it is clear that the alternatives are insensitive to foreseeable technology developments. Note that the analysis can aid in guiding future technology development efforts because it will identify those areas where technology development will have the most benefit (as opposed to where progress can be made with least effort).

4.12 Relationship Between the Local Short-Term Use of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity

Both long-term and short-term effects will be addressed here.

CHAPTER 5 Environmental Consequences of Waste Management Alternatives

This chapter is required by 40 CFR 1502.16. It will provide the scientific and analytic basis for the WM comparisons in section 2.4.

5.1 Impact Analysis Methodology for Programmatic WM Alternatives

This section will summarize the methodology used to estimate the impacts from TSD facilities and from transportation for the programmatic WM alternatives. The risks and other impacts will be determined and displayed by alternative consolidation strategies according to the following hierarchy: (1) waste type, (2) resource area, and (3) alternative and locations.

5.1.1 HUMAN HEALTH RISK METHODOLOGY

This section discusses the methodology for assessing risks to human health. The description, in this section and the appendices, of procedures and models employed in the PEIS, will include results of model peer review, comparisons with other models, and model workshops. Uncertainties associated with the methodologies will also be discussed.

The risk methodologies and models are employed to assess human health and worker risks both on and off the installation. Sources of risk in WM will include both construction and operation of waste management facilities that treat, store, and or dispose of waste. A baseline risk estimate will first be computed for existing and currently planned WM activities. Population, individual, and worker carcinogenic and noncarcinogenic risks and hazards, as well as physical hazards associated with construction, operation, and maintenance activities will be determined for current and future exposures. The transportation of waste to implement consolidation may also result in human health risks. Radiological, chemical, and physical risks will be identified for truck and rail waste transport.

5.1.2 ECOLOGICAL IMPACTS METHODOLOGY

Impacts to the ecology from the construction and operation of WM facilities will be assessed for their significance.

5.1.3 AIR QUALITY IMPACTS METHODOLOGY

Impacts to air quality and noise will be assessed. Activities and facilities will be required to meet air quality standards, as promulgated in the Clean Air Act and state regulations. Verification of compliance and/or assessment of impacts will be based on inspection of technology designs and the use of dispersion models.

5.1.4 WATER RESOURCES IMPACTS METHODOLOGY

Impacts to surface and ground water and water usage will be assessed. Activities and facilities will be required to meet water quality standards, such as those promulgated in the Clean Water Act and Safe Drinking Water Act. Verification of compliance and assessment of impacts will be based on estimates of technology effluents and water consumption, the receiving facilities or water bodies at installations, and the use of transport models for waste disposal activities.

5.1.5 SOCIOECONOMIC IMPACTS METHODOLOGY

After establishing baseline conditions, an investigation will be conducted to identify the potential temporary and long term impacts of the EM Program. Potential impacts to cultural and historic resources will also be assessed. Impacts will be considered under the resource areas below:

- National: Economic; Equity; and Social Policy
- Regional: Community Fiscal Impacts; Population Size, Density and Growth, Employment, Income and Production Earnings; Housing; and Social Environment
- Transport: Public Services and Affected Social Conditions

5.1.6 LAND USE

Significant impacts to current land use will be analyzed.

5.2 High-Level Waste (HLW)

The impacts of the following alternatives will be assessed and arrayed under the resource headings below. Trends, commonalities, and differences among alternative configurations will

be described. The analytic rationale for selecting some configurations for detailed analysis and eliminating others will also be presented.

- The "No Action" Alternative
- Alternative 1: Current Program and Decentralization
- Alternative 2: Regionalization
- Alternative 3: Centralization

5.2.1 INTRODUCTION

The volumes and number of HLW canisters requiring storage, the storage facilities, and transportation requirements will be described in sufficient detail to allow analysis and choice between the alternative configurations.

5.2.2 HUMAN HEALTH RISKS

5.2.3 IMPACTS TO THE ECOLOGY

5.2.4 AIR QUALITY

5.2.5 WATER RESOURCES

5.2.6 SOCIOECONOMICS

5.2.7 LAND USE

5.2.8 COSTS, COMPOSITE EFFECTS, AND MITIGATION

5.3 Transuranic Waste (TRUW)

The impacts of the following alternatives will be assessed and arrayed under the resource headings below. Trends, commonalities, and differences among alternative configurations will be described. The analytic rationale for selecting some configurations for detailed analysis and eliminating others will also be presented.

- The "No Action" Alternative
- Alternative 1: Current Program
- Alternative 2: Decentralization
- Alternative 3: Regionalization
- Alternative 4: Centralization

5.3.1 INTRODUCTION

The volumes of TRUW that would be treated and stored, the treatment and storage facilities, and transportation requirements will be described in sufficient detail to allow analysis and choice between the alternative configurations.

5.3.2 HUMAN HEALTH RISKS

5.3.3 IMPACTS TO THE ECOLOGY

5.3.4 AIR QUALITY

5.3.5 WATER RESOURCES

5.3.6 SOCIOECONOMICS

5.3.7 LAND USE

5.3.8 COSTS, COMPOSITE EFFECTS, AND MITIGATION

5.4 Low-Level Waste (LLW)

The impacts of the following alternatives will be assessed and arrayed under the resource headings below. Trends, commonalities, and differences among alternative configurations will be described. The analytic rationale for selecting some configurations for detailed analysis and eliminating others will also be presented.

- The "No Action" Alternative
- Alternative 1: Decentralization
- Alternative 2: Regionalization and Current Program
- Alternative 3: Centralization

5.4.1 INTRODUCTION

The volumes and types of LLW requiring disposal, disposal facilities, and transportation requirements will be described in sufficient detail to allow analysis and choice between the alternative configurations.

5.4.2 HUMAN HEALTH RISKS

5.4.3 IMPACTS TO THE ECOLOGY

5.4.4 AIR QUALITY

5.4.5 WATER RESOURCES

5.4.6 SOCIOECONOMICS

5.4.7 LAND USE

5.4.8 COSTS, COMPOSITE EFFECTS, AND MITIGATION

5.5 Low-Level Mixed Waste (LLMW)

The impacts of the following alternatives will be assessed and arrayed under the resource headings below. Trends, commonalities, and differences among alternative configurations will be described. The analytic rationale for selecting some configurations for detailed analysis and eliminating others will also be presented.

- The "No Action" Alternative
- Alternative 1: Decentralization

- Alternative 2: Regionalization
- Alternative 3: Centralization

5.5.1 INTRODUCTION

The volumes and types of LLMW requiring treatment and disposal, the treatment and disposal facilities, and transportation requirements will be described in sufficient detail to allow analysis and choice between the alternative configurations.

5.5.2 HUMAN HEALTH RISKS

5.5.3 IMPACTS TO THE ECOLOGY

5.5.4 AIR QUALITY

5.5.5 WATER RESOURCES

5.5.6 SOCIOECONOMICS

5.5.7 LAND USE

5.5.8 COSTS, COMPOSITE EFFECTS, AND MITIGATION

5.6 Greater-Than-Class C Waste (GTCC) LLW

The impacts of the following alternatives will be assessed and arrayed under the resource headings below. Trends, commonalities, and differences among alternative configurations will be described. The analytic rationale for selecting some configurations for detailed analysis and eliminating others will also be presented.

- The "No Action" Alternative
- Alternative 1: Current Program and Decentralization
- Alternative 2: Regionalization
- Alternative 3: Centralization

5.6.1 INTRODUCTION

The volumes and types of GTCC LLW requiring storage, the storage facilities, and transportation requirements will be described in sufficient detail to allow analysis and choice between the alternative configurations.

5.6.2 HUMAN HEALTH RISKS

5.6.3 IMPACTS TO THE ECOLOGY

5.6.4 AIR QUALITY

5.6.5 WATER RESOURCES

5.6.6 SOCIOECONOMICS

5.6.7 LAND USE

5.6.8 COSTS, COMPOSITE EFFECTS, AND MITIGATION

5.7 Hazardous Waste (HW)

The impacts of the following alternatives will be assessed and arrayed under the resource headings below. Trends, commonalities, and differences among alternative configurations will be described. The analytic rationale for selecting some configurations for detailed analysis and eliminating others will also be presented.

- The "No Action" Alternative
- Alternative 1: Current Program and Decentralization
- Alternative 2: Regionalization
- Alternative 3: Centralization

5.7.1 INTRODUCTION

The volumes and types of HW requiring TSD, TSD facilities, and transportation requirements will be described in sufficient detail to allow analysis and choice between the alternative configurations.

5.7.2 HUMAN HEALTH RISKS

5.7.3 IMPACTS TO THE ECOLOGY

5.7.4 AIR QUALITY

5.7.5 WATER RESOURCES

5.7.6 SOCIOECONOMICS

5.7.7 LAND USE

5.7.8 COSTS, COMPOSITE EFFECTS, AND MITIGATION

5.8 Irretrievable Commitment of Resources

Designating sites for waste operations will involve a long-term commitment to certain land uses. In some cases, decisions that are made could result in restricted land usability. Implementation of WM strategies also results in the commitment of land and other resources (such as energy requirements and conservation potential) and in some cases, an irreversible sustaining of risk. This section will discuss those effects.

5.9 Land Use Plans, Policies, and Controls

This section will provide the details of how programmatic alternatives might conflict with the objectives of Federal, State, regional, local, and tribal land use plans, policies, and controls.

5.10 Emerging Technologies: Effects on Risks and Other Consequences

Risks and other impacts will be determined for emerging technologies, employing sensitivity analysis of results from the impact assessment of current or near-term technologies used in the alternatives analyses.

5.11 Relationship Between the Local Short-Term Use of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity

Both long-term and short-term effects will be addressed.

CHAPTER 6 Cumulative Impacts

This section will discuss cumulative impacts of the ER and WM alternatives for affected installations and regions, considering past, current, and reasonably foreseeable actions. The discussion of cumulative impacts will be presented at two levels. At the first level, individual DOE installations will be analyzed to determine and present in the PEIS the range of potential cumulative impacts (that is, the upper and lower bound of cumulative impacts) that could occur at an installation and in its surrounding region as a result of ER and WM actions and the environmental consequences of past, present, and reasonably foreseeable actions. In this first level of cumulative impacts, the impacts of new facilities that have been approved and authorized for construction at DOE installations and major projects that are to be constructed in the region of DOE installations will be considered. At the second level, the cumulative effects of ER and WM actions will then be combined with the range of impacts for DOE installations that could result from forthcoming DOE determinations on reconfiguration of the Nuclear Weapons Complex and spent nuclear fuel being considered in the Idaho National Engineering Laboratory Environmental Restoration and Waste Management Environmental Impact Statement. In performing the cumulative impact analysis, existing data on the environmental consequences of past, present and reasonably foreseeable impacts will be utilized, including data contained in individual installation monitoring reports, and then combined with the results of the impact analyses performed for ER and WM actions. Impact assessment information on reconfiguration of the Nuclear Weapons Complex and spent nuclear fuel will be obtained from the DOE offices responsible for preparing the impact statements for these efforts.

6.1 Cumulative ER & WM Impacts

6.2 Cumulative Impacts with Other Actions Being Considered

6.2.1 NUCLEAR COMPLEX RECONFIGURATION

6.2.2 SPENT NUCLEAR FUEL

6.2.3 CUMULATIVE ER AND WM, RECONFIGURATION, AND SNF IMPACTS

**CHAPTER 7
Technology Development**

7.1 Program Elements for Technology Development

Solution of programmatic alternatives for ER and WM activities will involve assumptions and choices regarding available and emerging technologies. In this section technology development activities, TD priorities, integrated decision-making, and technology transfer will be discussed.

7.1.1 DESCRIPTION OF TD ACTIVITIES

This section will include a discussion of the TD mission, scope, approach, and interface with other organizations. The Integrated Demonstrations (IDs) and technology activities will be included in this section.

7.1.2 RELATIONSHIP OF PEIS TO THE DEVELOPMENT OF NEW TECHNOLOGIES

Technology development is incorporated into the ER and WM alternatives. This section will highlight how technology development is treated in the PEIS and will provide amplification of the NEPA documentation policies regarding technology development, including IDs.

7.1.3 TD INTEGRATED DECISION-MAKING AND PRIORITY SETTING

The TD decision-making process will be outlined, including the philosophy for determining and incorporating field needs, prioritization and allocation of resources, establishing criteria for decisions, the peer review process for reviewing and accepting technologies, and the overall system for obtaining input from outside sources. The relationships between technology development, cost, near-term human risk and long-term risk reduction will be explored.

7.1.4 PUBLIC INVOLVEMENT AND TECHNOLOGY TRANSFER

This section will explore a range of mechanisms, including public outreach through grants, regional groups, and meetings; community workshops; contracting opportunities for commercial sector involvement; agreements with academia, other agencies, and foreign entities; and the basic approach to technology transfer and information sharing.

7.2 Remedial Technologies

For each programmatic alternative, the description of the policy alternative will be given to an engineering team. Consistent with the given policy and for representative contamination situations, the team will develop a remedial approach and estimate the standard engineering parameters of effectiveness and ultimate condition of the site, cost, availability, schedule, probability of achieving design objectives, resource consumption, and any additional discharges to the environment. The sensitivity of the projected ER impacts to the use of emerging technologies versus representative available technologies will be evaluated.

7.2.1 DESCRIPTION OF AVAILABLE REMEDIAL TECHNOLOGIES

This section will summarize the representative remedial technologies considered and selected for solution of representative contamination situations in the ER alternatives.

7.2.2 REMEDIAL TECHNOLOGIES IN DEVELOPMENT

Technologies in development may change remediation approaches in the future. Promising technologies and IDs will be included in this section.

7.3 Technologies for Waste Management

Standard engineering criteria of effectiveness, cost, availability, emission characteristics, and regulatory acceptance will be used to evaluate technologies for each WM alternative. The sensitivity of the projected WM impacts to the use of emerging technologies versus those available (near-term) will be evaluated.

7.3.1 DESCRIPTION OF EXISTING WASTE MANAGEMENT TECHNOLOGIES

This section will summarize the technologies in place, funded, or most probable as candidates to treat, store, or dispose of waste.

7.3.2 WASTE MANAGEMENT TECHNOLOGIES IN DEVELOPMENT

Technologies in development may change treatment approaches in the future. Promising technologies and development approaches will be discussed.

7.4 Transportation Technologies

Special design considerations influence transport of radioactive and mixed wastes. This section will discuss those design considerations and the technologies in use or being developed to transport radioactive and mixed wastes.

CHAPTER 8 Public and Worker Safety

This chapter will describe safety policies and programs. Many of these policies are implicit in the assumptions underlying the assessments in earlier chapters.

8.1 Nuclear and Safety Guidelines

8.2 Training and Quality Control

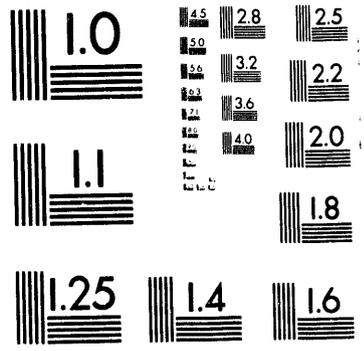
8.3 Environmental Monitoring

8.4 Transportation Safety

8.5 Accident Response

CHAPTER 9 Other Programmatic Issues

Policies and programs that address other EM programmatic issues, including programs to mitigate impacts will be discussed.



3 of 3

9.1 Waste Minimization

This section will address DOE's waste minimization, reduction, and pollution prevention programs and practices. Included will be a quantitative evaluation of the potential effect of waste minimization on the need for new waste treatment facilities and the potential effect of reducing the volume of wastes on the need for new waste disposal facilities, as applicable to each waste type considered in the PEIS. This section will also discuss the relationship between ER and WM Technology Development and waste minimization and reduction.

9.2 Health Studies

9.3 Job Retraining Programs to Mitigate Socioeconomic Impacts

9.4 Outreach, Public Education, and Public Involvement

9.5 EM Relationship of PEIS Determinations to Existing Agreements and Compliance Process

9.6 EM Budgeting Process and Prioritization

CHAPTER 10 List of Preparers

This chapter is required by 40 CFR 1502.17.

CHAPTER 11 List of Agencies, Organizations, and Persons Provided PEIS

This chapter is required by 40 CFR 1502.19.

Appendices

Appendices provide supporting detail for the PEIS (40 CFR 1502.18.). Subjects being considered for discussion in appendices include:

- Federal Register Notices
- Scoping and Workshop Process/Comments
- Existing NEPA Documentation and Regulatory Agreements
- Applicable Laws, Regulations, and Standards
- The DOE EM Mission and Current Program
- Affected Environment
- Waste Loads: ER and WM
- ER Human Health Risk Methodology and Risks
- WM Facility Human Health Risk Methodology and Risks
- Ecological Methodology and Impacts
- Transportation Risk Methodology and Risks
- Air Quality Methodology and Impacts
- Water Quality Methodology and Impacts
- Socioeconomic Methodology and Impacts
- Regional Equity
- Determinants of Land Use
- Technology Costs
- Technology Development Program
- Remedial, Waste Management, and Transportation Technologies
- Waste Minimization
- Safety and Accident Prevention
- Job Retraining
- Stakeholder Roles
- Environmental Monitoring Requirements and Programs
- Health Studies

Key Word Index

Glossary of Terms

Appendix D

List of Relevant Documents

APPENDIX D

List of Relevant Documents

Environmental Impact Statements:

DOE/EIS-0013, 1980, Disposal of Hanford Defense High-Level, Transuranic and Tank Wastes Environmental Impact Statement, Richland, WA.

DOE/EIS-0015, 1980, Final Environmental Impact Statement for the Storage of U.S. Spent Nuclear Power Reactor Fuel, (vols. 1, 2, 5), Washington, DC.

DOE/EIS-0023, 1979, Final Environmental Impact Statement for Savannah River Plant Long-Term Management of Defense High-Level Radioactive Wastes, Aiken, SC.

DOE/EIS-0026, 1980, Final Environmental Impact Statement for the Waste Isolation Pilot Plant (WIPP), Washington, DC.

DOE/EIS-0026-FS, 1990, Final Supplemental Environmental Impact Statement for the Waste Isolation Pilot Plant (WIPP), Washington, DC.

DOE/EIS-0038, 1979, Final Programmatic Environmental Impact Statement for U.S. Spent Fuel Policy (Fuel Use Act), Washington, DC.

DOE/EIS-0040,41,1980, Final Environmental Impact Statement for the Storage of US Spent Nuclear Power Reactor Fuel, (vols. 3, 4), Washington, DC.

DOE/EIS-0046, 1980, Final Environmental Impact Statement for Management of Commercially Generated Radioactive Waste (3 vols.), Washington, DC.

DOE/EIS-0062, 1980, Final Environmental Impact Statement for Waste Management Operations, Savannah River Plant, Double Shell Tanks for Defense High-Level Radioactive Waste Storage, Aiken, SC.

DOE/EIS-0063, 1980, Final Environmental Impact Statement for Waste Management Operations, Hanford, Double Shell Tanks for Defense High-Level Radioactive Waste Storage, Hanford, WA.

DOE/EIS-0064, 1980, Final Environmental Impact Statement for Rocky Flats Plant Site (3 vols.), Golden, CO.

DOE/EIS-0080, 1982, Final Environmental Impact Statement for Decommissioning of the Shippingport Atomic Power Station, Shippingport, PA, Washington, DC.

DOE/EIS-0081, 1982, Final Environmental Impact Statement for Long-Term Management of Liquid High-Level Radioactive Waste Stored at the Western New York Nuclear Service Center, West Valley, NY, Washington, DC.

DOE/EIS-0082, 1982, Defense Waste Processing Facility Environmental Impact Statement, Savannah River Plant, Aiken, SC, Washington, DC.

DOE/EIS-0084, 1982, Final Environmental Impact Statement for an Incineration Facility for Radioactively Contaminated PCBs and other Wastes, Oak Ridge Gaseous Diffusion Plant, Oak Ridge, TN.

DOE/EIS-0089D, 1982, Draft Environmental Impact Statement for Operation of PUREX and Uranium Oxide Plant Facilities, Hanford Site, Richland, WA.

DOE/EIS-0089, 1983, Final Environmental Impact Statement for Operation of PUREX and Uranium Oxide Plant Facilities, Hanford Site, Richland, WA.

DOE/EIS-0096, 1984, Final Environmental Impact Statement for Remedial Actions at the Former Vitro Rare Metals Plant Site, Canonsburg, Pennsylvania, Washington County, PA.

DOE/EIS-0098, 1983, Final Environmental Impact Statement for Pantex Plant Nuclear Weapons Operation, Amarillo, TX.

DOE/EIS-0099, 1984, Final Environmental Impact Statement for Remedial Actions at the Former Vitro Chemical Company Site, South Salt Lake, Salt Lake City, UT.

DOE/EIS-0108, 1984, Final Environmental Impact Statement for L-Reactor Operation Savannah River Plant, Aiken, SC.

DOE/EIS-0109, 1986, Final Environmental Impact Statement for the Long-term Management of the Existing Radioactive Wastes and Residues at the Niagara Falls Storage Site, NY, Washington, DC.

DOE/EIS-0110, 1984, Draft Environmental Impact Statement, Central Waste Disposal Facility for Low-Level Radioactive Waste, Oak Ridge Reservation, Washington, DC.

DOE/EIS-0111, 1985, Final Environmental Impact Statement for Remedial Actions at the Former Vanadium Corporation Of America, Uranium Mill Site, Durango, CO (2 vol.), Washington, DC.

DOE/EIS-0113, 1987, Final Environmental Impact Statement for Management and Disposal of Hanford Defense High Level, TRU and Tank Wastes, Hanford Site, (5 vols.), Richland, WA.

DOE/EIS-0115, 1986, Draft Environmental Impact Statement for Process Facility Modifications Project, Hanford Site, Richland, WA.

DOE/EIS-0117, 1987, Draft Environmental Impact Statement, Remedial Action at the Weldon Spring Site, St. Louis, MO, Washington, DC.

DOE/EIS-0119, 1989, Draft Environmental Impact Statement for Decommissioning the Eight Surplus Production Reactors, Hanford Site, Richland, WA.

DOE/EIS-0120, 1987, Final Environmental Impact Statement for Waste Management Activities for Groundwater Protection at Savannah River Plant, Aiken, SC.

DOE/EIS-0121, 1987, Final Environmental Impact Statement for Alternative Cooling Water Systems at the Savannah River Plant, Aiken, SC.

DOE/EIS-0126, 1986, Final Environmental Impact Statement for Remedial Actions at the Former Climax Uranium Company, Uranium Mill Site, Grand Junction, CO, Washington, DC.

DOE/EIS-0132, 1990, Final Environmental Impact Statement for Remedial Actions at the Former Union Corporation, Uranium Mill Sites, Rifle, CO, Washington, DC.

DOE/EIS-0133, 1988, Draft Environmental Impact Statement for Decontamination and Waste Treatment Facility for the Lawrence Livermore National Laboratory, Livermore, CA.

DOE/EIS-0136, 1988, Environmental Impact Statement for the Special Isotope Separation Project (SIS), Idaho National Engineering Laboratory, Idaho Falls, ID.

DOE/EIS-0138, 1988, Final Environmental Impact Statement for the Superconducting Super Collider (SSC), Washington, DC.

DOE/EIS-0138S, 1991, Final Supplemental Environmental Impact Statement for the Superconducting Super Collider (SSC), Washington, DC.

DOE/EIS-0144, 1991, Draft Environmental Impact Statement for Siting, Construction, and Operation of New Production Reactor Capacity, Washington, DC.

DOE/EIS-0147, 1990, Final Environmental Impact Statement for the Continued Operation of K-, L- and P-Reactors, Savannah River Site, Aiken, SC.

Environmental Assessments:

DOE/EA-0078, 1987, Former Airport Storage of the Atomic Energy Commission, St. Louis County, MO.

DOE/EA-0082, 1979, Argonne National Laboratory, Decontamination and Decommissioning of Plutonium Fabrication Facility, Bldg. 350, Argonne, IL.

DOE/EA-0092, 1979, Decommissioning and Decontamination Program, Battelle Plutonium Facility, Battelle Memorial Institute, Columbus Division, Madison County, OH.

DOE/EA-0106, 1979, Oak Ridge Gaseous Diffusion Plant Site, Oak Ridge, TN.

DOE/EA-0111, 1980, Maintenance and Storage Facility, Hanford Site, Richland, WA.

DOE/EA-0116, 1980, Fuels and Materials Examination Facility, Hanford Site, Richland, WA.

DOE/EA-0120, 1980, F Area Decommissioning Program, Hanford Site, Richland, WA.

DOE/EA-0128, 1980, Properties Adjacent to and Nearby the Formerly Utilized MED/AEC Sites Remedial Action Program, Middlesex Sampling Plant, NJ.

DOE/EA-0133, 1980, Decontaminating and Decommissioning the Westinghouse Advanced Reactors Division Plutonium Fuel Laboratories, Cheswick, PA.

DOE/EA-0135, 1980, Continued Operation of Y-12 Plant, Oak Ridge, TN.

DOE/EA-0151, 1982, National Plan for Siting High-Level Radioactive Waste Repositories.

DOE/EA-0152, 1981, Decontamination and Decommissioning of the New Brunswick Laboratory, New Jersey.

DOE/EA-0155, 1982, Final Environmental Impact Assessment of the Paducah Gaseous Diffusion Plant Site, Paducah, KY.

DOE/EA-0170, 1982, Naval Reactor Fuel Materials Facility.

DOE/EA-0173, 1982, The Decontamination and Decommissioning of the Argonne National Laboratory CP-5 Research Reactor, Argonne, IL.

DOE/EA-0179, 1982, Waste Form Selection for Savannah River Plant High-Level Waste, Environmental Assessment, Aiken, SC.

DOE/EA-0181, 1982, Environmental Assessment Related to the Operation of Argonne National Laboratory, Argonne, IL.

DOE/EA-0182, 1982, Y-12 Plant Site, Oak Ridge, TN.

DOE/EA-0183, 1982, Preliminary Cleanup Activities of the Vicinity Properties Contaminated by Tailings from the Vitro Rare Metals Plant, Canonsburg, PA.

DOE/EA-0184, 1982, Remedial Action Acid/Middle Pueblo Canyon, Los Alamos, NM.

DOE/EA-0197, 1982, Formerly Utilized MED/AEC Sites Remedial Action Program, Bayo Canyon, NM.

DOE/EA-0209, 1983, Pinellas Plant Site, St. Petersburg, FL.

DOE/EA-0217, 1983, Selection of the Waste Form for Immobilizing High-level Radioactive Wastes as Part of the West Valley Demonstration Project, West Valley, NY.

DOE/EA-0257, 1987, Continuous Electron Beam Accelerator Facility, Newport News, VA.

DOE/EA-0258, 1987, Breeder Reprocessing Engineering Test (BRET) Facility, Hanford Site, Richland, WA.

DOE/EA-0259, 1985, Decommissioning of the Strontium Semiworks Facility, Building 201-C, Hanford Site, Richland, WA.

DOE/EA-0260, 1985, Proposed Low-Level Waste Processing and Shipment System Feed Materials Production Center, Fernald, OH.

DOE/EA-0273, 1986, Nuclear Materials Storage Facility TA-55, Los Alamos, NM.

DOE/EA-0279, 1986, Proposed Revision to the Uranium Enrichment Services Criteria (NE).

DOE/EA-0295, 1986, Disposal of Project Low-Level Waste, West Valley Demonstration Project, West Valley, NY.

DOE/EA-0303, 1986, Krypton Fluoride Laser System, Los Alamos National Laboratory, NM.

DOE/EA-0304, 1986, Ground Test Accelerators (GTA) 1 and 2, Los Alamos National Laboratory, NM.

DOE/EA-0306, 1987, Fuel Processing Restoration at the Idaho National Engineering Laboratory, ID.

DOE/EA-0312, 1986, Grouting and Near-Surface Disposal of Low-Level Radioactive Phosphate/Sulfate Wastes from N Reactor Operation, Hanford Facilities Waste, Richland, WA.

DOE/EA-0319, 1986, Fuels Production Facility, Savannah River Plant, SC.

DOE/EA-0321, 1986, Shipment of Taiwanese Research Spent Nuclear Fuel.

DOE/EA-0333, 1988, Decontamination and Decommissioning Facility, Feed Materials Production Center, Fernald, OH.

DOE/EA-0362, 1988, Y-12 Resource Conservation and Recovery Act Closure Initiation Projects, Oak Ridge, TN.

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DOE/EA-0364, 1989, Nuclear Directed Energy Research Facility, Lawrence Livermore National Laboratory, Livermore, CA.

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DOE/EA-0389, 1990, Proposed 7-GeV Advanced Photon Source.

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DOE/EA-0412, 1989, Engineering Evaluation/Cost Analysis for the Proposed Management of Contaminated Water in the Weldon Spring Quarry.

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DOE/EA-0422, 1990, Relocation of the Hazardous Waste Handling Facility at Lawrence Berkeley Laboratory, Livermore, CA.

DOE/EA-0428, 1990, Radioactive Mixed Waste Management Facility (RMWMF).

DOE/EA-0429, 1990, Environmental and Molecular Sciences Laboratory (ER/RL).

DOE/EA-0430, 1988, TRU Management Pyro-Processing Separation.

DOE/EA-0432, 1990, Supercompactor and Repackaging Facility and TRU Waste Shredder.

DOE/EA-0433, 1990, Battelle Columbus Laboratories Decommissioning Project.

DOE/EA-0437, 1990, Process Equipment Waste and Process Waste Liquid Collection Systems ("Buried Waste Lines") at Idaho National Engineering Laboratory/Idaho Chemical Processing Plant.

DOE/EA-0438, 1990, The Disposal of Rocky Flats Plant Pondcrete at the Nevada Test Site, Area 5, Radioactive Waste Management Site.

DOE/EA-0443, 1990, Environmental Assessment on Proposed Extension of U.S. Policy on Receipt of Spent Research Reactor Fuel.

DOE/EA-0454, 1990, Transportation, Receipt and Storage of Fort St. Vrain Spent Fuel at the Irradiated Fuel Storage Facility at Idaho National Engineering Laboratory/Idaho Chemical Processing Plant.

DOE/EA-0461, 1990, Mixed Waste Disposal Operations at the Nevada Test Site.

DOE/EA-0463, 1991, Proposed Management of Contaminated Bulk Wastes at the Weldon Spring Quarry and Management of Impound Surface Water at the Weldon Spring Chemical Plant.

DOE/EA-0466, 1991, Radioactive and Mixed Waste Management Facility, Sandia, Albuquerque, NM.

DOE/EA-0470, 1990, Lawrence Livermore National Lab Site 300 Bldg. 834 Complex, Livermore, CA.

DOE/EA-0474, 1991, Interim Groundwater Treatment Facility/Land Purchase at the Eastern General Services Area of Lawrence Livermore National Laboratory, Site 300, Livermore, CA.

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DOE/EA-0495, 1991, Preparation for Crust Sampling of Tank 241-SY-101, Hanford Site, Richland, WA.

DOE/EA-0496, 1991, Surface Water Interim Measures/Interim Remedial Action Plan/Environmental Assessment & Decision Document.

ERDA-1536, 1977, Final Environmental Impact Statement for Waste Management Operations at Idaho National Engineering Laboratory, Idaho Falls, ID.

ERDA-1537, 1977, Final Environmental Impact Statement for Waste Management Operations at Savannah River Plant, Aiken, SC.

ERDA-1551, 1977, Final Environmental Impact Statement for Nevada Test Site, Las Vegas, NV.

ERDA-1553, 1977, Environmental Impact Statement for Management of Intermediate Level Radioactive Waste at Oak Ridge National Laboratory, Oak Ridge, TN.

ERDA-1555, 1977, Final Environmental Impact Statement for Portsmouth Gaseous Diffusion Plant Site, Piketon, OH.

WASH-1510, 1972, Environmental Statement, Fast Flux Test Facility, Richland, WA, United States Atomic Energy Commission, Washington, DC.

NUREG-0586, NRC, 1985, Final Environmental Impact Statement on Decommissioning of Nuclear Facilities, Washington, DC.

NUREG-0170, NRC, 1977, Final Environmental Impact Statement on the Transportation of Radioactive Material by Air and Other Modes, Washington, DC.

NUREG-0511, 1979, Draft Generic Environmental Impact Statement on Uranium Milling, Washington, DC.

NUREG-0586, 1985, Final Environmental Impact Statement on Decommissioning of Nuclear Facilities, Washington, DC.

NUREG-0945, 1982, Final Environmental Impact Statement on CFR Part 61 "Licensing Requirements for Land Disposal of Radioactive Waste," Washington, DC.

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U.S. Department of Navy, 1984, Final Environmental Impact Statement for the Disposal of Decommissioned, Defueled Naval Submarine Reactor Plants, Washington, DC. (DOE was a cooperating agency.)

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ORNL/EIA-154/V6, 1985, Nuclear Facility Decommissioning and Site Remedial Actions, A Selected Bibliography, Oak Ridge National Laboratory, Oak Ridge, TN.

SAND85-2715, J.W. Cashwell, K.S. Neuhauser, P.C. Reardon, and G.W. McNair, 1986, Transportation Impacts of the Commercial Radioactive Waste Management Program, TTC-0663, Sandia National Laboratories, Albuquerque, NM.

Appendix E

EM Organization and Functions

APPENDIX E

EM Organization and Functions

The Assistant Secretary for Environmental Restoration and Waste Management (EM) organization includes the Office of Environmental Restoration (ER), the Office of Waste Management (WM), the Office of Technology Development (TD), the Office of Facility Transition and Management, and other Offices. The EM Program organization is shown in figure E-1.

E.1 Environmental Restoration Activities

Both site remediation and decontamination and decommissioning (D&D) activities are included in the Environmental Restoration Program. Site remediation activities are the major focus of the ER Program.

Remedial action tasks encompass discovery of site contamination, preliminary assessment and site investigation (PA/SI), site characterization, analysis of cleanup alternatives and selection of remedy; remedial design; cleanup and site closure; and site compliance monitoring. The D&D tasks encompass surveillance and maintenance; assessment and characterization; environmental review; engineering; D&D operations; and closeout. Five hundred contaminated DOE facilities now require D&D. The number of such facilities will be affected by the Complex 21 reconfiguration.

Remedial action activities are accomplished through negotiated cleanup agreements among DOE, the Environmental Protection Agency (EPA), and some States. The remedial action process for all activities includes similar protocols to implement the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Resource Conservation and Recovery Act (RCRA) Corrective Action Program requirements. In addition, some provisions of the Atomic Energy Act (AEA) apply to D&D activities. A negotiated cleanup agreement can be either a Federal Facility Agreement or a Consent Order, or both a Federal Facility Agreement and Consent Order. These agreements are tailored to the conditions specific to each site or facility; that is, the properties of the contaminants of concern; and the nature, magnitude, extent, and duration of the contamination in the environment. Each negotiated cleanup agreement is a separate action with an independent schedule contingent upon the completion of defined phases according to specified milestones. For each site these independent agreements establish requirements and schedules for characterization and feasibility assessment and delineate the roles and responsibilities of each party to the agreement. These restoration actions are in the early stages of planning and implementation and will be continued to achieve regulatory compliance. The types, extent, and volumes of contaminants cannot be fully known until the investigation phase is completed at each site. In the interim, DOE has taken action to remove waste or contaminants for those areas identified as the highest risk in accordance with the agreements. These interim actions are structured in such a way as to not preclude the selection of permanent remediation at those sites.

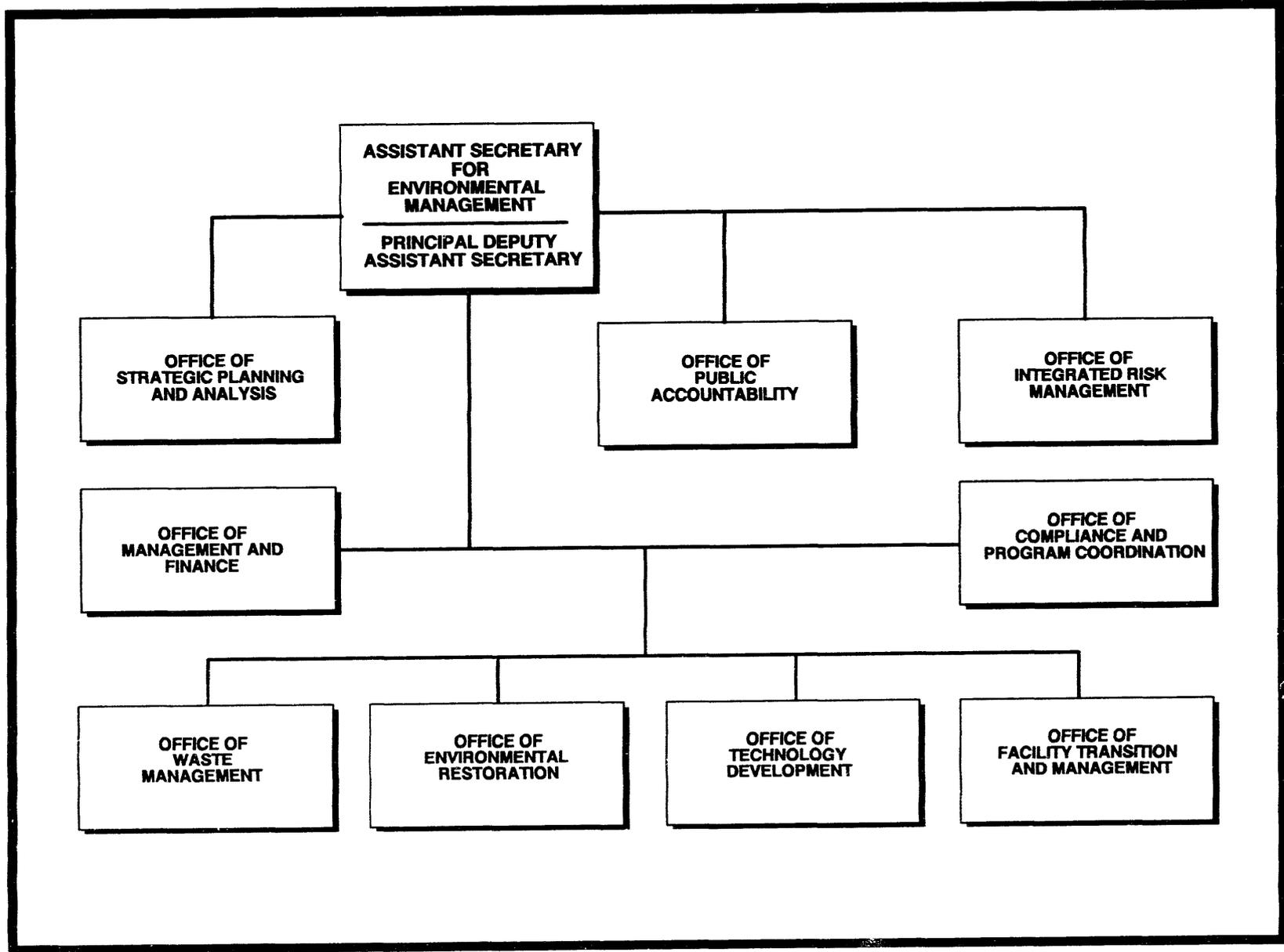


Figure E-1. Assistant Secretary for Environmental Restoration and Waste Management Organization.

E.2 Waste Management Activities

DOE's activities produce waste that require collection, storage, characterization, destruction or stabilization, containment, transportation, and disposal. Waste Management (WM) accepts waste produced by DOE's processing, manufacturing, restoration, and research activities. The waste is managed using appropriate treatment, storage, and disposal (TSD) technologies.

The WM Program manages high-level waste (HLW), spent nuclear fuel (SNF), transuranic waste (TRUW), low-level waste (LLW), low-level mixed waste (LLMW), and hazardous waste (HW). DOE Order 5820.2A (Radioactive Waste Management) requires that DOE waste equivalent to commercially generated Greater-Than-Class C (GTCC) LLW be handled as a special case at each site. DOE assumes that untreated HLW and TRUW contain hazardous components and manage these waste streams as mixed waste.

Treatment facilities in South Carolina, New York, and Washington are at various stages of design, construction, and startup for treating high-level waste. WM plans to begin processing high-level waste into a glass waste form in South Carolina in the early 1990s. The processed high-level waste is planned to be disposed of in a geologic repository when it is available.

For defense-generated TRUW, the WM Program has packaging and storage facilities at a number of sites, including Savannah River Site (SRS), Idaho National Engineering Laboratory, Oak Ridge Reservation, Hanford Site, Nevada Test Site, and Los Alamos National Laboratory. If compliance with applicable regulations can be demonstrated, disposal at the Waste Isolation Pilot Plant (WIPP) is planned for TRUW.

All the sites mentioned in the previous paragraph have disposal facilities for low-level waste. Until proper treatment or disposal facilities are available, low-level mixed waste is stored at a number of DOE locations. Goals for low-level mixed waste include treatment and disposal as low-level waste.

DOE is also responsible for disposal of GTCC LLW from both Federal and commercial sources. GTCC low-level waste has a higher level of radioactivity than other types of LLW. Disposing of this waste requires a specific assessment of the waste suitability for a disposal facility. Commercial GTCC low-level waste must be disposed of in a Nuclear Regulatory Commission- (NRC-) licensed facility.

Hazardous waste is generated in a variety of forms from diverse DOE operations. The most common form of hazardous waste is liquid, but significant quantities of solids and sludge are also generated. DOE sites normally send hazardous waste to commercial vendors for treatment and disposal.

Among the many factors that increase the complexity and urgency of planning for effective TSD needs are the requirement to treat the hazardous component of mixed waste under RCRA's Land Disposal Restrictions (LDRs); the uncertainty surrounding the nature and waste volumes generated

by ER activities; the impact of new regulatory requirements, both external and internal to DOE; and the need to define treatment requirements and develop acceptable treatment facilities.

WM has many specific near-term program objectives, including significantly reducing waste generation by using substitute materials, process alteration, improved production hardware, and recycling. These near-term objectives will continue to be taken to ensure that public health and safety are preserved and regulatory compliance is attained.

E.3 Technology Development Activities

Technology Development (TD) activities support DOE's 30-year compliance and cleanup goal and are planned to reduce the overall EM Program cost. TD seeks to resolve major technical and infrastructure issues, rapidly advance toward treatment of various wastes, and utilize technology to appropriately restore some sites. For such goals, new technological solutions must be developed. The TD activities have established several broad program areas, including Research, Development, Demonstration, Testing and Evaluation, Technology Integration, Education, Analytical Laboratory Management, and Transportation. The Research, Development, Demonstration, Testing and Evaluation program area is organized into Integrated Demonstrations (IDs) and Integrated Programs, which focus on activities that lead toward fully workable, cost-effective technologies. IDs that support ER are designed as full-scale pilot environmental remediation activities in which technical solutions can be tested. IDs also consider other factors that affect full-scale restoration, such as planning, regulatory permitting, and public acceptance. Similarly, IDs that support waste operations span a complete set of issues. IDs will be conducted in the areas of groundwater and solid waste cleanup, waste retrieval and waste processing, and waste minimization and waste avoidance. Integrated Programs address specific sets of ER and WM needs and provide a continuing mechanism to focus research and development activities to develop new technologies. This process involves evaluating relative merits and suitability of technologies for various applicable IDs and advancing results rapidly to the demonstration, testing, and evaluation phase.

Waste minimization programs are promoted at all DOE sites to assist waste generators with planning and implementation. Source reduction and recycling are the focuses of waste minimization. The need for new technologies exists, regardless of which alternatives are ultimately chosen for the ER and WM Programs. However, specific priorities for Technology Development activities will depend on which alternatives are chosen. In addition, TD is committed to providing the proper infrastructure, facilities, and funding to support the new technologies.

DOE is firmly committed to recycling materials to the fullest extent possible. TD recognizes that recycling materials from D&D could reduce the burden on the DOE waste management system. TD continues to explore the potential for recycling of materials from D&D within the nuclear industry, as well as the potential for recycling in the commercial materials trades.

In developing innovative technologies for ER and WM, Technology Development will seek ideas from sources in the private sector, universities, and other government agencies in addition to relying on its traditional sources, the DOE National Laboratories. Technology Integration activities were established to help facilitate the involvement of outside agencies and DOE stakeholders (for example, environmental interest groups, Indian tribes) with TD's Research, Development, Demonstration, Testing and Evaluation activities. Technology Integration activities provide candidate technologies to Research, Development, Demonstration, Testing and Evaluation managers for review and consideration and are responsible for transferring technology throughout the DOE complex and to interested outside parties.

Technology Development is charged with creating an Environmental Education Program to ensure a sufficient supply of professional and technical people to execute EM missions. The Environmental Education Program primary activities are to retain and retrain the current workforce, to attract and train the future workforce (particularly minorities, females, and other traditionally under-represented groups), and to create a knowledgeable public. Programs involving traditional educational institutions include a substantial precollege outreach program, scholarship, fellowship programs, and academic partnerships with a consortium of universities.

Technology Development is responsible for ensuring that all EM operations have the sampling and analysis services required to provide the environmental data critical to the mission of EM. The Analytical Services Program is responsible for developing and implementing an EM sampling and analysis Quality Assurance Program. The Analytical Services Program is divided into three subprograms: Resource Planning, Quality Assurance, and Analytical Support. Resource Planning deals with acquisition strategies, standard analytical support contract packages, sample management offices, estimates of sampling and analysis needs and capacity, and data information systems. Quality Assurance focuses on quality assurance and performance evaluation, audits, and data quality objectives. Analytical Support is concerned with developing, compiling, and verifying field and laboratory analytical methods.

TD is also responsible for new developments and continuing improvements in transportation and packaging systems to provide the basis for efficient, safe transportation that meets current and future DOE needs; and for developing a comprehensive DOE emergency response program, including coordination with outside agencies, Natural Resources Trustees, and preparation of Natural Resources Damage Assessments under CERCLA requirements. The Transportation Technology Development Program is responsible for developing innovative technology to solve DOE transportation and packaging problems. The future structure of the Transportation Technology Development Program will depend on the recommended alternatives for ER and WM.

E.4 Facility Transition and Management

The DOE has numerous facilities at sites across the country that support active operating programs. When these programs complete or terminate their missions, the associated facilities are identified as surplus and are shut down. Because many of these facilities are contaminated with hazardous or radioactive materials from previous operations, special controls and monitoring

requirements are necessary during and after facility shutdowns to ensure public health and safety and to protect the environment.

One of EM's primary goals is to ensure that the risks to human health and safety and to the environment posed by inactive and surplus facilities are either eliminated or reduced to acceptable levels. Toward this end, EM is responsible for ensuring that facilities are deactivated, are properly maintained, and are eventually decontaminated or decommissioned, or released for other uses. DOE offices can transfer surplus facilities to EM for final disposition using a formalized protocol.

In the past, problems have been associated with facility transfers; moreover, a large number of similar facilities are expected to come to EM for final disposition in the future. Accordingly, DOE established the Office of Facility Transition and Management within EM to develop and institutionalize a Departmental process for the timely and effective transfer of surplus facilities and to implement that process in transitioning surplus facilities to EM for final disposition.

In developing a systems approach for surplus facility transition, the newly established Office of Facility Transition and Management focuses on the following objective: (1) establishing a list of candidate DOE facilities expected to be assigned to EM in the future; (2) assessing the condition of the candidate facilities to determine the priority and extent of required transition actions; (3) developing an accepted transfer protocol; (4) developing formalized plans for transitioning affected facilities/sites to EM; and (5) developing site-specific mission plans for all DOE sites supporting EM missions.

Appendix F
List of Acronyms

Appendix F

List of Acronyms

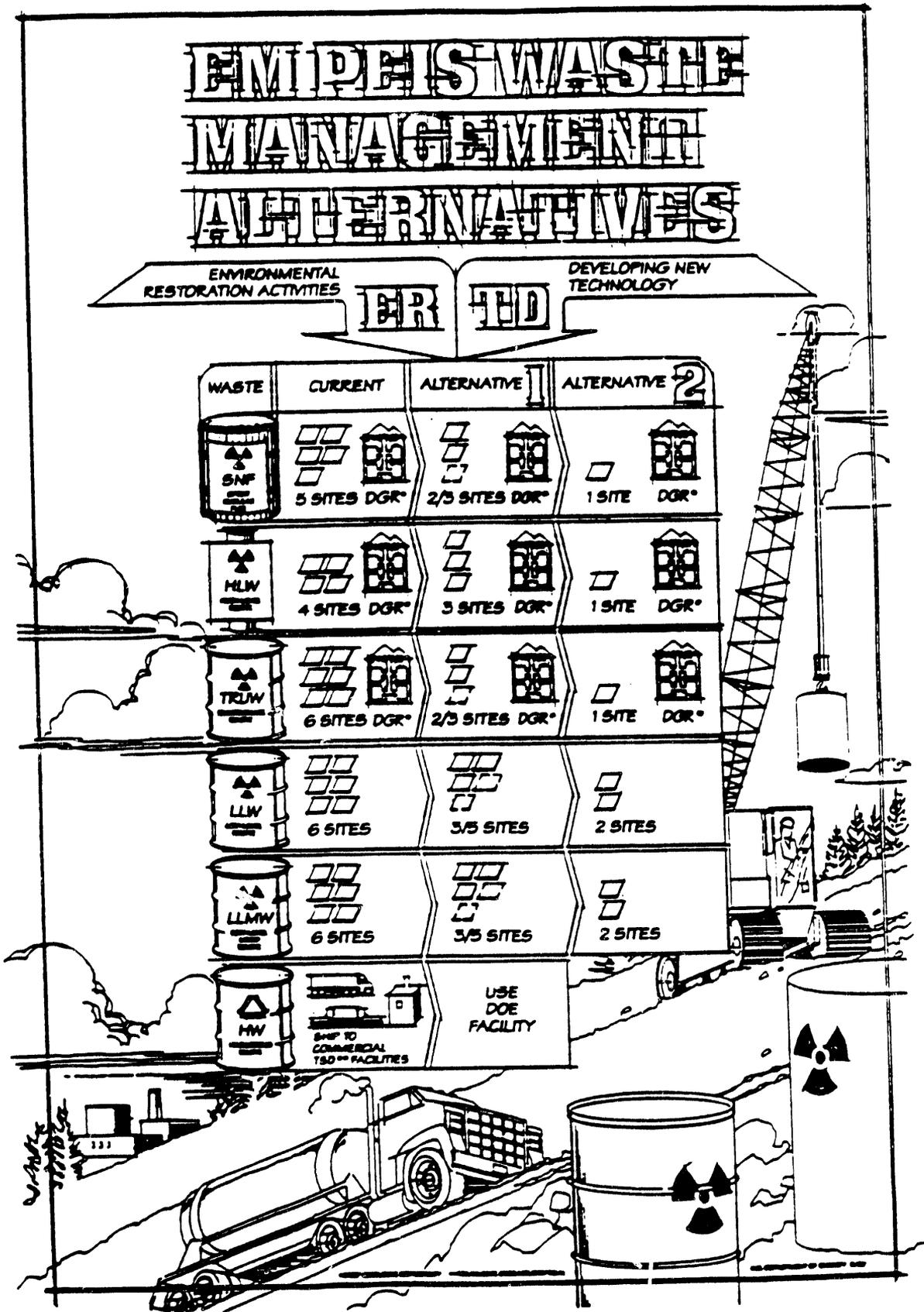
AEA	Atomic Energy Act
ARARs	Applicable or Relevant and Appropriate Requirements
ATSDR	Agency for Toxic Substances and Disease Registry
BRC	below regulatory concern
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CWA	Clean Water Act
CY	Calendar Year
D&D	decontamination and decommissioning
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
DP	Defense Programs
EA	Environmental Assessment
EH	DOE Office of Environment, Safety, and Health
EIS	Environmental Impact Statement
EM	Office of Environmental Restoration and Waste Management
EMAC	Environmental Restoration and Waste Management Advisory Committee
EPA	U.S. Environmental Protection Agency
ER	Environmental Restoration
ERMC	Environmental Restoration Management Contractor
FACA	Federal Advisory Committee Act
FEMP	Fernald Environmental Restoration Management Project
FFCA	Federal Facility Compliance Act
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FONSI	Finding of No Significant Impact
FR	Federal Register
FT	Facility Transition
FUSRAP	Formerly Utilized Sites Remedial Action Program
FY	Fiscal Year
GTCC	Greater-Than-Class-C

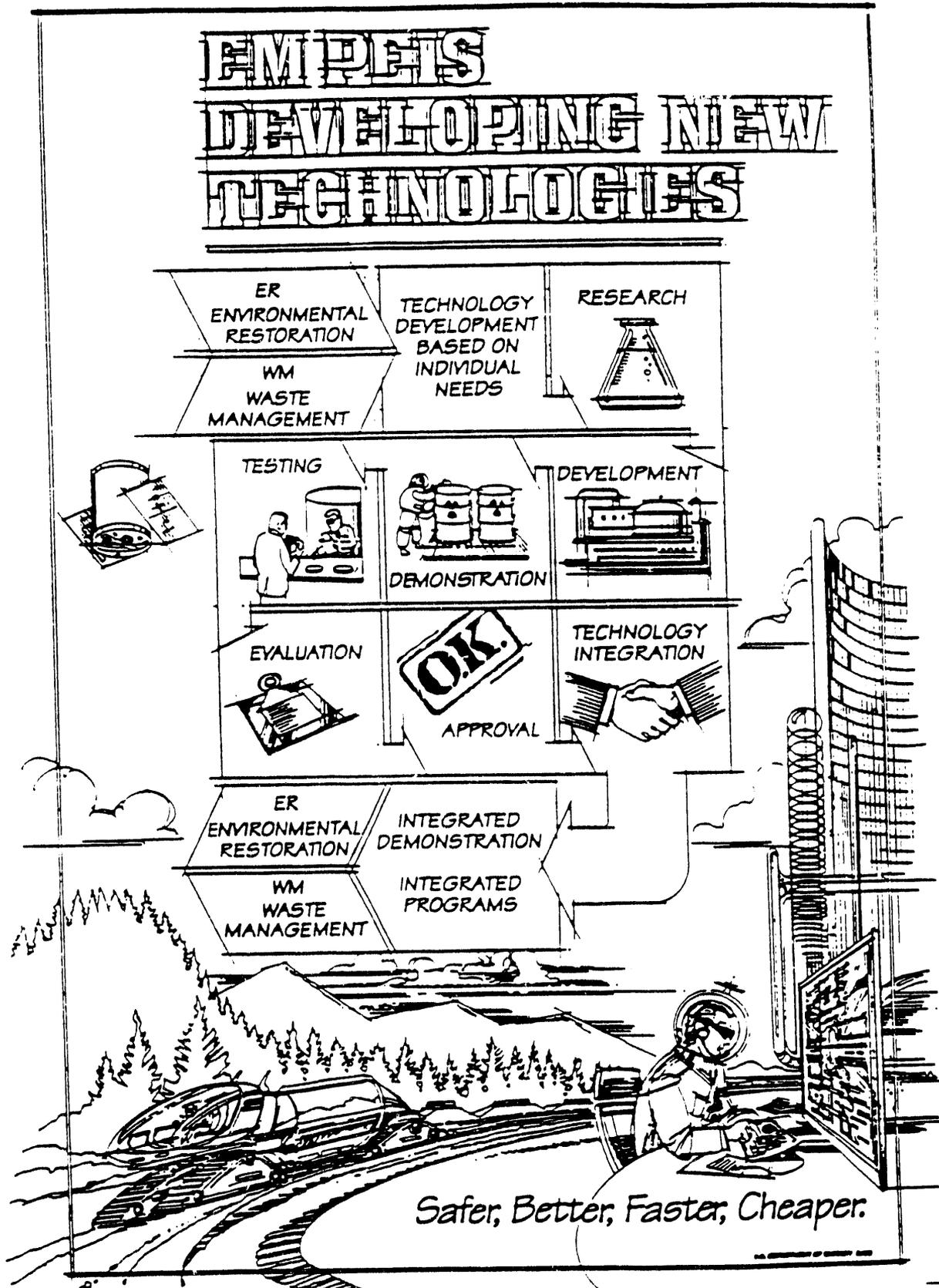
HHS	U.S. Department of Health and Human Services
HLW	high-level waste
HS	Hanford Site
HW	hazardous waste
IDs	Integrated Demonstrations
INEL	Idaho National Engineering Laboratory
IP	Implementation Plan
LANL	Los Alamos National Laboratory
LBA	Louis Berger & Associates, Incorporated
LDRs	Land Disposal Restrictions
LLMW	low-level mixed waste
LLNL	Lawrence Livermore National Laboratory
LLW	low-level waste
MCL	Maximum Contaminant Level
NCP	National Contingency Plan
NEPA	National Environmental Policy Act
NMWC	National Mixed Waste Compliance
NOI	Notice of Intent
NPR	New Production Reactor
NRC	U.S. Nuclear Regulatory Commission
NTS	Nevada Test Site
NWC	Nuclear Weapons Complex
NWPA	Nuclear Waste Policy Act
ORR	Oak Ridge Reservation
OSHA	Occupational Safety and Health Act
PA/SI	preliminary assessment and site investigation
PEIS	Programmatic Environmental Impact Statement
RCRA	Resource Conservation and Recovery Act
RFP	Rocky Flats Plant
RI/FS	remedial investigation/feasibility study
ROD	Record of Decision
SARA	Superfund Amendment Reauthorization Act
SDWA	Safe Drinking Water Act
SNF	spent nuclear fuel
SNL-L	Sandia National Laboratory - Livermore
SRS	Savannah River Site
STGWG	State and Tribal Government Working Group

TD	Technology Development
TRUW	transuranic waste
TSCA	Toxic Substance Control Act
TSD	treatment, storage, and disposal
UMTRAP	Uranium Mill Tailings Remedial Action Program
WIPP	Waste Isolation Pilot Plant
WM	Waste Management
WVDP	West Valley Demonstration Project

Appendix G

Regional Workshop Graphics



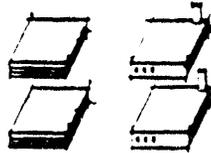


PRESENT ENVIRONMENTAL RESTORATION ALTERNATIVES

PUBLIC HEALTH
& SAFETY

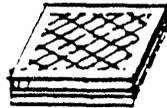
DEVELOPING NEW
TECHNOLOGIES

CURRENT PROGRAM (NO ACTION ALTERNATIVE)



- DIG UP
- TREAT ON SITE
- NO SITE INTEGRATION

ALTERNATIVE
CONTROL IN
PLACE AT
ALL SITES



ALTERNATIVE
REMOVAL &
TREATMENT
MOVE TO
BEST LOCATION
INTEGRATES WITH
WM ALTERNATIVES

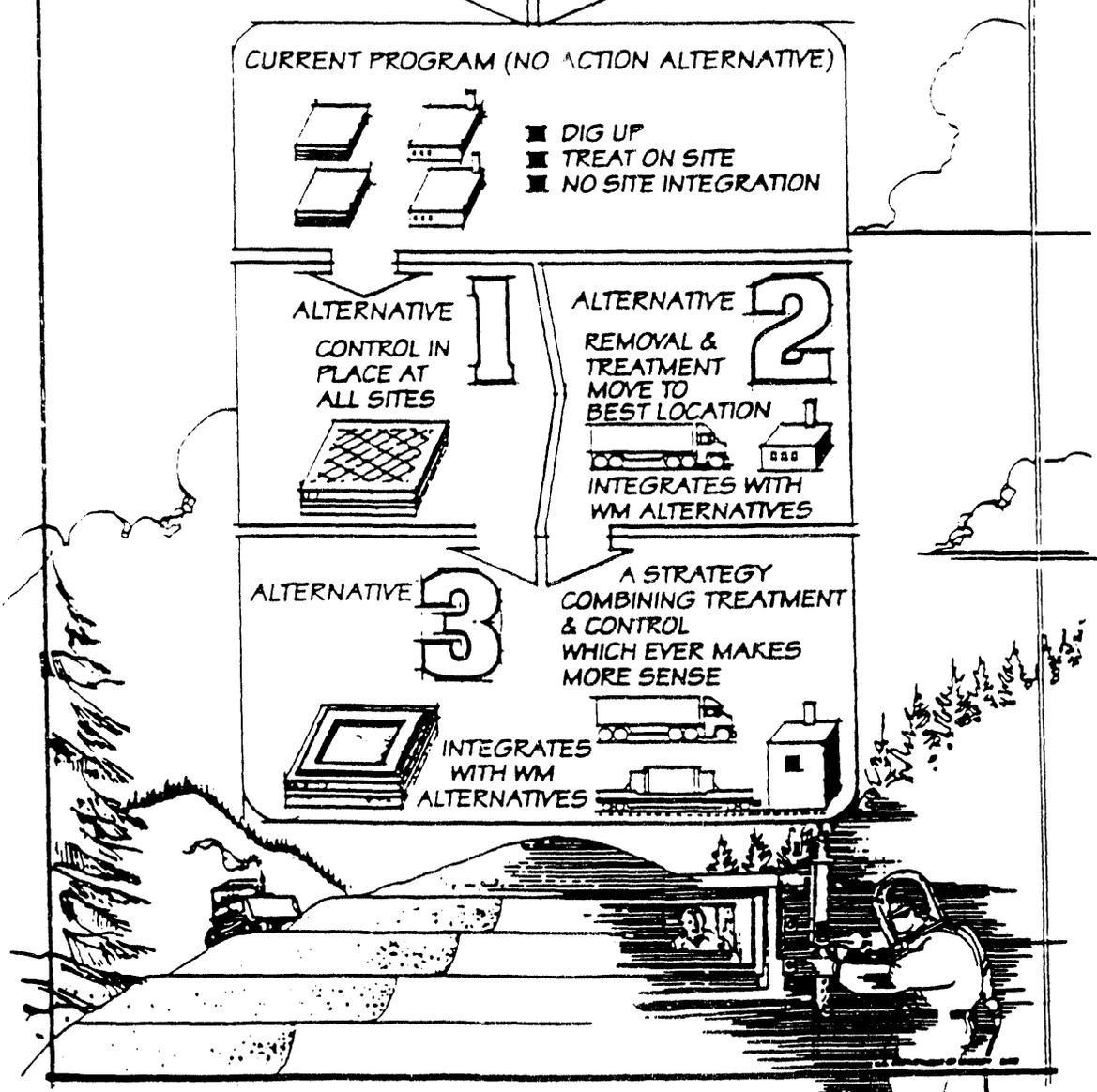
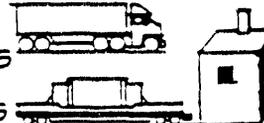


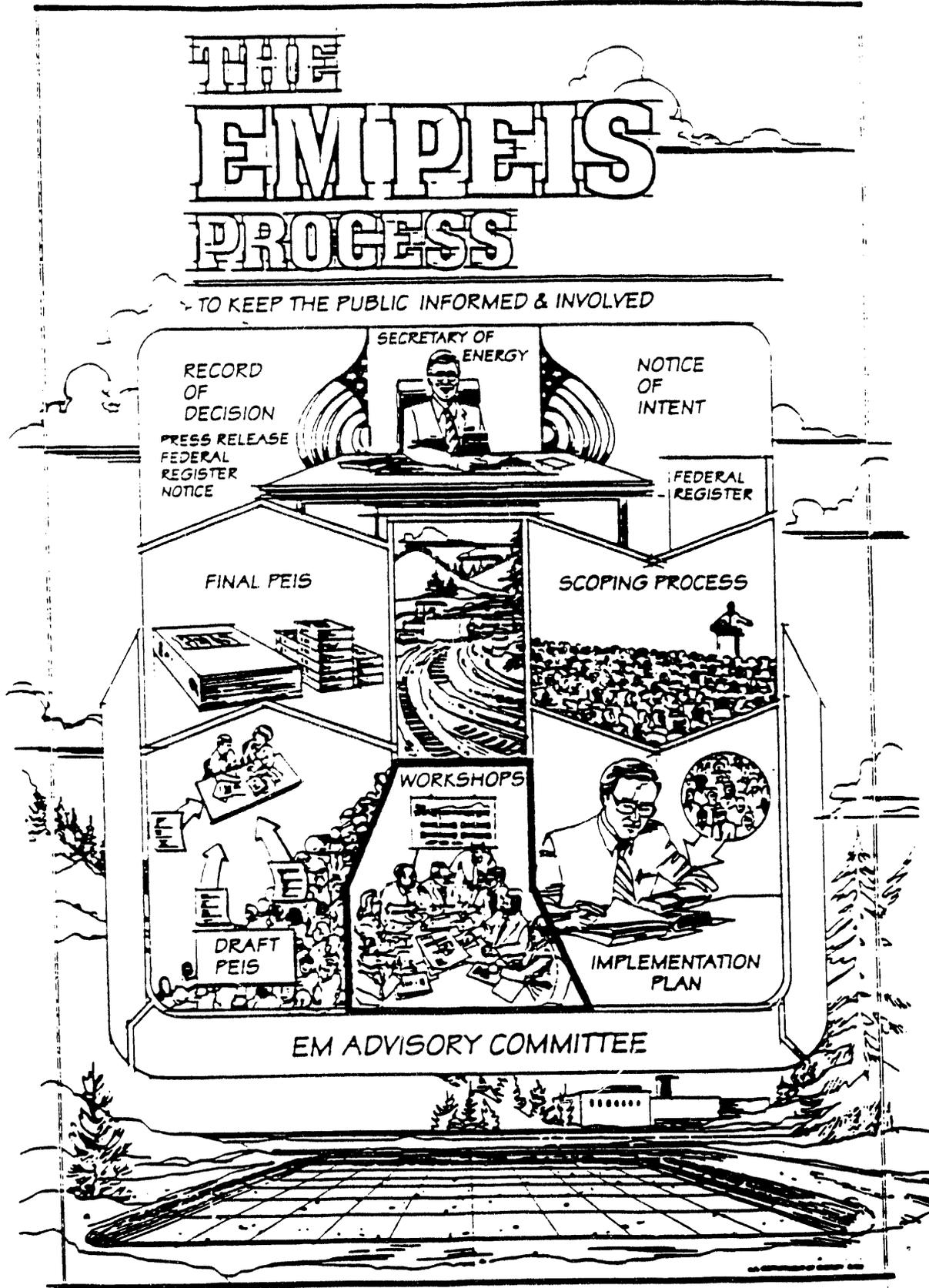
ALTERNATIVE
3

A STRATEGY
COMBINING TREATMENT
& CONTROL
WHICH EVER MAKES
MORE SENSE



INTEGRATES
WITH WM
ALTERNATIVES





Appendix H

EMAC Charter and Membership

**DEPARTMENT OF ENERGY
CHARTER
ENVIRONMENTAL RESTORATION
AND WASTE MANAGEMENT
ADVISORY COMMITTEE**

1. Committee's Official Designation:

Environmental Restoration and Waste Management Advisory Committee (EMAC)

2. Committee's Objective, Scope of Activities, and Duties:

The EMAC will provide the Assistant Secretary for Environmental Restoration and Waste Management (EM) with information, advice, and recommendations concerning the content and process of the Programmatic Environmental Impact Statement (PEIS) and other EM projects. The EMAC will advise the Assistant Secretary on both the substance and the process of the PEIS from the perspective of affected groups and State and local Governments as well as advice on any other EM projects which the Assistant Secretary requests and assigns to the Committee for review and advice. The EMAC will be advised of the progress on the PEIS at regular intervals to be determined by the Assistant Secretary.

The EMAC will have the following duties:

- a. advise DOE on the process, content, public participation, and scientific, technical, and other aspects of the analyses for the PEIS and other EM projects;
- b. regularly assess the progress of the PEIS;
- c. review documents produced for the PEIS process as requested, and similarly, review the documents prepared for other EM projects assigned to the EMAC.
- d. issue reports and recommendations; and
- e. recommend options to resolve difficult issues faced in the EM program, including clean-up criteria and risk assessment, land use, priority setting and strategies for determining the future national configuration of waste management and disposal facilities.

3. Time Period Necessary for the Committee to Carry Out Its Purpose:

Since the task of the committee is to advise EM on a succession of projects and issues including the PEIS, the time period required to carry out its purpose is continuing in nature.

4. Official to Whom this Committee Reports:

This committee will report to the Assistant Secretary for EM.

5. Agency Responsible for Providing Necessary Support for the Committee:

Department of Energy

6. A Description of Duties for Which the Committee is Responsible:

The duties of the committee are solely advisory and are fully stated in paragraph 2 above.

7. Estimated Annual Operating in Dollars and Person-Years:

DOE will provide resources sufficient to conduct its business as well as travel and subsistence (per diem) expenses for the members. In fiscal year (FY) 92, estimated costs are \$1 million in FY 92 dollars and three person-years. Estimated costs and person-years are the same for following years.

8. Estimated Number and Frequency of Committee Meetings:

The committee will meet approximately four times per year, once a quarter, or as determined by the Assistant Secretary.

9. Committee's Termination Date (if less than 2 years from the date of establishment or renewal):

Not Applicable.

10. Subcommittees:

To facilitate the functioning of the committee, subcommittees may be formed. The objective of the subcommittees would be to make recommendations to the EMAC on matters concerning plans and programs that are related to the responsibilities of the overall committee. The subcommittees shall be comprised of members of the EMAC as determined by the chairman of the committee.

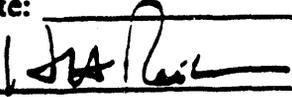
11. Members:

- a. Initial appointments shall be made by the Assistant Secretary for Environmental Restoration and Waste Management for 2 years to achieve continuity in membership and to make use of the acquired knowledge and experience with the developing PEIS and other projects. Members may be reappointed for additional terms of 1 or 2 years.
- b. Approximate number of members: 15

12. Chair:

The Chair shall be appointed by the Assistant Secretary for Environmental Restoration and Waste Management and shall serve for a period of 2 years, and may be reappointed for additional terms.

This Charter for the Advisory Committee named above is hereby approved on:

Date: JAN 15 1992


Howard H. Raiken
Advisory Committee Management Officer

Date Filed: JAN 24 1992

The Department of Energy has requested nominations for committee membership in letters to governors, State and Tribal Government Working Group (STGWG) members, environmental interest groups, universities, and numerous other individuals and organizations associated with, or affected by, the DOE's waste cleanup programs throughout the country. The department will select individuals willing to devote their personal time and talent to working within a committee structure so as to develop consensus recommendations for consideration by the department.

As soon as selection has been completed, members appointed to the committee will be announced by the department.

-DOE-

**CURRENT
ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT
ADVISORY COMMITTEE MEMBERS**

Effective December 14, 1993

Mr. Alvin Alm
Science Applications International Corporation
McLean, VA

Dr. Lynn Anspaugh
Lawrence Livermore National Laboratory
Livermore, CA

Mr. Kenneth Ayers
Willis Carroon Health Care Concepts
Nashville, TN

Mr. Richard Bangart
U.S. Nuclear Regulatory Commission
Rockville, MD

Mr. Dennis Bechtel
Clark County of Department of Comprehensive Planning Nuclear Waste Division
Las Vegas, NV

Mr. Jeff Breckel
Washington Department of Ecology
Olympia, WA

Mr. Gerald Christean
Laborers International Union of North American
Stafford, VA

Mr. Tim Connor
Energy Research Foundation
Spokane, WA

Mr. Douglas Costle
Woodstock, VT

Ms. Vicky Dastillung
Fernald Residents for Environment, Safety and Health
Hamilton, OH

Mr. Fred Donath
Institute for Environmental Education
U.S. Geological Society
San Clemente, CA

Ms. Shira Flax
Centers for Disease Control
Agency for Toxic Substances and Disease Registry
Atlanta, GA

Dr. William Freudenburg
University of Wisconsin-Madison
Madison, WI

Mr. Russell Jim
Yakima Indian Nation
Toppenish, WA

Mr. Ken Korkia
Rocky Flats Cleanup Commission
Denver, CO

Mr. Ron Kucera
Missouri Department of Natural Resources
Jefferson City, MO

Mr. Jim Lapping
Building and Construction Trades
ALF-CIO
Washington, DC

Mr. Tom McCall, Jr.
Environmental Law Institute
Washington, DC

Dr. Glenn Paulson
Illinois Institute of Technology
Chicago, IL

Mr. Ron Ross
Western Governors' Association
Denver, CO

**Mr. Ben Smith
Governor's Planning Office
State of Tennessee
Nashville, TN**

**Dr. Jay Sorenson
Sierra Club
Albuquerque, NM**

**Mr. Tom Winston
Ohio Environmental Protection Agency
Dayton, OH**

Appendix I

DOE and EPA Letter of Agreement on EPA's Cooperating Agency Role in the PEIS



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

SEP 1 1992

OFFICE OF
THE ADMINISTRATOR

Ms. Linda Stunts
Acting Deputy Secretary
United States Department of Energy
Washington, DC 20585

Dear Linda:

The purpose of this letter is to establish a framework for technical cooperation between the U.S. Department of Energy (DOE), as Lead Agency, and the Environmental Protection Agency (EPA), as a Cooperating Agency, concerning the development of the Programmatic Environmental Impact Statement (PEIS) on the Environmental Restoration and Waste Management Program (EM). When counter-signed by DOE, the following paragraphs will provide the basis for an understanding of the roles and responsibilities between the two agencies concerning technical coordination on issues of mutual concern. Funds and resources will not be transferred between the two agencies for activities resulting from this letter.

The DOE, as Lead Agency, has responsibility for compliance with the requirements for the National Environmental Policy Act (NEPA) and preparation of the draft and final PEIS. This letter pertains to information exchanges on technical issues and will not abrogate, alter, or in any way modify existing or future environmental compliance or cleanup agreements, other enforceable agreements, any permitting or other regulatory requirement, or any enforcement actions, nor will it alter EPA's responsibilities under NEPA and Section 309 of the Clean Air Act (CAA) to provide scoping comments and conduct an official review of the draft and final PEIS. Furthermore, it will in no way affect state actions or policies with respect to specific DOE sites.

The DOE agrees:

- to provide EPA with PEIS baseline studies pertaining to areas for which DOE would like EPA technical review and comments including: risk assessment, risk management, and transport and fate modeling;

- to set up separate, specific, technical assistance sessions between DOE and EPA staff to discuss risk assessment, risk management (a subset of risk management may include land usability considerations), and transport and fate modeling. If DOE requests EPA's technical support for a generic approach to land usability policy, EPA will provide comments;
- to provide copies of the preliminary draft and final PEIS to allow EPA six weeks for review and comment in advance of draft and final publication;
- to consult with EPA regarding the range of alternatives considered and associated mitigative measures to be included in the PEIS;
- to indicate on the draft and final PEIS cover pages that EPA is a Cooperating Agency, and will include, in the introductory sections, a statement that briefly describes EPA's role as a Cooperating Agency, and EPA's NEPA and Section 309 CAA authorities.

The EPA agrees:

- to assist-DOE in defining issues and concerns to be addressed in the PEIS;
- to provide information in those areas where the Agency has regulatory authority and/or technical expertise, including NEPA implementation, risk assessment, risk management, transport and fate modeling, and EPA's policies on cleanups;
- to review and comment, in a timely manner, on those sections of the preliminary draft and final PEIS document where EPA has specific technical expertise and/or regulatory authority.

The Agency points of contact are:

EPA

Director
Office of Federal Activities
Environmental Protection Agency
401 M Street, SW
Washington, DC 20460

Telephone: (202) 260-6053

DOE

Director
Office of NEPA Oversight
Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

Telephone: (202) 586-4600

This letter shall be effective upon signature by both EPA and DOE. It can be modified by mutual agreement only. Any modification will be in writing. It will be terminated either when the NEPA process is completed on the DOE PEIS (after the PEIS Record of Decision), or when written notice is given by either Agency.

After signature, please provide a copy of the signed letter to the EPA point of contact. EPA Office of Federal Activities will keep a copy of the letter and will distribute it internally to the participating offices.

*Thanks to Leo Duffey
all those in your team
who helped make this happen.
G'd like to build on it
AM for him*

Sincerely,

F. Henry Habicht II
Deputy Administrator
Environmental Protection Agency

DOE Approval:

Linda G. Stuntz
Deputy Secretary
Department of Energy

September 28, 1992

Appendix J

Memorandum of Agreement Between the Offices of Defense Programs (DP) and Environmental Restoration and Waste Management (EM)

**MEMORANDUM OF AGREEMENT
BETWEEN THE OFFICES OF DEFENSE PROGRAMS (DP) AND
ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT (EM)
CONCERNING THE COORDINATION OF ENVIRONMENTAL RESTORATION
AND WASTE MANAGEMENT PEIS AND
THE NUCLEAR WEAPONS COMPLEX RECONFIGURATION PEIS**

On January 12, 1990, the Secretary of Energy announced that the Department of Energy (DOE) would prepare two Programmatic Environmental Impact Statements (PEISs), one on the Department's Environmental Restoration and Waste Management Program (EM PEIS) and the other on the Nuclear Weapons Complex Reconfiguration Program (DP PEIS).

EM and DP have established a strategy to assure coordination between these two PEISs. This coordination strategy will ensure that each PEIS contains the appropriate analyses to support independent Records of Decision (ROD) and that both PEISs are based upon consistent assumptions supporting these analytical efforts. This memorandum outlines the coordination strategy and sets forth an agreement between EM and DP to provide mutual analytical and data exchange support to assist in preparing the two PEISs. This agreement may be amended as circumstances require during the development of each PEIS. Accordingly, this memorandum is to be considered a "living document."

The DP PEIS will focus Secretarial decisions on which sites should have a future nuclear weapons complex mission and what that mission should be. The future weapons complex is called Complex 21. Departmental waste management activities, which will be analyzed in detail in the EM PEIS, will be addressed in the DP PEIS to the extent necessary to assess the waste management impacts of various programmatic options for Complex 21 in order to support decisions to be made in the ROD.

The DP PEIS will be based upon compliance of Complex 21 facilities with all applicable Federal, state and local environmental requirements and with DOE's pollution prevention and waste minimization policy. No waste would be generated by these facilities until all necessary environmental permits have been obtained and operations can be conducted in compliance with all applicable environmental requirements.

The EM PEIS will develop alternative strategies and policies for conducting a DOE-wide EM program for all DOE facilities, including weapons complex facilities. Following completion of the EM PEIS, EM will prepare site-specific National Environmental Policy Act (NEPA) documents addressing

remediation and final disposition of facilities at existing DOE sites, as well as the treatment, storage and disposal of existing wastes or residues, and the future generation of wastes at all DOE facilities.

DP-40 will perform a bounding analysis in the DP PEIS of the potential environmental consequences of reasonable waste management alternatives in order to support decisions concerning the functional elements which will comprise Complex 21 and locations for Complex 21 facilities. It is expected that both DP and EM will contribute to the analyses required for this effort. For purposes of this analysis, DP will develop waste generation projections for each alternative. These projections will include the following categories of waste: 1) hazardous waste; 2) low level waste; 3) transuranic (TRU) waste; 4) spent nuclear fuel; 5) low level mixed waste; and 6) solid, non-hazardous waste.

The following summary outlines the general approach to be taken in the DP PEIS to analyze waste management options for each of these six waste categories. This summary also identifies the specific assistance EM will provide in the preparation of the DP PEIS and indicates linkages to the EM PEIS, which will have a more comprehensive analysis of waste management alternatives.

HAZARDOUS WASTE - Hazardous waste generated at Complex 21 facilities would be accumulated, packaged, shipped and, in some instances, stored in accordance with all applicable regulatory requirements. If hazardous waste is to be stored on-site for longer than 90 days, provisions for storage in a RCRA-permitted facility will be made. In most situations, it is anticipated that hazardous waste would be shipped off-site for treatment and/or disposal at a commercial facility. If EM treatment facilities already exist at potential Complex 21 facilities for the specific hazardous waste streams generated, on-site treatment will be evaluated.

LOW LEVEL WASTE - Where practicable and allowable, the preferred alternative for low level waste would be on-site disposal. The shipment of low level waste to alternative sites will also be considered, where appropriate. For each of the alternative sites, EM will provide DP with the data necessary to determine the size, requirements and impacts associated with on-site disposal, a list of alternative disposal facilities, transportation costs and impact assessment algorithms for the transport of this waste, capacity requirements at alternative disposal facilities and costs and impacts for disposal at the alternative disposal facilities.

TRU WASTE - TRU waste is assumed to contain RCRA hazardous constituents and therefore can be accumulated for no more than 90 days or stored at a RCRA permitted storage facility until a suitable repository is available for its disposal. The proposed Complex 21 tritium supply and other nuclear facilities would have the capability to treat, if necessary, and to package TRU waste in compliance with the Waste Isolation Pilot Plant Waste Acceptance Criteria and the ability to load this waste into a TRUPACT for shipment to a suitable storage facility and/or repository. EM will provide DP with the location of all such facilities capable of storing TRU waste and the information necessary to develop the size, costs and impacts of the construction of additional capacity at these facilities sufficient to accommodate storage of the TRU waste expected to be generated. In the event that Complex 21 TRU waste is generated at a facility which does not have TRU waste storage capacity, the DP PEIS will address suitable storage provisions for such TRU waste.

SPENT NUCLEAR FUEL - For purposes of the DP PEIS, the only spent nuclear fuel to be addressed will be that generated from a potential New Production Reactor (NPR) for tritium supply. The management of this spent nuclear fuel would entail storage at the generation site, in a combination of ponds and dry storage bins as appropriate for the type of fuel, and then packaging and transport to a suitable repository, once such a repository is able to accept waste. The discussion of each tritium supply alternative addressed in the DP PEIS will estimate the volume of spent nuclear fuel which would be generated. It will include a qualitative analysis of waste management considerations sufficient to present the cumulative impacts associated with operating a new tritium supply source together with the other Complex 21 nuclear facilities. DOE spent nuclear fuel generated by sources other than a NPR will be addressed by the EM PEIS.

MIXED WASTE - Mixed waste (radioactive waste which also contains RCRA hazardous constituents) would be packaged for transport at the generating site and transported to a treatment facility where it would be treated according to prescribed regulatory standards and treatment methods. For some mixed wastes, such treatment facilities are not yet in existence and are currently the topic of a joint Department of Defense, Environmental Protection Agency and DOE inter-agency working group. The specific alternatives for the treatment of these wastes will be addressed by the EM PEIS. The current Land Disposal Restrictions of Resource Conservation and Recovery Act (RCRA) prohibit the storage of such wastes except for accumulation to facilitate treatment. However, these wastes would not be generated by Complex 21 facilities until at least the year 2005. It is reasonable to

expect that current regulatory uncertainties will be resolved and waste management alternatives will be available to the Department by that time. Accordingly, the DP PEIS will demonstrate that each facility generating mixed waste would have sufficient storage to accumulate viable treatment volumes. This mixed waste would be treated at facilities yet to be constructed, pending decisions resulting from the EM PEIS as well as other NEPA reviews yet to be conducted. DP will provide EM with projected volumes and waste stream characterizations for mixed wastes which would be generated by Complex 21 to enable the determination of waste management alternatives.

NON-HAZARDOUS SOLID WASTE - All existing weapons complex facilities currently generate, transport and dispose of non-hazardous solid waste. The volume of non-hazardous solid waste to be generated by Complex 21 facilities will be estimated and existing management practices will be reviewed in light of these expected volumes.

HIGH LEVEL WASTE - The future weapons complex would not generate any high level waste. The EM PEIS will address the management of all of the Department's high level waste including high level waste already generated by DP facilities and currently being stored.

As indicated previously, this agreement is dynamic and may require updating to reflect changes in programmatic direction which may occur in either the EM or DP programs.



Glen Sjoblom, Special Assistant to the Assistant Secretary for Environmental Restoration and Waste Management Howard R. Canter Deputy Assistant Secretary for Weapons Complex Reconfiguration

Appendix K

**Public Participation Policy
for
Environmental Restoration and Waste
Management**

**PUBLIC PARTICIPATION POLICY
FOR
ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT
U.S. DEPARTMENT OF ENERGY**

EM Public Participation Policy

The Environmental Restoration and Waste Management (EM) program is committed to fulfilling the Department of Energy's (DOE) policy to conduct its programs in an open, responsive, and accountable manner. It is EM's policy that the public will have the opportunity to participate in the EM decisionmaking process for program planning, design, and implementation. It is EM's policy to support an aggressive, substantive, EM-wide public participation program in which the public is provided with accurate, complete, and timely information and early, meaningful participation opportunities. EM will fulfill the letter and the spirit of legal, regulatory, negotiated, and policy requirements relating to public participation. As the lead agency for its environmental restoration and waste management activities, DOE retains decisionmaking responsibility and accountability.

This public participation policy outlines the approach for the conduct of EM's public participation program, both at the Headquarters (HQ) and the field levels.

EM Public Participation Goal and Objectives

EM's overall goal is to create an open and accessible decisionmaking process that results in decisions that are technically and economically feasible, environmentally sound, health and safety conscious, address public values and concerns, and can be implemented. Providing for public participation in the decisionmaking process is one key means to achieve this goal.

EM's public participation objectives include:

- Soliciting the public's help in identifying EM-related problems and issues and environmental, economic, social, and cultural values that relate to those problems and issues.
- Soliciting the public's involvement in identifying a full range of alternative approaches for addressing those problems and issues.
- Increasing public understanding of the complex environment in which DOE operates, the legal, regulatory, political, technical, funding, and resource constraints it faces, and the need to balance a variety of interests and considerations.
- Facilitating the clarification of issues and alternative approaches and the resolution of conflict, working toward the development of broad-based consensus, both on EM's objectives and on how to achieve those objectives.

- Coordinating, integrating, and communicating information about EM public participation activities such that the public is not confronted with multiple, overlapping, disconnected participation opportunities.
- Providing a range of EM public participation opportunities tailored to meet the needs and interests of various segments of the public.
- Providing the public with timely feedback on how and why their input was or was not incorporated into decisionmaking.
- Fulfilling the letter and the spirit of legal, regulatory, negotiated, and policy requirements relating to EM public participation.

Definitions

For purposes of this policy, the word "public" means any affected or interested party, including, but not limited to: representatives of State, Tribal, and local governments and agencies, Congress, other Federal agencies, review bodies, community groups, environmental and other interest groups, business, labor, academia, professional and technical organizations, educational organizations, DOE employees and contractors, and members of the general public. Members of the media are addressed separately.

Public participation is defined as the process by which the views and concerns of the public are identified and incorporated into DOE's decisionmaking. Public participation includes: identifying public concerns and issues; providing information and opportunities for the public to assist DOE in identifying EM-related issues and problems and in formulating and evaluating decision alternatives; listening to the public; incorporating public concerns and input into decisionmaking; and providing feedback on how decisions do or do not reflect input received. DOE retains decisionmaking responsibility and accountability.

Public information supports public participation through the provision of clear, objective, and timely information to enable the public to effectively participate in the EM program. Information products, such as fact sheets, brochures, newsletters, and exhibits, should identify the means by which the public can comment on and participate in EM planning, design, and implementation activities.

The Need for Public Participation

An effective public participation program is essential to the success of the EM program. An active public participation program will:

- Enable the public to participate in public policy decisions about matters that affect them.
- Help DOE make better decisions that incorporate legal, technical, economic, environmental, and social factors, and that address public values and concerns.

- Provide a means for DOE to build consensus among the various interests involved in addressing major issues and problems.
- Assist DOE in building credibility with the public by demonstrating openness, responsiveness, and accountability.
- Encompass activities necessary to comply with applicable laws, regulations, negotiated agreements, and DOE policy, including meeting the requirements of the National Environmental Policy Act (NEPA), the Resource Conservation and Recovery Act (RCRA), and the Comprehensive Environmental Response, Liability and Compensation Act (CERCLA).

DOE needs broad-based support and participation to implement the EM program. DOE's activities directly affect public health and safety and the environment -- for which DOE must exercise stewardship and be responsive to the public interest. Citizens have the right to influence decisions about matters that affect them, and public participation rights have been codified in many of the environmental laws with which DOE activities must comply.

While DOE must plan and implement the EM program, and serves as the lead agency in making decisions related to its environmental restoration and waste management, it does so within a complex web of interdependent organizations that have roles in authorizing, overseeing, regulating, funding, reviewing, and participating in EM activities. These organizations include the U.S. Congress, the Federal judiciary, the President, the Environmental Protection Agency and State regulatory agencies, the Office of Management and Budget, the General Accounting Office, and the EM Advisory Committee, among others. In addition, there are numerous parties affected by, or interested in, EM activities, such as State, Indian Tribal, and local governments and community groups. Beyond this, DOE is not the sole repository of the knowledge, skills, resources, and wisdom that will be needed to accomplish EM's cleanup mission. DOE does not and cannot act unilaterally in planning and implementing the EM program. Through an effective public participation program, DOE can provide opportunities for the public to have meaningful input into decisionmaking.

EM Public Participation Roles and Responsibilities

EM Office of Policy and Program Information (EM-4): establishes EM-wide public participation policy and guidance, including guidance for the development of EM HQ and field public participation plans; communicates EM public participation policy and guidance to EM HQ and field personnel on a timely basis; serves as central coordination point for public participation activities among EM program offices, with other DOE offices (i.e., the Offices of Congressional, Intergovernmental, and Public Liaison; Public Affairs; and Environment, Safety, & Health), and between EM HQ and the field; supports, participates in, and, in some cases, conducts HQ public participation activities; facilitates communication and exchange among EM public participation liaisons; provides public participation assistance to the field, including helping to provide adequate resources and staff training opportunities; and reviews EM public participation programs.

EM Deputy Assistant Secretaries: ensure that EM's public participation objectives are achieved at the HQ level; oversee the development of plans, provision of adequate resources, and effective conduct of HQ public participation activities, in coordination with EM-4; ensure coordination with EM field personnel on program-related site public participation activities; and ensure that EM HQ program managers and staff support and participate in public participation activities.

EM Assistant-Field Managers and Managers of EM-dedicated installations: ensure that EM's public participation objectives are achieved at the field level; oversee the development of plans, provision of adequate resources, and effective conduct of site public participation activities, in coordination with EM-4 and with EM HQ program offices; ensure coordination with site Public Affairs and other DOE programs; ensure coordination with Environmental Protection Agency regional offices and with State regulators regarding public participation requirements; designate site public participation liaisons; and ensure that EM field managers and staff support and participate in site public participation activities.

EM HQ and field public participation staff: plan and conduct EM public participation activities following EM policy and guidance and in accordance with legal, regulatory, negotiated, and DOE policy requirements; coordinate with EM program managers and staff and with other DOE personnel, as required; develop the knowledge and skills necessary for these tasks; assist in identifying public participation resource and training needs; and maintain liaison with EM-4.

EM HQ and field project and technical personnel: participate in and support EM public participation activities; acquire sufficient training to do so effectively.

Roles of Other DOE Offices in EM Public Participation

Congressional, Intergovernmental, and Public Liaison (CP): conducts functions in accordance with DOE Order 1220.1A, including serving as EM's point of contact with the Congress and with State and local elected officials; provides policy guidance, advice, and assistance to EM concerning DOE's relationships with State, local, territorial, and Indian Tribal governments, business/industry, consumer, and related public interest groups; coordinates with EM on scheduling of meetings and preparation of responses to the above-mentioned parties; and provides advice and assistance to EM regarding outreach and coordination with these parties.

Public Affairs (PA) Headquarters: coordinates news media coverage of EM activities; develops communication strategies to ensure widespread dissemination of information regarding EM public participation (and other) activities; serves as liaison with Field Office public affairs officers, as required; coordinates on public meetings planning; and provides support for EM field public participation activities.

Field Office Public Affairs Officers: provide management oversight for the Field Office Manager of all external communications activities carried out by Field Office staff and contractor organizations, including public participation activities; coordinate with EM public participation staff to operate as a team in planning and executing significant external interactions; handle media coverage of Field Office activities.

Environment, Safety, and Health (EH): serves as lead DOE office for coordination with Environmental Protection Agency (EPA) Headquarters on DOE-wide environmental compliance issues; provides environmental compliance guidance on public participation requirements of environmental laws and regulations (i.e., NEPA, CERCLA, RCRA); and reviews and approves NEPA documentation, such as notices of intent.

Landlord Program Secretarial Offices (PSO): include Defense Programs (DP), Nuclear Energy (NE), Energy Research (ER), etc., which are responsible for overall site management at DOE sites other than Hanford and Fernald; coordinate with EM site managers and personnel, as necessary, in their conduct of EM site public participation activities; provide for participation of site Public Affairs personnel, as necessary, in EM activities.

Roles of Outside Organizations in EM Public Participation

Regulatory Agencies: The EPA determines regulatory requirements under most environmental laws, including public participation requirements. EPA regional offices and State regulatory agencies enforce these requirements; in addition, compliance may be subject to judicial review. There may also be public participation requirements in negotiated agreements between DOE, EPA, and State regulators, such as Federal Facility Agreements, or between DOE and States, such as Agreements-in-Principle. Specific public participation roles of DOE, EPA, and State regulators may be detailed in such agreements and in site public participation plans. Generally, DOE is responsible for developing and implementing public participation programs, while EPA and State regulators will review, and, in some cases, must approve required documentation, such as CERCLA community relations plans.

Advisory Groups: EM has established several national-level advisory groups, including the State and Tribal Government Working Group (STGWG), the Stakeholders' Forum, and the EM Advisory Committee (EMAC). There are also local advisory groups at several sites. These groups provide a means for DOE: to solicit and obtain the views of representatives of some affected and interested parties on issues, concerns, and suggested alternative approaches for various aspects of the EM program, including five-year planning and the EM programmatic environmental impact statement development process; to respond to views expressed; and to encourage a dialogue among the various parties.

Policy Implementation

The Office of Policy and Program Information (EM-4) will issue general guidance for the implementation of EM public participation policy, including guidelines for the development of EM HQ and site public participation plans.



Leo P. Duffy
Assistant Secretary for Environmental
Restoration and Waste Management

Appendix L

EM Advisory Committee Comments and DOE Responses on the Working Final Implementation Plan



Department of Energy
Washington, DC 20585

December 21, 1992

The Honorable Leo P. Duffy
Assistant Secretary for Environmental
Restoration and Waste Management
5A-014 FORS
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20585

Dear Assistant Secretary Duffy:

Pursuant to both the Charter of the Advisory Committee and your request, attached to this letter are a set of recommendations to you regarding the Implementation Plan for the Programmatic Environmental Impact Statement (PEIS) and, more generally, for the PEIS process itself.

These recommendations were prepared in draft form by the Committee's PEIS Subcommittee, which as you may know is currently chaired by Ben Smith (State of Tennessee) and Ron Ross (Western Governors' Association). The membership of the Subcommittee is diverse and includes individuals who know the concerns of most, if not all, of the relevant stakeholder groups for the PEIS. In addition to reviewing relevant documents, the Subcommittee met for a full day with the Department's PEIS team in late November. I had the opportunity to do the same a few weeks earlier. Finally, other full Committee members not on the Subcommittee also contributed to the draft version of the recommendations.

The Subcommittee's draft was presented to the full Committee at its recent meeting held near the Hanford facility, debated, revised, and adopted unanimously.

On behalf of the Committee, I request that the Department respond in writing to the recommendations as soon as possible, and preferably before February 1st. The next Committee meeting is slated for the week of March 15th in the vicinity of the Oak Ridge Reservation.

As you know, the PEIS-Subcommittee will continue its work for the indefinite future. If you have questions about the recommendations, please feel free to call Mr. Smith (615-741-5782), Mr. Ross (303-623-9378) or me (312-880-5148).

With best holiday wishes,

Handwritten signature of Glenn Paulson in cursive.
Glenn Paulson, Chairman
Environmental Restoration and
Waste Management Advisory
Committee

Enclosure: as stated
cc: (w/o enclosure)
Committee Members
Glen L. Sjoblom, Designated Federal Official

**RECOMMENDATIONS TO THE U.S. DEPARTMENT OF ENERGY,
ASSISTANT SECRETARY FOR ENVIRONMENTAL RESTORATION
AND WASTE MANAGEMENT**

**Pursuant to the Charter for the Environmental Restoration
and Waste Management Advisory Committee (EMAC)**

Dated: December 9, 1992

1. The IP Should be More Responsive to Public Input Gained from Scoping

EMAC members are concerned that the Programmatic Environmental Impact Statement (PEIS), Implementation Plan (IP) is unresponsive to a number of widely expressed issues which surfaced during the PEIS scoping process. For the most part, the scoping process itself received good marks from EMAC. However, the IP reveals a striking pattern in its dispositions of public comments. That pattern is to justify the adequacy of current DOE programs rather than to show how the PEIS will be organized to analyze and discuss the possibilities for needed reforms in the EM program. IP responses are often too generalized to capture the extent and diversity of public comments which were raised, or are too perfunctory to be informative. Two good examples of this pattern of unresponsiveness may be found in the IP portions which deal with public involvement and with environmental monitoring. The final IP responses for these issues lack any assurance that needed reforms in the EM program will be considered.

Concerns about DOE's present programmatic commitment to environmental monitoring are widespread across the nation, yet the IP promises only to consider this issue for the environmental restoration (ER) side of the EM program. DOE Tiger Team audits have revealed serious deficiencies in environmental monitoring conducted in conjunction with production and waste management operations. It is apparent that a new programmatic commitment is needed to assure the public that they, the natural environment, and the economic viability of communities will be protected through a vigorous and credible program of environmental monitoring. The IP misses the opportunity to demonstrate a new commitment or to indicate how and where the PEIS will address this issue. It is specifically recommended by the EMAC that a new

commitment to environmental monitoring be reflected in a PEIS Chapter 6--"Measures to Minimize Harm to the Environment."

The IP similarly misses an opportunity to demonstrate that the PEIS will provide a programmatic commitment to public involvement. The PEIS scoping process produced many good ideas for new public involvement initiatives. An organizational commitment is needed, and the IP could demonstrate that the EM program is serious about improvements that are responsive to concerns of the public. Unless DOE is explicitly committed to change in this area, it hinders the development of a more dynamic civic process which can address regulatory requirements, public concerns, and fiscal restraints in a creative and cost-effective way.

Given the depth of this problem, the EMAC recommends that the PEIS reflect a commitment by the Secretary of Energy to establish an Office of the Ombudsman charged with investigating public grievances on issues of access to information and agency responsiveness to public comment. The Ombudsman and his assistants would be advocates for the public's right to know. Grievances would be investigated and public findings issued in a timely manner. In addition, the Ombudsman would regularly submit to the Secretary recommendations for improving policy or better implementing existing policy in this area.

The EMAC further recommends that IP responses to public comments should be re-examined and the IP redrafted to demonstrate a serious organizational commitment to programmatic improvements in areas of widespread public concern. Environmental monitoring and public involvement are examples of such issue areas, but others should be re-examined as well.

2. **PEIS Should Promote Decision-Making on Cleanup Standards and Land Use**

The ultimate potential beneficial use of the land as envisioned by a local community will be the driving force for many decisions. The IP should indicate that the PEIS will provide a detailed framework to consider land use in future cleanup and waste management decisions. The PEIS should specify the decision process and the level of

autonomy in decision-making which the local community and individual site managers will be allowed to exercise.

Establishment of cleanup levels is an integral component of site-specific decision-making. Current regulatory practice has established an interactive decision-making process where DOE, in conjunction with EPA and state regulators, sets cleanup levels which are reflected in a site-specific Record of Decision.

The EMAC recommends that the PEIS show how community development objectives, appropriate future land use of federal reservations, and public input will all be integrated into decision-making.

Finally, the PEIS should address the disposition of previously remediated sites in the event that future cleanup levels are more stringent than current cleanup standards.

3. **The Programmatic Environmental Impact Statement Should Not be Used to Make Site Specific Decisions**

EMAC members feel that the PEIS is a document to provide strategic solutions and to remove structural roadblocks. It is not appropriate to use the PEIS for choosing the specific sites for consolidated waste management facilities. PEIS site characterization and impact characterization would not (and should not) occur at a level of detail sufficient to justify siting of facilities. EMAC members feel that it is inappropriate to use the PEIS to make major siting decisions to avoid the rigor of impact disclosure and open discussion of impacts necessary to evaluate such sensitive issues. Siting impacts are highly localized and are dependent upon the technology used, the scale of the project, and the site-specific conditions present. The discussion of impacts at such a fine level of detail should be avoided in the PEIS. DOE would forego an opportunity to make needed programmatic improvements by using the PEIS for siting decisions as now planned.

The EMAC recommends that DOE re-examine the PEIS approach and, for WM, emphasize programmatic alternatives that might be used to resolve issues of

interregional and interstate equity attendant with possible interstate waste flows and with the eventual siting of WM facilities which could serve regional functions.

The PEIS should clearly articulate the process and criteria that could be used to make subsequent siting decisions. The PEIS, therefore, needs to: 1) reflect DOE's overall commitment to a tiered process of National Environmental Policy Act (NEPA) documentation; and 2) establish criteria for triggering and preparing supplemental NEPA documents tiered to the PEIS.

4. **Better Definition of Alternatives is Needed**

DOE's formulation of alternatives is not responsive to the public scoping process. Input from public involvement in the scoping process has not been reflected in the set of alternatives included in the WM portion of the IP. No evidence has been presented that the IP emphasis on consolidation of WM functions and facilities bears any relation to preferences for waste management expressed by public comment.

The EMAC members have a common concern that the no-action alternatives are improperly defined. The WM no-action alternative includes consolidation of treatment, storage, and disposal facilities not now present in the WM program. This is especially evident in the descriptions of the no-action alternatives for low-level radioactive waste and low-level mixed waste. These differences between the no-action alternatives, as defined in the IP, and true no-action WM alternatives would be magnified greatly when the ER program begins to generate significant amounts of waste. EMAC members are also concerned that the ER no-action alternative is defined in a way that does not provide a baseline analysis of remediation options.

The extreme "bounding" alternatives for ER (i.e., Alternative 1: Reliance on Engineering and Institutional Controls; and Alternative 2: Reliance on Removal and Treatment) would only be appropriate in their pure form for some very small DOE sites. The choice between these two alternatives would be highly dependent upon site-specific conditions and site-specific land use and risk expectations. For most large, complex DOE sites, the appropriate ER alternative will always be some hybrid form of

Alternative 3, "a combination strategy" in which there will always be a mix of institutional control and complete removal. The PEIS needs to reflect this reality and avoid setting up an artificial choice between "institutional control" and "removal and treatment."

The EMAC recommends that the PEIS focus on a programmatic process to foster consensus on the appropriate ER Strategy for implementation on each DOE site. The present Superfund approach could be used as the baseline programmatic alternative. The IP "analytical approach to evaluate ER alternatives" might be modified to constitute a more appropriate ER programmatic alternative by including interested "publics" at sites in the "cumulative effects analysis team." Local representatives should also be allowed to interact with the "remedial engineering analysis team" and the "environmental analysis team."

The EMAC finds that there should be a re-examination of the definition of no-action alternatives. New ER and WM no-action alternatives should be defined to provide a true baseline analysis against which other programmatic alternatives can be measured. A baseline risk assessment should be performed. The no-action alternative should not go beyond existing compliance agreements and should not include planned facilities unless specifically included in a compliance agreement. DOE should also provide an environmental analysis of an alternative which addresses the management of all waste on-site (no inter-site shipments). Because the EMAC has concerns regarding the DOE-proposed no-action alternatives, we recommend that DOE further explore this question and seek recommendations from the President's Council on Environmental Quality.

The EMAC also recommends that Waste Minimization should become a WM programmatic alternative. The PEIS should disclose the potential for reducing the need for waste treatment and disposal facilities which is created by implementation of a fully integrated waste minimization program.

5. More Comprehensive Coverage of Waste Management Issues is Needed

The EMAC is not satisfied with the scope of the WM program which will be addressed

in the PEIS. Some waste streams or waste types are omitted without sufficient justification. For example, it is not clear that either pre-1970 transuranic waste or remote-handled transuranic waste will be addressed in the PEIS. Programmatic treatment of these two waste types is lagging far behind the treatment of post-1970 transuranic waste, that part of the waste stream clearly intended for disposal in the Waste Isolation Pilot Plant.

The PEIS avoids discussion of industrial solid waste produced throughout the complex. Contrary to the IP response on this issue, the public concerns for this type of waste are important. The public interest in below regulatory concern (BRC) standards has been demonstrated. DOE routinely makes "BRC determinations" on large volumes of industrial solid waste destined for disposal in landfills on DOE reservations. The WM program should avoid creation of a "second generation" of ER needs.

The IP selectively addresses the storage of Greater-Than-Class C (GTCC) waste without any promise of dealing with the difficult programmatic issue of final disposal of GTCC waste.

The EMAC recommends that DOE re-examine its selective coverage of waste streams and waste issues with new attention to comprehensive coverage and to final disposition of waste streams rather than interim treatment or storage steps. The PEIS should clearly state how DOE intends to address all classes of transuranic waste, Greater-Than-Class C waste disposal, and management of industrial solid waste.

6. PEIS Should Fully Address Worker Health and Safety and Public Health and Safety

The ultimate goal of the PEIS is to protect the health and safety of the citizens of the United States. The IP and the PEIS should stress both protection for the residents adjacent to the sites and the safety of the workers at the site. Each alternative should be carefully examined for its impacts on the local population and the workers performing the day to day operations.

The EMAC recommends that the PEIS should detail the process and standards that will

be employed to ensure that workers and residents will be protected during each phase of a project. Monitoring requirements need to be specified in the PEIS to comply with health and safety standards.

7. **The Risk-Assessment Process for the PEIS Should be Modified**

The EMAC has serious concerns about DOE's plans for calculating baseline risk and the risk for the various alternatives for the PEIS. It is our understanding that these concerns are shared with the EPA, public-interest groups, and other stakeholders. The EMAC's concerns are not only with the details of the planned modeling approaches, but with the overall process.

Current plans of the DOE are to use the MEPAS model with the work being done by ORNL. The MEPAS model has been used in the past as part of the Environmental Survey and as part of the DOE Environmental Restoration priority-setting process; many of the results have been widely perceived as lacking in credibility.

Of more importance, however, is our concern about the process. It appears that DOE plans are simply to have one contractor calculate risks without adequate consultation with DOE sites or stakeholders (federal and state regulators, site scientists and managers, public interest groups including worker interests, and the public at large).

The EMAC strongly recommends that the following process be used:

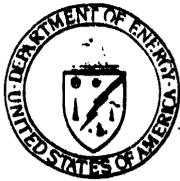
- A. For each site to be assessed, seek the involvement of stakeholders to solicit viewpoints on the problems of concern that need to be assessed and the appropriate input data for any calculations.
- B. The involvement should extend to the selection of the method of calculation to be used. Emphasis should be placed on using the simplest model possible, consistent with obtaining valid results. It

is important to remember that the goal of most concern is to be able to communicate the risk calculations to the public in a way that is transparent (understandable without referencing obtuse publications). It is well recognized that all needed input data may not be available, and that the calculations will contain considerable uncertainty. For this reason, it is essential that the uncertainty in risk calculations be recognized explicitly. This means that a deterministic (single value) calculation, which often has many built in conservative assumptions, should not be done; rather, best effort should be made to calculate the most likely risk values with appropriate expressions of uncertainty for every important step in the process and for the final results. Such uncertainties should be represented explicitly, and one of the more important uses of these data may be to direct future efficient data gathering so that uncertainties may be reduced.

- C. For each site and each problem calculate the risk to the public and to workers now and into the future for the following conditions:
 - i. **Baseline.** This assumes that no remedial actions will take place.
 - ii. **Remedial action alternatives.** The risk to the public and to workers is calculated for each remedial action alternative to be considered in the PEIS. It is important to include the risk posed by the cleanup actions themselves, as this may be substantial in terms of occupational exposure and in risk to the public from transportation (including the risk of traffic accidents).

- D. When draft results are available, share the results with stakeholders. The primary goal of this process should not be just to "communicate," but to perform quality-assurance and validity checks on the calculated results.

The goal of the process outlined above is to ensure that stakeholders are given an opportunity to participate in the process of risk assessment at the earliest phase and as the process develops. It is the view of EMAC that this is the most useful way to build a consensus among the stakeholders, and to avoid the inevitable problems that result from dumping only the final results on a surprised public.



Department of Energy
Washington, DC 20585

March 3, 1993

Dr. Glenn Paulson, Chairman
Environmental Restoration and Waste Management
Advisory Committee
421 West Melrose Street
Apartment 10C
Chicago, Illinois 60657

Dear Dr. Paulson:

This is in response to your letter dated December 21, 1992, submitting the recommendations of the Environmental Restoration and Waste Management Advisory Committee on the Implementation Plan (IP) for the Environmental Restoration and Waste Management Programmatic Environmental Impact Statement (PEIS).

I want to thank you and the Committee for these excellent recommendations. The Department of Energy has reviewed extensively the plans and PEIS alternatives as a result of these thought provoking recommendations and is modifying the IP to incorporate many beneficial changes. One of our reasons for submitting the draft for Committee review was to obtain ideas on how the IP could be made more responsive to public and stakeholder comments - before the report is finalized and provided to them. As a result of Committee recommendations in this area, the Implementation Plan is being significantly improved.

The recommendations concerning alternatives were also useful, and we have consulted with the Council on Environmental Quality as suggested. We are adding a "decentralized" alternative for each waste category, and also, a "no action" alternative for both Environmental Restoration and Waste Management that will define a current baseline situation. We have clarified the coverage of waste subtypes as suggested, including contact and remote handled transuranic waste, buried transuranic waste, high-activity low-level waste, and greater-than-class-C low-level waste.

We believe it is essential to analyze the environmental impacts of a spectrum of alternatives for siting of waste management facilities in the PEIS, as this is an important programmatic aspect of waste management planning. For example the analysis of environmental impacts of such alternatives should serve as useful input to the development of site specific plans for treatment of mixed waste under the Federal Facilities Compliance Act. We appreciate the Committee's concerns in this area and are optimistic that further dialogue may result in an improved understanding and possibilities for achieving interrelated DOE and State needs. With the wider range of

alternatives as suggested by the Committee, and the clear commitment that decisions on siting specific waste facility projects will not be made until completion of additional site specific National Environmental Policy Act (NEPA) reviews directly incorporating input from the relevant stakeholders, we believe that the PEIS can provide useful information to States and the public on environmental impacts of alternative siting configurations. This approach is consistent with some earlier PEIS's and satisfies Council on Environmental Quality requirements and objectives for programmatic NEPA review.

We still do not plan to analyze alternative configurations for disposal of industrial solid waste in the PEIS since local disposal would seem to be the only reasonable alternative for such wastes. We will include discussion of ways of assuring that radioactive wastes are not mixed with this waste category as this is important to the national program. Worker health and safety matters are being included fully in the risk analysis of alternatives, as suggested. As requested, the PEIS will provide the framework for relating cleanup proposals to land use.

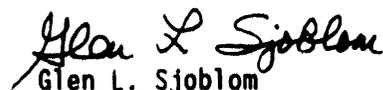
The Committee concerns about the risk assessment process are DOE concerns as well. We plan to utilize several means to help assure the validity of this work. For example, we will be publishing comparisons of methodologies in peer-reviewed journals and involving the operable unit managers at each site to get the best data for risk analysis. We are planning a public national risk assessment workshop on the PEIS methodologies to promote better understanding and feedback for improvements.

I would also like to report to the Committee that DOE had received a recommendation from EPA during the PEIS Subcommittee meeting November 24, 1992, that we consider a policy-by-policy oriented approach to presenting the PEIS analysis. It has been DOE's intent to cover the issues identified in the proposed EPA approach even though some of these issues are not amenable to traditional environmental impact analysis. We met recently with EPA staff to explore this approach, and we plan to continue working with EPA to determine the best way to proceed. Recognizing that there are many issues of concern, both to interested agencies and the public, DOE is proposing to include in the PEIS a separate chapter or chapters to identify and analyze such issues. We believe that covering such issues in the PEIS would serve the extremely beneficial purpose of providing information and demonstrating DOE's commitment towards programmatic improvement in major areas of concern. We have incorporated the commitment for preparation of such chapter(s) into the revised Implementation Plan.

More details of our responses to the EMAC recommendations are included in the attachment in a section by section, recommendation by recommendation, format. I plan to discuss them at the PEIS Subcommittee Meeting in conjunction with the upcoming meeting of the

Committee. As requested, we also have asked Curtis Travis of the Oak Ridge National Laboratory to provide current information on the ongoing risk assessment efforts to the PEIS subcommittee when it meets in Oak Ridge.

Sincerely,



Glen L. Sjoblom
Special Assistant to
the Assistant Secretary for
Environmental Restoration
and Waste Management

**RESPONSE TO THE ENVIRONMENTAL RESTORATION AND
WASTE MANAGEMENT ADVISORY COMMITTEE (EMAC)
RECOMMENDATIONS**

**Concerning the Implementation Plan for the Programmatic Environmental
Impact Statement (PEIS) and the PEIS Process**

1. The IP Should be More Responsive to Public Input Gained from Scoping

Recommendation:

"EMAC members are concerned that the Programmatic Environmental Impact Statement (PEIS), Implementation Plan (IP) is unresponsive to a number of widely expressed issues which surfaced during the PEIS scoping process. For the most part, the scoping process itself received good marks from EMAC. However, the IP reveals a striking pattern in its dispositions of public comments. That pattern is to justify the adequacy of current DOE programs rather than to show how the PEIS will be organized to analyze and discuss the possibilities for needed reforms in the EM program. IP responses are often too generalized to capture the extent and diversity of public comments which were raised, or are too perfunctory to be informative. Two good examples of this pattern of unresponsiveness may be found in the IP portions which deal with public involvement and with environmental monitoring. The final responses for these issues lack any assurance that needed reforms in the EM program will be considered."

"The EMAC further recommends that IP responses to public comments should be re-examined and the IP redrafted to demonstrate a serious organizational commitment to programmatic improvements in areas of widespread public concern. Environmental monitoring and public involvement are examples of such issue areas, but others should be re-examined as well."

Response:

The U.S. Department of Energy (DOE) Office of Environmental Restoration and Waste Management (EM) agrees that there are many issues of concern to the public as well as EM, where programmatic improvements are appropriate. EM believes that improvements are not only appropriate, but necessary, if the DOE waste management and cleanup goals are to be achieved. Some of these programmatic improvements can be analyzed for environmental

impacts and some are neither amenable nor appropriate for such an analysis. In the Draft Implementation Plan (IP), the DOE responded to those scoping issues that were amenable to environmental impact analysis and were appropriate to consider in a National Environmental Policy Act (NEPA) document. The DOE prepared and issued a number of Fact Sheets to discuss EM program issues of concern and that were not within the scope of the EM Programmatic Environmental Impact Statement (PEIS).

During the Public Workshops on the Draft IP, the senior DOE official recognized that discussion in the PEIS on additional EM program issues would be desirable to help the reader understand how EM intended to achieve improvements in areas of concern. At the Workshops, the DOE committed to discuss in the PEIS those program issues that were raised. The DOE believes it desirable to go beyond the traditional NEPA methodology because of the unprecedented scope of the EM Program. The Working Final IP identified many of these program issues of concern.

As a result of the EMAC's recommendations, the DOE will revise the IP to provide for further discussion of EM program issues of concern in the PEIS. Examples of IP modifications that provide further discussion of and commitments to PEIS discussion of these issues will include:

- A discussion of the PEIS relationship to the activities undertaken in accordance with the requirements of the Federal Facility Compliance Act of 1992;
- Expanding the DOE response to land use comments and identifying the specific land use options that will be considered in the PEIS;
- Expanding the DOE response to comments on funding for ER activities to include information on public assistance grants;
- Incorporating additional information on the coordination of the EM PEIS and DOE Office of Defense Programs Nuclear Weapons Complex Reconfiguration PEIS;
- Identifying specific future public participation mechanism to keep the public informed on the PEIS process;
- Commitment to describe the relationship between the PEIS and subsequently tiered NEPA documents;

- Commitment to correct monitoring program deficiencies as a result of internal reviews and Tiger Team audits and to discuss monitoring programs in the PEIS;
- Commitment to describe in the PEIS a mechanism for site-specific decision-making on cleanup and how the PEIS will affect DOE sites involved in these efforts;
- Commitment to discuss in the PEIS the role of the regulators, the public, and stakeholders in the EM technology development program;
- Commitment to public and peer review of risk assessment methodologies; and
- Reaffirmation of DOE's policy to protect public health and safety and to operate all facilities in compliance with standards and regulations.

Chapter 4 of the final IP will list additional EM program issues, and will describe the current planning on how these issues can be discussed in the PEIS. The Draft Outline of the PEIS that is in an appendix of the IP will also identify where these additional issues will be discussed. As the PEIS is developed, this discussion will evolve. This is particularly important since improvement in many of these areas are ongoing while the PEIS is being developed. An approach to covering these issues was suggested during the PEIS Subcommittee Meeting on November 24, 1992, and we have met with the U.S. Environmental Protection Agency staff to exchange views on how these issues can be covered so as to best inform the public reviewers of the PEIS and promote orderly improvements in important programmatic areas.

We believe the recommendations provided by the EMAC and our responses have improved the responsiveness of the IP. Specific EMAC recommendations and our response are provided in the following sections.

Recommendation:

"Concerns about DOE's present programmatic commitment to environmental monitoring are widespread across the nation, yet the IP promises only to consider this issue for the environmental restorations (ER) side of the EM program. DOE Tiger Team audits have revealed serious deficiencies in environmental monitoring conducted in conjunction with production and waste management operations. It is apparent that a new programmatic commitment is needed to assure the public that they, the natural environment, and the

economic viability of communities will be protected through a vigorous and credible program of environmental monitoring. The IP misses the opportunity to demonstrate a new commitment or to indicate how and where the PEIS will address this issue. It is specifically recommended by the EMAC that a new commitment to environmental monitoring be reflected in a PEIS Chapter 6--'Measures to Minimize Harm to the Environment.'

Response:

The IP will be modified to commit that the draft PEIS will discuss the environmental monitoring programs being conducted at major DOE sites and the current status of actions being undertaken to address deficiencies as a result of DOE Tiger Team audits. Environmental monitoring is recognized as an important element of all environmental restoration and waste management alternatives. The PEIS will reflect the DOE commitment to this important area in Chapter 6 of the PEIS or other chapters as appropriate.

Recommendation:

"The IP similarly misses an opportunity to demonstrate that the PEIS will provide a programmatic commitment to public involvement. The PEIS scoping process produced many good ideas for new public involvement initiatives. An organizational commitment is needed, and the IP could demonstrate that the EM program is serious about improvements that are responsive to concerns of the public. Unless DOE is explicitly committed to change in this areas, it hinders the development of a more dynamic civic process which can address regulatory requirements, public concerns, and fiscal restraints in a creative and cost-effective way."

Response:

The IP will be modified to incorporate EM's serious commitment to public involvement, by including EM's Public Participation Policy directly in the IP and by identifying future public involvement mechanisms to be used in the EM Program, and during the remainder of the PEIS process. This issue will be covered in a prominent way in the PEIS.

Recommendation:

"Given the depth of this problem, the EMAC recommends that the PEIS reflect a commitment by the Secretary of Energy to establish an Office of the Ombudsman charged with investigating public grievances on issues of access to information and agency responsiveness to public comment. The Ombudsman and his assistants would be advocates for the public's right to know. Grievances would be investigated and public findings issued in a timely manner. In addition, the Ombudsman would regularly submit to the Secretary recommendations for improving policy or better implementing existing policy in this area."

Response:

With respect to the EMAC's recommendation regarding the establishment of a DOE Office of the Ombudsperson, EM has previously considered establishing an Ombudsperson as part of the deliberations at the Federal Facilities Environmental Restoration (FFER) Dialogue Committee. The FFER Dialogue Committee Report shows that there was a Committee consensus recommendation that regulated agencies should designate central points of contact to serve as visible and accessible advocates of the public's right to know. It also reported that Federal agencies may choose to implement this recommendation in different ways to account for differences in the magnitude of clean-up problems and different structures of the organizations. The EM implementation technique as detailed on page 17 of the report basically consists of EM Field Office points of contact, coupled with an EM Headquarters point of contact to ensure that DOE fulfills all reasonable information requests. DOE also indicated its plans to establish Site-Specific Advisory Boards.

Several members of the Committee supported an idea that larger Federal agencies establish an independent Ombudsperson to serve as the point of contact, but there was not a consensus on this method. EM is committed to further view the question of an Ombudsperson should the EM key points of contact and Site-Specific Advisory Boards prove ineffective.

2. PEIS Should Promote Decision-Making on Cleanup Standards and Land Use**Recommendation:**

"The ultimate potential beneficial use of the land as envisioned by a local community will be the driving force for many decisions. The IP should indicate that the PEIS will provide a detailed framework to consider land use in future cleanup and waste management decisions. The PEIS should specify the decision process and the level of autonomy in decision-making which the local community and individual site managers will be allowed to exercise."

Response:

One of the key goals of the PEIS is to provide a technical basis for the establishment of a DOE policy on integrating land use decisions into the cleanup decision-making process. Such a policy would be directed at acknowledging the importance of land use considerations and the identification of criteria to be considered, rather than the establishment of a policy that would identify a predetermined future land use for each site or facility to be remediated. The IP will be modified to provide for a more extensive discussion of DOE's consideration of land use and institutional controls in the PEIS, consistent with the Committee recommendation. The PEIS will discuss current decision-making roles and public participation processes under existing regulations, such as CERCLA, and will discuss decision-making roles and public participation mechanisms that could be implemented as part of the policy. EM would appreciate more detailed recommendations from the Committee in this area and looks forward to incorporating them into an evolving land use policy.

Recommendation:

"Establishment of cleanup levels is an integral component of site-specific decision-making. Current regulatory practice has established an interactive decision-making process where DOE, in conjunction with EPA and state regulators, sets cleanup levels which are reflected in a site specific Record of Decision."

The EMAC recommends that the PEIS show how community development objectives, appropriate future land use of federal reservations, and public input will all be integrated into decision-making."

Response:

EM is sensitive to the EMAC's concerns in identifying commitments and future processes which bear upon DOE's credibility and the public's confidence in the future conduct of the EM program. As an example of EM's commitment to integrating future land use decision-making and local community involvement, DOE established the Hanford Future Site Uses Working Group, charged with developing a range of future use options for the Hanford Site and assessing the implications of future uses as part of the Hanford cleanup. The Committee heard extensively about this Hanford process at the December 8, 1992, meeting and both EM and EMAC are considering this valuable experience in relation to other sites. Such working groups could provide an extremely useful mechanism for integrating local community land use objectives with DOE landlord responsibilities directly into site-specific cleanup actions under CERCLA. The Hanford Site Environmental Restoration EIS will integrate this input into site decision-making processes. Also, the PEIS building upon the Hanford Future Site Working Group process and such other groups that may be established in the future, will discuss processes whereby community objectives, future land use, and public input can be integrated into decision-making throughout the EM Program.

Recommendation:

"Finally, the PEIS should address the disposition of previously remediated sites in the event that future cleanup levels are more stringent than current standards."

Response:

The PEIS will describe the current legal and regulatory framework for remediation and will also discuss responsibility for further remediation as part of this framework. The current legal and regulatory framework provides for taking actions beyond regulatory requirements.

3. **The Programmatic Environmental Impact Statement Should Not be Used to Make Site Specific Decisions**

Recommendation:

"EMAC members feel that the PEIS is a document to provide strategic solutions and to remove structural roadblocks. It is not appropriate to use the PEIS for choosing the specific sites for consolidated waste management facilities. PEIS site characterization and impact characterization would not (and should not) occur at a level of detail sufficient to justify siting of facilities. EMAC members feel that it is inappropriate to use the PEIS to make major siting decisions to avoid the rigor of impact disclosure and open discussion of impacts necessary to evaluate such sensitive issues. Siting impacts are highly localized and are dependent upon the technology used, the scale of the project, and the site-specific conditions present. The discussion of impacts at such a fine level of detail should be avoided in the PEIS. DOE would forego an opportunity to make needed programmatic improvements by using the PEIS for siting decisions as now planned.

The EMAC recommends that DOE re-examine the PEIS approach and, for WM, emphasize programmatic alternatives that might be used to resolve issues of interregional and interstate equity attendant with possible interstate waste flows and with the eventual siting of WM facilities which could serve regional functions."

Response:

EM agrees that the PEIS should provide strategic solutions and remove structural roadblocks. EM also agrees that site specific issues should not be covered in the PEIS. An adequate NEPA review of strategic solutions would need to include consideration of potential environmental impacts to different geographic areas, and in the case of waste management (WM) facilities needs to include the consideration of the extent to which wastes at a given site should be managed on a local, regional, or central scale. EM believes this need includes consideration of likely impacts that would occur at the various sites where waste is located and along likely transportation corridors, and analyzing real locations. An analysis of hypothetical sites that seems implicit in the recommendation could be readily challenged as insufficient.

Siting issues are a major part of arriving at strategic solutions, and, therefore, are an appropriate consideration in the EM PEIS. A prior programmatic EIS which addressed siting is the U.S. Army PEIS for the disposition of chemical weapons. In this case, subsequently tiered project-level NEPA reviews are being used to further evaluate the site specific environmental issues. Another example where siting of facilities was analyzed in a PEIS was the U.S. Air Force PEIS for a Small Intercontinental Ballistic Missile Program.

DOE acknowledges that in preparation of the PEIS, uncertainties may exist that would preclude a determination of specific DOE sites and that the PEIS WM determinations may only be made at a broad level (e.g., identification of potential candidate DOE sites in a region at which one or more waste facilities could be located). This acknowledgement will be specifically incorporated into the IP. Persistent uncertainties (e.g., such as detailed characterizations of specific waste streams and quantities of waste that may be generated by environmental restoration activities) in the PEIS and in project-level analyses need not preclude completion of a NEPA review or delay expeditious compliance. DOE has always intended to rigorously evaluate and fully disclose potential impacts of alternative WM configurations in the PEIS, including the identification of uncertainties which might affect potential PEIS determinations.

DOE fully recognizes State sensitivities with respect to potentially reaching specific preferred WM facility siting determinations, and the major regulatory role that State's will play in implementing any new or modified WM facilities. The IP will be reviewed to ensure it clearly indicates that implementing new WM facilities is dependent on acquiring the appropriate State and Federal permits and approvals, including project-specific NEPA reviews, where necessary. EM actively seeks the participation of the States and the public in the decision-making process.

DOE has considered a three-tiered NEPA strategy in which the EM PEIS would only consider policy issues, a subsequent programmatic NEPA document would address siting of new WM facilities, and project-level NEPA documentation would address project implementation. Since EM's goal has been--and remains--to bring the complex into full compliance with all applicable

environmental, health, and safety requirements as expeditiously as possible, however, a three-tiered approach was rejected in favor of a two-tiered NEPA approach. EM believes this is essential to DOE conformance with the schedules of the Federal Facility Compliance Act.

Recommendation:

"The PEIS should clearly articulate the process and criteria that could be used to make subsequent siting decisions. The PEIS, therefore, needs to: 1) reflect DOE's overall commitment to a tiered process of National Environmental Policy Act (NEPA) documentation; and 2) establish criteria for triggering and preparing supplemental NEPA documents tiered to the PEIS."

Response:

The PEIS will clearly articulate the relationship of the PEIS to subsequently tiered project-level NEPA documents for analyzing site specific impacts. According to Council on Environmental Quality (CEQ) regulations (40 CFR 1508.28), tiering refers to covering general matters in a broad EIS and providing subsequent narrow analyses that concentrate solely on more specific issues and reference the general discussions as appropriate. CEQ cites tiering from a programmatic EIS to site-specific analyses as an example. This is the approach DOE plans to follow in preparing NEPA documents that are tiered to the PEIS.

4. Better Definition of Alternatives is Needed

Recommendation:

"DOE's formulation of alternatives is not responsive to the public scoping process. Input from public involvement in the scoping process has not been reflected in the set of alternatives included in the WM portion of the IP. No evidence has been presented that the IP emphasis

on consolidation of WM functions and facilities bears any relation to preferences for waste management expressed by public comment."

Response:

The DOE agrees with most of the EMAC recommendations regarding the formulation of the alternatives and proposes to make modifications to the alternatives in response to the specific concerns identified below.

Recommendation:

"The EMAC members have a common concern that the no-action alternatives are improperly defined. The WM no-action alternative includes consolidation of treatment, storage, and disposal facilities not now present in the WM program. This is especially evident in the descriptions of the no-action alternatives for low-level radioactive waste and low-level mixed waste. These differences between the no-action alternatives, as defined in the IP, and true no-action WM alternatives would be magnified greatly when the ER program begins to generate waste. EMAC members are also concerned that the ER no-action alternative is defined in a way that does not provide a baseline analysis of remediation options."

"The EMAC finds that there should be a re-examination of the definition of no-action alternatives. New ER and WM no-action alternatives should be defined to provide a true baseline analysis against which other programmatic alternatives can be measured. A baseline risk assessment should be performed. The no-action alternative should not go beyond existing compliance agreements and should not include planned facilities unless specifically included in a compliance agreement."

Response:

DOE agrees with the EMAC recommendation to redefine the no-action alternatives. Based on these recommendations, DOE will revise the IP to decouple ongoing activities, which are legitimately part of the "no-action" alternative, from planned activities that are more accurately represented by the "current program" alternative. For both ER and WM activities, this should eliminate confusion with respect to what constitutes a true environmental and programmatic baseline.

Specifically, the IP will be modified to indicate that the PEIS will analyze an ER no action alternative that will evaluate conditions prior to undertaking further remediation. Such an analysis would be similar to the baseline risk assessment conducted under the Comprehensive Environmental Response, Compensation, and Liability Act.

Regarding WM activities, the no action alternative for each of the WM waste types and spent nuclear fuel will consider only existing and approved waste management facilities. Approved facilities, in the context of no action, will be defined as those for which NEPA review has been completed, appropriate permits received, and a decision made to proceed with the activity. These facilities could, but not necessarily, be within the scope of existing compliance agreements because existing agreements do not cover all waste types and facilities considered in the PEIS. Furthermore, DOE does not believe it is appropriate to use existing compliance agreements as a basis for no action, because existing compliance agreements require actions for which appropriate NEPA review has not always been completed and that may not yet be permitted. We feel that facilities planned under such agreements fall more appropriately within the current program alternative.

Finally, we believe that the narrow definition of the no-action alternative as presented above addresses the EMAC concern regarding premature assumptions related to consolidation of treatment, storage, and disposal facilities in the WM program.

Recommendation:

"The extreme 'bounding' alternatives for ER (i.e., Alternative 1: reliance on Engineering and Institutional Controls; and Alternative 2: Reliance on Removal and Treatment) would only be appropriate in their pure form for some very small DOE sites. The choice between these two alternatives would be highly dependent upon site-specific conditions and site-specific land use and risk expectations. For most large, complex DOE sites, the appropriate ER alternative will always be some hybrid form of Alternative 3, 'a combination strategy' in which there will always be a mix of institutional control and complete removal. The PEIS needs to reflect this reality and avoid setting up an artificial choice between 'institutional control' and 'removal and treatment.'

The EMAC recommends that the PEIS focus on a programmatic process to foster consensus on the appropriate ER strategy for implementation on each DOE site. The present Superfund approach could be used as the baseline programmatic alternative. The IP 'analytical approach to evaluate ER alternative' might be modified to constitute a more appropriate ER programmatic alternative by including interested 'publics' at sites in the 'cumulative effects analysis team.' Local representatives should also be allowed to interact with the 'remedial engineering analysis team' and the 'environmental analysis team.'

Response:

DOE does not take issue with EMAC's observation that the most appropriate ER alternative for application broadly throughout DOE could be some hybrid form of a combination strategy. However, DOE believes that consideration of the proposed alternatives are reasonable for purposes of analysis to establish the strengths and weaknesses of approaches to cleanup at the ends of the spectrum. This approach is consistent with Council on Environmental Quality guidance to cover the full spectrum of alternatives. ["Memorandum: Questions and Answers About the NEPA Regulations", 46 FR 18026 (March 23, 1981) (emphasis in original)]. DOE believes that the most appropriate process for determining an ER Strategy at each site is through the integrated CERCLA/NEPA process, which maximizes the participation of locally interested individuals and agencies, and tailors the application of policy to site specific conditions.

Recommendation:

"DOE should also provide an environmental analysis of an alternative which addresses the management of all waste onsite (no-intersite shipments)."

Response:

The DOE agrees that the PEIS should analyze an alternative that maximizes the management of all waste on-site, where reasonable. The IP will be modified accordingly.

Recommendation:

"Because the EMAC has concerns regarding the DOE-proposed no-action alternatives, we recommend that DOE further explore this question and seek recommendations from the President's Council on Environmental Quality."

Response:

Representatives of DOE and the U.S. Environmental Protection Agency met with CEQ Deputy General Counsel on January 27, 1993, to discuss siting, no action, and identification of preferred alternatives. Minutes of the meeting have been prepared and are available to all EMAC members. As a result of the meeting, DOE is confident that the approach with respect to the no action alternative, which was recommended by EMAC and adopted by DOE, fully meets the intent and requirements of NEPA.

Recommendation:

"The EMAC also recommends that Waste Minimization should become a WM programmatic alternative. The PEIS should disclose the potential for reducing the need for waste treatment and disposal facilities which is created by implementation of a fully integrated waste minimization program."

Response:

EM agrees that waste minimization is an important consideration that would reduce the need for waste treatment and disposal facilities. DOE has established waste minimization policies. The PEIS will consider waste minimization methods in the analysis of each alternative rather than as a separate alternative.

5. More Comprehensive Coverage of Waste Management Issues is Needed

Recommendation:

"The EMAC is not satisfied with the scope of the WM program which will be addressed in the PEIS. Some waste streams or waste types are omitted without sufficient justification. For example, it is not clear that either pre-1970 transuranic waste or remote-handled transuranic waste will be addressed in the PEIS. Programmatic treatment of these two waste types is lagging far behind the treatment of post-1970 transuranic waste, that part of the waste stream clearly intended for disposal in the Waste Isolation Pilot Plant."

Response:

The DOE has re-examined each of the waste types to be considered in the PEIS. The IP will be revised to specifically state that both contact-handled and remotely-handled transuranic waste are within the scope of the PEIS. Additionally, the IP will be modified to clarify that the PEIS, as part of the environmental restoration analysis, will discuss the proposed pre-1970 transuranic demonstration program at the Idaho National Engineering Laboratory (i.e., Pit 9 at the Radioactive Waste Management Complex). This pre-1970 transuranic waste demonstration program is being proposed by the DOE to ascertain the technical feasibility of retrieving pre-1970 transuranic waste. NEPA documentation for this program is currently in preparation, separately from the PEIS. Decisions relative to retrieval of pre-1970 transuranic disposal would be made upon completion of a demonstration program and a separate NEPA review, but cannot be made during the PEIS because the results of the demonstration program will not be available until about 1996.

Recommendation:

"The PEIS avoids discussion of industrial solid waste produced throughout the complex. Contrary to the IP response on this issue, the public concerns for this type of waste are important. The public interest in below regulatory concern (BRC) standards has been demonstrated. DOE routinely makes 'BRC determinations on large volumes of industrial solid waste destined for disposal in landfills on DOE reservations. The WM program should avoid creation of a 'second generation' of ER needs."

Response:

Although prior practices with respect to industrial solid waste disposal were not adequate and resulted in the disposition of wastes that were contaminated with very low-levels of radioactivity, such practices have been recently halted and new procedures are being developed. The PEIS will discuss the category of industrial waste and DOE's efforts to prevent unauthorized disposal of industrial solid wastes contaminated with radioactivity as industrial solid wastes.

While a below-regulatory concern (BRC) regulation for low-level waste could be advantageous to the Department in disposing of wastes containing insignificant levels of radioactivity, the DOE is not authorized to promulgate either a BRC regulation or a BRC standard. That authorization lies with other Federal agencies. The Department shares the EMAC's concerns and will do all that is possible under the present regulatory framework to prevent "...a second generation of ER needs."

Recommendation:

"The IP selectively addresses the storage of Greater-Than-Class C (GTCC) waste without any promise of dealing with the difficult programmatic issue of final disposal of GTCC waste."

Response:

With respect to Greater-Than-Class C (GTCC) LLW, the majority of GTCC LLW is associated with commercial utility waste, and is primarily comprised of D&D and some operational wastes. Large uncertainties exist with respect to the volumes of these potential sources of GTCC LLW. These uncertainties include the effect of concentration averaging and a detailed listing of SNF assembly and reactor core components that are to be considered directly as either SNF or high-level waste rather than GTCC LLW. Additionally, although the Nuclear Regulatory Commission has taken the position in a rule-making that commercial GTCC LLW should be disposed of in the national geologic repository in the absence of an alternative disposal method, disposal of GTCC LLW other than with SNF may not be presently authorized by the Nuclear Waste Policy Act, as amended. Moreover, there is

currently no compelling reason for GTCC LLW generators to ship their waste for storage at a DOE site since they would be required to pay storage fees to DOE. Given these uncertainties, DOE believes that the timing for proposing an action and reaching a decision on GTCC LLW disposal is not appropriate. When the uncertainties surrounding disposition of GTCC are reduced, the Department intends to undertake a detailed NEPA review of potential methods for GTCC disposition and to fully inform and seek the participation of the public and interested agencies. The IP will be modified to reflect these considerations and direction.

Recommendation:

"The EMAC recommends that DOE re-examine its selective coverage of waste streams and waste issues with new attention to comprehensive coverage and to final disposition of waste streams rather than interim treatment or storage steps. The PEIS should clearly state how DOE intends to address all classes of transuranic waste, Greater-Than-Class C waste disposal, and management of industrial solid waste."

Response:

As indicated by the prior responses, DOE has re-examined its coverage of waste streams and has modified the IP to clarify the coverage of waste streams in the PEIS.

6. PEIS Should Fully Address Worker Health and Safety and Public Health and Safety

Recommendation:

"The ultimate goal of the PEIS is to protect the health and safety of the citizens of the United States. The IP and the PEIS should stress both protection for the residents adjacent to the

sites and the safety of the workers at the site. Each alternative should be carefully examined for its impacts on the local population and the workers performing the day to day operations.

The EMAC recommends that the PEIS should detail the process and standards that will be employed to ensure that workers and residents will be protected during each phase of a project. Monitoring requirements need to be specified in the PEIS to comply with health and safety standards."

Response:

DOE agrees with the EMAC's comment. The PEIS will stress both the protection of residents adjacent to the sites and the safety of workers. The PEIS will also analyze the potential public and worker health and safety impacts in specific relation to protective criteria and standards. Additionally, the PEIS will identify and discuss the process and monitoring requirements essential to ensuring protection of public and worker health and safety.

7. The Risk-Assessment Process for the PEIS Should be Modified

Recommendation:

"The EMAC has serious concerns about DOE's plans for calculating baseline risk and the risk for the various alternatives for the PEIS. It is our understanding that these concerns are shared with the EPA, public-interest groups, and other stakeholders. The EMAC's concerns are not only with the details of the planned modeling approaches, but with the overall process.

Current plans of the DOE are to use the MEPAS model with the work being done by ORNL. The MEPAS model has been used in the past as part of the Environmental Survey and as part of the DOE Environmental Restoration priority-setting process; many of the results have been widely perceived as lacking in credibility."

Response:

DOE recognizes the concern that members of the EMAC have identified regarding the intended use of the MEPAS model and its association with the Environmental Survey. EM also understands the difficulty in establishing DOE credibility with the public given such a probable

association, though the intent of the PEIS is significantly different from the prioritization attempted through the Environmental Survey which received the majority of criticism. Nevertheless, DOE believes that the MEPAS model is currently the most acceptable model at the current time to accomplish the non-transportation risk analysis for the PEIS.

In recognition of the potential public credibility issue, DOE has taken steps to ensure that articles on the MEPAS model will be published in peer reviewed journals. Further, DOE will arrange for a national workshop on the models to be used as part of the PEIS analysis. Issues raised through the peer review journal and workshop process will be identified and used to modify the MEPAS model as appropriate and to provide documentation within the PEIS of the MEPAS model review process. If a significant flaw in MEPAS or better models are identified in the review process, DOE will revisit the intended use of the MEPAS model.

Recommendation:

"Of more importance, however, is our concern about the process. It appears that DOE plans are to simply have one contractor calculate risks without adequate consultation with DOE sites or stakeholders (federal and state regulators, site scientist and managers, public interest groups including worker interest, and the public at large).

The EMAC strongly recommends that the following process be used:

- A. *For each site to be assessed, seek the involvement of stakeholders to solicit viewpoints on the problems of concern that need to be assessed and the appropriate input data for any calculations.*
- B. *The involvement should extend to the selection of the method of calculation to be used. Emphasis should be placed on using the simplest model possible, consistent with obtaining valid results. It is important to remember that the goal of most concern is to be able to communicate the risk calculations to the public in a way that is transparent (understandable without referencing obscure publications). It is well recognized that all needed input data may not be available, and that calculations will contain considerable uncertainty. For this reason, it is essential that the uncertainty in risk calculations be recognized explicitly. This means that a deterministic (single value) calculation, which often has many built in conservative assumptions, should not be done; rather,*

best effort should be made to calculate the most likely risk values with appropriate expressions of uncertainty for every important step in the process and for the final results. Such uncertainties should be represented explicitly, and one of the more important uses of these data may be to direct future efficient data gathering so that uncertainties may be reduced.

Response:

The DOE regrets that in briefings with the EMAC, the DOE did not make clear enough the extent to which the entire PEIS Team is actively working with each of the sites to ensure that the most current information needed to perform the PEIS risk analysis is being used. Individual site problems, both in the ER and WM arena, are being actively solicited from each of the sites to ensure sensitivity to each of the sites conditions and issues. Prior to approval of the draft PEIS, EM, DOE sites, and other offices in DOE with substantive experience in risk analysis will be responsible for reviewing and commenting on the PEIS and the PEIS's risk analysis methodology and results. In short, the risk analysis effort is a substantial team effort with extensive peer review.

EM agrees with the EMAC's recommendations regarding uncertainties and the presentation of deterministic values in the PEIS. Uncertainties of risk calculation will be dealt with explicitly in the PEIS.

EM recognizes that another thrust of the EMAC's comments on the overall risk analysis process is the active involvement of the public and interest groups outside of the internal DOE review process. Toward this end, DOE will consider specific suggestions from the EMAC regarding appropriate forums, such as PEIS risk analysis workshops as part of the public hearings on the draft PEIS, to provide a greater opportunity for public participation in the risk assessment process.

Recommendation:

- "C.** *For each site and each problem calculate the risk to the public and to workers now and into the future for the following conditions:*
- i.** *Baseline. This assumes that no remedial actions will take place.*
 - ii.** *Remedial action alternatives. The risk to the public and to workers is calculated for each remedial action alternative to be considered in the PEIS. It is important to include the risk posed by the cleanup actions themselves, as this may be substantial in terms of occupational exposure and in risk to the public from transportation (including the risk of traffic accidents).*
- D.** *When draft results are available, share the results with stakeholders. The primary goal of this process should not be just to 'communicate,' but to perform quality-assurance and validity checks on the calculated results."*

Response:

The PEIS will, as recommended by the EMAC, calculate current and future risks to the public and to workers now and in the future for the baseline and remedial action alternatives. DOE intends to share the draft results of these risk analyses with stakeholders.

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