

INTEGRATION OF STATUTORY PROVISIONS OF NEPA, RCRA, AND CERCLA AT THE SAVANNAH RIVER SITE

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ABSTRACT

Cleanup activities at Department of Energy facilities in compliance with hazardous waste regulations must also satisfy the procedures for environmental impact review required by the Council on Environmental Quality. A strategy for integrating the provisions of the National Environmental Policy Act (NEPA) with those of the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) has been developed at the Savannah River Site. The approach for integrating these statutory provisions takes advantage of existing NEPA documentation and the preliminary characterization data generated by RCRA/CERCLA. In addition, it relies on the strategic timing of supplemental NEPA documentation on environmental restoration and waste management activities.

INTRODUCTION

The National Environmental Policy Act (NEPA) of 1969, as amended, requires Federal agencies to consider the environmental consequences of proposed actions. Hazardous waste regulations promulgated under the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, contain provisions for assessments to establish the risk posed to human health and the environment due to remedial actions. Other similarities among NEPA and CERCLA regulations include requirements for public review, documentation of analyses, and a Record of Decision on proposed actions. The Council on Environmental Quality (CEQ) has stated that "the NEPA process does apply to actions taken by Federal agencies under CERCLA/SARA", based partly on the premise that NEPA and CERCLA are not functionally equivalent (CEQ, 1990). The policy of the Department of Energy (DOE) given in DOE Order 5400.4 says that DOE will "integrate the procedural and documentation requirements of CERCLA and NEPA, whenever possible". The details of specific integration matters are left up to the program and field offices in consultation with the DOE Office of NEPA Project Assistance. Due to a certain overlap in the provisions of NEPA and CERCLA and the DOE policy on integration of these two statutes, a strategy for reducing the duplication of effort for concurrent compliance with NEPA and CERCLA at the Savannah River Site (SRS) has been developed. This integration strategy is discussed in the following sections.

BACKGROUND

Regulatory Provisions

All Federal agencies must comply with the procedural provisions of the National Environmental Policy Act of 1969, as amended (42 U.S.C. #4321 *et seq.*). NEPA requires that a detailed environmental impact statement (EIS) be

prepared for any proposed Federal action which may significantly affect the quality of the human environment. An EIS must address various areas including environmental impacts, unavoidable adverse effects, alternatives to the proposed action, short-term uses of the environment vs. long-term productivity, and any irreversible/irretrievable commitment of resources. Figure 1 outlines the NEPA EIS process used for major SRS actions. Other types of NEPA documentation include: (1) environmental assessments (EA) which are prepared to determine if an EIS is required, and (2) categorical exclusions (CX) which include those actions that do not significantly impact the environment and therefore do not require an EIS or an EA. The Department of Energy recently amended its NEPA guidelines (DOE, 1990) by adding three new categorical exclusions to facilitate the NEPA review of selected environmental restoration and waste management activities. These new categorical exclusions concern removal actions under CERCLA (including those taken as final response actions and those taken before remedial action) and actions similar in scope under RCRA (including those taken as partial closure actions and those taken before corrective action), improvements to environmental control systems that reduce the amount or concentration of regulated substances in air emissions or water effluents, and site characterization and environmental monitoring activities under CERCLA or RCRA.

The guidance and regulations necessary for Federal agencies to implement the NEPA process are provided by the CEQ. The CEQ recently issued an opinion (CEQ, 1990) which stated that NEPA is applicable to Federal actions pursuant to compliance with CERCLA/SARA because: (1) Congress did not repeal NEPA application in CERCLA/SARA, (2) the goals of NEPA and CERCLA are not in fundamental conflict, and (3) judicial review has not upheld the functional equivalence doctrine.

The RCRA passed in 1976 established a regulatory program for the management of hazardous wastes from

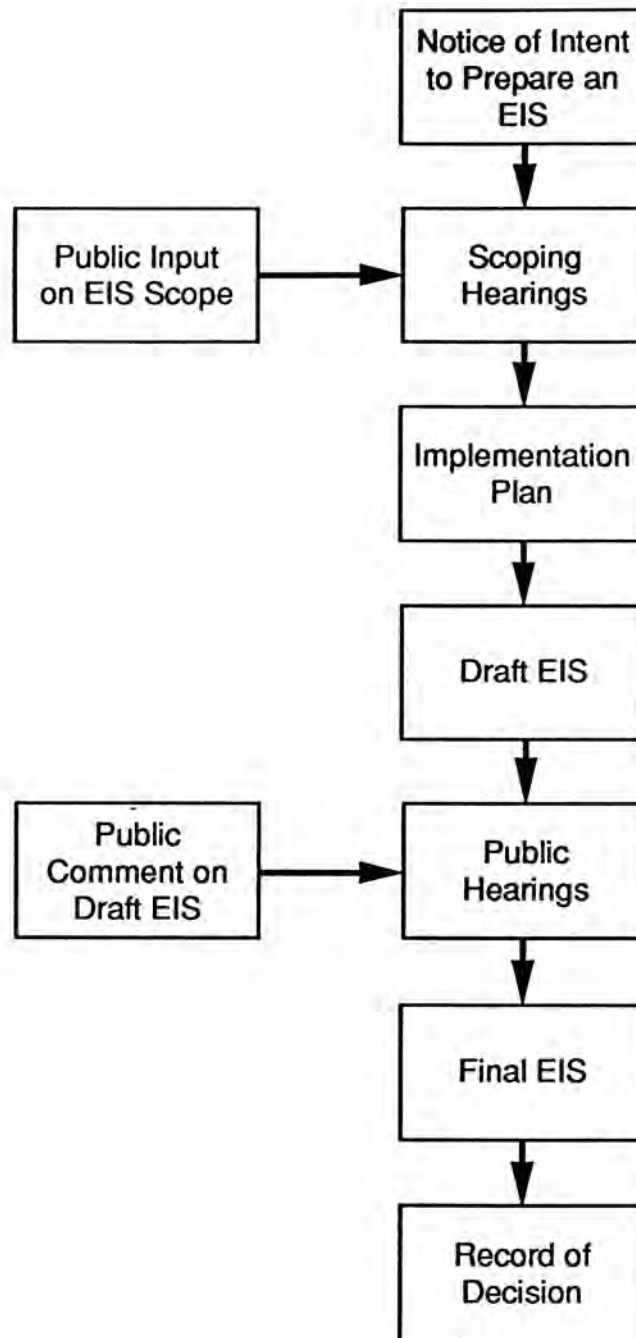


Fig. 1. NEPA EIS Process Utilized for Major SRS Actions.

"cradle-to-grave". The Hazardous and Solid Waste Amendments, passed in 1984 to further augment the 1976 requirements, also address inactive waste sites at permitted/interim status facilities. In general RCRA operating permits are required for facilities that treat, store, or dispose (TSD) of hazardous waste. RCRA permit applications for TSD facilities must include waste characterization/analysis plans, process information, groundwater protection plans, contingency plans, closure and postclosure plans, and public participation. Source, special nuclear, and byproduct material as defined by the Atomic Energy Act are not regulated under RCRA.

The RCRA corrective action process begins with a RCRA Facility Investigation (RFI) plan, which details the activities that will be required to determine the nature and extent of any hazardous constituent released to the environment. After regulatory review of the report, the need for further investigation and/or a Corrective Measures Study (CMS) is determined. The owner or operator must identify alternatives and propose a specific corrective measure in the CMS report.

The CERCLA of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986, provides funding and enforcement authority for responding to the release or threat of release into the environment of a hazardous substance or pollutant or contaminant from spills or inactive hazardous waste disposal sites. While RCRA establishes a regulatory program for present hazardous waste management activities, CERCLA establishes a comprehensive response program for past hazardous waste management activities. All Federal agencies are subject to compliance with the requirements of CERCLA.

The framework for the CERCLA process is contained in the National Contingency Plan. This plan requires the Environmental Protection Agency (EPA) to conduct a preliminary assessment of all identified potential Superfund sites. If warranted, followup inspections are performed to evaluate these sites for possible inclusion on the National Priorities List (NPL). The NPL is an EPA-maintained inventory of the most serious hazardous waste sites in the nation which are eligible for long-term remedial cleanup. Once on the NPL, a Remedial Investigation/Feasibility Study (RI/FS) is conducted to characterize the site and identify and assess potential remedial action alternatives (EPA, 1989). Preferred alternative is selected in a Record of Decision (ROD).

Site-Specific Status

An environmental impact statement was issued in December 1987 to identify and select a waste management strategy for the treatment, storage, and disposal of hazardous, radioactive, and mixed wastes at SRS (DOE, 1987). The environmental consequences of closure options for 77

individual waste sites were analyzed. A listing of the waste site categories is given in Table I. The alternative waste management strategies analyzed in the EIS relative to closure of waste sites were:

- No action - no removal of waste at existing waste sites, and no closure or remedial action;
- Dedication - no waste removal but implementation of closure and remedial actions to prevent contamination from exiting waste sites;
- Elimination - removal of wastes from all existing waste sites and implementation of closure and remedial actions, as required; and
- Combination - a mix of dedication and elimination alternatives to provide foreclosure of all waste sites and implementation of remedial actions, as required.

TABLE I

Waste Sites Assessed in the Groundwater Protection EIS

SRL Seepage Basins
 Metallurgical Laboratory Basin
 Burning/Rubble Pits
 Metals Burning Pit/Misc Chemical Basin
 Old F-Area Seepage Basin
 Separations Area Retention Basins
 Radioactive Waste Burial Grounds
 Bingham Pump Outage Pits
 Hydrofluoric Acid Spill Area
 SRL Oil Test Site
 New TNX Seepage Basin
 Road A Chemical Basin
 L-Area Oil and Chemical Basin
 Waste Oil Basins
 Silverton Road Waste Site
 M-Area Settling Basin and Vicinity
 F-Area Seepage Basins
 Acid/Caustic Basins
 H-Area Seepage Basins
 Reactor Seepage Basins
 Ford Building Waste Site
 Ford Building Seepage Basin
 Old TNX Seepage Basin
 TNX Burying Ground
 CMP Pits
 Gun Site 720 Rubble Pit

Following issuance of the EIS, DOE published a Record of Decision (DOE, 1988) to modify hazardous, low level radioactive, and mixed waste management activities at the SRS by implementing the Combination Strategy. This 'groundwater protection' EIS is currently being used to provide programmatic support for site-wide decisions on SRS waste management strategies and site-specific environmental input for cleanup activities in selected areas.

DOE is currently preparing a Programmatic Environmental Impact Statement (PEIS) to assess the potential impacts of a proposed integrated environmental restoration and waste management program. This PEIS will develop comprehensive, long-range plans for restoring DOE sites that contain radioactive, hazardous, and mixed wastes. Also, the treatment, storage, and disposal of wastes generated by site restoration or other ongoing activities will be addressed. Key issues to be covered include human health and environmental risk factors, future land use, cleanup levels, the environmental criteria for deciding cleanup priorities, the use of existing cleanup technologies vs. the development of innovative technologies, and the manner in which DOE should manage wastes until adequate treatment and disposal capacity is available. Completion of the draft PEIS is expected in early 1992.

The SRS was granted a RCRA permit by EPA Region IV in September 1987. This permit identified nonregulated units [known as solid waste management units (SWMU)] that require detailed RCRA Facility Investigations (RFI). The RFI assesses the nature, extent, and potential pathways of hazardous constituents that may have been released to the environment. A Program Plan has been prepared to provide guidance, direction, and standard procedures for the preparation of unit-specific investigation plans. The Program Plan was developed in 1988; it was approved by EPA Region IV in 1989.

Effective December 21, 1989, the SRS was included on the CERCLA National Priorities List (NPL). Placement on the NPL created a need to integrate the RCRA and CERCLA requirements to provide for a more efficient environmental program. To attain compliance with Section 120 of CERCLA, DOE has negotiated a draft Federal Facility Agreement with the EPA Region IV and the South Carolina Department of Health and Environmental Control (SCDHEC) to coordinate the remedial activities at SRS into one comprehensive strategy to meet RCRA and CERCLA regulatory requirements.

This strategy consists of an integrated RFI/RI and CMS/FS process (Fig. 2). For those SWMUs not addressed in SRS's RCRA permit, a site evaluation will be performed on each potential unit to assess the need for further investigation. A unit-specific RFI/RI work plan will be prepared for the SWMUs, detailing the proposed investigation. As specified in the FFA, both the state and Federal regulatory

agencies will review the plan before implementation. Each stage of the process is dependent on information gathered during prior activities. This process will allow for the flexibility and focused approach discussed in EPA guidance.

This integrated strategy also provides for a comprehensive Community Relations Plan (CRP). This plan, currently under development, will contain a procedural framework and schedule for developing and implementing community relations activities at SRS. The plan will be based on the results of the interviews conducted in late 1990 throughout surrounding communities. The CRP is a dynamic document that will allow SRS to address changing public needs and wants. The extensive public participation plan will involve the concerned public in remedial activities at SRS. The plan is scheduled for publication in summer 1991.

INTEGRATION STRATEGY

The strategy for integrating the provisions of NEPA, RCRA, and CERCLA at SRS is based on a tiered approach for NEPA compliance, use of characterization data generated by the RCRA/CERCLA process, and simultaneous public review activities. The strategy involves: (1) participation in a Programmatic Environmental Impact Statement (PEIS) on environmental restoration and waste management, (2) reference to the EIS on waste management activities for groundwater protection, (3) development of a Supplemental EIS on waste management activities based on new data from the RCRA/CERCLA preliminary characterization effort, (4) combination of public review activities to efficiently maximize input, (5) reliance on categorical exclusions for applicable waste removal actions under CERCLA and RCRA, and (6) minimization of the need to develop NEPA documentation for individual cleanup actions.

The tiered approach for NEPA compliance begins with the Programmatic EIS on environmental restoration and waste management. The PEIS is intended to evaluate broad approaches for resolving DOE's environmental cleanup problems. SRS is one of the included departmental installations and is fully participating in the overall effort. When completed, the PEIS will provide a department-wide strategy for achieving cleanup and for modernizing the waste management complex.

The EIS on waste management activities for groundwater protection at SRS (DOE, 1987) is a site-specific NEPA document. Although issued as *final in December 1987*, this EIS should provide much of the documentation required at this tier level of the NEPA pyramid. It supports decisions on future SRS waste management activities and provides environmental input for project-specific decisions related to cleanup activities at existing waste sites. As mentioned earlier, closure options for 77 individual waste sites were

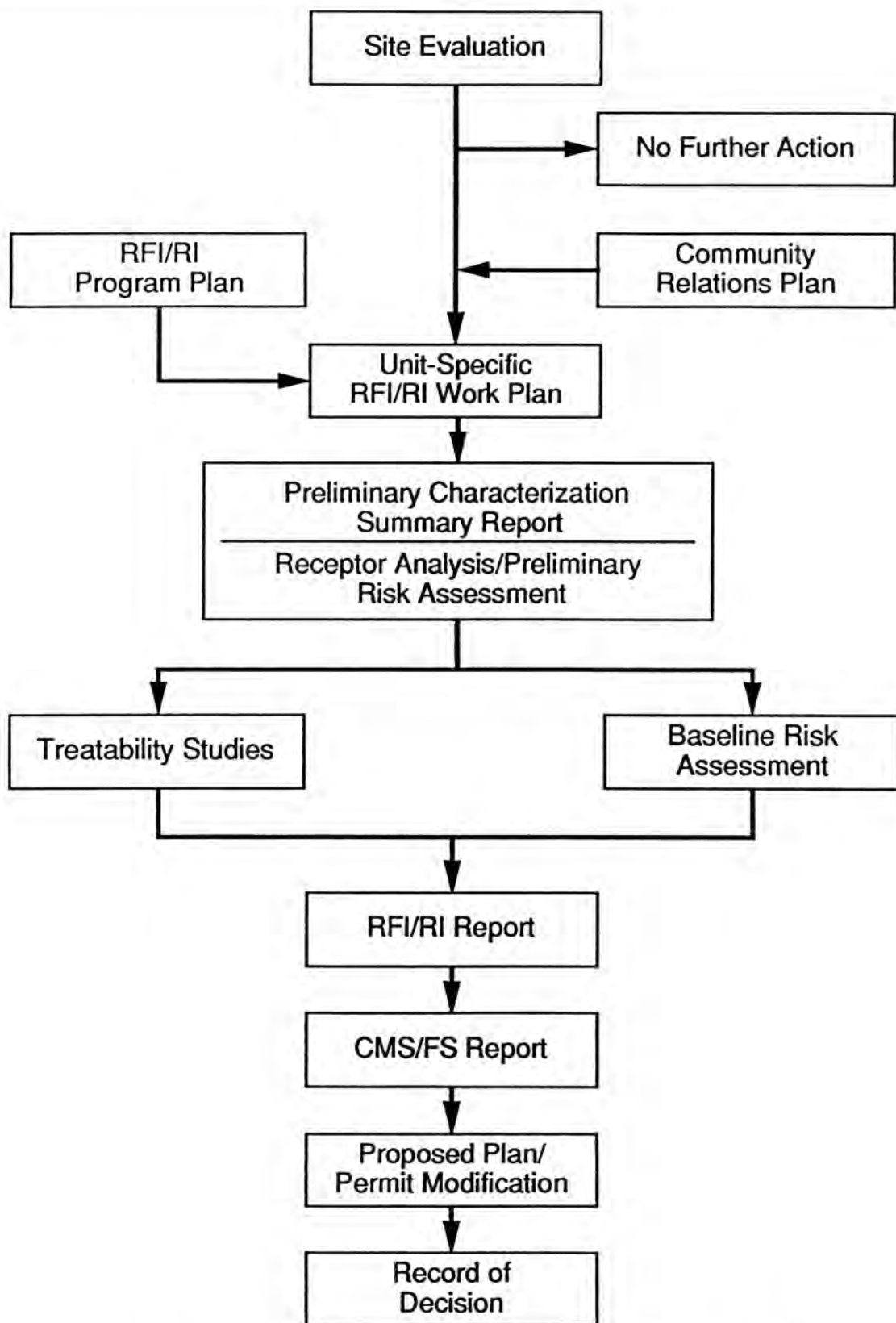


Fig. 2. Integrated RCRA/CERCLA Process for SRS Operable Units.

analyzed to the degree appropriate for project-specific actions. No additional NEPA documentation seems necessary for closure of these waste sites.

Additional waste management units have been identified since 1987, mainly as a result of SRS being added to the National Priorities List. Expanding the NEPA documentation at the site level as part of the integration strategy calls for preparation of a Supplemental EIS on waste management activities for groundwater protection. This SEIS would address those waste site closures not covered in the original EIS along with any remedial actions for groundwater contamination, as required. This approach takes advantage of previous work and minimizes the effort for NEPA compliance. The optimum time to start the development of such an SEIS seems to be in the fourth quarter of 1992. Per the draft Federal Facility Agreement (FFA) schedules, preliminary characterization data would be available on the additional waste management units about that time. The SEIS should take 18 to 20 months to prepare and issue as final. Thus, a Record of Decision for the SEIS would be in place before any corrective measures of RCRA or response actions of CERCLA began. The SEIS would include a cumulative impact analysis, an important part of the NEPA procedure.

The integrated RCRA/CERCLA process under the FFA requires information meetings to obtain public input on remedial activities. The public hearings on the SEIS would be combined with one of these information meetings to reduce duplication of effort and promote an integrated approach.

The categorical exclusions made final by DOE for removal actions under CERCLA will be used, when appropriate, to provide NEPA documentation for these waste management actions. These categorical exclusions are narrowly defined but do apply to limited cleanup or removal of released hazardous substances into the environment.

Finally, the strategy emphasizes the desire to greatly minimize or eliminate the need to develop NEPA documentation for individual cleanup actions. Hopefully, the bounding calculations of earlier NEPA documents are able to envelope the environmental consequences of project specific actions. The CERCLA or RCRA processes provide the detailed analyses and associated documentation needed

and should only reference the appropriate NEPA documents already available.

CONCLUSIONS

The strategy for integrating the provisions of NEPA, RCRA, and CERCLA at SRS takes advantage of work already completed pursuant to compliance with these regulatory statutes. This approach may be unique to SRS because of the existing environmental compliance status at this DOE facility. However, integration of the elements of the NEPA, RCRA, and CERCLA processes as outlined herein will result in a more efficient and cost effective compliance program.

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The information in this article was developed during the course of work under Contract No. DE-AC09-89SR18035 with the U. S. Department of Energy.