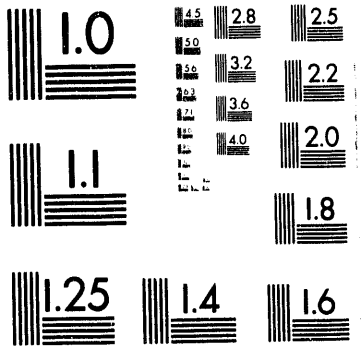
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CONCEPTUAL SITE TREATMENT PLAN LABORATORY FOR ENERGY-RELATED HEALTH RESEARCH ENVIRONMENTAL RESTORATION PROJECT

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October 1993

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MASTER

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SUMMARY

The Federal Facilities Compliance Act (the Act) of 1992 waives sovereign immunity for federal facilities for fines and penalties under the provisions of the Resource Recovery and Conservation Act, state, interstate, and local hazardous and solid waste management requirements. However, for three years the Act delays the waiver for violations involving U.S. Department of Energy (DOE) facilities. The Act, however, requires that the DOE prepare a Conceptual Site Treatment Plan (CSTP) for each of its sites that generate or store mixed wastes (MWs). The purpose of the CSTP is to present DOE's preliminary evaluations of the development of treatment capacities and technologies for treating a site's MW.

This CSTP presents the preliminary capacity and technology evaluation for the Laboratory for Energy-Related Health Research (LEHR). The five identified MW streams at LEHR are evaluated to the extent possible given available information. Only one MW stream is sufficiently well defined to permit a technology evaluation to be performed. Two other MW streams are in the process of being characterized so that an evaluation can be performed. The other two MW streams will be generated by the decommissioning of inactive facilities onsite within the next five years.

ACRONYMS

AEA	Atomic Energy Act of 1954
AEC	Atomic Energy Commission
BAT	Best Available Technology
BDAT	Best Demonstrated Available Technology
CAA	Clean Air Act
CBDT	Concentration Based Treatment Standard
CERCLA	Comprehensive Environmental Response, Compensation, Liability Act
CFR	Code of Federal Regulations
CH	Contact handled
CSTP	Conceptual Site Treatment Plan
D&D	Decontamination and Decommissioning
DOE	U.S. Department of Energy
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ER	Environmental Remediation
ERWM	Environmental Restoration and Waste Management
FR	Federal Register
FWPCA	Federal Water Pollution Control Act
HLW	High-Level Waste
HQ	U.S. Department of Energy, Headquarters
HW	Hazardous Waste
IMWIR	Interim Mixed Waste Inventory Report
INEL	Idaho National Engineering Laboratory
KD	Key Decision
LANL	Los Alamos National Laboratory
LDR	Land Disposal Restrictions
LEHR	Laboratory for Energy-Related Health Research
LLW	Low-Level Waste
MACRO	Macroencapsulation
MLLW	Mixed Low-Level Waste
MW	Mixed Waste

N/A	Not Applicable or Not Available
NDA	Nondestructive Analysis
NDE	Nondestructive Examination
NEPA	National Environmental Policy Act
NRC	U.S. Nuclear Regulatory Commission
PEIS	Programmatic Environmental Impact Statement
RA	Remedial Action
RCRA	Resource Conservation and Recovery Act
RH	Remote Handled
RI	Remedial Investigation
RMERC	Recover Mercury
STP	Site Treatment Plan
SWDA	Solid Waste Disposal Act
TBD	To Be Determined
TBS	To Be Supplied
TCLP	Toxicity Characteristic Leachate Procedure
the Act	Federal Facilities Compliance Act
TOC	Total Organic Carbon
TRU	Transuranic
TSCA	Toxic Substances Control Act
TSD	Treatment Storage and Disposal
UC Davis	University of California, Davis
U.S.	United States
WAC	Waste Acceptance Criteria
WIPP	Waste Isolation Pilot Plant

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1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

The U.S. Department of Energy (DOE) is required by Section 3021(b) of the Resource Conservation and Recovery Act (RCRA), as amended by the Federal Facility Compliance Act (the Act), to prepare plans describing the development of treatment capacities and technologies for treating mixed waste (MW). The Act requires site treatment plans (STPs) to be developed for each site at which DOE generates or stores MW and submitted to the state or U.S. Environmental Protection Agency (EPA) for approval, approval with modification, or disapproval. The Laboratory for Energy-Related Health Research (LEHR) Conceptual Site Treatment Plan (CSTP) is the preliminary version of the plan required by the Act and is being provided to State of California, the EPA, and others for review. A list of the other DOE sites preparing CSTPs is included in Appendix A of this document.

In addition to aiding LEHR, in conjunction with State of California and EPA, in formulating its final STP, the CSTP will also provide information to other DOE sites for use in identifying common technology needs and potential options for treating their wastes. The LEHR CSTP is also intended to be used in conjunction with CSTPs from other sites as a basis for nationwide discussions among state regulators, EPA, and other interested parties on the treatment strategies and options, and on technical and equity issues associated with DOE's MW. DOE also intends to prepare a summary of the CSTPs to provide a national picture of DOE's technology needs and options to facilitate these discussions.

The CSTP includes the following information:

- The CSTP addresses MW, which is defined by the Act as waste containing both a hazardous waste (HW) subject to RCRA and source, special nuclear or by-product material subject to the Atomic Energy Act (AEA) of 1954 (42 U.S.C. § 2011 et seq.).

- The CSTP presents preliminary information on the treatment technology and capacity needs for LEHR's MW. It also describes any existing MW treatment capacity at the site to assist other sites in determining the suitability of that capacity for their wastes.

- The CSTP identifies possible options for treatment where capacity does not exist and describes the technical uncertainties, and economic and other implications associated with the options. These options, such as "treatment at the planned 'Mixed Waste Treatment Facility' at DOE site 'X,'" are those that appear technically feasible based on current information and do not represent DOE preferred option or reflect its intentions for treating the wastes.

- LEHR also has some wastes that require further characterization or for which the appropriate technology has not yet been identified. These are identified in the CSTP, as well as waste streams, such as environmental restoration (ER) wastes, LEHR expects to generate in the future.

- The CSTPs are intended to provide a starting point for discussions. While LEHR has completed the analysis as completely and with as much technical accuracy as possible, some limitations exist in the analysis. Many of the assumptions on waste types and material composition used in this CSTP are based on process knowledge from the major studies conducted at LEHR. Although the best available information has been used in the development of this plan, complete and comprehensive characterization of all legacy MW streams (see Chapters 3.0 and 6.0) must be completed before determining the appropriateness of any final treatment option.

1.2 SITE HISTORY AND MISSION

LEHR began as a small research project at University of California, Davis (UC Davis) main campus in 1951. In 1957 a major project was initiated by the Atomic Energy Commission (AEC) to relocate the LEHR to south of the UC Davis main campus. The buildings at LEHR are owned by DOE, however, the land on which the LEHR facility is located is leased by DOE from UC Davis.

The LEHR facility was to study the biological effects associated with low-level chronic exposure of the skeleton to beta particle irradiation from skeletal deposits of the bone seeking radionuclide, strontium-90. The beagle was chosen as the experimental subject. Parallel studies were planned using the bone-seeking radionuclide radium-226, to which some people had been exposed in watch-dial painting and in medicine earlier in this century. This main study was the basis for the 1962 AEC contract that continued to expand and broaden to consider all aspects of the radiobiological effects of the irradiation of the skeleton.

Although many productive ancillary studies occurred at LEHR, the primary project over three decades, beginning in the planning as far back as 1955, has been the lifetime study of the bone-seeking radionuclides strontium-90 and radium-226 in a population of beagles.

More recently, DOE supported research to provide new knowledge for an improved understanding of the potential bioenvironmental and occupational health problems associated with energy production and utilization. This research involved several areas of basic investigation that relate to toxicological and biomedical problems associated with potentially toxic chemical and radioactive substances and ionizing radiation with particular emphases on carcinogenicity.

In 1983, studies of the application of chemical and nuclear science to problems in nuclear medicine began. These nuclear medicine studies centered on issues associated with the development of specifically bound short-lived radionuclides that can be exclusively targeted to irradiate cancer cells and/or tumors in the body.

During the three decades of DOE-sponsored research, many thousands of research samples were taken, analyzed, and stored in freezers or in preserving fluids. At death, the research animal was subjected to extensive organ histopathology. This procedure is responsible for the proliferation of small specimen samples. Each of the projects contributed to the volume of research wastes. Wastes were also generated from tracer studies and standards preparation. Organ, gland, and tissue (soft as well as hard, e.g., bone) samples are removed from the research animal and analyzed.

In 1989, the DOE initiated decommissioning and ER of the LEHR site. MW at the site is the result of past research activities although future decommissioning and ER activities may generate MWs. Three buildings are in the final phases of decommissioning (Animal Hospital 1, Animal Hospital 2, and the Specimen Storage Room). Several other contaminated facilities are awaiting decommissioning. They are: 1) the Imhoff waste treatment facility, 2) the Radium-226 seepage system, 3) the tanker trailer, and 4) the Cobalt-60 irradiator facility. The LEHR facility also has several onsite waste disposal

areas. They are: two cells of an inactive UC Davis landfill, a UC Davis low-level waste (LLW) disposal area, and a DOE LLW disposal area.

The ER of the LEHR site is being managed for the San Francisco Operations Office of the DOE by Pacific Northwest Laboratory (PNL)[a]. PNL is responsible for waste management activities through its major subcontractors.

1.3 FRAMEWORK FOR DEVELOPING DOE'S SITE TREATMENT PLAN

Figure 1.1 illustrates the relationships among requirements that led to the process DOE is following to prepare the STPs. The key components of the framework for the plans are described below.

RCRA land disposal restriction (LDR) requirements require the HW treatment (including the hazardous component of MW) to meet certain standards before land disposal, and prohibit storing HWs that do not meet LDR standards, except for the purposes of accumulating sufficient quantities to facilitate proper recovery, treatment, or disposal of the waste. DOE is currently storing MW inconsistent with the LDR provisions because the treatment capacity for such wastes, either at DOE sites or in the commercial sector, is not adequate or is simply unavailable at this time.

The Act, signed on October 6, 1992, waives sovereign immunity for fines and penalties for RCRA violations at federal facilities. However, a provision postpones that waiver for three years for MW LDR storage prohibition violations at DOE sites and requires DOE to prepare plans for developing the required treatment capacity for MW. Each plan must be approved by the state or EPA, after consultation with other affected states, consideration of public comment, and an order issued by the regulator requiring compliance with the plan. The Act further provides that DOE will not be subject to fines and penalties for LDR storage prohibition violations for MW as long as it is in compliance with an approved plan and order.

(a) PNL is operated for the U.S. Department of Energy by Battelle Memorial Institute under Contract DE-AC06-76RLO 1830.

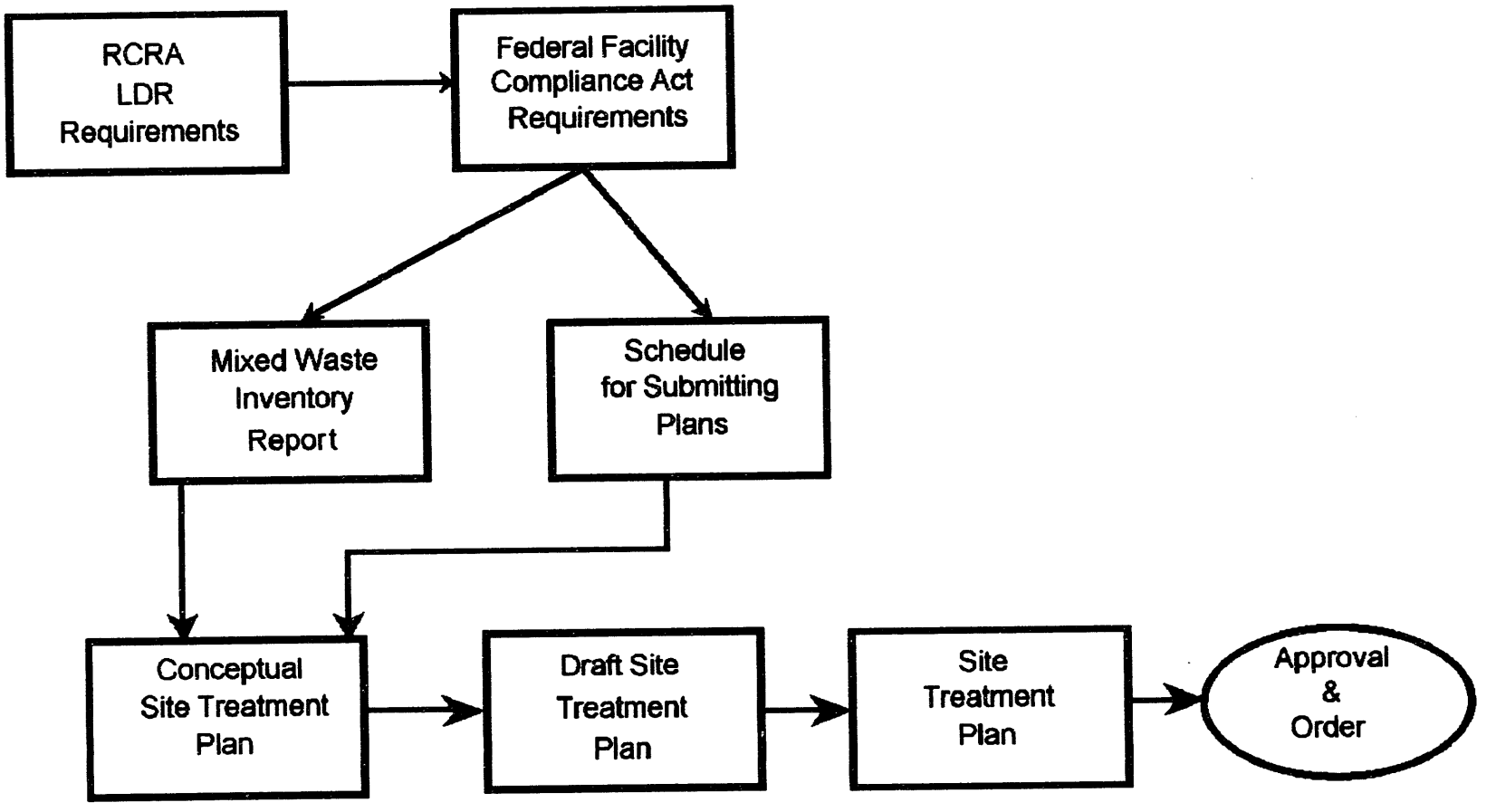


FIGURE 1.1. A Decision Process for Evaluating Treatment and Technology Options

The Act specifies that the STPs must address all MW at the site, regardless of the time of generation. For MW for which identified treatment technologies exist, the plan must provide a schedule and milestones for constructing the necessary treatment capacity. For MW without an identified existing treatment technology, the plan must include a schedule for identifying and developing technologies. The Act also requires the plan to address wastes where DOE proposes radionuclide separation and provide an estimate of the volume of waste that would exist without such separation; cost estimates and underlying assumptions must also be provided in the plan. Section 3021(b)(1)(C) of RCRA (42 U.S.C. 6901 et seq.) states that the plans may provide for centralized, regional, or onsite treatment of MW, or any combination thereof; and Section 3021(b)(2) of RCRA requires the states to consider the need for regional treatment facilities in reviewing the plans.

The MW Inventory Report, required by the Act, provides an inventory of all MW stored or generated, or expected to be generated over the next five years, at each DOE site and an inventory of treatment capacities and technologies. The Interim MW Inventory Report (IMWIR), issued by DOE in April 1993, provides information on a waste stream-by-waste stream basis for each DOE site that generates or stores MW. A final Report is being prepared that reflects comments received on the Interim Report and further improvements in the data. The waste stream and technology information contained in the report serves as the starting point for the CSTPs.

The "Publication of Schedule for Submitting Plans for Treating Mixed Waste Generated or Stored at Each Site as Required by the Federal Facilities Compliance Act of 1992," was published April 6, 1993, in the Federal Register (58 FR 17875). The published schedule specifies that DOE sites will provide the STPs in three phases: this "conceptual plan" by October 1993, a "draft plan" no later than August 1994, and a "final proposed plan" no later than February 1995.

DOE arrived at this tiered approach to preparing the STPs based on discussions with the states, the EPA, and other interested parties. The process provides opportunity for early involvement by the states and others in the decision making process. Most importantly, the CSTP and the draft plan provide an early opportunity for discussions on technical and equity issues

between the site and the regulatory agency and among affected states, the EPA, and other parties. The interim plans provide a base of information about each site's waste, the technology needs, existing and planned treatment facilities, and treatment options, including potential options for treating offsite wastes, to facilitate these discussions.

At each stage, the STP will contain increasingly complete and detailed information. The Conceptual STP is focused on identifying treatment needs, capabilities, and options for treating the site's MW. The draft STP will identify DOE's preferred option for treating the site's MWs, as well as proposed schedules for constructing capacity. The final proposed STP will be submitted to the state or EPA for review and approval, approval with modification, or disapproval, as required by the Act. Each version of the STP will reflect state equity discussions, as well as site-specific input from the individual regulatory agency and other interested parties on the previous submittal. It is DOE's intent that this iterative process, with ample opportunity for input and discussion, will facilitate approval of the STP and issuance of the compliance order required by the Act. DOE's goal is to have all plans and orders in place by October 1995.

1.4 CONCEPTUAL SITE TREATMENT PLAN ORGANIZATION

LEHR's CSTP follows the same format as the CSTPs of the other DOE sites. This common format will facilitate cross-site comparisons.

Chapter 1.0 of the CSTP provides a general discussion of the plan, including its purpose and scope.

Chapter 2.0 presents general information on technical aspects of preparing the plans, including the rationale behind the treatability groupings and a discussion of characterization issues.

Chapters 3.0 through 5.0 identify treatment technology needs and treatment options for specific waste streams. These chapters of the CSTP are organized according to the radioactive waste classifications, i.e., mixed low-level waste (MLLW), transuranic (TRU) MW, and high-level MW, defined in Section 2.2, because many of the treatment options and technology requirements are driven by the level of radioactivity associated with the waste. Not all

waste classifications are present at all DOE facilities. Based on the history of research activities, MLLW is the only radioactive waste classification at LEHR.

Chapter 3.0, "Low-Level MW Streams," is further organized according to the availability of capacity and treatment technology to treat the waste stream as follows:

- 3.1 Waste Streams With Existing Treatment Capacity
- 3.2 Waste Streams for Which Technology Exists But Without Capacity Onsite
- 3.3 Waste Streams for Which Technology Exists But Needs Adaptation
- 3.4 Waste Streams Requiring Further Characterization or for Which Technology Assessment Has Not Been Done

Each section describes the waste streams; identifies the applicable treatability groups; and a describes of the existing technology or the technology needs to treat the wastes, along with associated uncertainties and technical and administrative limitations.

In addition, preliminary treatment options for wastes without existing capacity are identified to the extent possible. Options (e.g., treatment at the planned "Mixed Waste Treatment Facility" at DOE site "X") may include developing onsite treatment capacity, treatment in an existing facility or in capacity under development at another DOE site, using commercial capacity, and other regulatory compliance options. The implications and uncertainties associated with an option are described, including technical uncertainties, potential administrative barriers such as permit restrictions, and budgetary implications.

The options identified are those that appear technically able to treat the waste, given the limits in the data on waste streams and facilities, particularly facilities in the early planning stages. The intention has been to be all inclusive in identifying options. The options do not represent the DOE preferred option or reflect its intentions for treating the wastes.

An additional section, 3.4 "Waste Streams that Require Further Characterization or For Which Technology Assessment Has Not Been Done," is

also included because the appropriate treatment category for some wastes cannot be determined at this time. The section describes what is currently known about the waste streams and future activities to characterize the waste streams.

Chapters 4.0 and 5.0 on TRU and high-level MWs have similar formats. The discussion differs from that for low-level MWs, however, in that more is known about the treatment strategy for these types of wastes. Those strategies are discussed, as well as any uncertainties and technical issues associated with management of the wastes.

Chapter 6.0 discusses MWs that are expected to be generated in the future, for example, wastes from ER activities. For ER wastes, the wastes and technology needs are described to the extent possible and schedules associated with conducting restoration activities identified.

Chapter 7.0 discusses MWs for which radionuclide separation may be appropriate, as required by Section 3021(b)(1)(B)(iii) of RCRA.

Chapter 8.0 presents a summary of the MW data contained in Chapters 3.0, 4.0, 5.0, 6.0, and 7.0.

Chapter 9.0 contains a list of references cited in this CSTP.

1.5 OTHER ACTIVITIES RELATED TO CONCEPTUAL SITE TREATMENT PLAN DEVELOPMENT

Other DOE efforts are closely linked to the STP development. These include the IMWIR; activities conducted pursuant to the National Environmental Policy Act (NEPA) as amended (42 U.S.C. § 4321 et. seq.); and compliance and cleanup agreements containing commitments relevant to treatment of MW.

1.5.1 Interim Mixed Waste Inventory Report

DOE issued the IMWIR in April 1993. This report provides information on a waste stream-by-waste stream basis for each DOE site that generates or stores MW. The waste stream, treatment facility, and technology information contained in the IMWIR serves as the starting point for the CSTPs and descriptions are generally identical. However, data is continually being refined. The CSTP reflects the most current and accurate data on the waste streams and technology needs and, as a result, there may be some differences

between the CSTP and the IMWIR. Any differences between the IMWIR and CSTP data are clearly noted and explained in the text.

One key difference between the IMWIR and the CSTPs for all DOE sites is the treatment facilities that were considered to be candidates for treatment options. The IMWIR only described existing DOE MW treatment facilities and planned facilities in the latter stages of development. The CSTP, however, may identify, as possible MW treatment options, not only the existing and planned facilities described in the IMWIR, but also facilities at earlier stages of development. These facilities have generally not received any formal DOE approval, but are under consideration or have been proposed by the site. As such, the future of these facilities, including the availability of funding and technical requirements, is less certain than for others. They are included as potential treatment options, with their status and stage of development made clear.

A list of candidate facilities for treatment options used by DOE is provided in Appendix B. This list, which notes whether or not a given facility was included in the IMWIR, is divided into four parts:

- Part 1 - Existing Facilities - Currently operating or have DOE, Headquarters (HQ) approval for facility start-up (Key Decision [KD]-4).
- Part 2 - Approved Planned Facilities - HQ has approved the mission need for the facility (KD-0); the facility has, at a minimum, begun design, but has not yet received approval for start-up (KD-4).
- Part 3 - Unapproved Planned Facilities - Some planning has been initiated (e.g., engineering/feasibility studies and functional design criteria), but has not yet received the initial approval (KD-0).
- Part 4 - Commercial Facilities.

In addition, if no onsite treatment facility is currently being considered, the onsite option would involve a facility that is not part of any planning and, therefore, would not be reflected in the Appendix B list.

In addition to considering additional treatment facilities, the other differences between LEHR's CSTP and the IMWIR are that the waste stream LEHR FLAM MW-1 has been divided into subgroupings based on process knowledge and

physical inspections. A new waste stream, consisting of contaminated lead shielding bricks, has been added. This waste was removed during the decommissioning of onsite facilities. Specific changes/updates of inventory information are noted in the appropriate sections of this CSTP; and this information will be included in the final MW Inventory Report.

1.5.2 National Environmental Policy Act Activities

Programmatic Environmental Impact Statement for Environmental Restoration and Waste Management

The DOE's Office of Environmental Restoration and Waste Management (ERWM) is preparing a Programmatic Environmental Impact Statement (PEIS) to support complex-wide integration of environmental restoration, waste management, and technology development activities that are often now implemented on a site-by-site basis. The PEIS will analyze a broad range of programmatic alternatives involving issues such as: 1) land use, 2) the timing of innovative technology applications, 3) the selection of cleanup levels for environmental restoration activities conducted under Comprehensive Environmental Response, Compensation, Liability Act (CERCLA), and 4) the configuration of waste management facilities. The PEIS is intended to present to the public, states, EPA, and DOE an understanding of impacts to human health and environment together with the costs associated with a wide range of alternative strategies for managing the ERWM program.

Development of the ERWM PEIS is being closely coordinated with the preparation of STPs under the Act. DOE is committed to working with the states to develop waste management PEIS alternatives (i.e., possible configurations) broadly enough to accommodate any reasonable configuration of waste treatment, storage, and disposal facilities that might emerge from the Act's process. Based on preliminary input from the states, development of possible configurations will start from the perspective of each site managing its own wastes (i.e., a "decentralized" or "onsite" option). Draft information being generated to support the PEIS (e.g., hypothetical configurations, preliminary risk analyses, and cost studies) will be discussed with and shared with states in support of the Act's discussions.

DOE believes that preparation of the PEIS in conjunction with the development of the STPs is the most expeditious means to meet the requirements of NEPA and the Act. In this regard, the draft PEIS is scheduled to be published in the second quarter of 1994; after submission of the conceptual STPs but before the August 1994 submission of draft STPs. The alternatives in the draft PEIS will reflect the site-specific options outlined in the CSTPs. The draft PEIS will not identify a preferred alternative (i.e., configuration) for mixed waste facilities since this will be evolving in consultation with the states through the Act's process. However, DOE believes that the PEIS analyses of potential risks and costs associated with a range of possible waste management configurations will provide valuable insight as the public, states, and DOE discuss the continued use of existing facilities and possible location of future mixed waste facilities.

DOE intends that the PEIS provide programmatic NEPA coverage for development and submission of STPs complex-wide. Therefore, the final PEIS will be issued in the first quarter of 1995, at or near the time of DOE's submission of the final STPs to the states for approval. The preferred alternative (configuration) for mixed waste management will reflect the proposals contained in the final STPs and any agreements reached among the states and with DOE regarding equity concerns. To remain flexible and accommodate potential changes after submittal of the final STPs to the states and EPA, the Record of Decision for the PEIS will be issued following approval of the STPs by the states.

LEHR Site NEPA Activities

An environmental assessment (EA) for the decommissioning of contaminated facilities was prepared for the LEHR site. This document covers the decommissioning of facilities only. A nonregulatory driven remedial investigation (RI) has been initiated to determine the extent of environmental contamination for the site.

2.0 METHODOLOGY

2.1 ASSUMPTIONS

2.1.1 General

The general assumptions are as follows:

- DOE will continue to place highest priority on protecting the health and safety of DOE employees, contractors, and the general public and is committed to complying with all applicable environmental laws and regulations.

- DOE will continue to operate in a resource-constrained environment.

- The Waste Isolation Pilot Plant (WIPP) will open and will operate under a RCRA no-migration petition. Wastes destined for WIPP will be treated to meet WIPP waste acceptance criteria (WAC).

- DOE will work closely with regulators throughout the STP process and will involve other stakeholders during STP development.

- Waste generation from site mission activities will continue throughout the development, approval, and implementation of the STP.

2.1.2 Conceptual Site Treatment Plan Specific

The specifics of the CSTP are as follows:

- Options are identified assuming no administrative or other non-technical barriers to treatment of offsite waste at any treatment facility exist, including barriers affecting related storage or transportation. Such barriers, if any, would be identified in evaluating the option.

- Treatment technologies will be identified based on whether they can treat the waste to standards required by the RCRA LDR, or equivalent state law (or could qualify for a variance under the law). In evaluating treatment technologies, factors such as waste minimization implications, the need for further treatment of waste residues to meet LDR, and characteristics of the resulting waste form, will be discussed.

- Waste streams, technologies, and capacities included in the CSTP are the same as those identified in the MW Inventory Report, or an explanation of differences provided.

- MWs generated by ER activities will be managed consistent with enforceable cleanup agreements. Identification, evaluation, and selection of treatment options for restoration MW subject to

enforceable cleanup agreements will reflect the process and schedules prescribed by such agreements.

- Commitments in an existing compliance agreement, consent order, or permit pursuant to specific treatment technology or treatment facility will be identified in the CSTP as options, but identification of options other than those contained in such an agreement are not precluded.

- Multiple options do not need to be identified for every waste stream, particularly where a site has an established onsite treatment approach for a waste stream, such as existing onsite facility or a facility under construction.

- A facility with established WAC is identified as an option only for waste streams that meet the technical requirements of the WAC.

- Identified options are based on compliance with existing federal and state laws and regulations.

- Waste management systems will comply with all applicable federal and state laws. Variances, exemptions, and waivers provided for in regulations are available when regulatory criteria are met.

- Sites will be able to use available commercial facilities. If applicable, exemptions under DOE Order 5820.2A (DOE 1988) can be obtained if the criteria is met.

- When evaluating a treatment option at an offsite DOE facility, it is assumed that the facility treating the waste will be responsible for management of treatment residuals, in that issues associated with such management would be covered in the offsite DOE facility's CSTP.

- CSTPs represent currently available information. New characterization data or information on new waste streams will be reflected in the ensuing version of the STP. STPs will be periodically updated to reflect treatment needs of newly generated and newly characterized MWs.

2.2 DEFINITIONS

The terms defined below have been collected or derived from documentation for regulatory agencies, and DOE sites, as well as from environmental and other sources of regulations and documents, and some have been written by 180-dy report team members. The words and phrases are listed alphabetically. Common abbreviations, if any, follow the term.

aqueous liquids (as a waste matrix) - Liquids/slurries with a total organic carbon (TOC) content less than 1%. Slurries must be pumpable (e.g., suspended/settled solids can be up to approximately 35-40%). Only liquids/slurries packaged/stored in bulk form (i.e., tank stored or drummed bulk free liquids) are included in this category. Liquids packaged in lab pack-type configuration are categorized as lab packs.

best available technology (BAT) or best demonstrated available technology (BDAT) - 1) The preferred technology for treating a particular process liquid waste, selected from among others after taking into account factors related to technology, economics, public policy, and other parameters. As used in DOE Order 5400.5 (DOE 1993), BAT is not a specific level of treatment, but the conclusion of a selection process that includes several treatment alternatives. 2) Treatment technologies that have been shown through actual use to yield the greatest environmental benefit among competing technologies that are practically available.

capacity (of a facility) - The annual process throughput, in m^3/yr under normal operating conditions. "Normal operating conditions" are defined as the shift schedule under which the facility normally operates; i.e., one 8-hr shift/day, 5 days a week; two shifts/day, 5 days a week; 24 hr a day, 7 days a week.

characterization - The determination of waste contents and properties, whether by review of process knowledge, nondestructive examination (NDE)/nondestructive analysis (NDA), or sampling and analysis.

cleanup - 1) Actions undertaken during a removal or remedial response to physically remove or treat a hazardous substance that poses a threat or potential threat to human health and welfare, the environment, and/or real and personal property. Sites are considered cleaned up when removal or remedial programs have no further expectation or intention of returning to the site and threats have been mitigated or do not require further action. 2) Actions taken to deal with a release, or threat of release, of a hazardous substance that could affect humans and/or the environment. The term "cleanup" is sometimes used interchangeably with either remedial action, removal action, response action, or corrective action.

compliance agreements - Legally binding agreements between regulators and regulated entities that set standards and schedules for compliance with environmental statutes. Include consent order and compliance agreements, federal facilities agreements, and federal facility compliance agreements.

contact handled (CH) waste - Waste or waste containers whose external surface dose rate does not exceed 200 mrem per hour at surface of container.

corrosive/corrosivity - 1) A solid waste exhibits corrosivity if a sample of the waste is either aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, or it is a liquid and corrodes steel at a rate greater than 6.35 mm (0.250 in.) per year at a test temperature of 55° (130°F). 2) A chemical agent that reacts with the surface of a material causing it to deteriorate or wear away. 3) Identifies waste that must be segregated because of its ability to extract and solubilize toxic contaminants (especially heavy metals) from other waste; identifies waste that requires the use of corrosion-resistant containers for disposal.

deactivation - The removal of the hazardous characteristics of a waste due to its ignitability, corrosivity, and/or reactivity.

decommissioning - 1) Actions taken to reduce the potential health and safety impacts of DOE contaminated facilities, including activities to stabilize, reduce, or remove radioactive materials or to demolish the facilities. 2) Preparations taken for retirement of a nuclear facility from active service, accompanied by the execution of a program to reduce or stabilize radioactive contamination. 3) The process of removing a facility or area from operation and decontaminating and/or disposing of it or placing it in a condition of standby with appropriate controls and safeguards.

decontamination - The removal of unwanted material (typically radioactive material) from facilities, soils, or equipment by washing, chemical action, mechanical cleaning, or other techniques.

DOE waste - Radioactive waste generated by activities of the DOE (or its predecessors), waste for which DOE is responsible under law or contract, or other waste for which the DOE is responsible.

derived-from rule - This rule states that any solid waste derived from the treatment, storage, or disposal of a listed RCRA HW is itself a listed HW (regardless of the concentration of hazardous constituents). For example, ash and scrubber water from the incineration of a listed waste are HWs on the basis of the derived-from rule. Solid wastes derived from a characteristic HW are HWs only if they exhibit a characteristic.

disposal - The permanent isolation of waste with no intent of recovery.

disposal facility - 1) The land, structures, and equipment used for the disposal of waste. 2) A facility or part of a facility at which waste is intentionally placed into or on the land or water and at which waste will remain after closure.

elemental lead (activated and non-activated) (as a waste matrix) - Both surface contaminated and activated elemental lead. Activated lead includes lead from accelerators or other neutron sources that may result in irradiation. Surface contaminated lead materials include bricks, counterweights, shipping casks, and other shielding materials.

environmental impact statement (EIS) - 1) A document prepared in accordance with the requirements of §102(2)(C) of NEPA. 2) A tool for decision making; it describes the positive and negative effects of the undertaking and lists alternative actions. The draft EIS document is prepared by the EPA, or under EPA guidance, and attempts to identify and analyze the environmental impacts of a proposed action and feasible alternatives, and is circulated for public comment before preparation of the final environmental impact statement.

ER - Measures taken to clean up and stabilize or restore a site to pre-violation conditions that has been contaminated with hazardous substances during past production or disposal activities.

ER waste - Waste generated by ER program activities.

existing facility - 1) Any equipment, structure, system, process, or activity that fulfills a specific purpose. Examples include accelerators, storage areas, fusion research devices, nuclear reactors, production or processing plants, coal conversion plants, magnetohydrodynamics experiments,

windmills, radioactive waste disposal systems and burial grounds, testing laboratories, research laboratories, transportation activities, and accommodations for analytical examinations of irradiated and unirradiated components. 2) Buildings and other structures; their functional systems and equipment, including site development features such as landscaping, roads, walks and parking areas; outside lighting and communications systems; central utility plants; utilities supply and distribution systems; and other physical plant features. 3) a) Any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft, or b) any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located; but does not include any consumer product in consumer use or any vessel.

facilities - Buildings and other structures; their functional systems and equipment, including site development features such as landscaping, roads, walks and parking areas; outside lighting and communications systems; central utility plants; utilities supply and distribution systems; and other physical plant features.

federal facility compliance agreement - An agreement between the DOE and a host state with respect to how and/or when some waste-related activity will be conducted to achieve compliance with applicable regulations in a timely manner. A major driver or constraint on activities that a particular site must undertake for waste operations.

generation - Includes the wastes resulting from new production, rework operations, wastes generated from decontamination and decommissioning (D&D) operations, and wastes resulting from ER operations, including the recovery of pre-1970 wastes should their recovery be determined to be necessary.

generator - Refers to current or previously operated facilities of the DOE that have produced or are producing waste.

groundwater - Liquid water occurring beneath the earth's surface in the interstices between soil grains, in fractures, or in porous formations.

groundwater contamination - The pollution of the underground sources of springs and wells. Contamination can result from indiscriminate land disposal of potentially HW materials that are then dissolved or suspended in free liquids, usually water, and leach downward through the unsaturated profile to the zone of saturation or from improperly constructed or operated wells. Movement of the toxic materials in the saturated zone is horizontal and the rate of flow is determined by the gradient of the aquifer and its permeability. Correction of the problem is seldom limited to one site.

groundwater remediation - Treatment of groundwater to remove pollutants.

hazardous substance - 1) a) Any substance designated pursuant to §311(b)(2)(A) of the Federal Water Pollution Control Act (FWPCA) as amended (42 U.S.C. § 300 et. seq.); b) any element, compound, mixture, solution, or substance designed pursuant to §102 of the CERCLA as amended (40 U.S.C. § 9601 et. seq.); c) any HW having the characteristics identified under or listed pursuant to §3002 of the Solid Waste Disposal Act (SWDA) as amended (42 U.S.C. § 6901 et. seq.); d) any toxic pollutant listed under §307(a) of the FWPCA; e) any hazardous air pollutant listed under §112 of the Clean Air Act (CAA) as amended (42 U.S.C. § 7401 et. seq.); and f) any imminently hazardous chemical substance or mixture with respect to which the administrator of EPA has taken action pursuant to §7 of Toxic Substances Control Act (TSCA) (15 U.S.C § 2601 et. seq.). 2) Any material that poses a threat to human health and/or the environment. Typical hazardous substances are toxic, corrosive, ignitable, explosive, or chemically reactive. Any substance designated by EPA to be reported if a designated quantity of the substance is spilled in the waters of the United States or if otherwise emitted into the environment.
3) §101(14) of CERCLA, as amended, defines "hazardous substance" chiefly by reference to other environmental statutes, such as the SWDA, FWPCA, CAA, and TSCA. The term excludes petroleum, crude oil or any fraction thereof, natural gas, natural gas liquids, or synthetic gas usable for fuel. Under the Act, other substances may be specifically designated as "hazardous".

HW - 1) Those wastes that are designated hazardous by EPA (or state) regulations. 2) Byproducts of production or operation that can pose a potential hazard to human health or the environment when improperly managed

and that possess at least one of four characteristics (ignitability, corrosivity, reactivity, or toxicity), or that appear on special EPA lists. 3) A solid waste or combination of solid waste, that, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may a) cause, or significantly contribute to, an increase in mortality or an increase in serious, irreversible, or incapacitating reversible illness; or b) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed. 4) Those wastes listed by EPA, or meeting characteristics specified by EPA, in their criteria pursuant to the RCRA. Disposal treatment or storage of HWs can only take place in a site or facility issued a permit by EPA or a state. Source, special nuclear material, and byproduct material, as defined by the AEA of 1954 as amended, are specifically excluded from the term HW.

high-level radioactive waste - 1) The highly radioactive waste material that results from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid waste derived from the liquid, that contains a combination of TRU waste and fission products in concentrations requiring permanent isolation. 2) a) Irradiated reactor fuel, b) liquid wastes resulting from the operation of the first cycle solvent extraction system, or equivalent, and the concentrated wastes from subsequent extraction cycles, or equivalent, in a facility for reprocessing irradiated reactor fuel, and c) solids into which such liquid wastes have been converted. 3) As defined by the Nuclear Waste Policy Act (42 U.S.C. 10101 et. seq.), high-level waste (HLW) is a) the highly radioactive material resulting from the reprocessing of spent nuclear fuel, including the liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations; and b) other highly radioactive material that the U.S. Nuclear Regulatory Commission (NRC), consistent with existing law, determines by rule to require permanent isolation. 4) Waste generated in the fuel of a nuclear reactor, or waste found at nuclear reactors or nuclear fuel reprocessing plants. These wastes are a serious threat to anyone who comes near them without shielding.

ignitability - A waste property describing waste with a flash point lower than 140°F.

immobilization - Treatment of waste through macroencapsulation (MACRO) or sealing to reduce surface exposure to potential leaching media or to reduce the leachability of the hazardous constituents.

incineration - 1) The controlled process by which combustible solid, liquid, or gaseous wastes are burned and changed into noncombustible gases and solid ash. 2) A treatment technology using combustion to destroy organic constituents and reduce the volume of wastes.

LDRs - 1) Provisions of the Hazardous and Solid Waste Amendment requiring phased-in treatment of HWs before disposal. 2) A RCRA program that restricts land disposal of RCRA HWs and requires treatment to promulgated treatment standards. (See Thirds Rule.)

legacy waste - That backlog of stored waste remaining from the development and production of United States (U.S.) nuclear weapons, about which a permanent disposal determination remains to be made; i.e., waste that is currently in warehouse storage, retrievable storage on bermed pads, or disposed of in trenches, that has not been examined by EM-40, ER Group, and determined to be permanently disposed of.

listed waste - Wastes listed as hazardous under RCRA that have not been subjected to the Toxic Characteristics Listing Process because the dangers they present are considered self-evident.

low-level radioactive waste - 1) Waste that contains radioactivity and is not classified as HLW, TRU waste, or spent nuclear fuel, or the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content. Test specimens of fissionable material irradiated for research and development only, and not for the production of power or plutonium, may be classified as LLW, provided the concentration of TRU is less than 100 nCi/g. 2) Radioactive waste not classified as HLW, TRU waste, spent nuclear fuel, or byproduct material.

MACRO - Application of surface coating materials such as polymeric organics (e.g., resins and plastics) or a jacket of inert inorganic materials to substantially reduce surface exposure to potential leaching media. MACRO specifically does not include any material that would be classified as a tank or container according to 40 CFR 260.10.

MLLW - LLW that also includes hazardous materials as identified in 40 CFR 261, Subparts C and D.

mixed TRU waste - TRU waste that also includes hazardous materials as identified in 40 CFR 261, Subparts C and D.

MW - 1) Radioactive waste (as defined by the AEA) that contains material listed as HW in Subpart D of 40 CFR 261 or that exhibits any of the HW characteristics identified in Subpart C of 40 CFR 261. 2) Waste that contains both radioactive and hazardous components, as defined by the AEA and the RCRA. The term "radioactive component" refers only to the actual radionuclides dispersed or suspended in the waste substance.

mixture rule - Under the mixture rule, when any solid waste and a listed HW are mixed, the entire mixture is a listed HW. Mixtures of solid wastes and characteristic HWs are hazardous only if the mixture exhibits a characteristic (40 CFR 261.3(a)(2)).

onsite - 1) Within a single research or production site of the DOE weapons complex; e.g., Los Alamos National Laboratory (LANL) is a site, as is the Idaho National Engineering Laboratory, Sandia National Laboratory, etc. 2) The contaminated area and all potential areas in very close proximity to the contamination that must be taken into account for effective implementation of the response action.

onsite facility - A HW treatment, storage, or disposal area that is located on the generating site.

organic liquids (as a waste matrix) - Liquids/slurries with a TOC content greater than or equal to 1%. Slurries must be pumpable (e.g. suspended/settled solids can be up to approximately 35-40%). Only liquids/slurries packaged/stored in bulk form (i.e., tank stored or drummed bulk free liquids) are included in this category. Liquids packaged in lab pack-type configuration are categorized as lab packs.

organic sludges/particulates (as a waste matrix) - Solid process residues with an organic matrix. Solid process residues are solids that do not fit the definition of debris. Typically, these solids are sludge or particulate materials. Waste in this category may also contain some debris

materials provided the amount of debris is less than 50% (based on LDR debris rule). As opposed to inorganic sludges/particulates, wastes in this category would not leave a large residue when thermally treated. Example waste materials in this category are: organic sludges, (e.g. sewage sludges) activated carbon, organic resins, and absorbed liquids (organic particulate absorbents).

pH - 1) Used to describe the hydrogen-ion activity of a system. The logarithm (the exponent indicating the power to which a given number must be raised to produce a given number) of the reciprocal of hydrogen ion concentration ($-\log_{10}[H^+]$, where $[H^+]$ is hydrogen-ion concentration in moles per liter). 2) A symbol for the degree of acidity or alkalinity.

pollutant or contaminant - Includes, but is not limited to, any element, substance, compound, or mixture, including disease-causing agents, that after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring; except that the term "pollutant or contaminant" shall not include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of paragraph (14) of RCRA and shall not include natural gas, liquefied natural gas, or synthetic gas of pipeline quality (or mixtures of natural gas and such synthetic gas).

radiation - 1) Ionizing radiation that includes any or all of the following: gamma rays and x-rays, alpha and beta particles, high-speed electrons, neutrons, high-speed protons, and other atomic particles. This definition does not include nonionizing radiations, such as sound, microwave, radiowave or visible, infrared, or ultraviolet light. 2) Refers to the process of emitting energy in the form of rays or particles that are thrown off by disintegrating atoms. The rays or particles emitted may consist of alpha, beta, or gamma radiation.

radioactive waste - 1) Solid, liquid, or gaseous material that contains radionuclides regulated under the AEA and of negligible economic value considering costs of recovery. 2) A solid, liquid, or gaseous material of negligible economic value that contains radionuclides in excess of threshold quantities. Does not include material contaminated by radionuclides from nuclear weapons testing.

radioactivity - 1) The spontaneous nuclear decay of a material with a corresponding release of energy in the form of particles and/or electromagnetic radiation. 2) The property or characteristic of radioactive material to spontaneously "disintegrate" with the emission of energy in the form of radiation. The unit of radioactivity is the curie (or becquerel).

radionuclide - 1) A species of atom having an unstable nucleus that is subject to spontaneous decay. 2) Any nuclide that emits radiation. A nuclide is a species of atom characterized by the constitution of its nucleus and hence by the number of protons, the number of neutrons, and the energy content.

remedial action (RA) - 1) Activities conducted at DOE facilities to reduce potential risks to people and/or harm to the environment from radioactive and/or hazardous substance contamination. 2) Those actions consistent with permanent remedy taken instead of, or in addition to, removal action in the event of a release, or threatened release, of a hazardous substance into the environment to prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future public health or welfare or the environment. 3) The term includes, but is not limited to, such actions at the location of the release as storage, confinement, perimeter protection, clay cover, neutralization, cleanup of released hazardous substances or contaminated materials, recycling or reuse, diversion, destruction, segregation of reactive wastes, dredging or excavations, repair or replacement of leaking containers, collection of leachate and runoff, onsite treatment or incineration, provision of alternative water supplies, and any monitoring reasonably required to ensure that such actions protect the public health and welfare and the environment. The term includes the costs of permanent relocation of residents and businesses and community facilities where the President determines that, alone

or in combination with other measures, such relocation is more cost-effective than, and environmentally preferable to, the transportation, storage, treatment, destruction, or secured disposition offsite of such hazardous substances, or may otherwise be necessary to protect the public health or welfare. The term does not include offsite transport of hazardous substances or contaminated materials unless the President determines that such actions: are more cost-effective than other remedial actions; will create new capacity to manage in compliance with Subtitle C of the SWDA, hazardous substances in addition to those located at the affected facility; or are necessary to protect public health or welfare or the environment from a present or potential risk that may be created by further exposure to the continued presence of such substances or materials (as defined by §101(24) of CERCLA).

remote-handled (RH) waste - 1) Packaged waste with an external surface dose rate that exceeds 200 mrem per hour.

RCRA Permit, Part A - The first part of a RCRA permit application that identifies treatment, storage, and disposal units within a to-be-permitted facility.

RCRA Permit, Part B - The detailed second part of a RCRA permit application that describes waste to be managed, and waste quantities, and facilities.

site - 1) A geographic entity comprising land, buildings, and other facilities required to perform program objectives. Generally a site has, organizationally, all of the required facilities for management functions. That is, it is not a satellite of some other site. 2) For the purposes of the DOE ERWM Five-Year Plan, sites are lands, installations, and/or facilities for which DOE has or shares responsibility for ERWM activities. 3) An area or a location at which hazardous substances have been stored, treated, disposed of, placed, or otherwise come to be located. This includes all contiguous land, structures, other appurtenances, and improvements on the land used for treatment, storage, or disposal of hazardous substances. A site may consist of several treatment, storage, or disposal facilities (e.g., impoundments, containers, buildings, or equipment).

site characterization - The program of exploration and research, both in the laboratory and in the field, undertaken to establish the geologic conditions and the ranges of those parameters of a particular site relevant to the procedures under this part. Site characterization includes borings, surface excavations, excavation of exploratory shafts, limited subsurface lateral excavations and borings, and geophysical testing.

soil (as a waste matrix) - Soils contaminated with hazardous constituents and radioactivity that are stored in waste containers. Includes soils contaminated with organics, inorganics, or both.

storage - 1) Temporary holding of waste pending treatment or disposal. Storage methods include containers, tanks, waste piles, and surface impoundments. 2) The containment of HW, either on a temporary basis or for a period of years, in such a manner as not to constitute disposal of such HW. 3) Retrievable retention of waste pending disposal.

TRU waste - This core definition appears in modified form in various relevant documents: waste containing alpha-emitting radionuclides with an atomic number greater than 92 and half-lives greater than 20 years, at concentrations greater than 100 nCi/g of waste. Modifications include the following: 1) For purposes of management, DOE Order 5820.2A a) considers TRU waste, as defined above, "without regard to source or form." (The proposed revision to the Order ("DOE Order 5820.2A Major Issues for Revision," May 6, 1992) contemplates removing this clause.); b) allows heads of field elements to determine that wastes containing other alpha-emitting radionuclides must be managed as TRU waste; and c) adds "at time of assay," implying both that the classification of a waste as TRU is to be made based on an assay and that such classification can be superseded only by another assay. 2) For purposes of setting standards for management and disposal, 40 CFR 191.02(i) adds "except for: a) high-level radioactive wastes; b) wastes that the DOE has determined, with the concurrence of the Administrator (of EPA) do not need the degree of isolation required by this part; or c) wastes that the NRC has approved for disposal on a case-by-case basis in accordance with 10 CFR 61 (Licensing Requirements for Land Disposal of Radioactive Wastes)."

treatability group - Based on the radioactive characteristics, hazardous components, and physical/chemical matrices as discussed above, DOE has grouped its wastes to reflect salient treatment considerations for each waste stream. These "treatability groups" are used to relate waste streams and waste quantities to treatment facilities and technology development needs.

treatment - 1) Any method, technique, or process designed to change the physical or chemical character of waste to render it less hazardous, safer to transport, store or dispose of, or reduced in volume. 2) Any activity that alters the chemical or physical nature of a HW to reduce its toxicity, volume, mobility, or render it amenable for transport, storage, or disposal.

treatment, storage, and disposal facility - Any building, structure, or installation where a radioactive or hazardous substance has been treated, stored, or disposed.

WAC - The criteria used to determine if waste and waste packages are acceptable for treatment, storage, transportation and disposal purposes.

waste characterization - Activities to determine the extent and nature of the waste. Note: Waste characterization may be based on process knowledge, nonintrusive (NDE/NDA) examination, or intrusive examination such as sampling and analysis.

waste form - The physical form of the waste such as sludges, combustibles, metals, etc.

WIPP - 1) The project authorized under §213 of the DOE National Security and Military Applications of Nuclear Energy Authorization Act of 1980 (Public Law 96-164; 93 Stat. 1259, 1265) to demonstrate the safe disposal of radioactive waste materials generated by atomic energy defense activities. 2) A research and development facility, located near Carlsbad, New Mexico, to be used for demonstrating the safe disposal of TRU wastes from DOE activities.

waste management - The planning, coordination, and direction of those functions related to generation, handling, treatment, storage, transportation, and disposal of waste, as well as associated surveillance and maintenance activities.

waste minimization - 1) An action that effectively avoids or reduces the generation of waste by source reduction, improving energy usage, or by recycling. This action is consistent with the general goal of minimizing present and future threats to human health, safety, and the environment. 2) The reduction, to the extent feasible, of HW that is generated before treatment, storage, or disposal of the waste. Waste minimization includes any source reduction or recycling activity that results in either a) reduction of total volume of HW, b) reduction of toxicity of HW, or c) both.

waste segregation - The separation of waste materials before the package (or repackage process to facilitate handling, storage, treatment, transportation, and/or disposal.

waste stream - A flow of waste materials with specific definable characteristics that remain the same throughout the life of the process generating the waste stream. A waste stream is produced by a single process or sub-process; however, that process or sub-process may be one that combines two or more input waste streams together to produce a single output waste stream.

2.3 TREATABILITY GROUPS

A treatability group is a method for categorizing DOE waste information in a consistent and technically valid manner based on waste characteristics. The treatability groupings in the CSTP are based, first, on three characteristic parameters of the waste stream: radiological, bulk physical/chemical matrix, and contaminants. Each of these parameters can then be divided into categories and sub-categories.

The radiological parameters reflect the activity level of the waste and will influence the design of the treatment facility to control radioactive releases and operator exposure. The primary radiological categories include LLW, TRU waste, and HLW.

The bulk physical/chemical matrix parameters describe the actual make-up of the waste. This affects both the appropriate regulatory treatment requirements and the applicability of specific treatment technologies. The primary matrix categories are liquid, solid, and specific waste forms (which

includes batteries, elemental lead, and explosives). There are many sub-categories under each primary category to accommodate the large numbers of variables in the matrix parameter. For example, sub-categories under solids include sludges/particulates, organic and inorganic debris, and soil.

The contaminant parameter describes the regulated materials that are present in the waste stream. The contaminant categories have been established based on regulated contaminants requiring treatment pursuant to RCRA LDR. The primary contaminant categories are organics, metals, cyanides, and the characteristics of ignitablity, corrosivity, and reactivity.

Waste that fits the criteria for a treatability group will have the same physical, chemical, and radiological parameters. Thus, treatability groups from all sites can be compared for purposes of assessing treatment technology needs, treatment capacity needs, and technology development needs.

Waste streams contained within this CSTP have been classified according to the categories developed by HQ (see Table 2.1).

2.4 CHARACTERIZATION OF MIXED WASTE

MWs at the LEHR site are sampled and analyzed using EPA-approved methods where available. Where an EPA-approved method is not available, such as for a specific radionuclide analysis, DOE or industrial standard (e.g., American Society for the Testing of Materials and American National Standards Institute) methods are employed. Laboratory analysis capability does not exist onsite and is obtained through commercial laboratories approved by EPA (for hazardous material analysis) and DOE (for radioactive material analysis).

Wastes that were accumulated during the research at LEHR are characterized according to a DOE-approved sampling and analysis plan. Wastes that exist as residual materials in inactive waste systems will be characterized as part of the appropriate site or facility characterization plan. Site or facility characterization plans and waste sampling and analysis plans are required to meet federal and state regulations concerning hazardous materials and DOE regulations concerning radioactive materials.

All MW streams at LEHR will be characterized using approved sampling and analysis documents. Process knowledge will be used as a basis for developing

the MW sampling and analysis plans. For existing MWs (see Section 3.4), a sampling and analysis plan is under development. For those wastes not yet generated (see Sections 3.2, 6.2, and 6.3) a sampling and analysis plan will be developed in conjunction with the generation of the specific MW stream. Schedules for the sampling and analysis of all known waste streams are presented within the appropriate portion of Section 3.0 and Section 6.0.

All sampling and analysis plans conform to the quality assurance/ quality control requirements of DOE Order 5700.6C, "Quality Assurance" (DOE 1991). At a minimum, MW sampling and analysis at LEHR is completed using EPA Level III Data Quality Objectives.

2.5 THE TECHNOLOGY OPTIONS ANALYSIS AND SELECTION PROCESS

2.5.1 Introduction

This section describes the steps by which treatment options and technologies for LEHR's waste streams are analyzed as they relate to this CSTP. The treatment options analysis and technology selection process employed in this CSTP consists of three sequential phases: 1) determination of the waste stream treatment requirements; 2) analysis of the treatment options; and 3) the initiation of planning for a new treatment system or facility. The process provides the framework for assessing treatment options and identifying the issues or concerns associated with each option. The process of examining these options will provide the information necessary to point to the specific needs for new treatment facilities of systems. This examination may also indicate that an option such as a treatability variance or some other strategy is more appropriate. The need for new treatment systems of facilities will lead to the need to identify specific technology options and a means to make selection from the available options. This process will provide a smooth transition from the CSTP into the next phase of the preparation of the STPs.

Figure 2.1 depicts the logic that is followed in determining the treatment options for a MLLW stream and the logic for initial technology selections for the development of new treatment systems or facilities. The three phases of the process are discussed below.

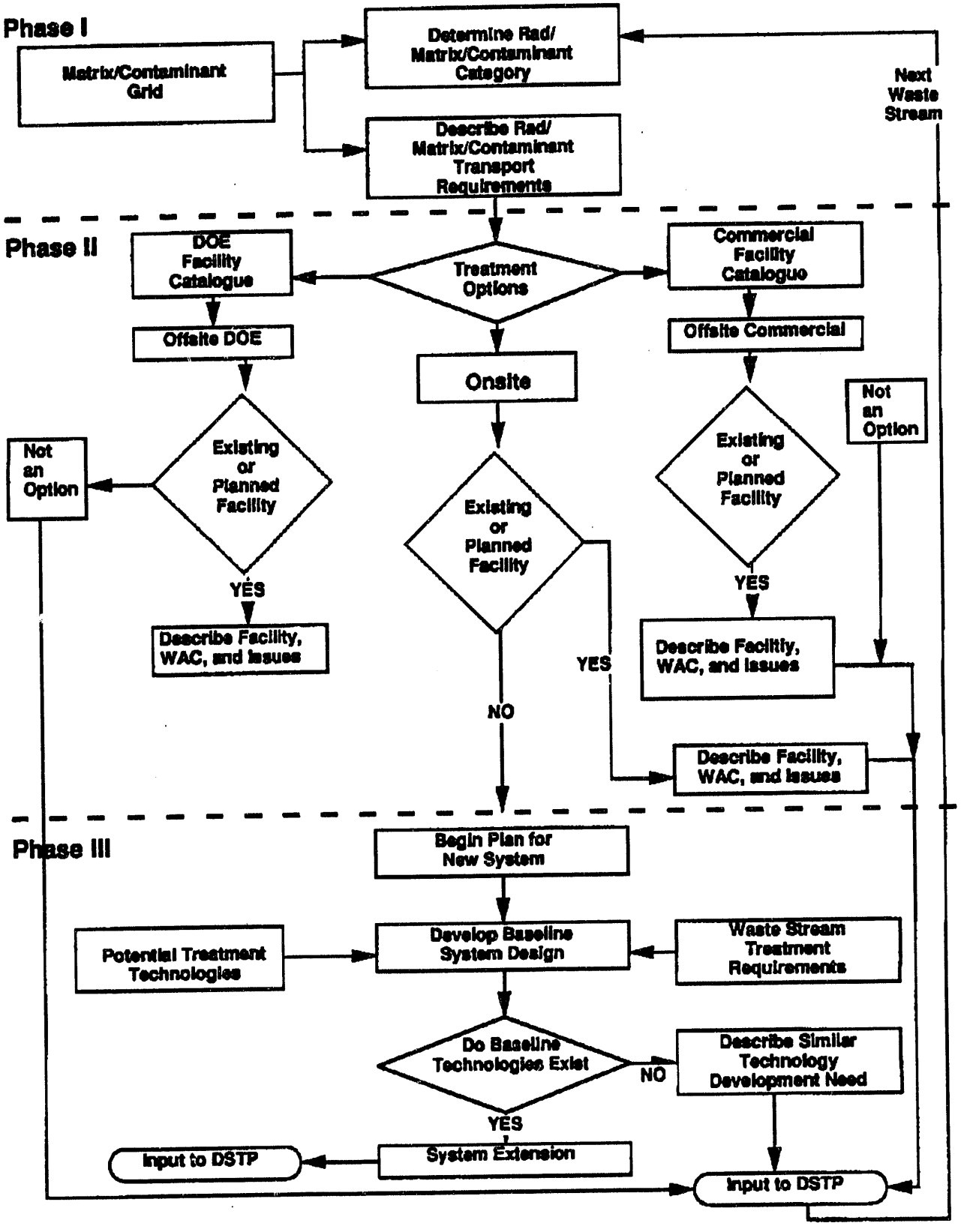


FIGURE 2.1 A Decision Process for Evaluating Treatment and Technology Options

2.5.2 Phase I: Determination of the Waste Stream Treatment Requirements

An analysis of the treatment requirements for a waste is necessary before the treatment options for a given waste stream can be evaluated and compared. While treatment must destroy or immobilize the hazardous and radionuclide constituents, the treatment requirements for any waste are often governed by the matrix (the majority constituent). RCRA has specified technology based treatment standards (based on BDAT) and concentration based treatment standards (CBDTs) for the hazardous materials under its authority. The CBDTs are based on performance standards for the BDATs. The BDATs were established for the pure hazardous materials and may not necessarily be applicable to all of the matrix and hazardous material combinations to be found in DOE MWs. If a BDAT is not specified for a constituent, the matrix material will require the use of a treatment technology more suitable than a BDAT to meet the CBDT requirements. If a BDAT is specified for a constituent and the waste matrix of radioactive containment precludes its use, a treatment variance will be obtained. This includes the application of recovery BDATs such as RMERC (recover mercury) which would recover a material with radionuclide contamination.

Determination of the treatment requirements for a MW must include consideration of the treatment needs for both the RCRA and radiological constituents. The strategy of defining treatability groups as groupings of wastes with similar treatment requirements provides a platform from which a systematic analysis of waste treatment options can be carried out. The treatability groups have been discussed in Section 2.3. Overlaid on the LDR treatment requirements are the processing considerations concerning the radioactive constituents of the MW which also influence the treatability groupings. Section 2.3 describes the radiological groupings into which these wastes have been categorized, e.g., CH-alpha, CH-nonalpha, and RH.

The MW falling into the radiological categories of HLW and TRU do not follow the same options analysis logic (Figure 2.1) owing to differing regulatory or policy concerns. The Nuclear Waste Policy Act of 1982 governs the disposition of HLW and spent fuel. HLW must be made into a durable solid and disposed in a deep geological repository. The disposal of TRU waste is governed by the DOE National Security and Application of Nuclear Energy Act of

1980. TRU waste which is not to be directed to the WIPP is subjected to the options analysis.

The states and EPA have noted in their comments concerning the IMWIR that there is insufficient characterization information to determine the treatment requirements for many DOE wastes. These wastes and their characterization plans are discussed in Section 3.4. For those waste streams which have been adequately characterized, appropriate treatability groupings can be determined and treatment requirements can be identified. Table 2.1 provides a spreadsheet of all the matrix/contamination combinations to be found in DOE waste streams as well as the primary treatment requirements. Within each of the cells are the specific generic treatment processes (one or more) which will bring the waste into an LDR compliant state. The acronyms used in this table are similar but not equal to the LDR BDAT acronyms. The shaded cells of Table 2.1 indicate that a given contaminant waste matrix combination either does not have a treatment or that a treatment is not necessary.

Table 2.2 provides the key to the treatment acronyms that appear in the cells in the matrix/contaminant spreadsheet. Each waste stream was assigned to a cell in the spreadsheet, based on its matrix and contaminants, and thereby coupled with the appropriate treatment requirements, such as organic destruction and/or stabilization.

Once the top level treatment requirement was determined, e.g., organic destruction, a further examination of the type of organic destruction appropriate to the waste matrix was carried out. If an organic liquid matrix is considered, as an example, the organic destruction strategy for treating halogenated organics will be different from nonhalogenated organics. Once the radiological groupings, with their processing and handling requirements, were combined with the treatment requirements necessary to achieve RCRA compliance, the waste was sufficiently characterized to begin an analysis of the treatment options.

TABLE 2.1. Mixed Waste Matrix-Contaminant Treatment Matrix

		A	B	C	D	E	F	G	H	
	Waste Matrix	Toxic Organics	Toxic Organics & Metals w/Hg	Toxic Organics & Metals w/o Hg	Toxic Metals w/o Hg	Toxic Metals w/Hg	Ignitable	Corrosive	Reactive	Stabilization Factors
1	Organic Liquids	ORDST	HGSEP, ORDST, STABL	ORDST, STABL	ORDST, STABL	HGSEP, ORDST, STABL	ORDST	NEUTR, ORDST	DEACT, ORDST	10%
2	Aqueous Liquids	WWTOR	HGSEP, WWTOR, METRM, STABL	WWTOR, METRM, STABL	METRM, STABL	HGSEP, METRM, STABL	WWTOR	NEUTR	DEACT	15%
3	Organic Sludges/Particulate	ORDST	HGSEP, ORDST, STABL	ORDST, STABL	ORDST, STABL	HGSEP, ORDST, STABL	ORDST	NEUTR, ORDST		25%
4	Inorganic Sludges/Particulate	ORDST	HGSEP, ORDST, STABL	ORDST, STABL	STABL	HGSEP, STABL	ORDST		DEACT	100%
5	Cemented Solids	ORDST	HGSEP, ORDST, STABL	ORDST, STABL	STABL	HGSEP, STABL				100%
6	Organic Debris	DECON, ORDST, STABL	HGSEP, ORDST, STABL, DECON	ORDST, STABL, DECON	ORDST, STABL, DECON	HGSEP, ORDST, STABL, DECON	DEACT, DECON, ORDST, STABL			25%
7	Inorganic Debris	DECON, ORDST, STABL	HGSEP, ORDST, STABL, DECON	ORDST, STABL, DECON	DECON, STABL	HGSEP, STABL, DECON	DEACT, DECON, ORDST, STABL			100%
8	Heterogeneous Debris	DECON, ORDST, STABL	HGSEP, ORDST, STABL, DECON	ORDST, STABL, DECON	DECON, STABL	HGSEP, STABL, DECON	DEACT, DECON, ORDST, STABL			50%
9	Soils with <50% Debris	ORDST	HGSEP, ORDST, STABL	NA	STABL		DEACT, DECON, ORDST			100%
10	Soils	ORDST	HGSEP, ORDST, STABL	ORDST, STABL	STABL	HGSEP, STABL				100%
11	Lab Pack with Metals	ORDST	HGSEP, ORDST, STABL	ORDST, STABL	STABL	HGSEP, STABL	ORDST, STABL		DEACT, STABL	50%
12	Lab Pack without Metals	ORDST		ORDST, STABL			ORDST		DEACT	50%
13	Reactive Metals	NA	NA	NA	NA	HGSEP, DEACT, STABL	DEACT		DEACT	150%
14	Explosives					HGSEP, DEACT, STABL				15%
15	Compressed Gases	ORDST			ORDST, STABL		DEACT, ORBST			5%
16	Liquid Mercury					HGSEP, METRC, STABL				20%
17	Elemental Lead			ORDST, METRC, STABL	METRC, STABL	HGSEP, METRC, STABL				100%
18	Beryllium Lead				STABL					100%
19	Batteries (lead acid and cadmium)				NEUTR, METRC, STABL	NEUTR, METRC, STABL				100%
20	Other/Multiple	ND	ND	ND	ND	ND	ND	ND	ND	

TABLE 2.2. Generic Waste Treatment Categories and Descriptions

Treatment Category	Abbrev.	Description
Organic Destruction	ORDST	Destruction of organic liquids and solids by a broad spectrum of thermal and non-thermal organic destruction technologies including incineration; other thermal technologies such as vitrification, plasma hearth, molten metal, etc., and non-thermal technologies such as chemical oxidation, electron beam, and silent discharge plasma. Some of these technologies are also applicable for the STABL and METRIC groups.
Aqueous Liquids (Waste Water Treatment for Organics)	WWTOR	Treatment technologies for oxidation of organics contained in a predominantly aqueous medium. Examples include wet oxidation, catalyzed wet oxidation, super critical water oxidation, and related technology variations.
Metal Removal	METRM	Metal ion and particulate removal from liquids. Examples include settling, filtration, precipitation, ion exchange, carbon adsorption, etc.
Stabilization	STABL	All immobilization and MACRO technologies, e.g., cementation, vitrification, polymer encapsulation, etc.
Metal Recovery	METRC	Methods for separation/collection of metals from waste streams for reuse or recycle. Examples include sorting, melting, and decontamination.
Mercury Separation	HGSEP	All mercury separation, collection, and immobilization methods. Examples include gravitational, thermal, and chemical techniques to separate mercury for recycle or for immobilization by amalgamation.
Decontamination	DECON	Extractive, mechanical, hydraulic, thermal, and electrochemical techniques used to remove contamination from substrate materials.
Neutralization	NEUTR	Acid or base additions to neutralize waste streams.
Deactivation	DEACT	Appropriate technologies to deactivate reactives such as sodium or uranium metal or cyanides before disposal.

Those waste streams for which the characterization data lack sufficient detail to determine the treatment requirements are listed in Section 3.4. The reasons for the lack of characterization data, including, for example, lack of appropriate technology, are also presented in this section.

2.5.3 Phase II - Analysis of Treatment Options

Phase II, as presented in Figure 2.1, describes the bulk of the treatment options analysis process. There are two additional options, not shown here (Figure 2.1), which do not necessarily involve treatment but will also be discussed. The options analysis is a straightforward process in which the treatment requirements of the waste are matched against the treatment capabilities and WAC of existing facilities. An onsite option is evaluated for each waste stream. No treatment option has been considered which would Table 2.1 require legislative or regulatory change.

Figure 2.1 indicates three treatment options that are examined: onsite DOE facilities, offsite DOE facilities, and offsite commercial facilities. Facility status fell into four categories: existing facilities, planned and approved facilities, planned unapproved facilities, and no currently existing or planned facility. The definitions of planned approved and planned unapproved facilities are provided in Section 1.5. A catalog of the existing and planned facilities (Appendix A) was used in analyzing these options. A planned (approved or unapproved) facility may not have a detailed WAC available. In such a case a planned facility is only considered as a valid option if the waste stream(s) under consideration matches the treatability group(s) of the waste stream(s) for which the facility is being designed. Two other options (not shown in Figure 2.1), treatability variances and further characterization to demonstrate LDR compliance, are also considered for each waste. In the case of wastes for which there are no existing or planned treatment facilities onsite, an option requiring the development of onsite treatment capabilities is discussed.

Information concerning the treatment requirements of the waste and treatment capabilities of the facility are provided in each case that an option is considered viable. Technical and nontechnical issues associated with the choice of this option are identified. Primary issues, such as

characterization data that are not complete enough to determine the treatment requirements for a waste because of lack of sufficient information concerning the WAC for a facility, are emphasized. Budgetary impacts of selecting an option are also included.

2.5.4 Phase III - Beginning the Development of New Treatment Capabilities

For many wastes the evaluation of an onsite treatment option has required analysis of the need for new treatment capabilities. Selecting the development of a new facility as an onsite treatment option requires additional steps such as: analysis of treatment technology options, baseline system development, systems analysis, cost analysis, and a number of other factors. Phase III of Figure 2.1 presents activities and resources, e.g., potential treatment technologies included in the process of defining a new treatment facility. Waste stream treatment requirements are the core criteria which influence the treatment system design. All of the activities in the treatment and technology options identification process beyond this point need the waste to be characterized well enough that the treatment requirements can be specified. At a minimum, the matrix and the probable range of contaminants must be known.

The baseline treatment technology choices are dictated by the waste stream treatment requirements (technical) as well as nontechnical issues. Issues associated with any option, such as the existence of permit restriction or the need to revise NEPA documentation, are discussed.

In many cases a waste stream by virtue of its matrix and contaminant combination requires the specification of a system or treatment train which is comprised of more than one technology. Matching the appropriate treatment technologies to the treatment requirements for the waste can be a time consuming process which is further complicated by the number of wastes for which new treatment systems must be developed. The completion of the baseline technology selection is a complex task and cannot be completed for all waste streams in this CSTP. Once characterization has been completed for a waste stream, the baseline technology selection process will be undertaken if warranted.

At this point in the process the baseline technology development needs become apparent for those wastes for which the baseline technology options have been identified. These needs take several forms which include the total lack of an appropriate technology to satisfy a particular treatment requirement as well as needed adaptation to an existing technology to satisfy the unique treatment requirements of a specific waste. These waste streams and their technology needs are discussed in detail in Section 3.3. Further technology development needs will become apparent as the baseline system choices are completed.

As the CSTP evolves into the draft STP, the baseline system designs for individual waste streams and treatability groups will be analyzed by standard system engineering techniques to evaluate performance parameters. These performance evaluations will suggest further technology development needs. In anticipation of this, the technology development needs presented in the CSTP should only be considered as an interim list which will become more complete by the time the proposed final STP is prepared.

3.0 LOW-LEVEL MIXED WASTE STREAMS

3.1 WASTE STREAMS WITH EXISTING TREATMENT CAPACITY

Currently no MW treatment capacity exists onsite.

3.1.1 Description of Waste Streams and Treatability Groupings

Not applicable at this time.

3.1.2 Description of Existing Capacity

No treatment capacity exists onsite.

3.1.3 Treatment Options by Waste Streams/Treatability Group

Not applicable at this time.

3.2 WASTE STREAM FOR WHICH TECHNOLOGY EXISTS BUT WITHOUT CAPACITY ONSITE

Currently only one MW stream exists that is characterized sufficiently to permit determination of treatability.

3.2.1 Description of Waste Streams and Treatability Groupings

As part of the decommissioning of LEHR project facilities, approximately 2 m^3 of radioactively contaminated lead shielding bricks were removed. This material was removed and determined to be contaminated with radioactive materials in the second quarter of calendar year 1993. The physical form of the lead is a solid and it is in its elemental form (i.e., lead metal). This waste stream is not currently classified as a HW under RCRA, in that the lead is being held for recycling/reuse. The decontamination of the lead, however, will generate a MLLW.

The RCRA waste designation for this material is: D008 - lead.

Low-level fixed and removable radioactive contamination is present on the bricks. Complete radionuclide characterization has not been completed. The main potential radioactive contaminants are strontium-90/yttrium-90, radium-226+daughters, plutonium-241, americium-241, and hydrogen-3. The contamination levels of the this waste stream classify it as CH.

This waste stream, whether the lead or decontamination residues, is classified as MLLW. The confidence in this classification is high and should suffice for treatment purposes. The treatability group for this waste is Toxic Metals Without Mercury.

3.2.2 Description of Needed Technology and Capacity

There are two candidate technologies for treatment of the lead MLLW at LEHR. They are MACRO and decontamination/stabilization. These technologies were evaluated against four main criteria: 1) performance (the ability to perform the intended functions), 2) reliability (the ability to perform intended results), 3) implementability (the relative effort to install and use), and 4) availability (when the technology can be accessed for use to treat the waste).

The EPA designated BDAT for lead is MACRO. This technology requires pretreatment of the lead, i.e., size reduction to less than 1 cm in diameter. The size reduced lead is immobilized by coating with a resin or other similar material. This treatment option would result in the 99% fraction of non-radioactively contaminated lead being encapsulated and disposed of as MLLW. An existing MACRO facility for elemental lead is in operation at the Waste Generator Treatment Plant of the Idaho National Engineering Laboratory (INEL). Two additional MACRO facilities have been approved for construction at other DOE sites. They are the Waste Recovery and Processing Facility at the Hanford Site and the Hazardous Waste/Mixed Waste Disposal Facility at the Savannah River Site. There are additional unapproved MACRO facilities are planned for INEL.

Stabilization of the decontamination residues is the most appropriate technology alternative, based upon proven performance, reliability, implementability, and, mainly, availability (i.e., systems are currently available for use). Depending on the method used to decontaminate the lead, several methods could be used to stabilize the resulting MLLW stream.

3.2.3 Treatment Options by Waste Streams/Treatability Group

The candidate most appropriate technology for treating LEHR-LEAD-MW-5 will be through (decontamination and) stabilization. The acquisition of a

treatment facility and treatment of LEHR-LEAD-MW-5 is not currently in the LEHR-ER budget.

Two primary alternative treatment options exist for the (decontamination and) stabilization of LEHR-LEAD-MW-5. They are: decontamination/ stabilization onsite and decontamination/stabilization at an offsite facility. Decontamination onsite would not require a modification of the site's Part A permit because the lead is being accumulated for recycling and therefore is not considered a HW under RCRA. Because of the small volume of contaminated lead, the only cost effective method of onsite decontamination would be using standard manual decontamination techniques, e.g., wiping with rags.

The decontamination residues, a MLLW, would be required to be stabilized before disposal. The stabilization of a MLLW will require that the site's Part A permit be modified. The stabilization would be accomplished through solidification of the waste in a concrete, or similar, matrix. The ability of the resulting waste form to meet the requirements of the Toxicity Characteristic Leachate Procedure (TCLP) and, therefore, not be subject to the LDR is not certain. If the stabilized decontamination residues (MLLW) did not meet TCLP requirements, further treatment at an offsite facility would be required.

The cost for the treatment of this waste stream is not currently in the LEHR-ER budget. The total estimated cost for onsite treatment is $1,750,000. To process the decontamination residues onsite, the site's Part A permit will be required to be modified. The LEHR-ER EA would be required to be revised to meet the requirements of NEPA. A solidification area and system would also be required to be designed and constructed or solidification services acquired from a commercial vendor. The planning and design (preconstruction) phase would require approximately 20 months at an estimated cost of approximately $750,000. This includes the cost associated with revising RCRA permits and other site documents, e.g., environmental monitoring plan, waste management plan, waste certification plan. The cost and schedule for planning are based on historical project information.

The operational phase (i.e., construction, testing, operation, and closure) is estimated to take approximately 18 months with an estimated cost

of $1,000,000. Construction and closure costs are based upon accepted industry-standard protocols for decommissioning projects escalated to appropriate out years. Testing and operation costs are based on previous waste processing experience using appropriately escalated labor and material rates. Operational costs consider that a single batch process will treat all the decontamination residues.

The only recognized technical constraint for onsite treatment of this waste is the ability for the stabilization process to yield a waste form that meets the LDR requirements. An administrative constraint would be the ability of the DOE to construct and operate a MW treatment facility on the LEHR site. The land on which the LEHR facility is located is leased from the Regents of the University of California and, therefore, UC Davis would be required to approve any onsite MW treatment facility.

LANL has an operational decontamination facility for contaminated lead. The LANL lead decontamination trailer would be the initial choice of treatment facilities for this waste stream. The LANL facility currently decontaminates and recycles surface contaminated lead. However, further radiological characterization of the lead may be required before acceptance by the LANL facility.

There are planned decontamination facilities at INEL and the Oak Ridge Y-12 Gaseous Diffusion Plant. Because the LANL Decontamination Trailer is operational, further consideration of planned facilities will not be made until approved WAC are available.

The availability of an operational commercial treatment storage and disposal (TSD) facility for the treatment of the decontamination residue cannot be determined until the precise physical form of the waste is known. The commercial vendors, Envirocare of Utah, Inc., and Scientific Ecology Group, offer stabilization services for MW currently.

The INEL Waste Generator Treatment Plant, a MACRO facility, is operated on an as needed basis. The facility is capable of treating elemental lead contaminated with low-level alpha and beta-gamma emitting radionuclides. Other planned, but non-operational, MACRO facilities are not evaluated further in this plan. The STP will evaluate these planned facilities provided that

sufficient technical information, e.g., WAC or design basic documents, are available for review.

3.3 WASTE STREAMS FOR WHICH TECHNOLOGY EXISTS BUT NEEDS ADAPTION

Besides the waste stream presented in Section 3.2, there are currently no other MW streams sufficiently characterized to decide if an existing treatment technology is available.

3.3.1 Description of Waste Streams and Treatability Groupings

Not applicable at this time.

3.3.2 Description of Needed Technology and Capacity

Not applicable at this time.

3.3.3 Technical Approach and Options

Not applicable at this time.

3.4 WASTE STREAMS REQUIRING FURTHER CHARACTERIZATION OR FOR WHICH TECHNOLOGY ASSESSMENT HAS NOT BEEN DONE

The inventory of MWs onsite has been refined since the IMWIR was submitted. The following section details the MW streams onsite.

3.4.1 Description of Waste Streams

The LEHR-ER project identified four distinct "legacy" MW streams remaining from previous site operations.

Waste Stream LEHR FLAM MW-1

The waste stream LEHR FLAM MW-1 presented in the IMWIR has been broken down into three subgroupings that better define the individual waste streams. This waste stream contains various research laboratory chemical wastes and preserved specimens of animal subjects from the previous operations of LEHR facility.

LEHR FLAM MW-1(a). This waste stream consists of approximately 50 L of ethyl alcohol, formaldehyde, and potentially other organic liquids in miscellaneous (~ 4 to 20+ liter) containers. The physical form of the waste

is that of a liquid. The wastes are recovered spent laboratory research solutions and the purity or pedigree of the solutions cannot be determined from research records.

The waste may potentially be classified by the RCRA waste code D001 - ignitability. This waste stream has been tentatively assigned to the treatability group Ignitable.

The main potential radionuclide contaminants are radium-226+daughter products and strontium-90/yttrium-90. Other potential radionuclide contaminants include hydrogen-3, plutonium-241, americium-241, and, to a lesser extent, other radionuclides used for radiolabeling. The waste is classified as low-level CH.

The RCRA waste codes and radionuclides present are based on process knowledge and physical inspection of the waste containers. Comprehensive chemical and radionuclide characterization is needed to identify the waste's characteristics.

LEHR FLAM MW-1(b). This waste stream consists of approximately 6 L of scintillation cocktails, liquid radioactive standards, and potentially other RCRA-regulated liquids in miscellaneous small (≈20 ml) containers. The physical form of the waste is a viscous aqueous liquid.

The waste may potentially be classified by one or more of the following RCRA waste codes: D018 - Benzene; F002 - halogenated solvents; and F003 - nonhalogenated solvents. This waste stream has been tentatively assigned the treatability group Toxic Organics.

The main potential radionuclide contaminants are radium-226+daughter products and strontium-90/yttrium-90. Other potential radionuclide contaminants include hydrogen-3, plutonium-241, americium-241, and other radionuclides used for laboratory radiolabeling. The waste is classified as low-level CH. Process knowledge dictates the specific activity of the TRU radionuclides potentially present in the waste is below 100 nCi/g, i.e., the waste will not be classified as TRU waste.

The RCRA waste codes and radionuclides present are based on process knowledge and physical inspection of the waste containers. Comprehensive

chemical and radionuclide characterization is needed to identify the waste's characteristics.

Waste Stream LEHR FLAM MW-1(c). This waste stream consists of approximately 3 m^3 of biological specimens preserved in potentially organic liquids in miscellaneous containers. The biological remains are from animals used in research experiments. The amount of liquid in which the specimens are preserved varies greatly. Some specimens (animal remains) contain radioactive materials.

The waste may potentially be classified by the RCRA waste code D001 - ignitability. This waste stream has been tentatively assigned to the treatability group Ignitable.

The waste is classified as low-level CH. The main potential radionuclide contaminants are radium-226+daughter products, strontium-90/yttrium-90, plutonium-241, or americium-241. Other potential radionuclide contaminants include hydrogen-3 and, to a lesser extent, other radionuclides used for radiolabeling.

The RCRA waste codes and radionuclides present are based on process knowledge and physical inspection of the waste containers. Comprehensive chemical and radionuclide characterization is needed to identify the waste's characteristics.

Waste Stream LEHR COR MW-2

This waste stream consists of approximately 0.56 m^3 of liquids in miscellaneous (~50 to 500 ml) containers. The physical form of the waste is that of aqueous liquid. The waste consists of various laboratory chemicals. The determination of the pedigree, i.e., virgin or used, of the waste cannot be made from available records. Physical inspections of the waste containers and associated records suggest that hydrochloric acid is the potentially regulated material.

The waste may potentially be classified by the RCRA waste code D002 - corrosive. This waste stream has been tentatively assigned to the treatability group Corrosive.

The main potential radionuclide contaminants are radium-226+daughter products and strontium-90/yttrium-90. To a lesser extent the waste may also contain hydrogen-3, plutonium-241, americium-241, and several other radionuclides used for radiolabeling. This waste is classified as low-level CH.

The RCRA waste codes and radionuclides present are based on process knowledge and physical inspection of the waste containers. Comprehensive chemical and radionuclide characterization is needed to identify the waste's characteristics.

3.4.2 Plan for Undertaking Technology Assessment

The following section details the plans to characterize the MW streams at LEHR and complete the technology assessment for these waste streams.

LEHR FLAM MW-1 and LEHR COR MW-2

A sampling and analysis plan is being prepared for the characterization of the MWs identified in LEHR FLAM MW-1 and LEHR COR MW-2. The plan will require that samples be obtained according to the requirements of EPA using approved methods such as those contained in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (EPA 1991). Radioactive materials will be quantified using EPA-approved methods supplemented by DOE and industrial standard procedures when an EPA-approved method does not exist.

Characterization is scheduled to be complete in March 1994. A technology assessment will be completed within 3 calendar months following characterization. The technology assessment will follow the guidelines established by DOE for this CSTP. The CSTP will be revised, or the STP will include, the results of the technology assessment.

4.0 TRANSURANIC MIXED WASTE STREAMS

There are no MW streams where TRU radionuclides have specific activities of greater than 100 nCi/gram.

4.1 DESCRIPTION OF WASTE STREAMS

Not applicable for the LEHR-ER site.

4.2 STRATEGY FOR MANAGING TRANSURANIC WASTE

Not applicable for the LEHR-ER site.

5.0 HIGH-LEVEL MIXED WASTE STREAMS

There are no high-level MW streams at the former LEHR site.

5.1 DESCRIPTION OF WASTE STREAMS

Not applicable for the LEHR-ER site.

5.2 STRATEGY FOR MANAGING HIGH-LEVEL MIXED WASTE

Not applicable for the LEHR-ER site.

6.0 FUTURE GENERATION OF MIXED WASTE STREAMS

The volumes of mixed waste projected for the environmental restoration sites are estimates only. A good-faith effort has been made to estimate the volumes of such wastes. Nevertheless, DOE is in the early stages of characterizing the waste and identifying areas of contamination at the LEHR site. Thus the projections of mixed waste volumes subject to LDR that will require management by the sites may change as the remedial process advances. The volume of mixed waste that is subject to LDR varies according to the remedy selected; for example, in situ treatment will result in no mixed waste requiring development of treatment capacity.

It has not yet been determined how the environmental restoration wastes will be reflected in the final STP. DOE will continue discussions with the State of California and EPA to address this matter.

6.1 ENVIRONMENTAL REMEDIATION WASTE

A RI is in progress for the site. The results of the site RI will provide sufficient information to determine the amount and locations of hazardous and radioactive materials in the soil and groundwater of the LEHR site and surrounding areas. Previously completed soil and groundwater characterization tasks show that both radioactive and hazardous materials are present in the soil and groundwater on the site.

Pending the completion of the RI, ER methods and residual contaminant (cleanup) levels for the site cannot be determined. It is expected that the ER of the LEHR site will generate MWs. The amount of MW that will need to be treated cannot be accurately determined at this time. There is currently insufficient data to designate potential treatment options. Following the completion of the RI and designation of the cleanup levels for the site, the treatability groups can be designated and technologies evaluated for any MW generated.

6.2 DECONTAMINATION AND DECOMMISSIONING WASTES

6.2.1 Waste Stream LEHR IMH MW-3

Approximately 1.9 m^3 of residual sludge remain in the bottom of (animal excrement) waste processing tanks. This waste is the heavy bottom sludge portion of the flocculent mass from the settling of excrement, mainly feces, collected from the cages of animals used in radionuclide ingestion studies. The bottom sludge is the portion of the sedimentation waste that was not readily removable by routine sediment removal operations. The sedimentation of the waste occurred before radionuclide reduction through ion exchange. The waste system in which the sludge is present was taken out of operation several years ago and no further waste will be generated by this system.

This waste may potentially be classified by one or more of the following RCRA waste codes: F002 - halogenated solvents; F003 - nonhalogenated solvents; and F005 - nonhalogenated solvents. Insufficient information exists to assign this waste a treatability group.

The main potential radionuclide contaminant is strontium-90/yttrium-90. To a lesser extent the waste may also contain radium-226+daughters, hydrogen-3, and several other radionuclides used for radiolabeling. Based on current information, this waste is categorized as low-level CH.

The RCRA waste codes and radionuclides present are based on limited sampling done as part of previous decommissioning activities. Those RCRA waste codes and radionuclides listed as potentially present are based on process knowledge of past facility operations. Comprehensive chemical and radionuclide characterization is needed to identify the waste's characteristics.

Characterization will be conducted once the sludge has been removed from tanks as part of the tank's decommissioning. EPA-approved methods will be used for the waste's characterization. The characterization should be complete by March 1995. A technology assessment will be completed within 3 calendar months following characterization. The technology assessment will follow the guidelines established by DOE for this CSTP. The CSTP will be revised, or the STP will include, the results of the technology assessment.

6.2.2 Waste Stream LEHR TT MW-4

Approximately 0.96 m^3 of residual sludge and liquid remain in the bottom of a tank trailer. This tank trailer was formerly used to collect overflow liquid from (animal excrement) waste processing system tanks during peak process periods. The tank trailer is a fuel storage and delivery trailer that was used by the military before transfer to DOE.

The waste may potentially be classified by one or more of the following RCRA waste codes: F002 - halogenated solvents; F003 - nonhalogenated solvents; and F005 - nonhalogenated solvents. Insufficient information exists to assign this waste a treatability grouping.

The known radionuclide contaminants are strontium-90/yttrium-90, thorium-232, and radium-226+daughters. To a lesser extent the waste may also contain hydrogen-3 and several other radionuclides used for radiolabeling. Based on limited available data, this waste is classified as low-level CH.

The RCRA waste codes and radionuclides present are based on limited sampling done as part of previous decommissioning activities. Potential RCRA waste codes and radionuclides are based on process knowledge of previous facility operations. Comprehensive chemical and radionuclide characterization is needed to identify the waste's characteristics.

A sampling and analysis plan for characterizing the waste liquid/sludge in the tanker trailer is planned to be started no later than March 1994. This plan will comply with EPA and DOE requirements for waste characterization.

Characterization is scheduled to be complete in the last quarter of calendar year 1994. A technology assessment will be completed within 3 calendar months following characterization. The technology assessment will follow the guidelines established by DOE for this CSTP. The CSTP will be revised, or the STP will include, the results of the technology assessment.

6.2.3 Other Decontamination and Decommissioning Waste Streams

Other than waste streams LEHR IMH MW-3 and LEHR TT MW-4, the only potential MW that may be generated by the decommissioning of LEHR facilities is radioactively contaminated lead. Decommissioning methods have been chosen

specifically to eliminate the addition of hazardous materials into radioactively contaminated areas.

6.3 OTHER WASTES

No other MWs are projected to be generated from the ER of the LEHR facility within the next five years.

7.0 MIXED WASTE STREAMS FOR WHICH RADIONUCLIDE SEPARATION MAY BE APPROPRIATE

None of the identified MW streams are suitable for radionuclide separation.

7.1 DESCRIPTION OF WASTE STREAMS

Not applicable at this time.

7.2 ANALYSIS AND IMPLICATIONS

Not applicable at this time.

8.0 MIXED WASTE TREATMENT NEEDS AND OPTIONS

Table 8.1 summarizes the technology needs and options for the mixed waste streams at LEHR. For more information concerning a particular mixed waste stream, see the reference section of this plan.

Although no onsite MW capacity exists, this plan includes the Table 8.2 summary of onsite MW treatment capacity to remain consistent with other DOE site's CSTPs. Any changes in onsite treatment capacity will be contained in the draft STP for LEHR.

TABLE 8.1. Summary of Potential Mixed Waste Treatment Needs and Options at LEHR

Treatability Group(s)	Waste Stream(s)		Quantity of Wastes					
			Inventory as of December 1992		Current Inventory (Date 9/13/93)		Projected 5-Yr Generation (1993-1997)	
	ID#	CSTP Chapter	m^3	kg	m^3	kg	m^3	kg
Ignitable[a]	LEHR-FLAM-MW-1(a)	3.4	0.05	-	0.05	-	0	-
Toxic Organics[a]	LEHR-FLAM-MW-1(b)	3.4	0.006	-	0.006	-	0	-
Ignitable[a]	LEHR-FLAM-MW-1(c)	3.4	3	-	3	-	0	-
Corrosive[a]	LEHR-COR-MW-2	3.4	0.56	-	0.56	-	0	-
To be determined[b]	LEHR-IMH-MW-3	6.2	-	-	-	-	1.9	-
To be determined[b]	LEHR-TT-MW-4	6.2	-	-	-	-	0.96	-
Toxic Metals, w/o Organics	LEHR-LEAD-MW-5	3.2	-	-	-	-	2	-

(a) Initial categorization based on historical information. Insufficient characterization data is available to precisely designate treatability group.
(b) Insufficient characterization data is available to designate a treatability group.

TABLE 8.1. (contd)

Waste Stream ID#s	Treatment Option						
	Option Number	Treatment Type	Site	Facility Name	System Name	System #	System Status
LEHR-FLAM-MW-1(a)	n/a	To be determined[a] BDAT-Incineration	To be determined	To be determined	To be determined	To be determined	To be determined
LEHR-FLAM-MW-1(b)	n/a	To be determined BDAT-Incineration	To be determined	To be determined	To be determined	To be determined	To be determined
LEHR-FLAM-MW-1(c)	n/a	To be determined BDAT-Incineration	To be determined	To be determined	To be determined	To be determined	To be determined
LEHR-COR-MW-2	n/a	To be determined BDAT-Neutralization	To be determined	To be determined	To be determined	To be determined	To be determined
LEHR-IMH-MW-3	n/a	To be determined BDAT-Incineration	To be determined	To be determined	To be determined	To be determined	To be determined
LEHR-TT-MW-4	n/a	To be determined BDAT-Incineration	To be determined	To be determined	To be determined	To be determined	To be determined
LEHR-LEAD-MW-5	1	Macroencapsulation	INEL	INEL Waste Generator Treatment	Waste Generator Treatment Plant	00244	Existing, Operating
LEHR-LEAD-MW-5	1	Macroencapsulation	INEL	Waste Processing Facility	None	None	Planned, Unapproved
LEHR-LEAD-MW-5	2	Decontamination/Stabilization	LANL	Lead Decontamination Trailer	Lead Decontamination Trailer	-	Operational
LEHR-LEAD-MW-5	3	Stabilization	Envirocare of UTAH	Envirocare of Utah	Envirocare of Utah	00516	Existing, Operating, Commercial
LEHR-LEAD-MW-5	3	Stabilization	Scientific Ecology Group	Scientific Ecology Group	Scientific Ecology Group	00515	Existing, Operating, Commercial

(a) "To be determined" indicates that insufficient information is currently available to define/designate a treatment option.

TABLE 8.1. (contd)

Waste Stream ID#s	Option #	Technology Evaluation Issues/Concerns Associated with the Options Identified	Documented Non-Technical Issues/Concerns Associated with the Options Identified
LEHR-FLAM-MW-1(a)	n/a	To be determined following characterization	To be determined following characterization
LEHR-FLAM-MW-1(b)	n/a	To be determined following characterization	To be determined following characterization
LEHR-FLAM-MW-1(c)	n/a	To be determined following characterization	To be determined following characterization
LEHR-COR-MW-2	n/a	To be determined following characterization	To be determined following characterization
LEHR-IMH-MW-3	n/a	To be determined following characterization	To be determined following characterization
LEHR-TT-MW-4	n/a	To be determined following characterization	To be determined following characterization
LEHR-LEAD-MW-5	1	An operational macroencapsulation facility for elemental lead MW is not in operation. Complete radiological characterization has not been performed to determine suitability for treatment.	The status of the facility's Part B permit could not be determined.
LEHR-LEAD-MW-5	2	Complete radiological characterization has not been performed and suitability for existing treatment facilities cannot be confirmed.	As landlord, the Regents of the University of California would have to approve the construction and/or operation of any MW treatment facility on the LEHR site.
LEHR-LEAD-MW-5	3	The suitability of an existing commercial facility cannot be determined until the properties of the decontamination residue can be analyzed.	Commercial facilities have not undergone the Quality Assurance audits and reviews necessary for waste processing.

TABLE 8.2. Summary of Onsite Treatment Systems at LEHR

Part 1 of 5

Facility Name	System Name	Sys #	System Status	On-line Date	Treat-ability Group	Treat-ment Type	Waste Form(s) Generated	Secondary Treatment Type Required	Cost		
									Capital $	Operating ($/kg or $/m^3)	Budget Impact
None											

Part 2 of 5

Sys #	Throughput Capacity												Possible Upgrades of Existing Facilities			
	Maximum Technical Capacity				Normal Operating Capacity				Utilized Capacity							
	All Wastes		Mixed Wastes		All Wastes		Mixed Wastes		All Wastes		Mixed Wastes					
	m^3/yr	kg/yr	m^3/yr	kg/yr	m^3/yr	kg/yr	m^3/yr	kg/yr	m^3/yr	kg/yr	m^3/yr	kg/yr	Item	Capacity/ Capability Added	Status	Budget Impact
n/a[a]																

(a) "n/a" indicates that no onsite treatment systems are available.

TABLE 8.2. (contd)

Part 3 of 5

Technical Limitations							
Sys. #	Radiation		Matrix/Physical		Contaminant Limits		Other Technical
	TRU Alpha	Beta-gamma	Property	Limit	Name	Max. Conc.	
n/a							

Part 4 of 5

Non-Technical Limitations							
Sys. #	Radiation		Matrix/Physical		Contaminant Limits		Other Non-Technical
	TRU Alpha	Beta-gamma	Property	Limit	Name	Max. Conc.	
n/a							

Part 5 of 5

System #	Onsite Treatment Capability Issues/Concerns (List issues associated with onsite treatment capability, capacity, or costs.)
n/a	

9.0 REFERENCES

10 CFR 61. 1993. U.S. Nuclear Regulatory Commission. "Licensing Requirements for Land Disposal of Radioactive Wastes."

40 CFR 191. 1993. U.S. Environmental Protection Agency. "Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes."

40 CFR 260. 1993. U.S. Environmental Protection Agency. "Hazardous Waste Management System - General."

40 CFR 261. 1993. U.S. Environmental Protection Agency. "Identification and Listing of Hazardous Waste."

58 FR 17875. April 6, 1993. "Publication of Schedule for Submitting Plans for Treating Mixed Waste Generated or Stored at Each Site as Required by the Federal Facilities Compliance Act of 1992." *Federal Register*.

15 U.S.C. 2601, et seq. Toxic Substances Control Act, as amended.

40 U.S.C. 9601, et seq. The Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended.

42 U.S.C. 300, et seq. The Federal Water Pollution Control Act, as amended.

42 U.S.C. 2011, et seq. Atomic Energy Act of 1954, as amended.

42 U.S.C. 4321, et seq. The National Environmental Policy Act of 1969, as amended.

42 U.S.C. 6901, et seq. Solid Waste Disposal Act of 1965, as amended.

42 U.S.C. 7401, et seq. Clean Air Act, as amended.

42 U.S.C. 10101 et seq. Nuclear Waste Policy Act, as amended.

DOE National Security and Military Applications of Nuclear Energy Authorization Act of 1980. Public Law 96-164.

U.S. Department of Energy (DOE). 1993. "Radiation Protection of the Public and Environment." DOE Order 5400.5.

U.S. Department of Energy (DOE). 1991. "Quality Assurance." DOE Order 5700.63.

U.S. Department of Energy (DOE). 1988. "Radioactive Waste Management." DOE Order 5820.2A.

U.S. Department of Energy (DOE). 1991. "Five-Year Plan Fiscal Years 1993-1997." August 1991. DOE/S-0090P. Office of Environmental and Waste Management.

U.S. Environmental Protection Agency (EPA). 1991. "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods." EPA-SW-846. Office of Solid Waste, U.S. Environmental Protection Agency, Washington, D.C.

APPENDIX A

LIST OF DOE FACILITIES PREPARING CONCEPTUAL SITE TREATMENT PLANS

TABLE A.1 Sites at Which DOE Generates or Stores Mixed Waste (or May Generate Within the Next Five Years) Preparing Conceptual Site Treatment Plans

Facility	State	Agency to Receive Plan (EPA/State)
Energy Technology Engineering Center (ETEC)	California	State
General Atomics		
** General Electric Vallecitos		
Lawrence Livermore National Laboratory		
Lawrence Berkeley Laboratory		
Laboratory For Energy-Related Health Research		
Mare Island Naval Shipyard		
Sandia National Laboratory - California		
Grand Junction Project Office	Colorado	State
Rocky Flats Plant		
** Knolls Atomic Power Laboratory, Windsor	Connecticut	State
Pinellas Plant	Florida	State
Pearl Harbor Naval Shipyard	Hawaii	EPA
Argonne National Laboratory - West	Idaho	State
Idaho National Engineering Laboratory		
Ames Laboratory	Iowa	EPA
Argonne National Laboratory - East	Illinois	State
** Site A/Plot M, Palos Forest Preserve		
Paducah Gaseous Diffusion Plant	Kentucky	State
Portsmouth Naval Shipyard	Maine	EPA
Kansas City Plant	Missouri	State
Weldon Spring Site Remedial Action Project		
University of Missouri		
Nevada Test Site	Nevada	State

TABLE A.1 (contd)

Facility	State	Agency to Receive Plan (EPA/State)
Energy Technology Engineering Center (ETEC)	California	State
Middlesex Sampling Plant	New Jersey	EPA
** Princeton Plasma Physics Laboratory		
Inhalation Toxicology Research Institute	New Mexico	State
Los Alamos National Laboratory		
Sandia National Laboratory - New Mexico		
Brookhaven National Laboratory	New York	State
Colonie Interim Storage Site		
Knolls Atomic Power Laboratory, Kesselring		
Knolls Atomic Power Laboratory, Schenectady		
West Valley Demonstration Project		
** Battelle Columbus Laboratories Decommissioning Project	Ohio	State
Fernald Environmental Management Project		
Mound Plant		
Portsmouth Gaseous Diffusion Plant		
RMI Titanium Inc.		
Bettis Atomic Power Laboratory	Pennsylvania	EPA
** Charleston Naval Shipyard	South Carolina	State
Savannah River Site		
K-25 Site, Oak Ridge Reservation	Tennessee	State
Oak Ridge National Laboratory, Oak Ridge Reservation		
Y-12 Plant, Oak Ridge Reservation		
Pantex Plant	Texas	State
** Norfolk Naval Shipyard	Virginia	EPA
Puget Sound Naval Shipyard	Washington	State

** Denotes a site that is not currently generating or storing MW but may generate or store MW within the next five years.

APPENDIX B

CANDIDATE MIXED WASTE TREATMENT SYSTEM INFORMATION SHEETS

APPENDIX B

CANDIDATE MIXED WASTE TREATMENT SYSTEM INFORMATION SHEETS

INTRODUCTION

One of DOE's key objectives in the preparation of the CSTP was to identify potential treatment options for a site's mixed waste. Options for both onsite and offsite treatment were to be identified. During development of the CSTP it became clear that DOE's Operation Offices has limited information about potential treatment options at other DOE sites. As a result, information sheets for candidate mixed waste treatment systems were developed as an information source that relates the standard waste treatability groups in the Interim Mixed Waste Inventory Report and treatment systems at potential treatment facilities. The primary purpose of the treatment system information sheets are to assist in the preliminary identification of offsite treatment facilities for mixed waste. Using the information sheets, waste streams could be matched to potential treatment facilities based solely on the technical capabilities of the treatment facilities. In response to comments received at the September meeting in Albuquerque, New Mexico, between the states and DOE, the information sheets were updated to include information on administrative and regulatory limitations relevant to treatment facilities.

The information sheets identify the status of the facilities. The two broad facility status categories are "existing" and "planned." Existing facilities are further divided into "existing operating" and "existing, could be used to treat mixed waste." The latter category consists of those facilities that have the technical capability to treat mixed waste, but either the facilities are not currently operating or are not currently treating mixed waste. Facilities in this category would include those undergoing plant modification, permit or other regulatory reviews, in the process of restarting, etc.

The planned facility category encompasses a broad range of potential

treatment facilities. One of the main purposes of the information sheets is to provide a tool to identify numerous preliminary treatment options for a DOE site's mixed waste. As such, the approach taken was to include as many potential treatment facilities as possible in the planned category. Any potential treatment facility for which any strategic planning or feasibility analysis has taken place could be included as a planned facility.

Planned facilities are further categorized as "approved" or "unapproved." An approved facility is one that has formally entered the DOE line item construction project process as described in DOE Order 4700.1. A schematic diagram depicting DOE's line item construction process is given in Figure B.1.

Management and approval of construction projects are carried out by "Key Decisions" (KD). The first decision is KD-0 (Approval of Mission Need). It should be emphasized that, as used in the information sheets, the term "approved" only signifies that the facility has formally entered the DOE line item process (i.e., has received KD-0 approval); it does not connote any state or regulatory authority approval of the facility, completion of NEPA documentation, permit issuance, etc.

Unapproved facilities are those that have not formally entered DOE's construction project process (have not received KD-0 approval). Generally, some strategic planning, research and development, engineering studies, etc. have been conducted to assess the need and feasibility of these potential facilities.

A summary of the definitions of the four facility status categories is given below:

- existing operating - System is currently (as of 10/19/93) operating and treating mixed waste.

- existing, could be used for mixed waste - Existing system not currently treating mixed waste. System may be treating other waste, or may not be operational at this time.

- planned approved - System has reached, at a minimum, Key Decision Zero KD-0 (Approval of Mission Need). Typically, the funds for the system's conceptual or detailed design have been authorized, or the system is under construction.

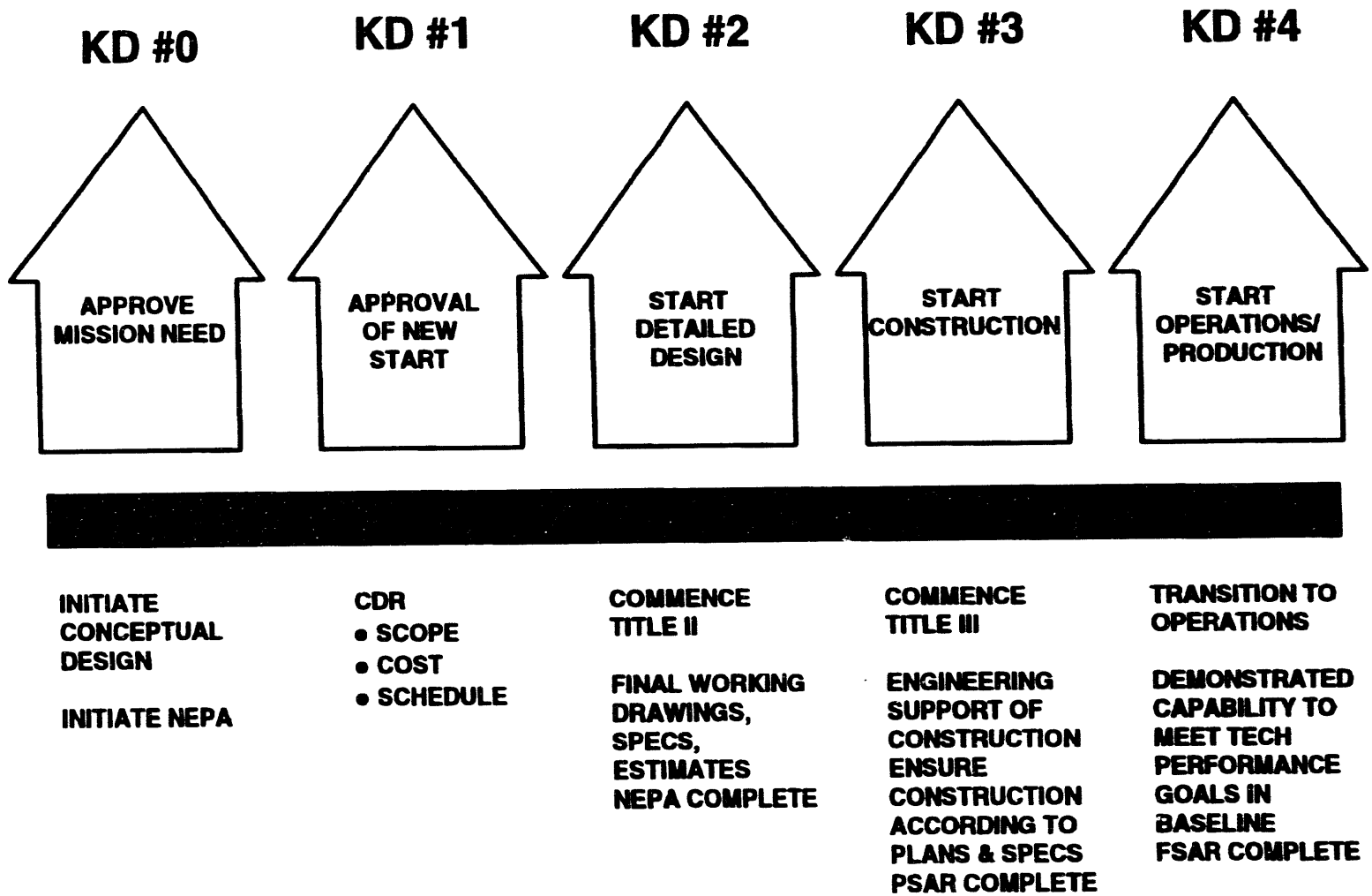


FIGURE B.1. Key Decision Process Overview

- planned unapproved - System has not reached the KD-0 approval stage, or funds for the system's conceptual design have not been authorized.

BASIS OF THE TREATMENT SYSTEM INFORMATION SHEETS

A separate questionnaire was completed for each candidate treatment system. Information regarding the waste matrices, radionuclide categories, and contaminants that could potentially be treated in each of the site's treatment systems was requested. The information sheets were subsequently modified to include information on administrative and regulatory limitations on the facility. All information collected on the questionnaires appears on the information sheets. No summarization or collating of information has occurred.

The primary objective of the information sheets is to identify candidate facilities that may technically be able to treat wastes in a given treatability group. For facilities in the early planning stage, professional and engineering judgement were used to complete the questionnaires. The information is subject to change and refinement as more detailed data is developed regarding the technical capabilities of facilities and their ability to treat specific waste streams.

The sections addressing administrative and technical limitations were not intended to be a detailed or comprehensive description of the system's WAC. These sections were intended to identify major permit restrictions and technical limitations.

The information sheets are meant to be used only as a tool to enable preliminary matching of waste streams to potential treatment options. Some treatment facilities may not be able to treat all wastes within a treatability group identified as potentially applicable. In addition, some proposed facilities may never be constructed. More specific treatment options for a given waste stream will be selected as part of the process of developing the Draft Site Treatment Plans.

A table of definitions of terms used in the candidate treatment system information sheets can be found at the end of this appendix.

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Argonne National Laboratory - East
FACILITY: Alkali Metal Reaction Booth
SYSTEM: 00114, Alkali Metal Reaction Booth
CONTACT: Ken Chiu 708-252-7946

		DESIGN	PERMIT
M3/YR		0	0

System Capacity
PERMIT [Other UNIT of MEASURE]: 40 pounds/hr

ADS NUMBER:
STATUS: Existing Could be used for mixed waste

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	N	N	N	N	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Part A App	IL EPA	04/30/82	/ /
CAA	Air Permit	IL EPA	06/19/89	05/31/94
RCRA	Part B App	IEPA/USEPA	12/20/90	/ /

OTHER INFORMATION
Design capacity = 40 pounds per hour.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
RCRA permit limits operation to 40 pds per hour. Facility has not operated for several years. The laboratory (ANL) is planning to bring this system on line in January, 1994. Facility cannot accept PCB mixed waste. The facility will initially treat back logged waste of approximately 0.60 cubic meters of alkali metals.

OTHER PERMIT LIMITATIONS & COMMENTS
The RCRA Part B permit application indicates that offsite waste will not be stored or treated at ANL-E. Therefore, the Part B permit, when issued, will prohibit acceptance of offsite waste.

TECHNOLOGY	MATRIX
Chemical Oxidation	Reactive Metals

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

			DESIGN	PERMIT
SITE:	Argonne National Laboratory - West			
FACILITY:	Radioactive Sodium Waste Process Facility			
SYSTEM:	00545, Radioactive Sodium Waste Process Facility	M3/YR	0	0
CONTACT:	Ray Lang 708-252-2230			
		System Capacity		

ADS NUMBER: CH-1604
STATUS: Planned Unapproved

			-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	N	N	N	N	N	Y

OTHER INFORMATION
Capacity to be determined. Would convert elemental sodium to nonhazardous sodium carbonate.
SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM
A conceptual design report for the facility was done in 1982 and is currently being revised.
RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
ANL-W is required to provide treatment technology for sodium-contaminated components stored on site.

TECHNOLOGY	MATRIX
Chemical Oxidation	Reactive Metals

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: BNFL (England)
FACILITY: BNFL (England)
SYSTEM: 00505, BNFL Deactivation
CONTACT:

		DESIGN	PERMIT
System Capacity	KG/YR	0	0

ADS NUMBER:
STATUS: Existing Operating Commercial

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	B	N	N	N	Y	N	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Export	EPA	/ /	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

REQUIREMENTS FOR USE OF EXISTING SYSTEMS
Transport to England for treatment would require export permit for hazardous waste export.

TECHNOLOGY	MATRIX
Water Reaction	Reactive Metals

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: DSSI, Oak Ridge, TN

FACILITY: Diversified Scientific Services

SYSTEM: 00546, Diversified Scientific Services

CONTACT: Jack Koontz 615-376-0084

ADS NUMBER:

STATUS: Existing Operating Commercial

	DESIGN	PERMIT
M3/YR	0	0

System Capacity

	-TRU-				RCRA CHARACTERISTICS		
NLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
	Y									

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

TECHNOLOGY

MATRIX

Information Developed to Facilitate Identification of Potential Treatment Options

Date: 10/20/93

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Energy Technology Engineering Center
FACILITY: Radioactive Materials Disposal Facility
SYSTEM: 00117, Amalgamation Process
CONTACT: B. Bassat 818-586-5556

ADS NUMBER:
STATUS: Existing Operating

	DESIGN	PERMIT
M3/YR	0	0

System Capacity
PERMIT [Other UNIT of MEASURE]: 1 liter/day

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	N	Y	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Part A App	EPA	07/08/92	/ /

OTHER INFORMATION
Design capacity = 1 liter/day.
SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

REQUIREMENTS FOR USE OF EXISTING SYSTEMS
Has been used to amalgamate mercury. All mercury onsite has been processed.
OTHER PERMIT LIMITATIONS & COMMENTS
Permitted to treat waste generated on site only.

Permit status is uncertain with the State of California. This system is not included in the March 1989 Part A application Interim Status authority to operate. It is included in the July 1992 amendment which has not been approved and therefore is considered as a non-approved activity according to DTSC interpretation.

TECHNOLOGY	MATRIX
Amalgamation	Liquid Mercury

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Energy Technology Engineering Center
FACILITY: Radioactive Materials Disposal Facility
SYSTEM: 00508, Evaporation/Ion Exchange
CONTACT: B. Bassat 818-584-5556

	DESIGN	PERMIT
M3/YR	345	345

System Capacity
PERMIT [Other UNIT of MEASURE]: 250 gal/day

ADS NUMBER:
STATUS: Existing Could be used for mixed waste

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	N	N	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	EPA	04/01/89	/ /

OTHER INFORMATION
Design capacity = 250 gal/day.
Approximate annual throughput achievable = 9000 gal.
SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

REQUIREMENTS FOR USE OF EXISTING SYSTEMS
Evaporator; an approved disposal site for the mixed waste sludge resulting from the process (evaporation).
Ion exchange; needs to be reassembled.
OTHER PERMIT LIMITATIONS & COMMENTS
Permitted to treat waste generated on site only.

Permit status is uncertain with the State of California. This system was included in the March 1989 Part A application Interim Status authority to operate. It is not included in the July 1992 amendment.

TECHNOLOGY	MATRIX
Evaporation	Aqueous Liquids
Ion Exchange	Organic Sludges/Particulates

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Energy Technology Engineering Center
FACILITY: Radioactive Materials Disposal Facility
SYSTEM: 00124, Neutralization Process
CONTACT: B. Bassat 818-586-5556

ADS NUMBER:
STATUS: Existing Could be used for mixed waste

	DESIGN	PERMIT
M3/YR	332	332

System Capacity
PERMIT [Other UNIT of MEASURE]: 10 gal/hour

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	N	N	N	N	Y	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Part A App	EPA	07/08/92	/ /

OTHER INFORMATION
Design capacity = 10 gal/hr.
Approximate annual throughput achievable = 1800 gal.
SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

REQUIREMENTS FOR USE OF EXISTING SYSTEMS
Approval of the treatability study.
OTHER PERMIT LIMITATIONS & COMMENTS
Permitted to treat waste generated on site only.

Permit status is uncertain with the State of California. This system is not included in the March 1989 Part A application Interim Status authority to operate. It is included in the July 1992 amendment which has not been approved and therefore is considered as a non-approved activity according to DTSC interpretation.

TECHNOLOGY	MATRIX
Neutralization	Aqueous Liquids
	Reactive Metals

Information Developed to Facilitate Identification of Potential Treatment Options Date: 10/20/93

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Energy Technology Engineering Center
FACILITY: Radioactive Materials Disposal Facility
SYSTEM: 00509, Thermal Treatment
CONTACT: B. Bassat 818-586-5556

ADS NUMBER:
STATUS: Planned Unapproved

	DESIGN	PERMIT
M3/YR	1200	1200

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	N	Y	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Part A App	EPA	07/08/92	/ /

OTHER INFORMATION
Design capacity = 800 gal/day.
Plan date of operation = FY94.
SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM
Commercially available, turn key operation. Pending approval of State of California (DTSC) for construction, operating and air permits. Expect that facility will be operational by May, 1994.
OTHER PERMIT LIMITATIONS & COMMENTS
Permitted to treat waste generated on site only.

Permit status is uncertain with the State of California. This facility is not included in the March 1989 Part A application Interim Status authority to operate. It is included in the July 1992 amendment which has not been approved and therefore is considered as a non-approved activity.

TECHNOLOGY	MATRIX
Phase Separation	Soil with <50% Debris
Soil Washing	Soils
Stabilization	Soil with <50% Debris Soils
Thermal Destruction	Soil with <50% Debris Soils
Unspecified	Liquid Mercury

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Envirocare of Utah, Clive, UT
FACILITY: Envirocare Treatment & Disposal Facility
SYSTEM: 00516, Treatment & Disposal Facility
CONTACT: Sue Rice 801-532-1330

	DESIGN	PERMIT
M3/YR	0	0

System Capacity

ADS NUMBER:
STATUS: Existing Operating Commercial

HLW	LLW	TRU	-TRU- ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	Y	Y	Y	Y	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Final		/ /	/ /

OTHER INFORMATION
Approximate annual throughput achievable = 45,000 tons/yr.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Envirocare's license amendment for this treatment is pending. License issuance is scheduled for October 1993.

Envirocare also has the capability of disposing of mixed waste based on its RCRA Part B for disposal.

Treatment limitations: Envirocare will treat solid phase waste. No liquid treatment.

TECHNOLOGY	MATRIX
Stabilization	Organic Sludges/Particulates
	Inorganic Sludges/Particulates
	Cemented Solids
	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
	Soil with <50% Debris
	Soils
	Reactive Metals
	Elemental Lead
	Beryllium Dust
	Calcine Solids
	Inorganic Solids
	Organic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Fernald Environmental Management Project				
FACILITY:	Minimum Additive Waste Stabilization Facility				
SYSTEM:	00350, Minimum Additive Waste Stabilization Facility		M3/YR	40000	0
CONTACT:	Barry Ko	513-738-6786			
				System Capacity	

ADS NUMBER: 49-82
STATUS: Planned Unapproved

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N		CH		N			

OTHER INFORMATION

Information needed for this section is still being investigated and will become available as treatability studies progress towards completion.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

In July 1990, the EPA and the DOE entered into a Consent Agreement establishing milestone schedules for the completion of necessary studies to support the CERCLA clean-up process. The agreement also established schedules for implementing near-term clean-up actions while final clean-up solutions were being evaluated and selected. In September 1991, the DOE and EPA jointly signed the Amended Consent Agreement establishing revised milestones for the completion of the required studies and identifying a series of new, near-term actions for implementation by DOE. As part of the CERCLA RI/FS process, the prescribed RCRA LDR technologies will be evaluated along with other potential technologies and general response actions (institutional controls, containment, disposal). The preferred technologies will be selected for the final remedial action.

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM

Conducting treatability study (pilot scale study).

OTHER PERMIT LIMITATIONS & COMMENTS

Facility/system being developed pursuant to CERCLA agreement - no permit required.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

1988 Consent Decree states that offsite waste cannot be treated at the FEMP without prior approval of the State of Ohio. Thus, the FEMP is planning to only treat FEMP waste streams at this time.

TECHNOLOGY	MATRIX
Vitrification	Organic Sludges/Particulates
	Inorganic Sludges/Particulates
	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
	Soil with <50% Debris
	Soils
	Calcine Solids
	Inorganic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Fernald Environmental Management Project				
FACILITY:	Plant 8 VOC Treatment System				
SYSTEM:	00550, Plant 8 VOC Treatment System		M3/YR	23862	0
CONTACT:	Barry Ke	513-738-6786			
				System Capacity	

ADS NUMBER:

STATUS: Existing Could be used for mixed waste

			-TRU-						RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS		IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N		CM		Y				

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

REQUIREMENTS FOR USE OF EXISTING SYSTEMS

The remedial action workplan would have to be revised and approved by USEPA; RCRA treatment permit would have to be approved by OEPA; NPDES permit may have to be changed.

OTHER PERMIT LIMITATIONS & COMMENTS

System is being operated pursuant to CERCLA agreement - no permit required.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Unit is operated as a CERCLA removal action for perched water pursuant to the Amended Consent Agreement. The FEMP is not planning to obtain a RCRA treatment permit. The 1988 Consent Decree states that offsite waste cannot be treated at the FEMP without prior approval of the State of Ohio. Thus, the FEMP is planning to only treat FEMP waste streams at this time.

TECHNOLOGY	MATRIX
Carbon Adsorption	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Fernald Environmental Management Project				
FACILITY:	Rotary Kiln				
SYSTEM:	00513, Rotary Kiln		M3/YR	0	0
CONTACT:	Barry Ko	513-738-6786			

System Capacity

ADS NUMBER: 16-C3
STATUS: Existing Could be used for mixed waste

-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA HANDLING	METALS MERCURY ORGANICS	IGNITABLE	CORROSIVE	REACTIVE

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
CAA	PTO	OEPA	03/02/90	/ /

OTHER INFORMATION
Design capacity = 3,800,000 kg/yr.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Performance testing can be done, but full operation will require approval of air pollution control permit. Will be used to dry only non-RCRA radiological residues. The rotary kiln is to be used for drying/oxidizing so material can be shipped. It is not an incinerator.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS
There are no plans to treat mixed waste in this facility. RCRA permit would be required to treat mixed wastes.

OTHER PERMIT LIMITATIONS & COMMENTS
Facility does not have a permit to treat hazardous waste or mixed waste.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
1988 Consent Decree states that offsite waste cannot be treated at the FEMP without prior approval of the State of Ohio. Thus, the FEMP is planning to only treat FEMP waste streams at this time.

TECHNOLOGY	MATRIX
Evaporation	Unspecified

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Fernald Environmental Management Project				
FACILITY:	Soil Washing Process Facility				
SYSTEM:	00358, Soil Washing Process Facility		M3/YR	90000	0
CONTACT:	Barry Ko	513-738-6786			
				System Capacity	

ADS NUMBER:

STATUS: Planned Unapproved

		-TRU-						RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH						

OTHER INFORMATION

Pilot plant design capacity = 1.58 x 10E8 kg/yr.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

In July 1990, the EPA and the DOE entered into a Consent Agreement establishing milestone schedules for the completion of necessary studies to support the CERCLA clean-up process. The agreement also established schedules for implementing near-term clean-up actions while final clean-up solutions were being evaluated and selected. In September 1991, the DOE and EPA jointly signed the Amended Consent Agreement establishing revised milestones for the completion of the required studies and identifying a series of new, near-term actions for implementation by DOE. As part of the CERCLA RI/FS process, the prescribed RCRA LDR technologies will be evaluated along with other potential technologies and general response actions (institutional controls, containment, disposal). The preferred technologies will be selected for the final remedial action.

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM

Conducting treatability study (pilot scale study).

OTHER PERMIT LIMITATIONS & COMMENTS

Facility/system being developed pursuant to CERCLA agreement - no permit required.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

1988 Consent Decree states that offsite waste cannot be treated at the FEMP without prior approval of the State of Ohio. Thus, the FEMP is planning to only treat FEMP waste streams at the time.

TECHNOLOGY	MATRIX
Soil Washing	Soil with <50% Debris
	Soils

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Fernald Environmental Management Project				
FACILITY:	UNH Treatment Facility				
SYSTEM:	00347, UNH Treatment Facility		M3/YR	765	0
CONTACT:	Barry Ko	513-738-6786			
				System Capacity	

ADS NUMBER:

STATUS: Existing Could be used for mixed waste

			-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	N	N	N	N	Y	N

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Operation of this unit has been suspended since April 1993, pending further investigation.

OTHER PERMIT LIMITATIONS & COMMENTS

Facility/system being operated pursuant to CERCLA agreement - no permit required. RCRA or NPDES permit modification may be required to treat mixed waste streams other than those specified in CERCLA workplan.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

1988 Consent Decree states that offsite waste cannot be treated at the FEMP without prior approval of the State of Ohio. Thus, the FEMP is planning to only treat specific FEMP waste streams at this time.

TECHNOLOGY	MATRIX
Filtration	Aqueous Liquids
Neutralization	Aqueous Liquids
Precipitation	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Hanford Site
FACILITY: 242-A Evaporator
SYSTEM: 00123, 242-A Evaporator
CONTACT: Dale Black 509-376-8458

	DESIGN	PERMIT
M3/YR	0	0

System Capacity

ADS NUMBER: 1260
STATUS: Existing Could be used for mixed waste

PERMIT [Other UNIT of MEASURE]: 11.4 m3/hour

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
Y	Y	Y	Y	RH	N	N	N	N	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Part B App	WA DOE	06/26/91	/ /
WAC246/247	Registratn	DOH	07/28/93	/ /

OTHER INFORMATION
Design capacity = 11.4 m3/hr. Restart - FY94. Tank waste only.
SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

REQUIREMENTS FOR USE OF EXISTING SYSTEMS
Expected to begin operation in FY 94 (will treat Hanford's radioactive tank wastes).
OTHER PERMIT LIMITATIONS & COMMENTS
WAC 246/247 is Radioactive Air Emission Permit, issued by Department of Health.
RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
Required under Tri-Party Agreement Milestone M-17.

TECHNOLOGY	MATRIX
Evaporation	Organic Liquids
	Aqueous Liquids
Ion Exchange	Organic Liquids
	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Hanford Site

FACILITY: 242-A/Purex Effluent Treatment Facility

SYSTEM: 00129, Effluent Treatment Facility

CONTACT:

		DESIGN	PERMIT
M3/YR		0	0

System Capacity

ADS NUMBER: 2300

PERMIT [Other UNIT of MEASURE]: 17 m3/hour

STATUS: Planned Approved

KEY DECISION STATUS: KD-3 DATE STATUS ACHIEVED: 08/01/92 CONSTRUCTION COMPLETION DATE: 06/94

		-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	Y	CH	Y	N	Y	Y	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Part B App	WA DOE	06/26/91	/ /

OTHER INFORMATION

Design capacity = 17 m3/hr. Plan date operation = FY94.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

None identified.

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM

Under construction. Hot startup required by 10/94.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Required by TPA milestone M-17-14.

TECHNOLOGY	MATRIX
Drying	Aqueous Liquids
Evaporation	Aqueous Liquids
Filtration	Aqueous Liquids
Ion Exchange	Aqueous Liquids
Reverse Osmosis	Aqueous Liquids
Oxidation	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Hanford Site

FACILITY: 300 Area Waste Acid Treatment System

SYSTEM: 00533, Chromium Reduction

CONTACT:

ADS NUMBER:

STATUS: Existing Could be used for mixed waste

		DESIGN	PERMIT
	M3/YR	0	1000

System Capacity

PERMIT [Other UNIT of MEASURE]: .03 m3/hour

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	N	N	N	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Closure	WA DOE	06/29/90	/ /

OTHER INFORMATION

Approximate annual throughput achievable = 1,000 to 1,000,000 kg/yr. Design capacity = 0.03 m3/hr.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Non-operational. Permit status is closure.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS

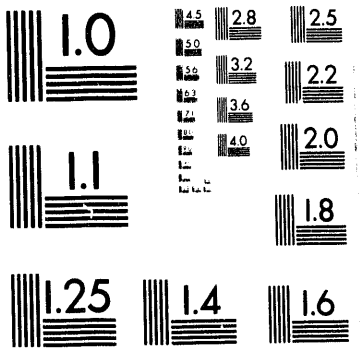
Revise RCRA closure permit application to treatment and obtain State approval.

Revise Tri-Party agreement.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Closure plan was required by TPA milestone M-20.

TECHNOLOGY	MATRIX
Chromium Reduction	Aqueous Liquids


1.0
2.8
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1.8
1.25
1.4
1.6

2 of 3

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

			DESIGN	PERMIT
SITE:	Hanford Site			
FACILITY:	300 Area Waste Acid Treatment System			
SYSTEM:	00534, pH Adjustment, Centrifugation and Filtration	M3/YR	0	1000
CONTACT:				
			System Capacity	

ADS NUMBER:

STATUS: Existing Could be used for mixed waste

		-TRU-						RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	N	N	N	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Closure	WA DOE	06/29/90	/ /

OTHER INFORMATION

Approximate annual throughput achievable = 1,000,000 kg/yr.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Non-operational. Permit status is closure. Residual waste may still remain in the centrifuge unit processes.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS

Revise RCRA closure permit application to treatment and obtain State approval.
Revise TPA.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Closure plan was required by TPA milestone M-20.

TECHNOLOGY	MATRIX
Centrifugation	Aqueous Liquids
Filtration	Aqueous Liquids
Neutralization	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Hanford Site
FACILITY: 303-M Oxide Facility
SYSTEM: 00535, Calcination
CONTACT:

ADS NUMBER:
STATUS: Existing Could be used for mixed waste

		DESIGN	PERMIT
	M3/YR	0	0

System Capacity
PERMIT [Other UNIT of MEASURE]: 91 kg/hour

		-TRU-						RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	N	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Part B App	WA DOE	05/19/88	/ /

OTHER INFORMATION
Design capacity = 91 kg/hr.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Non-operational. Facility was used to treat uranium and zirconium fines which resulted from the fuel fabrication process.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS
Obtain RCRA operating permit, currently non-operational.

TECHNOLOGY	MATRIX
Calcination	Beryllium Dust

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Hanford Site
FACILITY: Concretion Facility
SYSTEM: 00536, Solidification
CONTACT:

ADS NUMBER:
STATUS: Existing Could be used for mixed waste

	DESIGN	PERMIT
M3/YR	0	0

System Capacity
PERMIT [Other UNIT of MEASURE]: .09 m3/hour

			-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CM	Y	N	N	Y	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Closure	WA DOE	06/21/90	/ /

OTHER INFORMATION
Design capacity = 0.09 m3/hr.
SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Non-operational. Permit status is closure.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS
Revise RCRA closure permit application to treatment and obtain State approval.
Revise TPA.
RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
Closure plan required by TPA M-20.

TECHNOLOGY	MATRIX
Solidification	Inorganic Sludges/Particulates
	Inorganic Debris
	Beryllium Dust
	Inorganic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Hanford Site
FACILITY: Grout Treatment Facility
SYSTEM: 00121, Grout Treatment Facility
CONTACT: Dale Black 509-376-8458

ADS NUMBER: 1230
STATUS: Existing Could be used for mixed waste

	DESIGN	PERMIT
M3/YR	15000	0

System Capacity
PERMIT [Other UNIT of MEASURE]: 4 million gal/y

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	RH	Y	N	Y	Y	Y	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Part B App	WA DOE	07/22/92	/ /
WAC246/247	Registratn	DOH	07/28/93	/ /

OTHER INFORMATION
Design capacity = 4 million gal/yr. Restart - FY94. Likely to be terminated as a result of renegotiated TPA. Rebaseline will be performed mid FY94. Tank waste only.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

REQUIREMENTS FOR USE OF EXISTING SYSTEMS
State/EPA approval; renegotiate expected changes to TPA.

OTHER PERMIT LIMITATIONS & COMMENTS
WAC 246/247 is the Radioactive Air Emission Permit.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
Currently required by TPA milestone M-01. Renegotiations on TPA, currently underway, are expected to cancel operation of this facility and replace it with a second vitrification plant for low-level waste.

TECHNOLOGY	MATRIX
Stabilization	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Hanford Site
FACILITY: Hanford Waste Vitrification Plant
SYSTEM: 00126, Hanford Waste Vitrification Plant
CONTACT: Dale Black 509-376-8458

		DESIGN	PERMIT
M3/YR		1200	1200
System Capacity			

ADS NUMBER: 1240
STATUS: Planned Approved
KEY DECISION STATUS: KD-4 DATE STATUS ACHIEVED: 03/01/93 CONSTRUCTION COMPLETION DATE: 12/98

		-TRU-						RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
Y	Y	Y	Y	RH	Y	N	Y	Y	Y	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Part B App	WA DOE	10/01/91	/ /
CAA	Rad.	WA DOH	03/19/93	/ /
CAA	Non. Rad.	WA DOE	/ /	/ /

OTHER INFORMATION
Plan date operation - FY99. Tank waste only.
SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM
On hold pending renegotiation of TPA. Likely to be delayed until 2009 due to renegotiated TPA. Rebaseline will be performed mid FY94.
OTHER PERMIT LIMITATIONS & COMMENTS
CAA permit types are Notice of Construction - Rad and Non-Rad. The Non-Rad permit has been submitted, but not approved.
RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
Required by TPA milestone M-03, currently being renegotiated. TPA stipulates construction completion in 1998.

TECHNOLOGY
Vitrification

MATRIX
Aqueous Liquids
Inorganic Sludges/Particulates

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Hanford Site

FACILITY: Maintenance & Storage Facility

SYSTEM: 00119, Maintenance & Storage Facility

CONTACT: Dale Black 509-376-8458

ADS NUMBER:

STATUS: Existing Could be used for mixed waste

		DESIGN	PERMIT
	M3/YR	0	0

System Capacity

PERMIT [Other UNIT of MEASURE]: 0.08 m3/hour

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	CM	N	N	N	N	N	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Part B App	WA DOE	11/16/87	/ /
WAC246/247	Registratn	DOH	07/28/93	/ /

OTHER INFORMATION

Construction complete.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

REQUIREMENTS FOR USE OF EXISTING SYSTEMS

Approval of permit application. Note that facility capacity is very small.

OTHER PERMIT LIMITATIONS & COMMENTS

WAC 246/247 is the Radioactive Air Emission permit.

TECHNOLOGY	MATRIX
Water Reaction	Reactive Metals

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Hanford Site
FACILITY: Mixed Waste Treatment Facility
SYSTEM: 00537, Separation, Distillation
CONTACT:

ADS NUMBER:
STATUS: Existing Could be used for mixed waste

	DESIGN	PERMIT
M3/YR	20	20

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	Y	B	Y	N	Y	Y	Y	N

OTHER INFORMATION
Construction complete.
SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

REQUIREMENTS FOR USE OF EXISTING SYSTEMS
Prepare and obtain RCRA permit approval.
OTHER PERMIT LIMITATIONS & COMMENTS
This is a pilot plant-type operation (operated by PNL).

TECHNOLOGY	MATRIX
Distillation	Aqueous Liquids
	Inorganic Sludges/Particulates
Separation	Aqueous Liquids
	Inorganic Sludges/Particulates

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Hanford Site				
FACILITY:	Pu Finishing Plant Water Disposal				
SYSTEM:	00538, Filtration, Ion Exchange, and Activated Charcoal		M3/YR	30000	30000
CONTACT:	Don McBride	509-373-5698			
				System Capacity	

ADS NUMBER:

STATUS: Existing Could be used for mixed waste

		-TRU-						RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	Y	CH	Y	N	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
WAC246/247	Registratn	DOH	07/28/93	/ /

OTHER INFORMATION

Start up - FY94.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Not permitted to treat mixed wastes.

Design is limited to pretreatment of plant effluent prior to discharge to the 216-Z-20 crib.

In June, 1995, the effluent will be discharged to the 200 Area Treated Effluent Disposal Facility.

The facility can only accept trace organics and trace metals.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS

Permit for mixed waste treatment.

OTHER PERMIT LIMITATIONS & COMMENTS

Design is limited to pretreatment of plant effluent prior to discharge to 216-Z-20 crib.

TECHNOLOGY	MATRIX
Carbon Adsorption	Aqueous Liquids
Filtration	Aqueous Liquids
Ion Exchange	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Hanford Site
FACILITY: Thermal Treatment Facility
SYSTEM: 00532, Incineration
CONTACT: B.G. Place 509-372-1372

ADS NUMBER: 2250
STATUS: Planned Unapproved

	DESIGN	PERMIT
KG/YR	550	0

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	N	B	N	N	Y	Y	Y	N

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Free liquids are presently not accepted for storage at Hanford.

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM
Needed for treatment of some wastes.

Previous project accomplishments: (1) Engineering Study (Technology Assessment) completed: FY 92; (2) Hazard Classification completed: FY 93; (3) Engineering Study (Site-Specific Facility) draft completed in FY 93 but not approved; and (4) FDC draft completed in FY 93 but not approved.

Current FY 94 activities: Waste characterization of RMW; Privatization of thermal treatment; and Complete Engineering Safety Study.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
No direct tie to TPA. However, a facility such as this will be needed to treat some cleanup wastes that will be generated due to compliance with the TPA.

TECHNOLOGY	MATRIX
Incineration	Organic Liquids
	Aqueous Liquids
	Organic Sludges/Particulates
	Inorganic Sludges/Particulates
	Lab Packs with Metals
	Lab Packs without Metals
	Explosives
	Batteries (Lead Acid, Cadmium)

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Hanford Site
FACILITY: Waste Receiving And Processing Facility
SYSTEM: 00325, WRAP I
CONTACT: Dale Black 509-376-8458

ADS NUMBER: 2220
STATUS: Planned Approved
KEY DECISION STATUS: KD-2 DATE STATUS ACHIEVED: 02/01/91 CONSTRUCTION COMPLETION DATE: 12/96

	DESIGN	PERMIT
M3/YR	1400	1400

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	CH	N	N	N	N	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Part B	WA DOE	10/31/91	/ /
WAC173-460	NOC	WA DOE	03/30/93	/ /
WAC246/247	NOC	DOH	03/30/93	09/07/93
NESHAPS	NOC	EPA	04/02/93	05/10/93

OTHER INFORMATION
Pretreatment only. Prepares retrieved/stored TRU and LLW for disposal. Plan date operation - FY97.
SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM
Title II Design is completed. Bid package preparation has been initiated for construction. Breaking ground/starting construction in Nov. 1993 is expected.
OTHER PERMIT LIMITATIONS & COMMENTS
WAC 173-460 is the Toxic Air Pollutants permit. WAC 246/247 is the Radioactive Air Emission permit. NESHAPS regulation is 40 CFR 61.07.
RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
Required by TPA milestone M-18.

TECHNOLOGY	MATRIX
Adsorption	Organic Liquids Aqueous Liquids Inorganic Debris Heterogeneous Debris
Compaction	Organic Debris Inorganic Debris
Packaging	Organic Debris Inorganic Debris Heterogeneous Debris
Stabilization	Organic Liquids Aqueous Liquids Organic Debris Heterogeneous Debris

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Hanford Site
FACILITY: Waste Receiving And Processing Facility
SYSTEM: 00326, WRAP II A & B
CONTACT: Owen Kruger 509-372-1463

	DESIGN	PERMIT
M3/YR	1500	1500

System Capacity

ADS NUMBER: 2230
STATUS: Planned Approved
KEY DECISION STATUS: KD-0 DATE STATUS ACHIEVED: / / CONSTRUCTION COMPLETION DATE: /

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	N	B	Y	Y	Y	Y	Y	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Part B App	WA DOE	10/31/91	/ /
CAA	NOC	WA DOE	/ /	/ /

OTHER INFORMATION
Design capacity = 1500 m3/yr LLW or 1100 m3/yr TRU

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
a.Free liquids are not presently accepted for storage at Hanford.
b.Cannot treat ignitable/reactives (except waste containing potassium and sodium)
c.Cannot accept low TOC ignitable liquids.
d.Oxidizers are generally acceptable however, large quantities of ignitables/oxidizers are not acceptable (particularly perchlorates).
e.Reactive metals excludes highly reactive wastes.

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM
Conceptual design work is complete for WRAP IIA. KD-1 will be obtained for WRAP IIA in December 1993.

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM
WRAP IIB is being evaluated in site-wide integration plan.

OTHER PERMIT LIMITATIONS & COMMENTS
The WRAP II concept has been approved by the State & EPA. However, the split into Parts A & B is not yet approved. (change request submitted).

The CAA Notice of Construction (NOC) is not yet submitted.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
Required by TPA milestone M-19. The facility is required by the TPA and needed for site cleanup.

TECHNOLOGY	MATRIX
Grouting	Organic Liquids
	Aqueous Liquids
	Organic Sludges/Particulates
	Inorganic Sludges/Particulates
	Cemented Solids
	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
	Soil with <50% Debris
	Soils
	Lab Packs with Metals
	Lab Packs without Metals

Information Developed to Facilitate Identification of Potential Treatment Options Date: 10/20/93

	Reactive Metals
	Liquid Mercury
	Elemental Lead
	Beryllium Dust
	Batteries (Lead Acid, Cadmium)
	Calcine Solids
	Inorganic Solids
	Organic Solids
Macroencapsulation	Organic Liquids
	Aqueous Liquids
	Organic Sludges/Particulates
	Cemented Solids
	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
	Soil with <50% Debris
	Soils
	Lab Packs with Metals
	Lab Packs without Metals
	Reactive Metals
	Liquid Mercury
	Elemental Lead
	Beryllium Dust
	Batteries (Lead Acid, Cadmium)
	Calcine Solids
	Inorganic Solids
	Organic Solids
Solidification	Organic Liquids
	Aqueous Liquids
	Organic Sludges/Particulates
	Inorganic Sludges/Particulates
	Cemented Solids
	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
	Soil with <50% Debris
	Soils
	Lab Packs with Metals
	Lab Packs without Metals
	Reactive Metals
	Liquid Mercury
	Elemental Lead
	Beryllium Dust
	Batteries (Lead Acid, Cadmium)
	Calcine Solids
	Inorganic Solids
	Organic Solids
Stabilization	Organic Liquids
	Aqueous Liquids
	Organic Sludges/Particulates
	Inorganic Sludges/Particulates
	Cemented Solids

Organic Debris
Inorganic Debris
Heterogeneous Debris
Soil with <50% Debris
Soils
Lab Packs with Metals
Lab Packs without Metals
Reactive Metals
Liquid Mercury
Elemental Lead
Beryllium Dust
Batteries (Lead Acid, Cadmium)
Calcine Solids
Inorganic Solids
Organic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Idaho National Engineering Laboratory
FACILITY: HEPA Filter Leaching System (CPP-659)
SYSTEM: 00Z38, HEPA Filter Leaching System (CPP-659)
CONTACT: Keith Kristofferson 208-526-9363

		DESIGN	PERMIT
		System Capacity	
M3/YR		83	83

ADS NUMBER: 1001WN
STATUS: Existing Could be used for mixed waste

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
Y	Y	Y	Y	B	Y	Y	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Part B	State	05/01/93	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
"B" under Handling means Both CH and RH.

The HEPA Filter Leaching System (HFLS) must obtain a regulatory determination under the Debris Rule to allow the treated filters to be disposed of as LLW. The testing of the system will start in approximately 1/94 with the State of Idaho's regulatory determination based on the sample results by 6/94. Testing of the system will begin when the State accepts the waste analysis plan for the HFLS. Therefore, it is uncertain if the LDR treatment standards will be met by this treatment for some of the contaminants listed above.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS
System testing using mixed waste. Development of analytical technologies to analyze treated waste. Determination from State concerning insoluble organic constituents. Installation of new equipment to optimize throughput and incorporate system testing input.

OTHER PERMIT LIMITATIONS & COMMENTS
Currently no air permits required. However, will be included in the Permit to Operate (PTO) for INEL. The PTO will address all air emissions at INEL. Submittal of application unknown at this time. This facility does not operate 24 hours/day, 365 days/year. Assume specific gravity of 1.0.
1.0 x 60 gal/day x (3.785 x 10E-3) x 365 days/yr = 82.8915 m3/year.

TECHNOLOGY	MATRIX
Chemical Extraction	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
	Inorganic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Idaho National Engineering Laboratory
FACILITY: ICPP Decontamination Facility
SYSTEM: 00257, Unit2: CO2 Decontamination System
CONTACT: Keith Kristofferson 208-526-9363

	DESIGN	PERMIT
M3/YR	0	0
System Capacity		

ADS NUMBER: 1008MN
STATUS: Planned Approved
KEY DECISION STATUS: KD-0 DATE STATUS ACHIEVED: 05/01/93 CONSTRUCTION COMPLETION DATE: 09/94

			-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
Y	Y	N	Y	B	Y	Y	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State	02/01/93	/ /

OTHER INFORMATION
Design and permit capacities are to be determined.
Startup - FY94.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
"B" under Handling means both CH and RH. Presently the limitations of the facility are not known until testing is complete in late FY 94. Therefore, it is not known if the system can treat debris below LDR standards in all cases.

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM
Technology demonstration operations in progress. Facility status is based on success of demonstration operations. There are no key decisions to be made. The technology demonstration is part of the conceptual design. Based on the results of the demonstration, the design will be finalized and the equipment installed.

OTHER PERMIT LIMITATIONS & COMMENTS
Request for Interim status sent 02/93.

This currently is a demonstration project. No air permits identified for this activity at this time. RCRA Part A permit modification has been submitted which identifies this treatment unit as "CPP-659 NWCF Decontamination Area Debris Treatment and Containment Storage Area." Until this modification is approved, debris treatment will proceed on a less than 90 day basis as allowed by 40 CFR 262.34. This request for interim status indicates a total treatment capacity for the ICPP Decon Facility of 10 m3/day. There is no break-down for individual treatments which may occur in the ICPP Decon Facility. This facility does not operate 365 days/year, 24 hours/day. Presently the limitations of the facility are not known until testing is complete in late FY 94.

TECHNOLOGY	MATRIX
CO2 Decontamination	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
	Elemental Lead
	Inorganic Solids
	Organic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Idaho National Engineering Laboratory
FACILITY: ICPP Decontamination Facility
SYSTEM: 00303, Water Washing System
CONTACT: Keith Kristofferson 208-526-9396

ADS NUMBER:
STATUS: Existing Operating

System Capacity	DESIGN	PERMIT
M3/YR	0	0

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
Y	Y	Y	Y	B	Y	Y	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State	02/01/93	/ /

OTHER INFORMATION
Design and permit capacities are to be determined.
Startup - FY94.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
"B" under Handling means Both RH and CH. The limitations of the facility are not known until testing is complete in late FY 94. Therefore, it is not known if the system can treat debris below LDR standards in all cases.

OTHER PERMIT LIMITATIONS & COMMENTS
Request for Interim status sent 02/93.

No air permits identified for this activity at this time. RCRA Part A modification has been submitted which identifies this treatment unit as "CPP-659 NWCF Decontamination Area Debris Treatment and Containment Storage Area." Until the modification is approved, debris treatment will proceed on a less than 90 day basis as allowed by 40 CFR 262.34. The request for interim status indicates a total treatment capacity for the ICPP Decon Facility of 10 m3/day. There is no break-down for individual treatments which may occur in the ICPP Decon Facility. This facility does not operate 365 days/year, 24 hours/day. The limitations of the facility are not known until testing is completed in late FY 94.

TECHNOLOGY
Water Washing

MATRIX
Organic Debris
Inorganic Debris
Heterogeneous Debris
Elemental Lead
Inorganic Solids
Organic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Idaho National Engineering Laboratory

FACILITY: INEL Waste Generator Treatment

SYSTEM: 00244, INEL Generator Treatment Under 40 CFR 262.34

CONTACT: Jack Depperschmidt 208-526-5053

	DESIGN	PERMIT
M3/YR	0	0
System Capacity		

ADS NUMBER:

STATUS: Existing Operating

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	Y	CH	Y	Y	Y	Y	Y	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	262.34	State	/ /	/ /

OTHER INFORMATION

Design capacity is developed and implemented on an as needed basis.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Generator treatment is acceptable for treatment of waste by the generator under 40 CFR 262.34 limitations. Waste from other sites is not acceptable for treatment under these plans.

OTHER PERMIT LIMITATIONS & COMMENTS

Waste cannot be accepted from offsite facilities. INEL Generator Treatments under 40 CFR 262.34 is applicable only to treatment of wastes as it is generated or accumulated prior to shipment or storage. For each individual process, a 30-day notice and waste analysis plan must be supplied to the regulator.

TECHNOLOGY	MATRIX
Ion Exchange	Aqueous Liquids
Macroencapsulation	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
	Elemental Lead
Neutralization	Aqueous Liquids
Stabilization	Aqueous Liquids
	Inorganic Sludges/Particulates
	Inorganic Debris
	Heterogeneous Debris
	Soil with <50% Debris
	Soils

Information Developed to Facilitate Identification of Potential Treatment Options Date: 10/20/93

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Idaho National Engineering Laboratory
FACILITY: Idaho Waste Processing Facility
SYSTEM: 00551, Amalgamation
CONTACT: Dave Eaton 208-526-7002

ADS NUMBER: 4302
STATUS: Planned Unapproved

	DESIGN	PERMIT
M3/YR	0	0

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	B	N	Y	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Part B	State	01/01/99	/ /

OTHER INFORMATION
Small volumes of remote handled material may be accepted on a case by case basis.

Design and permit capacities are to be determined.
SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM
Feasibility studies.

TECHNOLOGY	MATRIX
Amalgamation	Liquid Mercury

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Idaho National Engineering Laboratory
FACILITY: Idaho Waste Processing Facility
SYSTEM: 00304, Debris Decontamination System
CONTACT: Dave Eaton 208-526-7002

ADS NUMBER: 4302
STATUS: Planned Unapproved

	DESIGN	PERMIT
M3/YR	0	0

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	B	Y	Y	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Part B	State	01/01/99	/ /

OTHER INFORMATION

Small volumes of remote handled material may be accepted on a case by case basis.

Design and permit capacities are to be determined.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM

Feasibility studies.

TECHNOLOGY

Decontamination

MATRIX

Organic Debris
Inorganic Debris
Heterogeneous Debris
Elemental Lead

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Idaho National Engineering Laboratory
FACILITY: Idaho Waste Processing Facility
SYSTEM: 00335, Macroencapsulation System
CONTACT: Dave Eaton 208-526-7002

ADS NUMBER: 4302
STATUS: Planned Unapproved

	DESIGN	PERMIT
M3/YR	0	0

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	B	Y	Y	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Part B	State	01/01/99	/ /

OTHER INFORMATION
Small volumes of remote handled material may be accepted on a case by case basis.

Design and permit capacities are to be determined.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM
Feasibility studies.

TECHNOLOGY	MATRIX
Macroencapsulation	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
	Elemental Lead

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Idaho National Engineering Laboratory
FACILITY: Idaho Waste Processing Facility
SYSTEM: 00504, Sizing System
CONTACT: Dave Eaton 208-526-7002

ADS NUMBER: 4302
STATUS: Planned Unapproved

	DESIGN	PERMIT
KG/YR	0	0

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	B	N	N	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA/TSCA	Part B	State	01/01/99	/ /

OTHER INFORMATION
Design and permit capacities to be determined.
SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM
Feasibility studies.

TECHNOLOGY
Size Reduction

MATRIX
Organic Debris
Inorganic Debris
Heterogeneous Debris
Elemental Lead

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Idaho National Engineering Laboratory
FACILITY: Idaho Waste Processing Facility
SYSTEM: 00336, Stabilization System
CONTACT: Dave Eaton 208-526-7002

ADS NUMBER: 4302
STATUS: Planned Unapproved

	DESIGN	PERMIT
M3/YR	0	0

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	B	Y	Y	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA/TSCA	Part B	State	01/01/99	/ /

OTHER INFORMATION
Small volumes of remote handled material may be accepted on a case by case basis.

Design and permit capacities are to be determined.
SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM
Feasibility studies.

TECHNOLOGY	MATRIX
Stabilization	Aqueous Liquids
	Inorganic Sludges/Particulates
	Cemented Solids
	Inorganic Debris
	Heterogeneous Debris
	Soil with <50% Debris
	Soils
	Inorganic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Idaho National Engineering Laboratory
FACILITY: Idaho Waste Processing Facility
SYSTEM: 00552, Thermal Desorbtion
CONTACT: Dave Eaton 208-526-7002

ADS NUMBER: 4302
STATUS: Planned Unapproved

	DESIGN	PERMIT
M3/YR	0	0

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	CH	N	N	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Part B	State	01/01/99	/ /

OTHER INFORMATION

Small volumes of remote handled material may be accepted on a case by case basis.

Design and permit capacities are to be determined.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM

Feasibility studies.

TECHNOLOGY

Thermal Desorbtion

MATRIX

Organic Sludges/Particulates
Organic Debris
Heterogeneous Debris
Organic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Idaho National Engineering Laboratory
FACILITY: Idaho Waste Processing Facility
SYSTEM: 00334, Thermal Destruction System
CONTACT: Dave Eaton 208-526-7002

ADS NUMBER: 4302
STATUS: Planned Unapproved

	DESIGN	PERMIT
M3/YR	0	0

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	CH	N	N	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Part B	State	01/01/99	/ /
TSCA	PCB	EPA	01/01/99	/ /

OTHER INFORMATION
Design and permit capacities are to be determined.
SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM
Feasibility studies.

TECHNOLOGY
Incineration

MATRIX
Organic Liquids
Aqueous Liquids
Organic Sludges/Particulates
Organic Debris
Heterogeneous Debris
Lab Packs with Metals
Lab Packs without Metals
Organic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Idaho National Engineering Laboratory
FACILITY: Liquid Effluent Treatment And Disposal (LET&D)
SYSTEM: 00241, Liquid Effluent Treatment And Disposal (LET&D)
CONTACT:

ADS NUMBER:
STATUS: Existing Operating

		DESIGN	PERMIT
		System Capacity	
M3/YR		36472	36472

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	CH	N	N	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Part B	State	05/01/93	/ /
CAA	NESHAP	EPA	03/01/91	/ /
CAA	PSD	State	10/01/93	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Treatment in LET&D in many cases will not meet LDR for some of the contaminants such as the trace quantity of organics which require specified treatment technologies.

OTHER PERMIT LIMITATIONS & COMMENTS

LET&D emissions are also included in the PSD for FPR. The capacity listed is the design capacity listed in the Part A submitted with the LET&D Part B permit application in May 1993.

1.0 x 26,400 gal/day x (3.785 x 10E-3 m3/gal) x 365 days = 36,472 m3/year.

The annual (any consecutive 12 months) cumulative throughput of hazardous waste in the LET&D acid recycle tank shall not exceed 250 tons per year. Note: This is based on operating the two fractionators simultaneously, 24 hours/day. Usually only one fractionator is used at a time and they do not operate every day; only when sufficient feed available. Since FPR will not operate the PSD may be revised. Assume specific gravity of 1.0.

TECHNOLOGY	MATRIX
Chemical Fractionation	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Idaho National Engineering Laboratory				
FACILITY:	Mixed Low-Level Waste Treatment Facility (MLLWTF)				
SYSTEM:	00324, Mixed Low-Level Waste Treatment Facility (MLLWTF)	M3/YR		60	60
CONTACT:					
			System Capacity		

ADS NUMBER: 5-E2
STATUS: Planned Unapproved

		-TRU-						RCRA CHARACTERISTICS		
MLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	Y	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
40CFR-H	NESHAPS	EPA	09/30/98	/ /
CAA	PTC/PSD	State	09/30/00	/ /
40CFR264	RCRA App	State	09/30/00	/ /
40CFR-R	TSCA App	EPA	09/30/00	/ /

OTHER INFORMATION

Restart of WERF is scheduled for FY94. Until the liquid feed system modification are completed, all liquids must be absorbed prior to incineration.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM

The Mixed and Low Level Waste Treatment Facility (MLLWTF) has been thoroughly evaluated by completing a series of pre-conceptual activities. Waste streams have been identified, waste treatment processes have been identified using the Best Demonstrated Available Treatment (BDAT) identified in the EPA regulations. Many treatment options have been evaluated with life cycle costs calculated. Environmental activities have been initiated by submittal of an Environmental Checklist. Because the BDAT for some of the hazardous components is incineration, DOE orders require that an Environmental Impact Statement (EIS) be conducted. Preliminary siting criteria have been developed and studies have been completed with three potential sites identified as being suitable. Additional site specific parameters have been obtained to determine suitability of the identified sites. A final site selection has not been made at this time.

Funding for FY94 and FY95 has been reduced to $0. Several competing activities including the Private Sector Participation Initiative (PSPI) and the Idaho Waste Processing Facility (a DOE-owned and -operated facility) are being evaluated. The project is on hold until these activities have proven to not be suitable. The project will be terminated if these initiatives prove fruitful.

OTHER PERMIT LIMITATIONS & COMMENTS

The permit issuance/application submission dates are the dates of the last planning activity. The project has been delayed at least two years. Consequently, these dates will be slipped based upon project restart.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

This project is not listed in the INEL 180 Day report or the Conceptual Site Treatment Plan as a preferred alternative for any of the mixed wastes at INEL.

TECHNOLOGY	MATRIX
Amalgamation	Liquid Mercury

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

			DESIGN	PERMIT
SITE:	Idaho National Engineering Laboratory			
FACILITY:	Mixed Low-Level Waste Treatment Facility (MLLWTF)			
SYSTEM:	00324, Mixed Low-Level Waste Treatment Facility (MLLWTF)	M3/YR	60	60
CONTACT:				
			System Capacity	

ADS NUMBER: 5-E2

STATUS: Planned Unapproved

MLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	Y	Y	Y	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
40CFR-H	NESHAPS	EPA	09/30/98	/ /
CAA	PTC/PSD	State	09/30/00	/ /
40CFR264	RCRA App	State	09/30/00	/ /
40CFR-R	TSCA App	EPA	09/30/00	/ /

OTHER INFORMATION

Restart of WERF is scheduled for FY94. Until the liquid feed system modifications are completed, all liquids must be absorved prior to incineration.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM

The Mixed and Low Level Waste Treatment Facility (MLLWTF) has been thoroughly evaluated by completing a series of pre-conceptual activities. Waste streams have been identified, waste treatment processes have been identified using the Best Demonstrated Available Treatment (BDAT) identified in the EPA regulations. Many treatment options have been evaluated with life cycle costs calculated. Environmental activities have been initiated by submittal of an Environmental Checklist. Because the BDAT for some of the hazardous components is incineration, DOE orders require that an Environmental Impact Statement (EIS) be conducted. Preliminary siting criteria have been developed and studies have been completed with three potential sites identified as being suitable. Additional site specific parameters have been obtained to determine suitability of the identified sites. A final site selection has not been made at this time.

Funding for FY94 and FY95 has been reduced to $0. Several competing activities including the Private Sector Participation Initiative (PSPI) and the Idaho Waste Processing Facility (a DOE-owned and -operated facility) are being evaluated. The project is on hold until these activities have proven to not be suitable. The project will be terminated if these initiatives prove fruitful.

OTHER PERMIT LIMITATIONS & COMMENTS

The permit issuance/application submission dates are the dates of the last planning activity. The project has been delayed at least two years. Consequently, these dates will be slipped based upon project restart.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

This project is not listed in the INEL 180 Day report or the Conceptual Site Treatment Plan as a preferred alternative for any of the mixed wastes at INEL.

TECHNOLOGY	MATRIX
Chemical Precipitation	Organic Liquids
	Aqueous Liquids
Decontamination	Organic Debris
	Inorganic Debris

Information Developed to Facilitate Identification of Potential Treatment Options Date: 10/20/93

	Heterogeneous Debris
	Elemental Lead
Incineration	Organic Liquids
	Aqueous Liquids
	Organic Sludges/Particulates
	Organic Debris
	Heterogeneous Debris
	Lab Packs with Metals
	Lab Packs without Metals
	Organic Solids
Macroencapsulation	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
	Elemental Lead
	Inorganic Solids
	Organic Solids
Melt Recycling	Elemental Lead
Neutralization	Organic Liquids
	Aqueous Liquids
Sizing	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
	Elemental Lead
	Inorganic Solids
	Organic Solids
Stabilization	Organic Liquids
	Aqueous Liquids
	Organic Sludges/Particulates
	Inorganic Sludges/Particulates
	Cemented Solids
	Heterogeneous Debris
	Soil with <50% Debris
	Soils
	Beryllium Dust
	Inorganic Solids
	Organic Solids
Thermal Desorption	Organic Sludges/Particulates
	Inorganic Sludges/Particulates
	Cemented Solids
	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
	Soil with <50% Debris
	Soils
	Inorganic Solids
	Organic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Idaho National Engineering Laboratory				
FACILITY:	New Waste Calcining Facility				
SYSTEM:	00240, New Waste Calcining Facility		M3/YR	8620	8620
CONTACT:	Keith Kristoffersen 208-526-9363				
				System Capacity	

ADS NUMBER:

STATUS: Existing Operating

			-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
Y	Y	Y	Y	B	N	N	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Part B App	State	10/01/91	/ /
CAA	NESHAP	EPA	10/01/90	/ /
CAA	PSD	State	10/01/93	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

"B" under Handling means both CH and RH.

The aqueous liquid fed to the NWCF must be acidic and the amount of sodium and potassium will not exceed 5.3 mole percent of the feed solution.

Calcination is not the specified technology for LDR High Level Waste, or the specified technology for some of the trace organics in the feed. Deactivation was remanded as LDR treatment.

OTHER PERMIT LIMITATIONS & COMMENTS

The NWCF emissions are included with the NESHAPs for the ICPP Main Stack and the PSD for FPR. Since FPR will not operate the PSD may be revised. Capacity is based upon the design capacity identified in the Part B application submitted 10/91 and a specific gravity of 1.2 for the feed to the facility. The facility does not always operate 24 hours/day, 365 days/year. 5200 gal/day x (3.785 x 10E-3 m3/gal) x 365 days/year x 1.2. Air permit requirements; current NOx emissions limits are 388 pounds in an hour and 1700 tons per year.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Consent Order for NOV (Docket No. 1090-1-24-6601). Dated 04/03/93, effective date 04/03/92, between DOE and the State of Idaho and approved by EPA. Required operation of NWCF by January 1993, 6 month progress reports, and continued operation every three years until waste tank farm tanks not having adequate secondary containment are empty. NEPA injunction order modifying order of June 28, 1993, issued to DOE, effective 09/21/93. The following is ordered: DOE shall accelerate activities related to the treatment and disposal of high-level radioactive wastes stored at INEL. In support of this: (a) DOE will calcine all high-level liquid radioactive waste that does not contain sodium on or before January 1, 1998; (b) DOE will calcine or otherwise process as much sodium-bearing high-level liquid radioactive waste (sodium liquid waste) as DOE and the State of Idaho mutually agree is practicable by January 1, 1998; (c) DOE will identify a limited number of potential technologies to calcine or process sodium liquid waste on or before November 15, 1993, and thereafter evaluate and conduct tests to determine the viability of the competing technologies; (d) DOE will select a technology for calcining or processing sodium liquid waste, including a pretreatment technology (if appropriate), in conjunction with the record of decision for the EIS required by the order entered June 28, 1993; (e) DOE will select a technology for converting calcined waste into an appropriate form for disposal in conjunction with the record of decision for the EIS required by the order entered June 28, 1993; (f) DOE will construct facilities necessary to implement the technologies selected for calcining or processing sodium liquid waste and for converting calcined waste into an appropriate form for disposal in accordance with a schedule to be negotiated with the State of Idaho.

Information Developed to Facilitate Identification of Potential Treatment Options Date: 10/20/93

TECHNOLOGY	MATRIX
Calcination Pretreatment	Aqueous Liquids
	Organic Sludges/Particulates
	Inorganic Sludges/Particulates

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Idaho National Engineering Laboratory				
FACILITY:	Portable Water Treatment System (PWTU)				
SYSTEM:	00239, Portable Water Treatment System (PWTU)		M3/YR	187	187
CONTACT:	Dave Eaton	208-526-7002			
				System Capacity	

ADS NUMBER:

STATUS: Existing Could be used for mixed waste

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	Y	Y	Y	N	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State	01/01/90	/ /
RCRA	Part B App	State	11/01/95	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

REQUIREMENTS FOR USE OF EXISTING SYSTEMS

The PWTU has RCRA interim status. An EA is currently being prepared for the unit. Upon completion of the EA, the PWTU will be available for miscellaneous aqueous mixed waste.

OTHER PERMIT LIMITATIONS & COMMENTS

Awaiting completion of Environmental Assessment.

TECHNOLOGY	MATRIX
Carbon Adsorption	Aqueous Liquids
Filtration	Aqueous Liquids
Ion Exchange	Aqueous Liquids
Neutralization	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Idaho National Engineering Laboratory

FACILITY: Rad. Sodium Waste Processing Facility (RSWPF)

SYSTEM: 00366, Rad. Sodium Waste Processing Facility (RSWPF)

CONTACT: M. T. Wallace 208-533-7902

		DESIGN	PERMIT
System Capacity	M3/YR	0	0

ADS NUMBER: 1601/1605

STATUS: Planned Unapproved

			-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	B	Y	Y	Y	Y	Y	Y

OTHER INFORMATION

Design and permit capacities are to be determined.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM

FY 93 review of conceptual design is in progress. Some FY 94 funding is available to start NEPA documentation preparation. There is no further funding in place at this time.

TECHNOLOGY	MATRIX
Deactivation	Reactive Metals
Water Reaction	Reactive Metals

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Idaho National Engineering Laboratory

FACILITY: TAN 726-A Treatment

SYSTEM: 00254, TAN 726-A Treatment Unit

CONTACT: Dave Eaten 208-526-7002

	DESIGN	PERMIT
M3/YR	126	126

System Capacity

ADS NUMBER:

STATUS: Existing Could be used for mixed waste

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	Y	Y	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State	01/01/87	/ /

OTHER INFORMATION

Restart FY94.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

System to undergo closure in FY94.

OTHER PERMIT LIMITATIONS & COMMENTS

Scheduled to be closed under interim status in FY94.

TECHNOLOGY	MATRIX
Ion Exchange	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Idaho National Engineering Laboratory
FACILITY: WERF Incinerator
SYSTEM: 00251, WERF Incinerator
CONTACT: Dave Eaton 208-526-7002

		DESIGN	PERMIT
M3/YR	49625	49625	

System Capacity

ADS NUMBER:
STATUS: Existing Could be used for mixed waste

HLW	LLW	TRU	-TRU- ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	N	N	Y	Y	N	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State	01/01/85	/ /
RCRA	Part B App	State	10/30/92	/ /

OTHER INFORMATION
Restart - FY94.
SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

REQUIREMENTS FOR USE OF EXISTING SYSTEMS
Awaiting approval of Operational Readiness Review.
OTHER PERMIT LIMITATIONS & COMMENTS
The WERF Environmental Assessment limits the recsipt fo offsite mixed wastes to 5 m3/year.

TECHNOLOGY	MATRIX
Incineration	Organic Liquids
	Aqueous Liquids
	Organic Sludges/Particulates
	Inorganic Sludges/Particulates
	Organic Debris
	Heterogeneous Debris
	Lab Packs with Metals
	Lab Packs without Metals
	Organic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Idaho National Engineering Laboratory				
FACILITY:	WERF Waste Stabilization Unit				
SYSTEM:	00252, WERF Waste Stabilization Unit		M3/YR	2765	2765
CONTACT:	Dave Eaton	208-526-7002			

System Capacity

ADS NUMBER:

STATUS: Existing Could be used for mixed waste

		-TRU-						RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	Y	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State	01/01/85	/ /
RCRA	Part B App	State	10/30/92	/ /

OTHER INFORMATION

Restart - FY94.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

REQUIREMENTS FOR USE OF EXISTING SYSTEMS

Awaiting approval of Operational Readiness Review.

OTHER PERMIT LIMITATIONS & COMMENTS

The WERF Environmental Assessment limits the receipt of offsite mixed waste to 5 m3/year.

TECHNOLOGY	MATRIX
Stabilization	Aqueous Liquids
	Inorganic Sludges/Particulates
	Cemented Solids
	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
	Soil with <50% Debris
	Soils
	Organic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Idaho National Engineering Laboratory
FACILITY: Waste Characterization Facility
SYSTEM: 00259, Waste Characterization Facility
CONTACT: Dave Eaton 208-526-7002

ADS NUMBER:
STATUS: Planned Approved

	DESIGN	PERMIT
M3/YR	0	0

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	CN	Y	Y	Y	Y	Y	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State	01/01/92	/ /
RCRA	Part B App	State	02/28/94	/ /

OTHER INFORMATION

Design capacity - Stabilization - 0.33 gal/hour; Amalgamation - 0.55 gal/hour; Neutralization - 40 gal/day; Absorption - 100 gal/day.
Plan date operation - FY98.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

OTHER PERMIT LIMITATIONS & COMMENTS

Treatment at the WCF is being designed to be ancilliary to the waste characterization process. As a general rule, no waste will be shipped to the WCF. Only waste that is found to require treatment during characterization is expected to be treated.

TECHNOLOGY	MATRIX
Amalgamation	Liquid Mercury
Characterization	To Be Determined
Neutralization	Organic Liquids Aqueous Liquids
Repackaging	Inorganic Debris Heterogeneous Debris Elemental Lead
Sorting	Organic Debris Inorganic Debris Heterogeneous Debris Elemental Lead
Stabilization	Organic Liquids Aqueous Liquids Organic Sludges/Particulates Inorganic Sludges/Particulates

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Idaho National Engineering Laboratory
FACILITY: Waste Engineering Development Facility (WEDF)
SYSTEM: 00502, Amalgamation Unit
CONTACT: Dave Eaton 208-526-7002

ADS NUMBER: 18-E1
STATUS: Planned Unapproved

	DESIGN	PERMIT
M3/YR	0	0

System Capacity
PERMIT [Other UNIT of MEASURE]: .0004 tons/hour

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	N	Y	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State	01/01/91	/ /
RCRA	Part B App	State	11/01/95	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM
Complete facility upgrade, EA and begin operations.
OTHER PERMIT LIMITATIONS & COMMENTS
INEL has requested interim status for amalgamation at WEDF.

TECHNOLOGY	MATRIX
Amalgamation	Liquid Mercury

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Idaho National Engineering Laboratory
FACILITY: Waste Engineering Development Facility (WEDF)
SYSTEM: 00503, Debris Sizing Unit
CONTACT: Dave Eaton 208-526-7002

ADS NUMBER: 18-E1
STATUS: Planned Unapproved

	DESIGN	PERMIT
M3/YR	0	0

System Capacity
PERMIT [Other UNIT of MEASURE]: 5000 pounds/day

			-TRU-					RCRA CHARACTERISTICS		
NLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	N	N	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State	01/01/93	/ /
RCRA	Part B App	State	11/01/95	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM
Complete facility upgrades, EA and begin operation.
OTHER PERMIT LIMITATIONS & COMMENTS
Interim status has been requested with the State of Idaho for treatment of debris.

TECHNOLOGY
Size Reduction

MATRIX
Cemented Solids
Organic Debris
Inorganic Debris
Heterogeneous Debris
Elemental Lead

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Idaho National Engineering Laboratory
FACILITY: Waste Engineering Development Facility (WEDF)
SYSTEM: 00323, Macroencapsulation Unit
CONTACT: Dave Eaton 208-526-7002

ADS NUMBER: 18-E1
STATUS: Planned Unapproved

	DESIGN	PERMIT
M3/YR	864	0

System Capacity
PERMIT [Other UNIT of MEASURE]: 5000 pounds/day

HLW	LLW	TRU	-TRU- ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	Y	Y	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State	01/01/92	/ /
RCRA	Part B App	State	11/01/95	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM
Complete facility upgrades, EA and begin operations.
OTHER PERMIT LIMITATIONS & COMMENTS
Interim status has been requested with the State of Idaho for macroencapsulation.

TECHNOLOGY	MATRIX
Macroencapsulation	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
	Elemental Lead

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Idaho National Engineering Laboratory
FACILITY: Waste Engineering Development Facility (WEDF)
SYSTEM: 00501, Neutralization Unit
CONTACT: Dave Eaton 208-526-7002

ADS NUMBER: 18-E1
STATUS: Planned Unapproved

	DESIGN	PERMIT
KG/YR	0	0

System Capacity
PERMIT [Other UNIT of MEASURE]: 80 gallons/day

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	N	N	N	N	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State	01/01/91	/ /
RCRA	Part B App	State	11/01/95	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM
Complete facility upgrades, EA and begin operations.
OTHER PERMIT LIMITATIONS & COMMENTS
Interim status has been requested with the State of Idaho for neutralization.

TECHNOLOGY	MATRIX
Neutralization	Organic Liquids
	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Idaho National Engineering Laboratory
FACILITY: Waste Engineering Development Facility (WEDF)
SYSTEM: 00322, Stabilization Unit
CONTACT: Dave Eaton 208-526-7002

	DESIGN	PERMIT
M3/YR	2765	0

System Capacity
PERMIT [Other UNIT of MEASURE]: 2000 gal/day

ADS NUMBER: 18-E1
STATUS: Existing Could be used for mixed waste

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	Y	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State	01/01/87	/ /
RCRA	Part B App	State	11/01/95	/ /

OTHER INFORMATION
Permitted capacity = 2,500 tons/year.
SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Stabilization unit will utilize both sulfur polymer cement and Portland Cement.
REQUIREMENTS FOR USE OF EXISTING SYSTEMS
WEDF is undergoing facility upgrades and an EA is being prepared for the facility.
OTHER PERMIT LIMITATIONS & COMMENTS
WEDF is currently undergoing facility upgrades and an EA is being prepared. Once these two activities are completed, WEDF will begin operations.

TECHNOLOGY
Stabilization

MATRIX
Organic Liquids
Aqueous Liquids
Organic Sludges/Particulates
Inorganic Sludges/Particulates
Cemented Solids
Inorganic Debris
Heterogeneous Debris
Soil with <50% Debris
Soils
Inorganic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

			DESIGN	PERMIT
SITE:	Idaho National Engineering Laboratory			
FACILITY:	Waste Immobilization Facility			
SYSTEM:	00260, Waste Immobilization Facility	M3/YR	0	0
CONTACT:				
			System Capacity	

ADS NUMBER:
STATUS: Planned Unapproved

		-TRU-						RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
Y	Y	Y	Y	B	Y	Y	Y	N	Y	N

OTHER INFORMATION
Design and permit capacities are to be determined.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Presently, the final treatment has not been selected. Until the final treatment is selected, the limitation cannot be listed.

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM
System is undergoing technical evaluation to determine configuration of system and treatment methods to be selected.

OTHER PERMIT LIMITATIONS & COMMENTS
The WIF is a planned/unapproved facility at this time. Therefore, no permit applications have been submitted and capacity unknown. Presently, the final treatment has not been selected. Until the final treatment is selected, the limitations cannot be listed.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
Consent Order for NOW (Docket No. 1090-1-24-6601). Dated 04/03/93, effective date 04/03/92, between DOE and the State of Idaho and approved by EPA. Requires operation of New Waste Calcine Facility by January 1993, 6 month progress reports, and continued operation every three years until waste tank farm tanks not having adequate secondary containment are empty. NEPA injunction order modifying order of June 28, 1993, issued to DOE, effective 09/21/93. The following is ordered: DOE shall accelerate activities related to the treatment and disposal of high-level radioactive wastes stored at INEL. In support of this: (a) DOE will calcine all high-level liquid radioactive waste that does not contain sodium on or before January 1, 1998; (b) DOE will calcine or otherwise process as much sodium-bearing high-level liquid radioactive waste (sodium liquid waste) as DOE and the State of Idaho mutually agree is practicable by January 1, 1998; (c) DOE will identify a limited number of potential technologies to calcine or process sodium liquid waste on or before November 15, 1993, and thereafter evaluate and conduct tests to determine the viability of the competing technologies; (d) DOE will select a technology for calcining or processing sodium liquid waste, including a pretreatment technology (if appropriate), in conjunction with the record of decision for the EIS required by the order entered June 28, 1993; (e) DOE will select a technology for converting calcined waste into an appropriate form for disposal in conjunction with the record of decision for the EIS required by the order entered June 28, 1993; (f) DOE will construct facilities necessary to implement the technologies selected for calcining or processing sodium liquid waste and for converting calcined waste into an appropriate form for disposal in accordance with a schedule to be negotiated with the State of Idaho.

TECHNOLOGY	MATRIX
Vitrification	Aqueous Liquids
	Inorganic Sludges/Particulates
	Calcine Solids
	Inorganic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Lawrence Berkeley Laboratory
FACILITY: Building 75
SYSTEM: 00165, Unit 131 AFH
CONTACT: Mark Lasartemay 510-486-6825

ADS NUMBER:
STATUS: Existing Could be used for mixed waste

	DESIGN	PERMIT
KG/YR	69	69

System Capacity
PERMIT [Other UNIT of MEASURE]: 50 gallons/day

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	Y	CN	N	N	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Final	State	05/04/93	05/03/03

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

REQUIREMENTS FOR USE OF EXISTING SYSTEMS
Onsite mixed waste is currently being characterized. Upon completion of characterization will begin treatment.

OTHER PERMIT LIMITATIONS & COMMENTS
Permit states no offsite wastes are to be accepted at the LBL Hazardous Waste Handling Facility, which includes 131 AFH.

The technology permitted on May 4, 1993 for the 131 AFH is Consolidation and Neutralization. Permitted capacity is 1 gallon at a time and 50 gallons per day.

TECHNOLOGY	MATRIX
Consolidation	Aqueous Liquids
Neutralization	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Lawrence Berkeley Laboratory
FACILITY: Building 75
SYSTEM: 00164, Unit 131 E
CONTACT: Mark Lasartemay 510-486-6825

	DESIGN	PERMIT
M3/YR	760	760

System Capacity
PERMIT [Other UNIT of MEASURE]: 550 gallons/day

ADS NUMBER:
STATUS: Existing Could be used for mixed waste

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	N	N	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Final	State	05/04/93	05/03/03

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

REQUIREMENTS FOR USE OF EXISTING SYSTEMS
Onsite mixed waste is currently being characterized. Upon completion of characterization, treatment will begin.
OTHER PERMIT LIMITATIONS & COMMENTS
Permit states no offsite wastes are to be accepted at the LBL Hazardous Waste Handling Facility, which includes Unit 131 E.

The technology permitted on May 4, 1993 for the system 131 E is Solidification and Consolidation. Permitted capacity is 55 gallons at a time and 550 gallons per day.

TECHNOLOGY	MATRIX
Consolidation	Aqueous Liquids
Solidification	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Lawrence Berkeley Laboratory

FACILITY: Building 85

SYSTEM: 00162, Unit MW-6

CONTACT: Tim Wan 510-486-7073

	DESIGN	PERMIT
M3/YR	72	72

System Capacity

ADS NUMBER:

PERMIT [Other UNIT of MEASURE]: 72 gallons/day

STATUS: Planned Approved

KEY DECISION STATUS: KD-3 DATE STATUS ACHIEVED: / / CONSTRUCTION COMPLETION DATE: 03/96

		-TRU-						RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	N	N	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Final	State	05/04/93	05/03/03

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Part of the state-of-the-art Hazardous Waste Handling Facility (HWHF).

Plan date operation - FY96.

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM

Title I design has been submitted to DOE for review - 100% complete.

Site work construction - 75% complete.

OTHER PERMIT LIMITATIONS & COMMENTS

Permit states no offsite wastes are to be accepted at the LBL Hazardous Waste Handling Facility, which includes Unit MW-6.

The technology permitted on May 4, 1993 for Unit MW-6 is Neutralization only. Permitted capacity is 1 gallon at a time and 72 gallons per day.

TECHNOLOGY	MATRIX
Neutralization	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Lawrence Berkeley Laboratory
FACILITY: Building 85
SYSTEM: 00163, Unit MW-7
CONTACT: Tim Wan 510-486-7073

		DESIGN	PERMIT
System Capacity	M3/YR	550	550

ADS NUMBER:
STATUS: Planned Approved
KEY DECISION STATUS: KD-1 DATE STATUS ACHIEVED: 02/01/88 CONSTRUCTION COMPLETION DATE: 03/96

		-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	Y	CH	N	N	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Final	State	05/04/93	05/03/03

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Part of the state-of-the-art Hazardous Waste Handling Facility (HWHF).
Plan date operation - FY96.
STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM
Title I design has been submitted to DOE for review - 100% complete.
Site work construction - 75% complete.
OTHER PERMIT LIMITATIONS & COMMENTS
Permit states no offsite wastes are to be accepted at the LBL Hazardous Waste Handling Facility, which includes Unit MW-7.

TECHNOLOGY	MATRIX
Consolidation	Unspecified
Solidification	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Lawrence Livermore National Laboratory
FACILITY: Area 514 WWFU
SYSTEM: 00230, Area 514 WWFU
CONTACT: J. S. Bowers 510-422-7756

		DESIGN	PERMIT
	M3/YR	3396	3396

System Capacity
PERMIT (Other UNIT of MEASURE): 896,000 gal/yr

ADS NUMBER: 3941
STATUS: Existing Operating

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	Y	N	Y	Y	Y	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State	01/15/93	/ /

OTHER INFORMATION
Metals are <1%, Mercury <20 ppm, and Organics <1000 ppm.
SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
No administrative limitations for Section 3.1 Treatment Units. Currently operating under interim status.

The systems have no technical design limitations with regard to existing regulatory criteria used for LDR standards, POTW requirements, and/or BAAQMD standards. The technical limitations of these systems are governed by the principles of chemical equilibrium (i.e., constituents that may leach into the environment will do so based on solubility products and adsorption forces).

There are administrative limitations on design. Design changes that cause administrative actions (such as supplying regulatory documents) do not preclude meeting LDR standards. They only preclude timely implementation of improvements to design.

OTHER PERMIT LIMITATIONS & COMMENTS
Part B permit application and Interim Status Document prohibit acceptance of offsite wastes from other DOE facilities.

Note: Revised Part B permit application to be submitted by 12/15/93. Revised Part A permit application (12/16/91 revision) approved 1/15/93.

Other unit of measure for permitted capacity: 4,480 gal/day.

TECHNOLOGY	MATRIX
Filtration	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Lawrence Livermore National Laboratory
FACILITY: Area 514 WWFU
SYSTEM: 00231, Area 514 WWTTF
CONTACT: J. S. Bowers 510-422-7756

ADS NUMBER: 3941
STATUS: Existing Operating

	DESIGN	PERMIT
M3/YR	6822	6822

System Capacity
PERMIT [Other UNIT of MEASURE]: 1,800,000 gal/y

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	Y	Y	Y	Y	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State	01/15/93	/ /

OTHER INFORMATION
Metals are <1%, mercury <20 ppm, and Organics <1000 ppm.
SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
No administrative limitations for Section 3.1 Treatment Units. Currently operating under interim status.

The systems have no technical design limitations with regard to existing regulatory criteria used for LDR standards, POTW requirements, and/or BAAQMD standards. The technical limitations of these systems are governed by the principles of chemical equilibrium (i.e. constituents that may leach into the environment will do so based on solubility products and adsorption forces).

There are administrative limitations on design. Design changes that cause administrative actions (such as supplying regulatory documents) do not preclude meeting LDR standards. They only preclude timely implementation of improvements to design.

OTHER PERMIT LIMITATIONS & COMMENTS
Part B permit application and Interim status document prohibit acceptance of offsite wastes from other DOE facilities.

Note: Revised Part B permit application to be submitted by 12/15/93. Revised Part A permit application (12/16/91 revision) approved 1/15/93.

Other unit of measure for permitted capacity: 9,000 gallons/day.

TECHNOLOGY	MATRIX
Equalization	Aqueous Liquids
Neutralization	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Lawrence Livermore National Laboratory
FACILITY: Area 514-1
SYSTEM: 00236, Carbon Adsorption Unit
CONTACT:

		DESIGN	PERMIT
M3/YR		147000	147000

System Capacity

ADS NUMBER: 3941
PERMIT [Other UNIT of MEASURE]: 38,000,000 gal/
STATUS: Planned Approved
KEY DECISION STATUS: KD-3 DATE STATUS ACHIEVED: 10/01/93 CONSTRUCTION COMPLETION DATE: 06/94

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	N	N	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	None	State	04/30/93	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM
RCRA Part B permit application revision to be submitted to State by 12/15/93.
OTHER PERMIT LIMITATIONS & COMMENTS
Part B Permit Application prohibits acceptance of offsite wastes from other DOE facilities.

Note: Part B permit required. Part B permit application submitted 4/30/93. Revised Part B Permit Application to be submitted to State by 12/15/93; however, it will still prohibit acceptance of offsite wastes.

Other unit of measure for permitted capacity: 194,400 gal/day.

TECHNOLOGY	MATRIX
Carbon Adsorption	Organic Liquids
	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Lawrence Livermore National Laboratory

FACILITY: Area 514-1

SYSTEM: 00237, Centrifugation Unit

CONTACT:

		DESIGN	PERMIT
	M3/YR	9611	9611

System Capacity

ADS NUMBER: 3941

PERMIT (Other UNIT of MEASURE): 2,536,000 gal/year

STATUS: Planned Approved

KEY DECISION STATUS: KD-3 DATE STATUS ACHIEVED: 10/01/93 CONSTRUCTION COMPLETION DATE: 06/94

			-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	N	N	N	Y	Y	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	None	State	04/30/93	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM

RCRA Part B permit application revision to be submitted to State by 12/15/93.

OTHER PERMIT LIMITATIONS & COMMENTS

Part B permit application prohibits acceptance of offsite wastes from other DOE facilities.

Note: Part B permit required. Part B permit application submitted 4/30/93. Revised Part B permit application to be submitted to State by 12/15/93; however, it will still prohibit acceptance of offsite wastes.

Other unit of measure for permitted capacity: 12,682 gallons/day.

TECHNOLOGY	MATRIX
Centrifugation	Organic Liquids
	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Lawrence Livermore National Laboratory
FACILITY: Area 514-1
SYSTEM: 00226, Cold Vapor Evaporation Unit
CONTACT:

		DESIGN	PERMIT
	M3/YR	3790	3790

System Capacity

ADS NUMBER: 3941
STATUS: Planned Approved
PERMIT [Other UNIT of MEASURE]: 1 million gal/year

KEY DECISION STATUS: KD-3 DATE STATUS ACHIEVED: 10/01/93 CONSTRUCTION COMPLETION DATE: 06/94

			-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	N	N	N	Y	Y	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	None	State	04/30/93	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM
RCRA Part B permit application revision to be submitted to State by 12/15/93.
OTHER PERMIT LIMITATIONS & COMMENTS
Part B permit application prohibits acceptance of offsite wastes from other DOE facilities.

Note: Part B permit required. Part B permit application submitted 4/30/93. Revised Part B permit application to be submitted to State by 12/15/93; however, it will still prohibit acceptance of offsite wastes.

Other unit of measure for permitted capacity: 5,000 gallons/day.

TECHNOLOGY	MATRIX
Evaporation	Organic Liquids
	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Lawrence Livermore National Laboratory

FACILITY: Area 514-1

SYSTEM: 00235, Portable Blending Unit

CONTACT:

		DESIGN	PERMIT
	M3/YR	147000	147000

System Capacity

ADS NUMBER: 3941

PERMIT [Other UNIT of MEASURE]: 38.8 million gal/yr

STATUS: Planned Approved

KEY DECISION STATUS: KD-3 DATE STATUS ACHIEVED: 10/01/93 CONSTRUCTION COMPLETION DATE: 06/94

		-TRU-						RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	N	N	N	Y	Y	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	None	State	04/30/93	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM

RCRA Part B permit application revision to be submitted to State by 12/15/93.

OTHER PERMIT LIMITATIONS & COMMENTS

Part B permit application prohibits acceptance of offsite wastes from other DoE facilities.

Note: Part B permit required. Part B permit application submitted 4/30/93. Revised Part B permit application to be submitted to State by 12/15/93; however, it will still prohibit acceptance of offsite wastes.

Other unit of measure for permitted capacity: 194,000 gallons/day.

TECHNOLOGY	MATRIX
Neutralization	Organic Liquids
	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Lawrence Livermore National Laboratory
FACILITY: Area 514-1
SYSTEM: 00234, Tank Blending Unit
CONTACT:

		DESIGN	PERMIT
	M3/YR	15281	15281

System Capacity
PERMIT [Other UNIT of MEASURE]: 4,032,000 gal/yr

ADS NUMBER: 3941
STATUS: Planned Approved
KEY DECISION STATUS: KD-3 DATE STATUS ACHIEVED: 10/01/93 CONSTRUCTION COMPLETION DATE: 06/94

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	N	N	N	Y	Y	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	None	State	04/30/93	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM
RCRA Part B permit application revision to be submitted to State by 12/15/93.
OTHER PERMIT LIMITATIONS & COMMENTS
Part B permit application prohibits acceptance of offsite wastes from other DOE facilities.

Note: Part B permit required. Part B permit application submitted 4/30/93. Revised Part B permit application to be submitted to State by 12/15/93; however, it will still prohibit acceptance of offsite waste.

Other unit of measure for permitted capacity: 20,160 gallons/day.

TECHNOLOGY	MATRIX
Blending	Organic Liquids
	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Lawrence Livermore National Laboratory
FACILITY: Building 513
SYSTEM: 00233, Shredding
CONTACT:

ADS NUMBER: 3941
STATUS: Existing Operating

		DESIGN	PERMIT
	M3/YR	633	633

System Capacity
PERMIT [Other UNIT of MEASURE]: 27.55 tons/day

		-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	N	N	N	CH	N	N	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State	01/15/93	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

No administrative limitations for Section 3.1 Treatment Units. Currently operating under interim status.

The systems have no technical design limitations with regard to existing regulatory criteria used for LDR standards, POTW requirements, and/or BAAQMD standards. The technical limitations of these systems are governed by the principles of chemical equilibrium (i.e. constituents that may leach into the environment will do so based on solubility products and adsorption forces).

There are administrative limitations on design. Design changes that cause administrative actions (such as supplying regulatory documents) do not preclude meeting LDR standards. They only preclude timely implementation of improvements to design.

OTHER PERMIT LIMITATIONS & COMMENTS

Part B permit application and interim status document prohibit acceptance of offsite wastes from other DOE facilities.

Note: Revised Part B permit application to be submitted by 12/15/93. Revised Part A permit application (12/16/91 revision) approved 1/15/93.

TECHNOLOGY	MATRIX
Compaction	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
Shredding	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
	Unspecified

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Lawrence Livermore National Laboratory
FACILITY: Building 513
SYSTEM: 00228, Solidification Facility
CONTACT:

ADS NUMBER: 3941
STATUS: Planned Unapproved

	DESIGN	PERMIT
M3/YR	1332	1332

System Capacity
PERMIT (Other UNIT of MEASURE): 1760 gal/day

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	Y	Y	Y	Y	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	None	State	04/30/93	/ /

OTHER INFORMATION
Metals <1%, Mercury <20 ppm, and Organics <1000 ppm.
SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
No administrative limitations for Section 3.1 Treatment Units. Currently operating under interim status.

The systems have no technical design limitations with regard to existing regulatory criteria used for LDR standards, POTW requirements, and/or BAAQMD standards. The technical limitations of these systems are governed by the principles of chemical equilibrium (i.e. constituents that may leach into the environment will do so based on solubility products and adsorption forces).

There are administrative limitations on design. Design changes that cause administrative actions (such as supplying regulatory documents) do not preclude meeting LDR standards. They only preclude timely implementation of improvements to design.

OTHER PERMIT LIMITATIONS & COMMENTS
Part B permit application and interim status document prohibit acceptance of offsite wastes from other DOE facilities.

Note: Revised Part B permit application to be submitted by 12/15/93. Part A application (12/16/91 revision) approved 12/18/92.

This facility is not included in the April 30, 1993 amended Part A application and therefore does not have Interim Status authority to operate.

TECHNOLOGY	MATRIX
Solidification	Organic Sludges/Particulates
	Inorganic Sludges/Particulates
	Soils

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Lawrence Livermore National Laboratory
FACILITY: Building 612
SYSTEM: 00229, Size Reduction Unit
CONTACT:

		DESIGN	PERMIT
	KG/YR	115	115

System Capacity

ADS NUMBER: 3941
STATUS: Planned Approved
PERMIT (Other UNIT of MEASURE): 5 tons/day

KEY DECISION STATUS: KD-0 DATE STATUS ACHIEVED: 02/01/92 CONSTRUCTION COMPLETION DATE: /

		-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	N	N	N	CH	N	N	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	None	State	04/30/93	/ /

OTHER INFORMATION

Non-operational.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

No administrative limitations for Section 3.1 Treatment Units. Currently operating under interim status.

The systems have no technical design limitations with regard to existing regulatory criteria used for LDR standards, POTW requirements, and/or BAAQMD standards. The technical limitations of these systems are governed by the principles of chemical equilibrium (i.e. constituents that may leach into the environment will do so based on solubility products and adsorption forces).

There are administrative limitations on design. Design changes that cause administrative actions (such as supplying regulatory documents) do not preclude meeting LDR standards. They only preclude timely implementation of improvements to design.

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM

Part B permit application revision for new location to be submitted to State by 12/15/93.

No estimated construction completion date - system to be relocated.

OTHER PERMIT LIMITATIONS & COMMENTS

Part B permit application and Interim status document would prohibit acceptance of offsite wastes from other DOE facilities.

Note: Unit approved by State for construction; however, new location required. Part B permit application submitted 4/30/93. Revised Part B permit application will be submitted to State by 12/15/93.

This facility was included in the original Part A application but is not authorized under Interim Status for mixed waste.

TECHNOLOGY	MATRIX
Size Reduction	Unspecified

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Lawrence Livermore National Laboratory

FACILITY: Mixed Waste Management Facility

SYSTEM: 00360, Mixed Waste Management Facility

CONTACT:

	DESIGN	PERMIT
M3/YR	0	0

System Capacity

ADS NUMBER: 3941

STATUS: Planned Approved

KEY DECISION STATUS: KD-3 DATE STATUS ACHIEVED: 10/01/93 CONSTRUCTION COMPLETION DATE: 06/94

		-TRU-						RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	N	N	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	None	State	/ /	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM

RCRA RD&D permit must be obtained from the State.

OTHER PERMIT LIMITATIONS & COMMENTS

RCRA RD&D permit must be obtained.

TECHNOLOGY	MATRIX
Unspecified	Unspecified

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Los Alamos National Laboratory
FACILITY: Controlled Air Incinerator
SYSTEM: 00312, Liquid Feed System
CONTACT: Steve Shafer 505-845-4862

	DESIGN	PERMIT
M3/YR	300	0

System Capacity

ADS NUMBER: 4170
STATUS: Existing Could be used for mixed waste

PERMIT [Other UNIT of MEASURE]: 200 pounds/hr

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	CN	Y	Y	Y	Y	Y	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
TSCA	Final	NMED	01/01/86	/ /
RCRA	Final	NMED	01/01/89	/ /

OTHER INFORMATION
Non-operational. Permit pending.
SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Other matrices include gases and chemical products.

Final RCRA permit is for hazardous wastes only. Need to submit permit modification request to incinerate mixed waste.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS
Facility upgrades, staffing/training, safety documentation, permit modification to incinerate mixed waste, trial burn.
OTHER PERMIT LIMITATIONS & COMMENTS
No: Freon-11, Freon-12, Tribromomethane, Soils or Vermiculite.
Limits on Carbon-14, Tritium, TRU.
Both TSCA and RCRA permit renewal are under modification.
RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
System is incorporated into the LANL Federal Facility Compliance Agreement with EPA that is currently in the execution process. Trial burn is targeted for 2-95.

TECHNOLOGY	MATRIX
Incineration	Organic Liquids
	Aqueous Liquids
	Lab Packs with Metals
	Lab Packs without Metals

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Los Alamos National Laboratory
FACILITY: Controlled Air Incinerator
SYSTEM: 00309, Solid Feed System
CONTACT: Steve Shafer 505-845-4862

ADS NUMBER: 4170
STATUS: Existing Could be used for mixed waste

	DESIGN	PERMIT
KG/YR	200	0

System Capacity
PERMIT [Other UNIT of MEASURE]: 100 pounds/hr

			-TRU-					RCRA CHARACTERISTICS		
MLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	CH	Y	Y	Y	Y	Y	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
TSCA	Final	NMED	01/01/86	/ /
RCRA	Final	NMED	01/01/89	/ /

OTHER INFORMATION
Non-operational. Permit pending.
SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Other matrices include solid chemical products.

Final RCRA permit is for hazardous wastes only. Need to submit permit modification request to incinerate mixed waste.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS
Facility upgrades, staffing/training, safety documentation, permit modification to incinerate mixed waste, trial burn.
OTHER PERMIT LIMITATIONS & COMMENTS
No: Freon-11, Freon-12, Tribromomethane, soils or vermiculite.
Limits on Carbon-14, Tritium, TRU.
Both TSCA and RCRA permits renewals are under modification.
RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
System is incorporated into the LANL Federal Facility Compliance Agreement with EPA that is currently in the execution process. Trial burn is targeted for 2-95.

TECHNOLOGY	MATRIX
Incineration	Organic Sludges/Particulates
	Inorganic Sludges/Particulates
	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
	Lab Packs with Metals
	Lab Packs without Metals

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Los Alamos National Laboratory
FACILITY: Hazardous Waste Treatment Facility (HWTF)
SYSTEM: 00208, Detox Skid
CONTACT: Stan Zygmunt 505-667-2245

	DESIGN	PERMIT
M3/YR	0	0

System Capacity
PERMIT (Other UNIT of MEASURE): 4 kg/hour

ADS NUMBER: 4174
STATUS: Planned Approved

			-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	CN	Y	Y	Y	Y	Y	Y

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Design capacity is 4 kg/hr.

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM
Technology is currently undergoing bench scale tests. Final design and construction of skid is targeted for FY 94. Estimated construction completion date - FY 95.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
The Detox Skid is part of the LANL Federal Facility Compliance Agreement with the EPA. The unit is intended to operate in the Hazardous Waste Treatment Facility.

TECHNOLOGY	MATRIX
Chemical Oxidation	Organic Liquids
	Aqueous Liquids
	Reactive Metals

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Los Alamos National Laboratory
FACILITY: Hazardous Waste Treatment Facility (HWTF)
SYSTEM: 00541, Future Skids
CONTACT: Stan Zygmunt 505-667-2245

ADS NUMBER:
STATUS: Planned Unapproved

	DESIGN	PERMIT
M3/YR	0	0

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	CM	Y	Y	Y	Y	Y	Y

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM

Several skid mounted treatment units are being considered for development to operate in the Hazardous Waste Treatment Facility.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Part of the LANL Federal Facility Compliance Agreement. Will develop these skids as the need is identified.

TECHNOLOGY	MATRIX
Amalgamation	Organic Liquids
Leaching	Inorganic Sludges/Particulates
	Cemented Solids
	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
	Lab Packs with Metals
	Lab Packs without Metals
	Reactive Metals
	Compressed Gases
	Liquid Mercury
	Elemental Lead
	Beryllium Dust
	Batteries (Lead Acid, Cadmium)
	Calcine Solids
	Inorganic Solids
	Organic Solids
	Uranium Chips
Oxidation/Reduction	Aqueous Liquids
Stabilization	Organic Sludges/Particulates

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Los Alamos National Laboratory
FACILITY: Hazardous Waste Treatment Facility (HWTF)
SYSTEM: 00207, Plating Wastes Acids/Bases Skid
CONTACT: Stan Zygmunt 505-667-2245

ADS NUMBER: 4174
STATUS: Planned Approved

	DESIGN	PERMIT
KG/YR	0	0

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	CH	Y	N	N	Y	Y	Y

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Design Capacity to be determined.

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM
Continuing bench scale tests. Final design and construction of skid targeted for FY 94. Estimated construction completion date - FY 95.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
Part of the LANL Federal Facility Compliance Agreement with the EPA. The unit is intended to operate in the Hazardous Waste Treatment Facility.

TECHNOLOGY	MATRIX
Chemical Precipitation	Aqueous Liquids
Neutralization	Aqueous Liquids
Oxidation/Reduction	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Los Alamos National Laboratory
FACILITY: Hazardous Waste Treatment Facility (HWTF)
SYSTEM: 00206, Reactive Metals Skid
CONTACT: Stan Zygmunt 505-667-2245

ADS NUMBER: 4174
STATUS: Planned Approved

	DESIGN	PERMIT
M3/YR	0	0

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	CH	Y	Y	Y	Y	Y	Y

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Treatment skid for uranium chips and barium sands.

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM
Bench scale tests are in progress. If successful, skid design will start in FY 94. Estimated construction completion date - FY 96.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
Part of the LANL Federal Facility Compliance Agreement with the EPA. The unit is intended to operate in the Hazardous Waste Treatment Facility.

TECHNOLOGY	MATRIX
Water Reaction	Reactive Metals

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Los Alamos National Laboratory
FACILITY: Lead Decontamination Trailer
SYSTEM: 00203, Lead Decontamination Trailer
CONTACT: Stan Zygmunt 505-667-2245

ADS NUMBER: 3088
STATUS: Existing Operating

	DESIGN	PERMIT
KG/YR	25	0

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	Y	RH	Y	N	N	N	N	N

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
Part of LANL Federal Facility Compliance Agreement with EPA.

TECHNOLOGY	MATRIX
Decontamination	Elemental Lead
Recycling	Elemental Lead

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Los Alamos National Laboratory
FACILITY: Scintillation Vial Crusher - TA-54, Area L
SYSTEM: 00204, Scintillation Vial Crusher
CONTACT: Tim Sloan 505-665-8663

ADS NUMBER: 3088/4172
STATUS: Existing Operating

	DESIGN	PERMIT
M3/YR	0	0

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	CH	Y	Y	Y	Y	N	N

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Other matrices include scintillation vials and cocktail containers.

TECHNOLOGY	MATRIX
Crushing	Organic Liquids
	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Los Alamos National Laboratory
FACILITY: Waste Immobilization Facility
SYSTEM: 00510, Waste Immobilization Facility
CONTACT: Ron Nakuoka 505-665-5971

	DESIGN	PERMIT
M3/YR	0	0

System Capacity

ADS NUMBER: 4172
STATUS: Planned Unapproved

			-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	CH	Y	Y	Y	Y	Y	Y

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Technology is vitrification after incineration. Other matrices are ash and sludge primarily used for immobilization of ash.

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM
System is currently in conceptual design phase.

TECHNOLOGY	MATRIX
Vitrification	Organic Sludges/Particulates
	Inorganic Sludges/Particulates
	Soil with <50% Debris
	Soils
	Reactive Metals
	Elemental Lead
	Beryllium Dust
	Inorganic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Mound Facility
FACILITY: Mound Glass Melter
SYSTEM: 00261, Mound Glass Melter
CONTACT: Jim Orban 505-845-4421

	DESIGN	PERMIT
KG/YR	200	200

System Capacity

ADS NUMBER: 3100
STATUS: Existing Could be used for mixed waste

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	Y	N	Y	Y	Y	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Trial Burn	Ohio EPA	01/01/90	/ /
NEPA	EA	DOE-HQ	07/01/93	/ /

OTHER INFORMATION
Part A permit waste feed rate = 0.025 short tons/hour.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Not permitted at this time, the glass melter is scheduled for a trial burn in 1995. EPA and the state of Ohio are to monitor the burns and analyze the results for compliance.

Other wastes can be treated by the glass melter with design changes to the feed mechanism and some tritium contaminated wastes with changes in the exhaust filtering system.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS
Trial burn plan approved by Ohio EPA.
DOE-HQ approves EA.

OTHER PERMIT LIMITATIONS & COMMENTS
May change after trial burn plan results evaluated.

TECHNOLOGY
Vitrification

MATRIX
Organic Liquids
Aqueous Liquids
Organic Sludges/Particulates
Inorganic Sludges/Particulates

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: NSSI/Recovery Services, Texas

FACILITY: NSSI/Recovery Services Inc.

SYSTEM: 00523, NSSI

CONTACT: Robert Gallagher 713-641-0391

ADS NUMBER:

STATUS: Existing Operating Commercial

	DESIGN	PERMIT
M3/YR	0	0
System Capacity		

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
	Y									

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

TECHNOLOGY MATRIX

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Nevada Test Site

FACILITY: Liquid Waste Treatment Facility

SYSTEM: 00511, Liquid Waste Treatment System

CONTACT: Cathy Conneyer 702-295-7321

		DESIGN	PERMIT
System Capacity	KG/YR	0	0

ADS NUMBER: 338

STATUS: Planned Approved

KEY DECISION STATUS: KD-0 DATE STATUS ACHIEVED: 01/01/92 CONSTRUCTION COMPLETION DATE: 08/95

			TRU					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	N	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Part B App	NV DEP	/ /	/ /

OTHER INFORMATION

Design capacity = 4,000,000 gal/yr.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

The system will be RCRA-permitted, and therefore be subject to permit conditions. Waste material resulting from solar evaporation will be characterized and, if necessary, treated to meet Waste Acceptance Criteria based on NVO-325, Nevada Test Site Defense Waste Acceptance Criteria, Certification, and Transfer Requirements for disposal on site.. An Environmental Assessment is also underway and may identify additional administrative limits.

The Liquid Waste Treatment System will consist of facilities for treatment of waste generated primarily from groundwater characterization and decontamination operations. The primary treatment method will be solar evaporation from RCRA-permitted surface impoundments. Pretreatment of the liquids and solidification of the remaining sludge is also planned, but details of these treatment units are still under development.

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM

KD-1 to begin on 11-01-93.

Title I design will be initiated on 11-01-93, RCRA Part B application and EA currently being prepared.

OTHER PERMIT LIMITATIONS & COMMENTS

An application was submitted for RCRA Part B in July 1992. The LWTS would be an addition or modification to this permit. No renewal date applicable.

The permitted capacity of the facility is yet undetermined.

TECHNOLOGY	MATRIX
Evaporation	Aqueous Liquids
	Inorganic Sludges/Particulates

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Oak Ridge K-25 Site
FACILITY: Central Neutralization Facility
SYSTEM: 00155, Central Neutralization Facility
CONTACT: T. Bowers 615-576-2629

ADS NUMBER:
STATUS: Existing Operating

	DESIGN	PERMIT
M3/YR	0	120000

System Capacity
PERMIT [Other UNIT of MEASURE]: 160000 gal/day

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	Y	CH	Y	Y	N	N	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
ClnWtrAct	NPDES	TDEC	10/01/92	10/01/97
RCRA	Prm by Rul	TDEC	/ /	/ /

OTHER INFORMATION
Design capacity = 160,000 gallons/day.
Approximate annual throughput achievable = 36 to 40 million gallons/yr.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Discharge of CNF effluent is regulated by NPDES permit No. TN0002950. Influents to CNF must meet the waste acceptance criteria for the unit. These criteria were established to ensure compliance with NPDES Permit and DOE Orders (i.e., 5400.5).

At present, the unit cannot accept aqueous liquids with organic constituents. Facility is capable of treating low concentrations of uranium and transuranic materials.

FY 96 line item project for upgrading CNF to provide enhanced rad removal capability, and the the ability to treat mixed waste separately from non-hazardous waste. The project is currently in the feasibility stage.

OTHER PERMIT LIMITATIONS & COMMENTS
Rad effluent regulated by DOE Order 5400.5.

TECHNOLOGY	MATRIX
Neutralization	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Oak Ridge K-25 Site

FACILITY: K-25

SYSTEM: 00519, K-1232 Wastewater Treatment Facility

CONTACT: T. Bowers 615-576-2629

ADS NUMBER:

STATUS: Existing Could be used for mixed waste

	DESIGN	PERMIT
M3/YR	0	4000

System Capacity

PERMIT [Other UNIT of MEASURE]: 1 million gal/yr

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	Y	N	Y	N	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Prm by Rul	TDEC	/ /	/ /

OTHER INFORMATION

Design capacity = 1,000,000 gallons/yr or 0.8 m3/hr.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Facility is in shut-down mode and no administrative limits have been established.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS

System has treated mixed waste in the past, but is currently in stand-by mode.

TECHNOLOGY	MATRIX
Chemical Precipitation	Aqueous Liquids
Evaporation	Aqueous Liquids
Neutralization	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Oak Ridge K-25 Site

FACILITY: K-25

SYSTEM: 00521, Sludge Fixation Unit

CONTACT: J. L. Shoemaker 615-574-9937

ADS NUMBER:

STATUS: Existing Could be used for mixed waste

		DESIGN	PERMIT
KG/YR		0	5001

System Capacity

PERMIT [Other UNIT of MEASURE]: 5000 gallons/day

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	N	N	N	N	N

OTHER INFORMATION

Design capacity = 5,000 gal/day.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Facility operations have been discontinued and are scheduled to be closed under RCRA.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS

Scheduled for RCRA closure. No plans to treat mixed waste. Option-stop RCRA closure & negotiate with State to bring system back on line.

TECHNOLOGY	MATRIX
Solidification	Inorganic Sludges/Particulates
	Soils
	Inorganic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Oak Ridge K-25 Site
FACILITY: K-25 Site TSCA Incinerator
SYSTEM: 00305, K-25 Site TSCA Incinerator
CONTACT: F. Perez 615-576-7734

ADS NUMBER:
STATUS: Existing Operating

	DESIGN	PERMIT
KG/YR	0	15716

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	N	N	Y	Y	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Final	TDEC	09/28/87	09/28/87
RCRA	Final	TDEC	09/30/92	09/30/02
TSCA	Final	EPA	03/20/89	03/20/89
NPDES	Final	TDEC	09/30/92	/ /
CAA	Final	TDEC	10/02/91	10/02/93

OTHER INFORMATION

12,000 tons/year permitted capacity is based on waste characteristics and includes feeding of solid waste (e.g., sludges, soil, etc.) DOE has not provided approval at this time to incinerate solid wastes - only liquids, therefore operational capacity is much lower (2,000 tons/year).

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Design capacity = 12,000 tons/yr. U. S. EPA approval to dispose of PCBs: March 20, 1989. U. S. EPA approval for NESHAPS: February 25, 1993. Tennessee SCDES Permit No. TN002950. Tennessee Hazardous Waste Incineration Permit No. TN HW-16. Tennessee Hazardous Waste Treatment and Storage Permit No. TNHW 15A. Tennessee Air Pollution Permit No 032449I. Tennessee Aire Pollution Permit No. 024105P.

OTHER PERMIT LIMITATIONS & COMMENTS

Permits restrict offsite waste incineration at the facility to Portsmouth, Paducah, ORNL, Y-12, Fernald, and RMT. Volume restrictions also apply. Permit restricts RCRA waste from DOE-owned offsite facilities to 1,356 tons/year.

Other permits: CAA - Final - TDEC - 09/21/90 - 10/01/93
CAA - Final - TDEC - 11/17/86 - 10/01/93
CAA - Final - EPA - 10/26/87 -
RCRA - Prm by Rul - TDEC - 10/01/91

TECHNOLOGY	MATRIX
Incineration	Organic Liquids
	Aqueous Liquids
	Organic Sludges/Particulates
	Cemented Solids
	Organic Debris
	Inorganic Solids
	Organic Solids

Information Developed to Facilitate Identification of Potential Treatment Options Date: 10/20/93

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Oak Ridge K-25 Site

FACILITY: K-25 Uranium Decon Facility

SYSTEM: 00518, K-25 Uranium Decon Facility

CONTACT: B. E. Vaughn 615-574-9007

	DESIGN	PERMIT
M3/YR	0	0
System Capacity		

ADS NUMBER:

STATUS: Existing Could be used for mixed waste

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	N	CH	Y	N	N	N	N	N

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Facility is presently in shut-down mode and is in the Decontamination and Decommissioning program.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS

No plans to treat mixed waste.

TECHNOLOGY	MATRIX
Decontamination	Inorganic Debris
	Inorganic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Oak Ridge K-25 Site
FACILITY: K-25, K-1423
SYSTEM: 00522, Waste Staging & Processing Facility
CONTACT: M. E. Saunders 615-574-0341

ADS NUMBER:
STATUS: Planned Unapproved

System Capacity	DESIGN	PERMIT
M3/YR	0	0

MLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	Y	Y	Y	Y	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Final	TDEC	09/30/92	09/30/02

OTHER INFORMATION
Plan date operation - FY99.
Note: Neutralization - corrosive, reactive, ignitable; Bulking - corrosive, ignitable.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
This facility will be doing only treatments in tanks and containers. The treatments will be elementary neutralization, volume reduction (compaction) and bulking. This is intended to be primarily treatment in a 90 day area and not requiring a permit. If this is needed to be permitted treatment the conditions will be included in the permit.

This is expected to be small scale treatment not easily automated. Therefore only LLW and mixed waste will be treated. This treatment is not expected to be final treatment but rather a pretreatment to facilitate bulking or to meet a treatment facility waste acceptance criteria.

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM
A general plant project is to be initiated in Nov. 1993 to produce the preliminary proposal for submittal to DOE-ORO for funding approval. Three prioritization of GPP's is a necessary prerequisite.

OTHER PERMIT LIMITATIONS & COMMENTS
The RCRA Part B permit issued for the facility is for container storage (not treatment). Minor treatment, such as pH adjustment and repackaging or bulking processes, are allowed. Any other treatment is not allowed.

TECHNOLOGY	MATRIX
Bulking	Lab Packs with Metals
	Lab Packs without Metals
Compaction	Cemented Solids
	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
	Inorganic Solids
	Organic Solids
Neutralization	Organic Liquids
	Aqueous Liquids
	Organic Sludges/Particulates
	Inorganic Sludges/Particulates

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

			DESIGN	PERMIT
SITE:	Oak Ridge National Laboratory			
FACILITY:	Liquid Low Level Waste Evaporation Facility			
SYSTEM:	00105, Liquid Low Level Waste Evaporation Facility	M3/YR	0	39788
CONTACT:	Chris Scott 615-574-7057			

ADS NUMBER:

STATUS: Existing Operating

System Capacity

PERMIT [Other UNIT of MEASURE]: 1200 gallons/hour

		-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	RN	Y	N	N	N	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
NPDES	Final	State	02/27/86	03/31/91

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

OTHER PERMIT LIMITATIONS & COMMENTS

Operated under "permit-by-rule" RCRA exemption under ORNL NPDES no. TN.0002941. Permit renewal under negotiation with the State.

Solutions containing U-233, U-235, Pu-239, or Pu-241 must be mixed with either depleted uranium or natural thorium (according to chemical similarity) so that the resultant solution will contain at least 100 parts by weight of U-238 or Th-232 per part by weight of the fissile isotope(s).

Solutions containing TRU isotopes or U-233 which are added to the LLLW system must not have a total specific activity from those nuclides greater than 3.7 x 10E6 Bq/kg (100nCi/g).

TECHNOLOGY	MATRIX
Evaporation	Organic Liquids
	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Oak Ridge National Laboratory				
FACILITY:	Melton Valley Low-Level Waste Immobilization Facility				
SYSTEM:	00102, Melton Valley Low-Level Waste Immobilization Facility		KG/YR	0	189
CONTACT:	Chris Scott	615-574-7057			

System Capacity

ADS NUMBER:

PERMIT [Other UNIT of MEASURE]: 50000 gal/campai

STATUS: Existing Operating

		-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	B	Y	Y	N	N	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
NPDES	Final	State	02/27/86	03/31/91

OTHER INFORMATION

The treatment process is operated in campaigns (about 1 per year). The primary driving force is not RCRA treatment but rather a means to remove excess liquid to conserve storage capacity.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

"B" under Handling means both CH and RH. The stabilized cement matrix must meet the waste acceptance criteria of LLW disposal facility and must meet RCRA LDR treatment standards.

OTHER PERMIT LIMITATIONS & COMMENTS

Operates under "permit-by-rule" RCRA exemption under NPDES permit No. TN0002941. Permit renewal under negotiation with the State.

Solutions containing TRU isotopes or U-233 which are added to the LLLW system must not have a total specific activity from these nuclides greater than 3.7 x 1086 Bq/kg (100nCi/g).

Solutions containing U-233, U-235, Pu-239 or Pu-241 must be mixed with either depleted uranium or natural thorium (according to chemical similarity) so that the resultant solution will contain at least 100 parts by weight of U-238 or Th-232 per part by weight of the fissile isotope(s).

TECHNOLOGY	MATRIX
Stabilization	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Oak Ridge National Laboratory				
FACILITY:	Process Waste Treatment Plant				
SYSTEM:	00104, Process Waste Treatment Plant		M3/YR	0	397789
CONTACT:	Chris Scott	615-574-7057			

System Capacity

ADS NUMBER:

PERMIT (Other UNIT of MEASURE): 200 gpm

STATUS: Existing Operating

			-TRU-					RCRA CHARACTERISTICS		
HLV	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	N	Y	N	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
NPDES	Final	State	02/27/86	03/31/91
CAA	Final	State	12/18/90	10/01/95

OTHER INFORMATION

Design capacity = 200 gal/minute.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

This facility is not designed for mixed waste treatment. The treatment of listed wastes may result in RCRA sludge generation. This would disrupt the management of that sludge.

This facility is not designed to handle high dose (high activity) liquid.

OTHER PERMIT LIMITATIONS & COMMENTS

Operated under "permit-by-rule" RCRA exemption under ORNL NPDES No. TN0002941. Permit under negotiation with the State.

TECHNOLOGY	MATRIX
Chemical Precipitation	Organic Liquids
	Aqueous Liquids
Filtration	Organic Liquids
	Aqueous Liquids
Ion Exchange	Organic Liquids
	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Oak Ridge National Laboratory				
FACILITY:	X-10				
SYSTEM:	00520, Non-Radiological Waste Treatment Plant		KG/YR	0	1511941
CONTACT:	Chris Scott	615-574-7037			

—— System Capacity ——

ADS NUMBER:

PERMIT [Other UNIT of MEASURE]: 760 gpm

STATUS: Existing Operating

HLV	LLV	TRU	-TRU- ALPHA	HANDLING	METALS	MERCURY	ORGANICS	—— RCRA CHARACTERISTICS —— IGNITABLE	CORROSIVE	REACTIVE
N	N	N	N	CN	Y	N	Y	N	Y	N

—— PERMIT STATUS INFORMATION ——

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
NPDES	Final	State	02/27/86	03/31/91

OTHER INFORMATION

Design capacity = 760 gpm.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Facility is subject to CWA NPDES limits.

OTHER PERMIT LIMITATIONS & COMMENTS

Facility is not designed for treatment of radioactive wastewater. Discharge limits for radionuclides are established in DOE Order 5400.5. Material with high levels of radioactivity are automatically diverted to the Process Waste Treatment Plant.

NPDES permit renewal is presently under negotiation with the State.

TECHNOLOGY	MATRIX
Chemical Precipitation	Organic Liquids
Filtration	Organic Liquids
Ion Exchange	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Oak Ridge Y-12 Plant
FACILITY: Biodenitrification Unit Building 9818
SYSTEM: 00215, Biodenitrification Unit
CONTACT: Chuck Fritts 615-574-3504

ADS NUMBER:
STATUS: Existing Operating

	DESIGN	PERMIT
MS/YR	0	448

System Capacity
PERMIT (Other UNIT of MEASURE): 105000 gal/year

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	N	N	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Prm by Rul	TDEC	05/01/92	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Not a WM Facility/System.
REQUIREMENTS FOR USE OF EXISTING SYSTEMS
Facility treats mixed waste.
OTHER PERMIT LIMITATIONS & COMMENTS
Capacity of unit not restricted by "permit-by-rule". Nitrate wastes reduced to less than 50 ppm nitrates.

TECHNOLOGY	MATRIX
Biodegradation	Organic Liquids
	Aqueous Liquids
	Organic Sludges/Particulates
Distillation	Organic Liquids
	Aqueous Liquids
Evaporation	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

			DESIGN	PERMIT
SITE:	Oak Ridge Y-12 Plant			
FACILITY:	Central Pollution Control Facility (CPCF)			
SYSTEM:	00530, Mercury Waste Water Treatment System	KG/YR	0	8939
CONTACT:	J. Przeniak 615-574-6873			
			System Capacity	

ADS NUMBER:

STATUS: Planned Unapproved

			-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	N	N	N	CN	Y	Y	Y	N	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
CWA	NPDES	State	01/01/89	12/31/93

OTHER INFORMATION

Design capacity = 5,000,000 gpy.

Plan date operation - FY96.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

The WGTF is planned to remove metals from waste water generated by decontamination of equipment contaminated with mercury. The predominant metal contaminant will be mercury. Other metals, including uranium, are expected to be incidental. The WGTF will discharge through a dedicated, permitted outfall. Understandings with the State of Tennessee are likely to limit the types of waste waters that may be received. The regulatory character of sludge from the treatment of metals and carbon from the polishing step is uncertain at this time.

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM

Engineering studies. Funded by Environmental Restoration Program. Design start scheduled for Dec. 16, 1993. Part of Y-12 Reduction of Mercury in Plant Effluents (RMPE-II) Project.

OTHER PERMIT LIMITATIONS & COMMENTS

The new NPDES permit for the Y-12 plant is anticipated in 1993.

Final permit not received yet. Permit is expected to require monitoring for mercury, but limits are not known. Understanding with the State is likely to limit types of waste waters to be treated to those generated from mercury contaminated/clean-up operations.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Operation of system will be part of the Compliance Schedule & Agreement that accompanies new NPDES permit.

TECHNOLOGY	MATRIX
Mercury Removal	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Oak Ridge Y-12 Plant
FACILITY: Central Pollution Control Facility (CPCF)
SYSTEM: 00216, Mopwater and Concentrated Waste System
CONTACT: J. Prazniak 615-574-6873

ADS NUMBER: 2201
STATUS: Existing Operating

	DESIGN	PERMIT
M3/YR	0	10227

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	Y	N	Y	N	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
CWA	NPDES	State	01/01/85	12/31/93
RCRA	Prm by Rul	State	01/01/85	/ /

OTHER INFORMATION
Design capacity = 2,700,000 gal/yr.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
The CPCF/Mopwater Operation is designed to remove oil and grease, metals, and organics from aqueous waste generated by cleaning operations at the Y-12 plants. The system is not designed to treat nitrate-bearing wastes. Mixed waste may be received and treated. Effluent is discharged through an NPDES permitted outfall.

The system operates on a batch basis. Maximum batch size is 14,000 gallons. One batch may be treated every two days. Higher production rates, up to 4 batches per week, can be accommodated under problem-free conditions.

Sludge from treatment is typically F006 listed RCRA waste. Sludge is combined with sludge from other CPCF operations, and is stored at the Y-12 West End Treatment Facility sludge storage tanks.

OTHER PERMIT LIMITATIONS & COMMENTS
Facilities that discharge through an NPDES permit and treat waste water are now deemed to have "automatic" permit-by-rule in Tennessee. There is no permit renewal required.

The new permit (CWA) is not expected to specify a capacity, though there will be mass limits on individual discharge parameters.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
Operation of the CPCF/Mopwater system is necessary to the extent that mopwaters are generated and require treatment.

TECHNOLOGY	MATRIX
Carbon Adsorption	Aqueous Liquids
Neutralization	Aqueous Liquids
Oil/Water Separation	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Oak Ridge Y-12 Plant
FACILITY: Cyanide Treatment Facility, Building 9201-5N
SYSTEM: 00217, Cyanide Treatment Facility
CONTACT: Art Mitchell 615-574-9867

ADS NUMBER:
STATUS: Existing Operating

	DESIGN	PERMIT
M3/YR	0	13

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	N	Y	N	N	Y	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Part A	TDEC	07/01/91	/ /
RCRA	Part B	TDEC	05/14/92	/ /

OTHER INFORMATION

Treats waste codes D002-D011.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Not a MN Facility/System.

OTHER PERMIT LIMITATIONS & COMMENTS

The Part A & B applications also allow treatment and storage of wastes within the following EPA waste codes: D002-D011, F007-F012, P029, P030, P033, P098, P104 & P106.

TECHNOLOGY	MATRIX
Chemical Oxidation	Organic Liquids
	Aqueous Liquids
	Reactive Metals

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Oak Ridge Y-12 Plant

FACILITY: Disp. Area Remedial Actions Liq. Storage Trtmnt.

SYSTEM: 00330, Disp. Area Remedial Actions Liq. Storage Trtmnt.

CONTACT: K. R. Crow 615-574-6876

		DESIGN	PERMIT
System Capacity	M3/YR	3979	0

ADS NUMBER:

STATUS: Existing Operating

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	N	N	N	CH	Y	N	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Prm by Rul	TDEC	03/13/92	/ /
TSCA		EPA	/ /	/ /

OTHER INFORMATION

Normal operating capacity = 3,271 m3/yr.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Design 1.05 million gallons/year, 2.5 million gallons/year excess. Permit by rule facility receiving leachate from the Bear Creek Burial Grounds, listed hazardous waste of F001, F002, F005, and F039. Leachate contains PCB contaminated oil.

TECHNOLOGY	MATRIX
Filtration	Organic Liquids
	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Oak Ridge Y-12 Plant

FACILITY: Disp. Area Remedial Actions Liq. Storage Trtmnt.

SYSTEM: 00330, Disp. Area Remedial Actions Liq. Storage Trtmnt

CONTACT: K. R. Crow 615-574-6876

		DESIGN	PERMIT
		System Capacity	
M3/YR		3979	0

ADS NUMBER:

STATUS: Existing Operating

MLV	LLV	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	N	N	N	CN	Y	N	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Prm by Rul	TDEC	03/13/92	/ /
TSCA		EPA	/ /	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Design 1.05 million gallons/year, 2.5 million gallons/year excess. Permit by rule facility receiving leachate from the Bear Creek Burial Grounds, listed hazardous waste of F001, F002, F005, and F039. Leachate contains PCB contaminated oil.

TECHNOLOGY	MATRIX
Oil/Water Separation	Organic Liquids
	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Oak Ridge Y-12 Plant
FACILITY: Groundwater Treatment Facility
SYSTEM: 00319, Groundwater Treatment Facility
CONTACT: K. R. Crew 615-574-6876

	DESIGN	PERMIT
MG/YR	17714	17714

System Capacity

ADS NUMBER:
STATUS: Existing Operating

			-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	N	N	N	CH	Y	N	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
NPDES	Final	TDEC	05/22/90	/ /
CAA	Final	TDEC	03/20/91	02/01/95

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Design capacity = 4.68 million gallons/year, 2.5 million gallons/year excess. Permit by rule facility discharging effluent through NPDES permit. Treat listed hazardous waters of F001, F002, F005 and F039.

OTHER PERMIT LIMITATIONS & COMMENTS

NPDES permit authorizes discharge of "treated contaminated groundwater." Air permit states that "the maximum process rate for this source (air stripper) shall not exceed 25 gallons of contaminated groundwater per minute. No uranium removal capability.

NPDES permit renewal is pending.

TECHNOLOGY	MATRIX
Air Stripping	Aqueous Liquids
Carbon Adsorption	Organic Liquids
Chemical Precipitation	Organic Liquids
Filtration	Organic Liquids

Information Developed to Facilitate Identification of Potential Treatment Options Date: 10/20/93

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Oak Ridge Y-12 Plant				
FACILITY:	Oak Ridge Res. Mixed Waste Treatment Facility				
SYSTEM:	00525, MW Treatment Facility - Acid Dissolution - U Removal		M3/YR	2206	2206
CONTACT:	R. R. Kimmitt	615-576-0077			
				System Capacity	

ADS NUMBER: 8207/8205

STATUS: Planned Unapproved

			-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	Y	N	N	N	Y	N

OTHER INFORMATION

Design capacity = 75,000 cf/yr. RCRA, TSCA.

Plan date operation - FY04.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Waste will be contact handled. Waste reading over a few mR/hr will be rejected.

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM

Work is focused on: (a) characterization of waste intended for this treatment, and (b) process development (bench scale testing). (b is contained in ADS 8205).

OTHER PERMIT LIMITATIONS & COMMENTS

Project is pre-conceptual state - no permitting activity at present.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Although there are no regulatory drivers for radioactivity removal from waste, such processing opens up the possibility of on-site disposal under DOE Order 5820.2A.

TECHNOLOGY	MATRIX
Acid Dissolution	Inorganic Sludges/Particulates
	Soils
	Inorganic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Oak Ridge Y-12 Plant				
FACILITY:	Oak Ridge Res. Mixed Waste Treatment Facility				
SYSTEM:	00219, MW Treatment Facility - Fixation/Stabilization		M3/YR	735	0
CONTACT:	R. R. Kimmitt	615-576-0077			
				System Capacity	

ADS NUMBER: 8207/8205
STATUS: Planned Unapproved

		-TRU-						RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	Y	Y	N	N	N	N

OTHER INFORMATION
Design capacity = 25,000 cf/yr. RCRA, TSCA.

Plan date operation - FY04.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Waste will be contact handled. Waste reading over a few mR/hr will be rejected.
STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM
Work is focused on: (a) characterization of waste intended for this treatment, and (b) process development (bench scale testing) (b is contained in ADS 8205).
OTHER PERMIT LIMITATIONS & COMMENTS
No permitting activity is on-going, since the project is in the pre-conceptual stage.
RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
This process will be necessary for selected wastes to meet the requirements of RCRA LDR (40 CFR 268).
Wastes to be treated are also listed in the OR LDR FFC Agreement with EPA Region 4, signed 6-12-92.

TECHNOLOGY	MATRIX
Stabilization	Inorganic Sludges/Particulates
	Cemented Solids
	Inorganic Debris
	Heterogeneous Debris
	Soil with <50% Debris
	Soils
	Lab Packs with Metals
	Elemental Lead
	Beryllium Dust
	Batteries (Lead Acid, Cadmium)
	Inorganic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Oak Ridge Y-12 Plant
FACILITY: Oak Ridge Res. Mixed Waste Treatment Facility
SYSTEM: 00527, MW Treatment Facility - Incineration
CONTACT: R. R. Kimmitt 615-576-0077

		DESIGN	PERMIT
KG/YR	System Capacity	882	0

ADS NUMBER: 8207
STATUS: Planned Unapproved

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	N	N	Y	Y	N	N

OTHER INFORMATION
Design capacity = 30,000 cf/yr. NESHAPS, Air, RCRA, TSCA.

Plan date operation - FY04.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Waste will be contact handled. Waste reading over a few mR/hr will be rejected.

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM
Engineering studies will be conducted in early FY 94 to evaluate the alternatives of building new solid mixed waste incineration capability in Oak Ridge or enhancing the capabilities of the existing TSCA incinerator.

OTHER PERMIT LIMITATIONS & COMMENTS
Since this activity is in the Engineering study stage, there is no on-going permitting activity.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
Incineration is identified as BDAT for some mixed waste. This process is needed for compliance with RCRA LDR and for compliance with the OR LDR FFC Agreement with EPA Region 4, signed 6-12-92.

TECHNOLOGY	MATRIX
Incineration	Organic Sludges/Particulates
	Inorganic Sludges/Particulates
	Cemented Solids
	Organic Debris
	Heterogeneous Debris
	Soil with <50% Debris
	Soils
	Lab Packs without Metals
	Organic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Oak Ridge Y-12 Plant				
FACILITY:	Oak Ridge Res. Mixed Waste Treatment Facility				
SYSTEM:	00542, MW Treatment Facility - Sizing & Segregation		M3/YR	2206	0
CONTACT:	R. R. Kimmitt	615-576-0077			

—— System Capacity ——

ADS NUMBER: 8207/8205
STATUS: Planned Unapproved

			-TRU-					—— RCRA CHARACTERISTICS —		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	N	N	Y	N	Y	N

OTHER INFORMATION
Design capacity = 75,000 cf/yr. RCRA, TSCA.

Plan date operation - FY04.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Waste will be contact handled. Waste reading over a few mR/hr will be rejected.

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM
Work in FY 94 will be included in the decontamination development effort of ADS 8205.
OTHER PERMIT LIMITATIONS & COMMENTS
There are no on-going permitting activities.
RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
Size segregation and size reduction are pre-treatment steps supporting decontamination, stabilization, and thermal desorption. Therefore, they represent necessary parts of the systems to bring OR mixed wastes into compliance with RCRA LDR and implement the OR LDR FFC Agreement.

TECHNOLOGY	MATRIX
Sizing/Segregation	Inorganic Sludges/Particulates
	Cemented Solids
	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
	Soil with <50% Debris
	Soils
	Lab Packs with Metals
	Lab Packs without Metals
	Batteries (Lead Acid, Cadmium)
	Inorganic Solids
	Organic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Oak Ridge Y-12 Plant				
FACILITY:	Oak Ridge Res. Mixed Waste Treatment Facility				
SYSTEM:	00529, MW Treatment Facility - Soil/Sludge Dewatering		M3/YR	2206	0
CONTACT:	R. R. Kimmitt	615-576-0077			
				System Capacity	

ADS NUMBER: 8207/8205
STATUS: Planned Unapproved

		-TRU-						RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	Y	Y	N	Y	N

OTHER INFORMATION
Design capacity = 75,000 cf/yr. RCRA, TSCA.

Plan date operation - FY04.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Waste will be contact handled. Waste reading over a few mR/hr will be rejected.
STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM
Work on this process is included in the stabilization and thermal desorption development effort of ADS 8205.
OTHER PERMIT LIMITATIONS & COMMENTS
There is no on-going permitting activity.
RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
Dewatering, as a pretreatment to stabilization or thermal desorption is part of the process to achieve compliance with RCRA LDR for mixed wastes (40 CFR 268).

TECHNOLOGY	MATRIX
Drying	Organic Sludges/Particulates
	Inorganic Sludges/Particulates
	Soil with <50% Debris
	Soils
	Inorganic Solids
	Organic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Oak Ridge Y-12 Plant				
FACILITY:	Oak Ridge Res. Mixed Waste Treatment Facility				
SYSTEM:	00526, MW Treatment Facility - Surface Decontamination		M3/YR	500	0
CONTACT:	R. R. Kimmitt	615-576-0077			
				System Capacity	

ADS NUMBER: 8207/8205
STATUS: Planned Unapproved

		-TRU-						RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	Y	Y	Y	N	N	N

OTHER INFORMATION
Design capacity = 17,000 cf/yr. RCRA, TSCA.

Plan date operation - FY04.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Waste will be contact handled. Waste reading over a few mR/hr will be rejected.

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM
Work is focused on: (a) identification and characterization of waste to be treated, and (b) process development (bench scale testing) (b is contained in ADS 8205).

OTHER PERMIT LIMITATIONS & COMMENTS
Since this project is in the pre-conceptual state, there is no on-going permitting activity.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
Surface decontamination is appropriate technology for mixed waste that can be treated under the RCRA Debris Rule.

TECHNOLOGY	MATRIX
Decontamination	Heterogeneous Debris
	Elemental Lead
	Batteries (Lead Acid, Cadmium)

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

			DESIGN	PERMIT
SITE:	Oak Ridge Y-12 Plant			
FACILITY:	Oak Ridge Res. Mixed Waste Treatment Facility			
SYSTEM:	00528, MW Treatment Facility - Thermal Desorption	M3/YR	10	0
CONTACT:	R. R. Kimmitt 615-576-0077			
			System Capacity	

ADS NUMBER: 8207/8205

STATUS: Planned Unapproved

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	N	Y	Y	Y	N	N

OTHER INFORMATION

Waste will be contact handled. Waste reading over a few mR/hr will be rejected.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Design capacity = 330 cf/yr. NESHAPS, Air, RCRA, TSCA.

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM

Work is focused on: (a) waste identification and characterization, and (b) process development (bench scale testing) (b is contained in ADS 8205).

OTHER PERMIT LIMITATIONS & COMMENTS

The project in in the pre-conceptual stage, so no permitting activities are on-going.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

This process is BDAT for mercury-contaminated wastes under RCRA LDR, and is an economical alternative to incineration for organically-contaminated mixed waste. The process will be a significant part of the treatment plan for implementing the OR FFC Agreement with EPA Region 4, signed 6-12-92.

TECHNOLOGY	MATRIX
Thermal Desorption	Organic Sludges/Particulates
	Inorganic Sludges/Particulates
	Cemented Solids
	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
	Soil with <50% Debris
	Soil with <50% Debris
	Soils
	Inorganic Solids
	Organic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

			DESIGN	PERMIT
SITE:	Oak Ridge Y-12 Plant			
FACILITY:	Plating Rinsewater Treatment Facility			
SYSTEM:	00221, Plating Rinsewater Treatment Facility	M3/YR	0	7575
CONTACT:	J. Prazniak 615-574-6873			

System Capacity

ADS NUMBER: 2201

STATUS: Existing Could be used for mixed waste

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	N	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
CWA	NPDES	State	12/01/93	12/31/98

OTHER INFORMATION

Design capacity = 2,000,000 gal/yr. Excess capacity = 1,500,000 gal/yr.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

No radionuclides. Plating Rinsewater System is designed to treat dilute plating rinsewater contaminated with heavy metals. Does not treat cyanide. Presently discharges through a dedicated outfall. But the new NPDES permit, expected this October will combine the PRTF and CPCF discharges under one set of limits. The sludge from the system will be combined with the sludge for the CPCF aqueuster system.

Sludge from treatment is F006 listed RCRA waste. Sludge is combined with sludge from other CPCF operations, and is stored at the Y-12 West End Treatment Facility sludge storage tanks.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS

A criticality safety analysis and controls to assure that conditions under which criticality could occur do not exist. Could handle depleted U easily.

OTHER PERMIT LIMITATIONS & COMMENTS

New CWA permit is expected in 12-93. No capacity is expected to be specified on new permit. However, there will be mass limits on individual discharge parameters.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Operation of the PRTF is necessary to the extent that plating rinsewaters requiring treatment are generated. A new planting shop at Y-12 is under construction. The PRTF will receive waste from the new shop.

TECHNOLOGY	MATRIX
Cyanide Destruction	Organic Liquids Aqueous Liquids
Filtration	Organic Liquids Aqueous Liquids
Neutralization	Organic Liquids Aqueous Liquids
Oxidation/Reduction	Aqueous Liquids

Information Developed to Facilitate Identification of Potential Treatment Options Date: 10/20/93

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Oak Ridge Y-12 Plant
FACILITY: Waste Coolant Processing Facility
SYSTEM: 00524, Waste Coolant Processing Facility
CONTACT: J. Praznick 615-574-6873

	DESIGN	PERMIT
M3/YR	11363	0
System Capacity		

ADS NUMBER: 2201
STATUS: Existing Could be used for mixed waste

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	N	N	N	N	N	N

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

The WCPF is a small extended-aeration activited sludge treatment system that treats biodegradable machine cutting coolants to remove BOD. The effluent from the facility is shipped to the Central Pollution Control Facility or West End Treatment Facility for further treatment. Sludge from the treatment facility is considered to be LLW (not RCRA-hazardous).

Under present requirements, only depleted uranium may be processed; no solutions with enriched uranium allowed. WCPF was operated under criticality safety control in the past and could do so again.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS

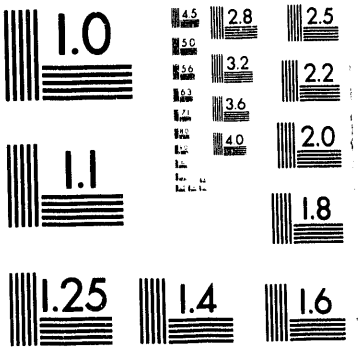
Criticality safety analysis and controls to insure that conditions conducive to criticality do not exist. Approximately $1M in physical upgrades to facility so hazardous waste could be received.

OTHER PERMIT LIMITATIONS & COMMENTS

No permits are being pursued.

Effluent from treatment system is further treated at Central Pollution Control Facility/Nopwater System or West End Treatment Facility.

TECHNOLOGY	MATRIX
Biodegradation	Aqueous Liquids


1.0
2.8
2.5
3.2
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4.0
1.1
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1.25
1.4
1.6

3 of 3

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Oak Ridge Y-12 Plant
FACILITY: West End Treatment Facility
SYSTEM: 00224, Wastewater Treatment
CONTACT: H. A. Valentine 615-576-1567

ADS NUMBER:
STATUS: Existing Operating

	DESIGN	PERMIT
M3/YR	0	9469

System Capacity
PERMIT [Other UNIT of MEASURE]: 2.5 million gal/yr

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	N	N	Y	Y	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
CWA/NPDES	Final	TDEC	05/21/85	/ /
CAA	Final	TDEC	06/11/93	05/01/95

OTHER INFORMATION
Design capacity = 2.5 million gal/yr. Excess capacity = 4.0 million gal/yr.
SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Permit by rule facility discharging effluent through an NPDES permit. Treat listed hazardous wastewaters of F001, F002, F006, F007.

OTHER PERMIT LIMITATIONS & COMMENTS
Capacity of treatment system not limited by the permits.

CWA (NPDES) permit renewal pending.

TECHNOLOGY	MATRIX
Biodenitrification	Organic Liquids
	Aqueous Liquids
Chemical Precipitation	Organic Liquids
	Aqueous Liquids
Neutralization	Organic Liquids
	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Paducah Gaseous Diffusion Plant
FACILITY: C-400-C Evaporator
SYSTEM: 00314, C-400-C Nickel Stripper Evaporation Unit
CONTACT:

ADS NUMBER:
STATUS: Existing Could be used for mixed waste

		DESIGN	PERMIT
System Capacity	KG/YR	0	0

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	N	N	N	N	N	N

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
This unit is undergoing RCRA closure and will be disassembled. This unit should be removed from the list.

TECHNOLOGY	MATRIX
Evaporation	Organic Liquids
	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Paducah Gaseous Diffusion Plant
FACILITY: C-400-D Lime Precipitation Unit
SYSTEM: 00262, C-400-D Lime Precipitation Unit
CONTACT: R. G. Kuehn 502-441-6913

	DESIGN	PERMIT
M3/YR	136	0
System Capacity		

ADS NUMBER:
STATUS: Existing Operating

			-TRU-					RCRA CHARACTERISTICS		
MLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	N	N	N	Y	N

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Current plans are to RCRA close this unit.

The solids collected during precipitation area still considered to be MLLW and must be further treated.

TECHNOLOGY	MATRIX
Chemical Precipitation	Aqueous Liquids
Neutralization	Aqueous Liquids

Information Developed to Facilitate Identification of Potential Treatment Options Date: 10/20/93

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

			DESIGN	PERMIT
SITE:	Paducah Gaseous Diffusion Plant			
FACILITY:	Mixed Waste Treatment Facility			
SYSTEM:	00553, Mixed Waste Treatment Facility	KG/YR	0	0
CONTACT:				
			System Capacity	
ADS NUMBER:				
STATUS:	Planned Unapproved			

-TRU-						RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE

OTHER INFORMATION

Design capacity to be determined.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM

Feasibility study in the planning stages. Funding for the study are included for 1994.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Could be used to enhance the requirements of the LDR FFCA and the FFC Act.

TECHNOLOGY MATRIX

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Paducah Gaseous Diffusion Plant
FACILITY: Wastewater Treatment System
SYSTEM: 00321, Wastewater Treatment System
CONTACT: H. A. Valentine 615-574-7083

	DESIGN	PERMIT
M3/YR	0	0

System Capacity

ADS NUMBER:
STATUS: Planned Unapproved

		-TRU-						RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	N	N	N	N	N	N

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

All funding, design, and associated issues for this facility went away following the site operational transition. This unit should be removed from the list.

TECHNOLOGY	MATRIX
Chemical Precipitation	Aqueous Liquids
Filtration	Aqueous Liquids
Neutralization	Aqueous Liquids

Information Developed to Facilitate Identification of Potential Treatment Options Date: 10/20/93

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Pantex Plant				
FACILITY:	Building 11-15A				
SYSTEM:	00108, Building 11-15A		M3/YR	132	0
CONTACT:	J. Evett	505-845-4445			

System Capacity

ADS NUMBER:

STATUS: Existing Could be used for mixed waste

			-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	Y	CH	Y	Y	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	None	TWC	/ /	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Encapsulation treatment is currently not permitted. A pilot study was completed by the Pantex Plant that showed that LDR treatment standards were achieved by epoxy-based encapsulation processes. It is currently unknown whether encapsulation will be pursued by the plant as a treatment option for debris or other MLLW.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS

It has not been determined whether the plant will pursue this technology. Requires permit modifications, equipment procurement, staffing, NEPA, SAR.

OTHER PERMIT LIMITATIONS & COMMENTS

Dates if issuance/application submission for permits are not applicable at this time.

TECHNOLOGY	MATRIX
Immobilization	Aqueous Liquids
	Organic Sludges/Particulates
	Inorganic Sludges/Particulates
	Cemented Solids
	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
	Inorganic Solids
	Organic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Pantex Plant				
FACILITY:	Building 11-9				
SYSTEM:	00107, Building 11-9		M3/YR	43	0
CONTACT:	J. Evett	505-845-4445			

System Capacity

ADS NUMBER:

STATUS: Existing Could be used for mixed waste

		-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	Y	CH	Y	Y	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	None	TWC	/ /	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Encapsulation treatment is currently not permitted. A pilot study was completed by the Pantex Plant that showed that LDR treatment standards were achieved by epoxy-based encapsulation processes. It is currently unknown whether encapsulation will be pursued by the plant as a treatment option for debris or other MLLW.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS

Permit modification, equipment procurement, staffing, training, NEPA, SAR. It is not determined that the plant will pursue this treatment.

OTHER PERMIT LIMITATIONS & COMMENTS

Date of issuance/application submission for permits not determined at this time.

TECHNOLOGY	MATRIX
Immobilization	Aqueous Liquids
	Organic Sludges/Particulates
	Inorganic Sludges/Particulates
	Cemented Solids
	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
	Inorganic Solids
	Organic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Pantex Plant
FACILITY: Burning Ground
SYSTEM: 00354, One Cage, One Tray, and One Pan
CONTACT: J. Evett 505-845-4445

	DESIGN	PERMIT
M3/YR	4	4

System Capacity

ADS NUMBER: 3104
STATUS: Existing Could be used for mixed waste

MLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	Y	CH	N	N	N	Y	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Part B App	TWC	09/30/93	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Under interim status, the Pantex Plant is authorized to burn HE-contaminated LLW. Currently, no mixed waste is treated at the burning grounds. At some time in the future, the plant may choose to treat MLLW at the burning grounds. Currently, the Texas Water Commission is reviewing a RCRA Permit modification, that if approved, will permit the plant to burn MLLW at the Burning Ground.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS

Upgrading burning area/equipment is required. Texas Water Commission approval of RCRA permit. NEPA approval.

TECHNOLOGY	MATRIX
Thermal Destruction	Inorganic Sludges/Particulates
	Inorganic Debris
	Explosives

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Pantex Plant

FACILITY: Hazardous Waste Treatment & Processing Facility

SYSTEM: 00109, Hazardous Waste Treatment & Processing Facility

CONTACT: J. Evett 505-845-4445

ADS NUMBER: 3103

STATUS: Planned Approved

		DESIGN	PERMIT
System Capacity	M3/YR	500	500

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	Y	CN	N	N	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
31 TAC 335	State	Texas	10/31/94	/ /

OTHER INFORMATION

Plan date operation - FY98.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM

Estimated construction completion is FY 95/96.

CDR completed 9-30-93.

NEPA submitted 9-30-93.

OTHER PERMIT LIMITATIONS & COMMENTS

Requires approval from Texas.

TECHNOLOGY

Immobilization

MATRIX

Aqueous Liquids

Inorganic Sludges/Particulates

Cemented Solids

Organic Debris

Inorganic Debris

Inorganic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Portsmouth Gaseous Diffusion Plant
FACILITY: Waste Treatment Facility
SYSTEM: 00331, Waste Treatment Facility
CONTACT: T. A. Acox 614-897-6415

ADS NUMBER: 6201
STATUS: Planned Unapproved

	DESIGN	PERMIT
M3/YR	0	0

System Capacity

HLW	LLW	TRU	-TRU- ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	Y	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	None	State	/ /	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Project not funded.

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM
Funding is budgeted beginning in FY96. Project scope is undefined; feasibility study has not been funded.

OTHER PERMIT LIMITATIONS & COMMENTS
A RCRA permit application will be required and a RCRA permit issued prior to construction of the facility. There has been no funding to date to support this effort.

TECHNOLOGY	MATRIX
Unspecified	Unspecified

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

			DESIGN	PERMIT
SITE:	Portsmouth Gaseous Diffusion Plant			
FACILITY:	X-616 Liquid Effluent Control Facility			
SYSTEM:	00512, X-616 Liquid Effluent Control Facility	M3/YR	0	7400000
CONTACT:	T. A. Acox 614-897-6415			

System Capacity

ADS NUMBER:

STATUS: Existing Could be used for mixed waste

		-TRU-						RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	Y	N	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
NPDES	Final	State	09/23/91	07/29/94

OTHER INFORMATION

Design capacity = 28,000 m3/day.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

In June 1991, the recirculating cooling water was changed from a chromate-based system to a phosphate-based system. Subsequently, the NPDES permit was modified to require no treatment of the phosphated water. Currently, the X-616 facility is nonoperational. Any changes in the operational status would require the appropriate permitting authority.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS

Facility will need modifications and permit authority for operation.

OTHER PERMIT LIMITATIONS & COMMENTS

The operations at the X-616 facility have been discontinued upon agreement with Ohio EPA if the monitoring conditions of the permit are met.

Monitoring requirements for this facility include Cr, Cu, Fe, Ni, Zn, chloroform, trichloroethyene, oil and grease, total nonfilterable residue and total dissolved solids with specified limits on concentrations and mass loading. It is anticipated that more stringent limits will be imposed upon issuance of the new NPDES permit in 1994.

Additionally, monitoring requirements are imposed for mercury and acute toxicity to Ceriodaphnia and Pimephales promelas. While there are currently no specified limits for these parameters, it is anticipated that limits will be imposed upon issuance of the new NPDES permit in 1994.

TECHNOLOGY	MATRIX
Chemical Precipitation	Aqueous Liquids
Filtration	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Portsmouth Gaseous Diffusion Plant
FACILITY: X-622 Groundwater Treatment Facility
SYSTEM: 00310, X-622 Groundwater Treatment Facility
CONTACT: T. A. Acox 614-897-6415

	DESIGN	PERMIT
MG/YR	78576	78576

System Capacity

ADS NUMBER: 6801
STATUS: Existing Operating

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	N	N	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
NPDES	Final	State	09/23/91	07/29/94

OTHER INFORMATION
Currently treating mixed waste from groundwater sampling and remediation from around X-749 landfill unit.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
NPDES Permit limits use of the facility to treatment to groundwater collected from around X-749 facility.

OTHER PERMIT LIMITATIONS & COMMENTS
Effluent concentrations limited to 10 ug/l for trichloroethene and an average of 25 ug/l for 1,2-dichloroethene. Other requirements will have to be negotiated with the State. In order to efficiently meet effluent criteria, waste acceptance criteria have been established.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
Facility is operated to treat groundwater related to Interim Remedial Measures mandated by the Consent Order agreement with US EPA and the Consent Decree with the Ohio Attorney General.

TECHNOLOGY	MATRIX
Carbon Adsorption	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Portsmouth Gaseous Diffusion Plant				
FACILITY:	X-622T Groundwater Treatment Facility				
SYSTEM:	00315, X-622T Groundwater Treatment Facility		M3/YR	69628	69628
CONTACT:	T. A. Acox	614-897-6415			
				System Capacity	

ADS NUMBER: 6801
STATUS: Planned Approved

			-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	N	N	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
NPDES	Final	State	09/23/91	07/29/94

OTHER INFORMATION
Treatment limited to groundwater from X-705 basement french drain system.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Limited to groundwater from X-705 and X-700 facilities.

OTHER PERMIT LIMITATIONS & COMMENTS
Effluent concentrations limited to 10 ug/l (average and maximum) for trichloroethene. Other requirements will have to be negotiated with the State. In order to efficiently meet effluent criteria, waste acceptance criteria have been established.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
Facility is operated to treat groundwater related to Interim Remedial Measures mandated by the Consent Decree with the Ohio Attorney General.

TECHNOLOGY	MATRIX
Carbon Adsorption	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Portsmouth Gaseous Diffusion Plant

FACILITY: X-623 Groundwater Treatment Facility

SYSTEM: 00316, X-623 Groundwater Treatment Facility

CONTACT: T. A. Acox 614-897-6615

	DESIGN	PERMIT
KG/YR	99470	99470
System Capacity		

ADS NUMBER:

STATUS: Planned Approved

KEY DECISION STATUS: KD-3 DATE STATUS ACHIEVED: / / CONSTRUCTION COMPLETION DATE: /

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	N	N	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
NPDES	Final	State	/ /	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

System currently under construction. Influent flow limited to groundwater from X-701B Holding Pond area, purge water from plantsite groundwater wells, and groundwater from other plantsite RFI/CMS activities.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Facility is operated to support the closure plan for the X-701B Holding Pond. Facility will also provide support to requirements under the US EPA Consent Order and Ohio Consent Decree.

TECHNOLOGY	MATRIX
Carbon Adsorption	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Portsmouth Gaseous Diffusion Plant				
FACILITY:	X-624 Groundwater Treatment Facility				
SYSTEM:	00308, X-624 Groundwater Treatment Facility		M3/YR	99470	99470
CONTACT:	T. A. Acox	614-897-6415			
				System Capacity	

ADS NUMBER: 6801
STATUS: Existing Operating

		-TRU-						RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	N	N	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
NPDES	Final	State	09/23/91	07/29/94

OTHER INFORMATION
Treating mixed waste from groundwater sampling and groundwater from remediation activities from X-701B Interim Measures Trench.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Limited to treatment of groundwater and related liquids. Five (5) mg solvent/liter maximum influent.

OTHER PERMIT LIMITATIONS & COMMENTS
Effluent concentrations limited to 26 ug/l (average) and 69 ug/l (maximum) for trichloroethene. Other requirements will have to be negotiated with the State. In order to efficiently meet effluent criteria, waste acceptance criteria have been established.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
Facility is operated to treat groundwater related to Interim Remedial Measures mandated by the Consent Order agreement with US EPA and the Consent Decree with the Ohio Attorney General.

TECHNOLOGY	MATRIX
Air Stripping	Aqueous Liquids
Carbon Adsorption	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Portsmouth Gaseous Diffusion Plant				
FACILITY:	X-701E Groundwater Treatment Facility				
SYSTEM:	00307, X-701E Groundwater Treatment Facility		M3/YR	99470	120000
CONTACT:	T. A. Acox	614-897-6415			
				System Capacity	

ADS NUMBER: 6801
STATUS: Existing Operating

		-TRU-						RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	N	N	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
NPDES	Final	State	09/23/91	07/29/94

OTHER INFORMATION
Treating mixed waste from groundwater sampling, groundwater from remediation activities, and accumulated rainfall in X-701B Holding Pond area.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Limited to treatment of groundwater and related waters. Facility operations will cease when X-623 Groundwater Treatment Facility (now under construction) becomes operational.

OTHER PERMIT LIMITATIONS & COMMENTS
Influent flow is limited to groundwater and rainfall collected in X-701B Holding Pond.

Effluent concentrations limited to 10 ug/l for trichloroethene and an average of 25 ug/l for 1,2-dichloroethene. Other requirements will have to be negotiated with the State. In order to efficiently meet effluent criteria, waste acceptance criteria have been established.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
Facility is operated to support the closure plan for the X-701B Holding Pond.

TECHNOLOGY	MATRIX
Carbon Adsorption	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Portsmouth Gaseous Diffusion Plant
FACILITY: X-705 Decontamination Facility
SYSTEM: 00313, Microfiltration
CONTACT: T. A. Acox 614-897-6415

ADS NUMBER:
STATUS: Existing Operating

	DESIGN	PERMIT
M3/YR	3000	3000

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	N	N	N	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
NPDES	Final	State	09/23/91	07/29/94

OTHER INFORMATION
Treating mixed waste from cleaning and decontamination operations from all facilities on site.
SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Limited to site decontamination and cleaning solutions by NPDES permits.

Operations are limited by nuclear criticality. Operational agreements limits concentration in storage to 500 mg U/liter and to 150 mg U/liter in the first stage pH adjustment. Additional agreement limits total U238 in sludge containers to 200 grams/55-gal drum.

OTHER PERMIT LIMITATIONS & COMMENTS
Monitoring requirements for the facility include Cr, Fe, Ni, Zn, N (as NH4, NO3, NO2 and total), oil and grease, and trichloroethane; however, there are no specified limits. It is anticipated that limits will be imposed upon issuance of the new NPDES permit in 1994.

Influent flows are limited to liquids from plantsite cleaning and decontamination operations.

TECHNOLOGY	MATRIX
Filtration	Aqueous Liquids
Neutralization	Aqueous Liquids

Information Developed to Facilitate Identification of Potential Treatment Options Date: 10/20/93

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Portsmouth Gaseous Diffusion Plant				
FACILITY:	X-705 Decontamination Facility				
SYSTEM:	00311, Uranium Recovery and Raffinate Treatment System		KG/YR	150	150
CONTACT:	T. A. Acox	614-897-6415			
				System Capacity	

ADS NUMBER:

STATUS: Existing Operating

			-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	Y	Y	N	N	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
NPDES	Final	State	09/23/91	07/29/94

OTHER INFORMATION

influent stream limited to uranium bearing solutions from specific operations.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

NPDES permit limits treatment and decontaminated cleaning solutions. Administrative controls require economic analysis for solutions.

Nuclear criticality agreements limit U238 to 200 grams per container (1 cubic yd). Also limited to uranium concentration of 5 mg effluent from ion exchange unit.

OTHER PERMIT LIMITATIONS & COMMENTS

Monitoring requirements for this facility include Cr, Fe, Ni, Zn, N (as NH4, NO3) with specified limits on concentrations and mass loading. It is anticipated that more stringent limits will be imposed upon issuance of the new NPDES permit in 1994.

TECHNOLOGY	MATRIX
Biodenitrification	Aqueous Liquids
Filtration	Aqueous Liquids
Ion Exchange	Aqueous Liquids
Liquid Extraction	Aqueous Liquids
Neutralization	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Quadrex Environmental, Gainesville, FL

FACILITY: Quadrex Environmental

SYSTEM: 00545, Incineration of Scintillation Liquids

CONTACT: Kathy Garener 904-373-6066

ADS NUMBER:

STATUS: Existing Operating Commercial

System Capacity	DESIGN	PERMIT
M3/YR	0	0

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	N	N	Y	Y	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Part A	State	09/28/90	09/27/95
RML	Final	State	06/04/93	10/30/95

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

OTHER PERMIT LIMITATIONS & COMMENTS

RCRA ID # FLD 980 711 071. Permit/Certification No. NO 01-169480 permit to operate a tank and a container storage area.

RML - Radioactive Materials License No. 1354-1.

TECHNOLOGY	MATRIX
Incineration	Organic Liquids
	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Ramp Industries, Denver, CO
FACILITY: Ramp Industries
SYSTEM: 00514, Ramp Industries
CONTACT: John Lucas 303-480-1509

ADS NUMBER:
STATUS: Existing Operating Commercial

	DESIGN	PERMIT
M3/YR	0	0

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	Y	N	Y	Y	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCA	Final	CDH	06/21/93	10/30/92
RCRA	Part A App	State	01/26/88	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

OTHER PERMIT LIMITATIONS & COMMENTS

RCA - Radiation Control Act Title 25, Article 11, CRS 1989.
Radioactive Materials License No. Colorado 523-01.
Renewal application submitted prior to 10/30/92.

EPA ID No. COD 980 718 985. Part A application includes container storage and treatment in tanks.

TECHNOLOGY	MATRIX
Compaction	Organic Debris
	Inorganic Debris
	Lab Packs with Metals
	Inorganic Solids
	Organic Solids
Decontamination	Organic Debris
	Inorganic Debris
	Inorganic Solids
	Organic Solids
Macroencapsulation	Inorganic Debris
	Calcine Solids
	Inorganic Solids
Shredding	Organic Debris
	Inorganic Solids
	Organic Solids
Solidification	Organic Liquids
	Aqueous Liquids
	Organic Sludges/Particulates

Information Developed to Facilitate Identification of Potential Treatment Options Date: 10/20/93

	Inorganic Sludges/Particulates
	Soil with <50% Debris
	Soils
	Beryllium Dust
Stabilization	Organic Liquids
	Aqueous Liquids
	Organic Sludges/Particulates
	Inorganic Sludges/Particulates
	Soil with <50% Debris
	Soils

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Rocky Flats Plant

FACILITY: Advanced Size Reduction Facility: Building 776

SYSTEM: 00014, Unit 62, Advanced Size Reduction Facility

CONTACT: Bob Griffis 303-966-4934

ADS NUMBER: 3821

STATUS: Existing Could be used for mixed waste

	DESIGN	PERMIT
M3/YR	1819	0

System Capacity

PERMIT [Other UNIT of MEASURE]: Solids:1.3 tons/hr

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	CH	N	N	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State	11/02/89	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Design capacity = 2,080 tons/yr. System exists and is planned for future use, year to be determined. No Rocky Flats Plant mixed waste streams have yet been identified for processing in this system.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS

System is non-operational due to major upgrades - repairs.

OTHER PERMIT LIMITATIONS & COMMENTS

Permit strictly prohibits receipt of offsite waste.

TECHNOLOGY	MATRIX
Size Reduction	Organic Debris
	Inorganic Debris

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Rocky Flats Plant
FACILITY: Aqueous Process Waste Treatment: Building 774
SYSTEM: 00001, Wastewater
CONTACT: Bob Griffis 303-966-4934

ADS NUMBER: 3821
STATUS: Existing Operating

	DESIGN	PERMIT
M3/YR	1819	0

System Capacity
PERMIT (Other UNIT of MEASURE): 130,060 gal/hour

			TRU					RCRA CHARACTERISTICS		
MLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	CN	Y	Y	Y	Y	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State	07/01/88	/ /

OTHER INFORMATION

RCRA codes MW stream RFP 1070 D002A, D002B, F001, F002, F003, F005A. RCRA codes MW stream RFP 2050 D001B, D002A, D011.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Has the capability to process non-radioactive photographic solutions for silver recovery. The recovered silver is formed into ingots.

OTHER PERMIT LIMITATIONS & COMMENTS

RFP has indicated its intentions to the State to close the photochemical treatment unit. Also, the treatment system contains multiple-technology units, not all of which can treat organics.

TECHNOLOGY	MATRIX
Chemical Precipitation	Organic Liquids Aqueous Liquids Inorganic Sludges/Particulates
Deactivation	Organic Liquids Aqueous Liquids Inorganic Sludges/Particulates
Filtration	Organic Liquids Aqueous Liquids Inorganic Sludges/Particulates
Neutralization	Organic Liquids Aqueous Liquids Inorganic Sludges/Particulates

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Rocky Flats Plant
FACILITY: Building 374
SYSTEM: 00007, Process Waste Treatment Facility: Building 374
CONTACT: Bob Griffis 303-966-4934

		DESIGN	PERMIT
	M3/YR	149000	0

System Capacity
PERMIT [Other UNIT of MEASURE]: 4835 gal/hour

ADS NUMBER: 3821
STATUS: Existing Operating

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	CH	N	N	N	N	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State	06/08/90	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Upgrades to system are in design phase with plan date of operation - FY98. System will treat MTRU/MLLW. Future capacity to treat liquid wastes is to be determined.

OTHER PERMIT LIMITATIONS & COMMENTS

Can only accept waste generated onsite at RFP. Liquid waste fed to the evaporator must contain less than 13,500 picocuries/liter.

TECHNOLOGY	MATRIX
Deactivation	Aqueous Liquids Inorganic Sludges/Particulates
Decontamination	Aqueous Liquids Inorganic Sludges/Particulates
Evaporation	Aqueous Liquids Inorganic Sludges/Particulates
Immobilization	Aqueous Liquids Inorganic Sludges/Particulates
Neutralization	Aqueous Liquids Inorganic Sludges/Particulates
Solidification	Aqueous Liquids Inorganic Sludges/Particulates

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Rocky Flats Plant

FACILITY: Building 374/774 Salt And Sludge Treatment

SYSTEM: 00343, Building 374/774 Salt And Sludge Treatment

CONTACT: Scott Miya 303-273-6027

		DESIGN	PERMIT
System Capacity	KG/YR	0	0

ADS NUMBER: 3830/3822

STATUS: Planned Approved

KEY DECISION STATUS: KD-0 DATE STATUS ACHIEVED: 08/01/93 CONSTRUCTION COMPLETION DATE: 09/99

		-TRU-						RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	Y	N	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	None	State	/ /	/ /
NPDES	App	EPA	/ /	/ /

OTHER INFORMATION

Design capacity to be determined. System 4A - Salt Treatment - Planned Unapproved. System 4B - Sludge Treatment - Planned Approved.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Salt and Sludge Treatment Building 374 and 774 is Treatment System 4A and 4B in the Implementation Model. Line Item Year - 4A is FY97. Line Item Year - 4B is FY96. The Building 374/774 Salt and Sludge Treatment System (CTMP Systems 4A and 4B) immobilization technologies are yet to be determined. Immobilization in System 4B will be achieved via microwave solidification or polymer solidification or cementation.

Waste Codes: D006, D008, F001, F002, F003, F005A, F006, F007, and F009.
System 4A will treat ignitable wastes and waste code D001. Nitrate salts may be oxidizer.

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM

System 4B conceptual design 60% completed. Immobilization technologies are yet to be determined. Microwave melting, polymer, and cement solidification are candidates. Not bench scale testing of each technology scheduled for FY94.

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM

The immobilization technology which will be used has not yet been determined, but will be either cementation or polymer solidification. Bench scale testing of actual waste began in FY93 with polymer and cement.

OTHER PERMIT LIMITATIONS & COMMENTS

Part B to be applied for (System 4A submittal date - 1/97. System 4B submittal date - 1/96).

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Proposed facility is under the CTMP. CTMP is an enforceable plan per compliance agreement between EPA & DOE, the LDR FFCA II.

TECHNOLOGY	MATRIX
Immobilization	Inorganic Sludges/Particulates

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Rocky Flats Plant				
FACILITY:	Building 776 Low-Level Mixed Waste Baler				
SYSTEM:	00013, Building 776 Low-Level Mixed Waste Baler		KG/YR	0	0
CONTACT:	Bob Griffis	303-966-4934			

System Capacity

ADS NUMBER: 3821

STATUS: Existing Could be used for mixed waste

			-TRU-					RCRA CHARACTERISTICS		
MLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	N	N	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA			/ /	/ /

OTHER INFORMATION

Design capacity = 1,056 tons/yr.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

System exists and is planned for future use, year to be determined. No Rocky Flats Plant mixed waste streams have been identified for processing in this system.

Waste Codes: F001, F002, and F005A.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS

The inherent contamination control problem in room 144 of Bldg 776 has to be remedied. The need for this baler, above and beyond the capabilities of the Supercompactor, must be established.

OTHER PERMIT LIMITATIONS & COMMENTS

This unit has been removed from the RCRA Part A permit. Change to Interim Status submitted to State, but not approved. Would require permitting. No plans to do so at present.

TECHNOLOGY	MATRIX
Compaction	Organic Debris
	Inorganic Debris

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Rocky Flats Plant
FACILITY: Chip Cementation: Building 447
SYSTEM: 00020, Chip Cementation: Building 447
CONTACT: Bob Griffis 303-966-4934

		DESIGN	PERMIT
M3/YR		5	0

ADS NUMBER:
STATUS: Existing Could be used for mixed waste

System Capacity
PERMIT [Other UNIT of MEASURE]: 1100 gal/day

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	N	N	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State	06/08/90	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
System exists and is planned for future use, year to be determined.

Waste Codes: D008C, F001, and F002
REQUIREMENTS FOR USE OF EXISTING SYSTEMS
Non-operational. Pending closure.
OTHER PERMIT LIMITATIONS & COMMENTS
Part A has specific waste and quantities identified.
No offsite waste accepted.

TECHNOLOGY	MATRIX
Solidification	Inorganic Debris
Stabilization	Inorganic Debris

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Rocky Flats Plant

FACILITY: Evaporator Upgrade and Waste System Evaporator

SYSTEM: 00544, Evaporator Upgrade and Waste System Evaporator

CONTACT: Tom Johnson 303-966-6404

		DESIGN	PERMIT
	M3/YR	0	0
	System Capacity		

ADS NUMBER:

STATUS: Planned Unapproved

HLW	LLW	TRU	-TRU- ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	N	N	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA			/ /	/ /

OTHER INFORMATION

The Evaporator Upgrade project will be completed in FY94.

The Waste System Evaporator project will be completed in two phases.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM

Upgrade project would replace worn and obsolete components of the multiple-effect evaporator.

OTHER PERMIT LIMITATIONS & COMMENTS

Permit would need to be modified.

TECHNOLOGY	MATRIX
Evaporation	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Rocky Flats Plant

FACILITY: Fabric Filtration: Buildings 444,447, and 460

SYSTEM: 00006, Fabric Filtration: Buildings 444,447, and 460

CONTACT: Bob Griffis 303-966-4934

ADS NUMBER:

STATUS: Existing Operating

	DESIGN	PERMIT
M3/YR	12128	0

System Capacity

PERMIT (Other UNIT of MEASURE): 2000 gal/hour

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	N	N	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State	11/26/86	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Permitted capacity = 12,128 m3/year, Normal operating capacity = 3,411 m3/year, and Available capacity = 8,717 m3/year. This is a currently operating system.

Filter system utilizes filter paper resulting in waste paper that is collected in 55-gallon drums.

OTHER PERMIT LIMITATIONS & COMMENTS

460 permitted for hazardous only.

No offsite waste allowed.

Part A has specific wastes and quantities identified.

TECHNOLOGY	MATRIX
Filtration	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Rocky Flats Plant

FACILITY: Low-Level Mixed Waste Baler: Building 889

SYSTEM: 00339, Low-Level Mixed Waste Baler: Building 889

CONTACT: Bob Griffis 303-966-4934

		DESIGN	PERMIT
System Capacity	M3/YR	0	0

ADS NUMBER: 3821

STATUS: Existing Could be used for mixed waste

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	N	N	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State	/ /	/ /

OTHER INFORMATION

Design capacity = 1,056 tons/yr.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

System exists and is planned for future use, year to be determined. No Rocky Flats Plant mixed waste streams have yet been identified for processing in this system.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS

The Bldg 889 facility upgrades must be completed. In addition, all required safety documentation must be completed and approved.

OTHER PERMIT LIMITATIONS & COMMENTS

This unit has been removed from the Part A permit. Change to Interim Status submitted to State but not approved. Would require permitting. No plans to do so at present.

TECHNOLOGY	MATRIX
Compaction	Organic Debris
	Inorganic Debris

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Rocky Flats Plant				
FACILITY:	Misc. Waste Handling & Immob.: Bldg 774				
SYSTEM:	00338, Misc. Waste Handling & Immob.: Bldg 774		M3/YR	42	0
CONTACT:	Bob Griffis	303-966-4934			

System Capacity

ADS NUMBER: 3821

PERMIT [Other UNIT of MEASURE]: 55 gal/day

STATUS: Existing Operating

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	CH	N	N	N	N	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State	11/02/89	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

This is a currently operating system.

RCRA codes MW Stream RFP 1066 D002A, D002B, and D007.

OTHER PERMIT LIMITATIONS & COMMENTS

Permit strictly limits receipt of offsite waste.

TECHNOLOGY	MATRIX
Solidification	Aqueous Liquids
Stabilization	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Rocky Flats Plant

FACILITY: Miscellaneous Waste Form Treatment

SYSTEM: 00341, Miscellaneous Waste Form Treatment

CONTACT: Lee Lucero 303-966-5667

		DESIGN	PERMIT
		System Capacity	
M3/YR		250	0

ADS NUMBER: 3822

STATUS: Planned Approved

KEY DECISION STATUS: KD-0 DATE STATUS ACHIEVED: 08/01/93 CONSTRUCTION COMPLETION DATE: 12/01

		-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	Y	CH	Y	Y	Y	Y	Y	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	None	State	/ /	/ /

OTHER INFORMATION

TDO Number 3822.F11.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Is System 3 in the CTMP Implementation model. LI Year - FY96. Waste codes: D001B, D002A, D002B, D003D, D003E, D004, D005, D006B, D007, D008B, D009, D009C, D010, D011, F001, F002, F003, F005A, and P015.

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM

Conceptual design - 60% completed.

OTHER PERMIT LIMITATIONS & COMMENTS

Part B applied for.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Proposed facility is under the CTMP. CTMP is an enforceable plan per compliance agreement between EPA & DOE, the LDR FFCA II.

TECHNOLOGY	MATRIX
Immobilization	Aqueous Liquids
	Inorganic Sludges/Particulates
	Inorganic Debris
	Heterogeneous Debris
	Beryllium Dust
	Inorganic Solids
	Organic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Rocky Flats Plant
FACILITY: Mixed Residue Treatment
SYSTEM: 00345, Mixed Residue Treatment
CONTACT: Don Dustin 303-966-3809

ADS NUMBER:
STATUS: Planned Unapproved

	DESIGN	PERMIT
M3/YR	0	0

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	B	Y	Y	Y	Y	Y	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	None	State	/ /	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Further waste characterization and examination of technology alternatives is required to correctly identify treatment pathways for all the mixed residue waste forms.

Waste codes: D001, D002, D003, D006, D007, D008, F001, F002, F003, F005

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM
Current efforts consist of developing a program and schedule for the removal of all mixed residues covered by the June 1993 Settlement Agreement and Compliance Order on Consent.

OTHER PERMIT LIMITATIONS & COMMENTS
All required permit applications still need to be submitted. Schedule not determined.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
Facility is covered under the June 1993 Settlement Agreement and Compliance Order on Consent which orders implementation of the "Mixed Residue Reduction Program."

TECHNOLOGY	MATRIX
Actinide Separation	Aqueous Liquids Inorganic Sludges/Particulates Inorganic Debris
Oxidation Process	Aqueous Liquids Inorganic Sludges/Particulates Inorganic Debris
Surface Decontamination	Aqueous Liquids Inorganic Sludges/Particulates Inorganic Debris Unspecified
Volume Reduction	Aqueous Liquids Inorganic Sludges/Particulates Inorganic Debris

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Rocky Flats Plant

FACILITY: Modular Storage Tanks and Building 910 Evaporator

SYSTEM: 00543, Evaporation/Immobilization

CONTACT: Bob Griffis 303-966-4934

	DESIGN	PERMIT
M3/YR	0	0

System Capacity

ADS NUMBER: 3821

PERMIT [Other UNIT of MEASURE]: 54,000 gal/day

STATUS: Existing Operating

HLV	LLV	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	N	N	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State/EPA	/ /	/ /

OTHER INFORMATION

Design capacity = 50,000 gal/day.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Waste codes: F001, F002, F003, F005A, F006, F007, and F009.

OTHER PERMIT LIMITATIONS & COMMENTS

Air permit limits NOx production from evaporator's natural gas fired engines. State has allowed use as part of interim measure - treating groundwater only. Other uses not permitted.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Part of OU6-IM/IRA.

TECHNOLOGY	MATRIX
Evaporation	Aqueous Liquids
Immobilization	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Rocky Flats Plant

FACILITY: Organic and Sludge Immob. System: Building 774

SYSTEM: 00005, Organic & Sludge Immobilization Sys.: Bldg 774

CONTACT: Bob Griffis 303-966-4934

		DESIGN	PERMIT
		System Capacity	
KG/YR		270	0

ADS NUMBER: 3821

STATUS: Existing Operating

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	CH	N	N	Y	Y	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State	07/01/88	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

This is a currently operating treatment system, employing concentration to solidify oils contaminated with organics.

TECHNOLOGY	MATRIX
Immobilization	Organic Liquids
	Organic Sludges/Particulates
Solidification	Organic Liquids
	Organic Sludges/Particulates

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

			DESIGN	PERMIT
SITE:	Rocky Flats Plant			
FACILITY:	Pondcrete Solidification Process: Building 788			
SYSTEM:	00018, Pondcrete Solidification Process: Building 788	KG/YR	0	0
CONTACT:	Bob Griffis 303-966-4934			

—— System Capacity ——

ADS NUMBER:

PERMIT [Other UNIT of MEASURE]: 20,800 tons/yr

STATUS: Existing Could be used for mixed waste

		-TRU-						—— RCRA CHARACTERISTICS —		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	N	N	N	N	N	N

—— PERMIT STATUS INFORMATION ——

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State	06/08/90	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Design capacity = 20,800 tons/yr. This system exists and is planned for future use, year to be determined. Final waste form does not meet LDR requirements. The Halliburton NUS B&C Process Trains are planned to replace this facility.

Mixed waste stream to be treated is solar pond waste with a matrix of aqueous liquid contaminated with toxic organics and metals without mercury. Waste codes: D0008, F001, F002, F003, F005A, F006, F007, and F009.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS

This system to be replaced by another planned/approved system. Non-operational due to pending closure.

OTHER PERMIT LIMITATIONS & COMMENTS

Permit strictly prohibits receipt of offsite waste.

TECHNOLOGY	MATRIX
Solidification	Aqueous Liquids
	Inorganic Sludges/Particulates

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

			DESIGN	PERMIT
SITE:	Rocky Flats Plant			
FACILITY:	Pondcrete/Saltcrete Reprocessing Facility: 750PAD			
SYSTEM:	00016, Pondcrete/Saltcrete Reprocessing Fac.: 750PAD	M3/YR	0	0
CONTACT:	Bob Griffis 303-966-4934			

System Capacity

ADS NUMBER:

STATUS: Existing Could be used for mixed waste

		-TRU-						RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	Y	N	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	None	State	/ /	/ /

OTHER INFORMATION

Design capacity = 6,608 tons/yr.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Facility exists and is planned for future use, year to be determined. System also reprocesses previously solidified pondcrete and saltcrete.

Designed to meet LDR requirements but testing of final waste form indicates does not meet LDR requirements.

Waste codes: D006B, F001, F002, F003, F005A, F006, F007, and F009.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS

Permit modification. Some system refurbishment and upgrades.

OTHER PERMIT LIMITATIONS & COMMENTS

No current schedule to submit permit modification.

TECHNOLOGY	MATRIX
Solidification	Inorganic Sludges/Particulates

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Rocky Flats Plant

FACILITY: Pondcrete/Saltcrete Reprocessing Facility: 904PAD

SYSTEM: 00017, Pondcrete/Saltcrete Reprocessing Fac.: 904PAD

CONTACT: Bob Griffis 303-966-4934

		DESIGN	PERMIT
System Capacity	KG/YR	0	0

ADS NUMBER:

STATUS: Existing Could be used for mixed waste

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	Y	N	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	None	State	/ /	/ /

OTHER INFORMATION

Design capacity = 3,312 tons/yr.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Facility exists and is planned for future use, year to be determined. System also reprocesses previously solidified pondcrete and saltcrete.

Designed to meet LDR requirements but testing of final waste form indicates does not meet LDR requirements.

Waste codes: D006B, F001, F002, F003, F005A, F006, F007, and F009.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS

Permit modification. Some system refurbishment and upgrades.

OTHER PERMIT LIMITATIONS & COMMENTS

No current schedule to submit permit modification.

TECHNOLOGY	MATRIX
Solidification	Inorganic Sludges/Particulates

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Rocky Flats Plant

FACILITY: Size Reduction Vault: Building 776

SYSTEM: 00012, Size Reduction Vault: Building 776

CONTACT: Bob Griffis 303-966-4934

	DESIGN	PERMIT
M3/YR	0	0

System Capacity

PERMIT [Other UNIT of MEASURE]: .44 tons/hr

ADS NUMBER: 3821

STATUS: Existing Operating

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	CH	N	N	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State	11/02/89	/ /

OTHER INFORMATION

Design capacity = 704 tons/yr.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

This is a currently operating treatment system. Waste streams listed include Inorganic Debris with toxic organics and metals without mercury contamination; Inorganic Debris with toxic organic contaminants; and Elemental Lead with toxic metals without mercury contaminants.

Waste codes: D001F, D002C, D003A, D003E, D005, D006B, D007, D008B, D008C, F001, F002, and F005A.

OTHER PERMIT LIMITATIONS & COMMENTS

Permit prohibits receipt of offsite waste without CDH Permission (Class 1 modification). Permit may need to be modified for all waste codes listed above.

TECHNOLOGY	MATRIX
Size Reduction	Organic Debris
	Inorganic Debris
	Elemental Lead

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Rocky Flats Plant				
FACILITY:	Solidified Bypass Sludge Treatment				
SYSTEM:	00342, Solidified Bypass Sludge Treatment		M3/YR	0	0
CONTACT:	Scott Miya	303-273-6027			
				System Capacity	

ADS NUMBER: 3822
STATUS: Planned Unapproved

			-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	Y	N	Y	Y	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	None	State	/ /	/ /

OTHER INFORMATION
Design capacity to be determined.
Plan date operation - FY06.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Solidied Bypass Sludge Treatment is System #2 in the CTMP Implementation Model. Line Item Year FY97. The Solidified Bypass Sludge Treatment System (CTMP System 2) technologies for immobilization are not yet determined. Immobilization will be completed via microwave solidification or polymer solidification or cementation.

Waste codes: D006B, D008B, F001, F002, and F005A.

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM
Specific technology for immobilization has not yet been determined. Candidate technologies for immobilization are microwave solidification, polymer solidification, and cementation.

OTHER PERMIT LIMITATIONS & COMMENTS
Part B to be applied for upon completion of Title I engineering (scheduled 8/97).

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
LLM Solidified Bypass Sludge Treatment System is a proposed treatment facility under the CTMP. CTMP is an enforceable plan per compliance agreement between EPA and DOE, the LDR FFCA II.

TECHNOLOGY	MATRIX
Immobilization	Inorganic Sludges/Particulates

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Rocky Flats Plant				
FACILITY:	Solvent Contaminated Waste System				
SYSTEM:	00340, Solvent Contaminated Waste System		M3/YR	0	0
CONTACT:	Frank Humbert	303-273-6160			
				System Capacity	

ADS NUMBER: 3822
STATUS: Planned Unapproved

			-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	Y	Y	Y	Y	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	None	State	/ /	/ /
CAA	None	EPA	/ /	/ /

OTHER INFORMATION

System 1A - Thermal (TDD 3822.F17). System 1B - Non-Thermal.

Design capacity is to be determined.

For both systems, excess chemicals, PCB solids, and cutoff sludge fall under the "multiple" matrix.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Solvent Contaminated Waste System - Thermal is Treatment System 1A in the CTMP Implementation Model. Line Item Year is FY97. The Solvent Contaminated Waste Treatment System (CTMP System 1A) technologies for thermal destruction and immobilization are yet to be determined. Destruction will be completed via a fluidized bed unit or controlled air incinerator or plasma arc furnace, and immobilization will be completed via microwave solidification or polymer solidification of cementation.

Waste codes: D001A, D001B, D001E, D001F, D002A, D002B, D002C, D003A, D003B, D003D, D003E, D004, D005, D006B, D007, D008, D009B, D009A, D009B, D009C, D009D, D010, D011, D038, D040, F001, F002, F003, F005A, F006, F009, P015, P029, P074, P087, P098, P104, P106, P112, and U123.

Solvent Contaminated Waste System - Non-Thermal is Treatment System 1B in the CTMP Implementation Model. Line Item Year is FY99. The Solvent Contaminated Waste Treatment System (CTMP System 1B) technologies for non-thermal destruction and immobilization are yet to be determined. Destruction will be completed via UV oxidation or mediated electrochemical oxidation or biodegradation or catalytic oxidation or supercritical water oxidation or chemical oxidation (alkaline chlorination) or surface organics removal, and immobilization will be completed via microwave solidification or polymer solidification or cementation.

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM

System 1A - Fluidized bed incineration technology undergoing cold surrogate testing at a full scale test incinerator in FY94.

System 1B - Alternatives to incineration technologies undergoing cold surrogate testing in FY94: Mediated Electrochemical Oxidation; Supercritical Water Oxidation; Catalytic Wet Chemical Oxidation; and Packed Bed Reactor/Silent Discharge Plasma.

OTHER PERMIT LIMITATIONS & COMMENTS

Permit still to be submitted. (System 1A - Scheduled 1/97). (System 1B - Part B permit modification submittal scheduled 2/2003).

System 1B would be constructed if System 1A is not selected.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Proposed facility is under the CTMP. The CTMP is an enforceable plan per compliance agreement between EPA and DOE, the LDR FFCA II.

TECHNOLOGY	MATRIX
Non-Thermal	Organic Liquids
	Aqueous Liquids
	Organic Sludges/Particulates
	Inorganic Sludges/Particulates
	Cemented Solids
	Inorganic Debris
	Heterogeneous Debris
	Other - Multiple
Thermal Destruction	Organic Liquids
	Aqueous Liquids
	Organic Sludges/Particulates
	Inorganic Sludges/Particulates
	Cemented Solids
	Inorganic Debris
	Heterogeneous Debris
	Other - Multiple

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Rocky Flats Plant

FACILITY: Supercompaction & Repackaging Fac.: Bldg 776

SYSTEM: 00019, Supercompaction & Repackaging Fac.: Bldg 776

CONTACT: Bob Griffis 303-966-4934

		DESIGN	PERMIT
	M3/YR	949	0

System Capacity

PERMIT (Other UNIT of MEASURE): .45 tons/hour

ADS NUMBER: 3821

STATUS: Existing Operating

		-TRU-					RCRA CHARACTERISTICS		
MLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	CH	N	N	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	State	/ /	/ /

OTHER INFORMATION

Waste streams are from the inorganic debris matrix contaminated with toxic organics.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Waste codes: F001, F002, and F005A.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS

Not test complete. MTRU - okay to start. MLLW - waiting to receive interim status.

TECHNOLOGY	MATRIX
Compaction	Organic Debris
	Inorganic Debris

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Rocky Flats Plant				
FACILITY:	Surface Organic Removal				
SYSTEM:	00344, Leaded Gloves, and Bulk Lead Treatment		M3/YR	100	0
CONTACT:	Lee Lucero	303-966-5667			
				System Capacity	

ADS NUMBER: 3822
STATUS: Planned Unapproved

		-TRU-						RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	Y	N	Y	Y	Y	Y

OTHER INFORMATION
System 5 of the CTMP.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Line Item Year is FY97. The Surface Organics Removal Treatment System (CTMP System 5) technologies for separation and immobilization are yet to be determined. Separation will be achieved via hot nitrogen stripping or volatilization/steam cleaning, supercritical CO2 extraction, or low temperature thermal stripping. Immobilization will be achieved via polymer solidification and/or cementation.

The multiple matrix includes PCB solids, cut off sludge. EPA codes: D001A, D001F, D002, D003A, F001, F002, F003, F005A, D004, D005, D006B, D007, D008B, D008C, D009, D010, and D011.

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM
Separation and immobilization technologies to be determined. Cold surrogate testing of all technologies proceeding in FY94, with hot bench scale testing and/or TSE in FY95.

OTHER PERMIT LIMITATIONS & COMMENTS
Permit application to be submitted 7/98.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
Proposed facility is under the CTMP. CTMP is an enforceable plan per compliance agreement between EPA and DOE, the LDR FFCA II.

TECHNOLOGY	MATRIX
Immobilization	Inorganic Sludges/Particulates
	Cemented Solids
	Inorganic Debris
	Heterogeneous Debris
	Elemental Lead
	Other - Multiple
Separation	Inorganic Sludges/Particulates
	Cemented Solids
	Inorganic Debris
	Heterogeneous Debris
	Elemental Lead
	Other - Multiple

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Sandia National Lab - New Mexico
FACILITY: Radioactive & Mixed Waste Management Facility
SYSTEM: 00213, Radioactive & Mixed Waste Management Facility
CONTACT: Mona Williams 505-845-5405

	DESIGN	PERMIT
M3/YR	1	0

System Capacity

ADS NUMBER: 1133
STATUS: Existing Could be used for mixed waste

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	Y	CH	Y	N	Y	Y	Y	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	NMED	09/07/90	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
FONSI was just received. Building is complete. Some upgrades and modifications are being made. FY95 start date is possible depending on start-up requirements. The equipment for the intended treatment has not been purchased yet.

This is primarily a repackaging, characterizing, type facility. Very little treatment is going to occur. The treatments listed in their "Draft" Part B application are: Compaction, Shredding & Bailing, Solidification and Stabilization of liquid waste (Bench Scale), Decontamination and waste segregation, pH neutralization (Bench Scale) and Packaging.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS
Facility upgrades, staffing/training, safety documentation, permit modification, equipment procurement.

OTHER PERMIT LIMITATIONS & COMMENTS
Will not treat: HLW, Compressed Gases, RH Waste, Explosives/Pyrotechnics.
RCRA permit renewal is under modification.

TECHNOLOGY	MATRIX
Compaction	Aqueous Liquids
Decontamination	Batteries (Lead Acid, Cadmium)
Neutralization	Cemented Solids
Solidification	Elemental Lead
Stabilization	Inorganic Sludges/Particulates
	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
	Inorganic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Savannah River Site
FACILITY: Consolidated Incineration Facility
SYSTEM: 00143, CIF Ashcrete
CONTACT: D. Salem 803-557-7222

	DESIGN	PERMIT
KG/YR	0	0

System Capacity

ADS NUMBER:
STATUS: Planned Approved
KEY DECISION STATUS: KD-3 DATE STATUS ACHIEVED: 12/01/92 CONSTRUCTION COMPLETION DATE: 03/95

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	Y	RH	Y	Y	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Final	SCDHEC/EPA	09/30/92	/ /

OTHER INFORMATION
Design capacity = 1,000 drums/year.
SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM
Construction is 22 percent complete.
OTHER PERMIT LIMITATIONS & COMMENTS
Permit restricts capacity to onsite needs only.
The CIF Ashcrete system is under a RCRA permit as part of the incineration system. The permit allows the CIF Ashcrete system to receive only ash from the incinerator and ash quench liquid for treatment. Therefore, many of the matrices listed below are not appropriate for the CIF Ashcrete system.
RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
Included in LDR FFCA between DOE and EPA. CIF milestones are: (1) submit quarterly construction reports to EPA; (2) notify EPA 90 days prior to a trial burn & processing of waste; (3) submit semi-annual operational status reports to EPA; (4) begin production runs of LDR waste within 39 months of the effective date of the CIF RCRA permit; and (5) within 90 days of start of production runs, propose to EPA annual waste processing rate milestones & completion date for processing of LDR waste.
Per agreement between EPA, DOE, & SCDHEC, the LDR FFCA will be amended by Nov. 30, 1993 to allow for development of a strategic solid waste plan to support the FFCAct process. At this time, CIF schedule will not be modified. However, any changes in funding or strategy may impact CIF schedule contained in LDR FFCA.

TECHNOLOGY	MATRIX
Stabilization	Aqueous Liquids
	Organic Sludges/Particulates
	Inorganic Sludges/Particulates
	Cemented Solids
	Inorganic Debris
	Heterogeneous Debris
	Soil with <50% Debris
	Soils
	Beryllium Dust
	Inorganic Solids
	Organic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Savannah River Site
FACILITY: Consolidated Incineration Facility (CIF)
SYSTEM: 00531, CIF Blowdown Treatment System
CONTACT: D. Salem 803-557-7222

ADS NUMBER:
STATUS: Planned Unapproved

	DESIGN	PERMIT
M3/YR	0	0

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	Y	Y	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	None	SCDHEC/EPA	/ /	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, UNAPPROVED SYSTEM
Vendor contracts for blowdown treatment were awarded on April 5, 1993.
OTHER PERMIT LIMITATIONS & COMMENTS
Contract activity - terms of contract limit capacity to SRS waste.

TECHNOLOGY	MATRIX
Stabilization	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Savannah River Site				
FACILITY:	Consolidated Incineration Facility				
SYSTEM:	00361, CIF Incinerator - Liquid Feed System		M3/YR	8000000	6500
CONTACT:	D. Salem	803-557-7222			
				System Capacity	

ADS NUMBER:

STATUS: Planned Approved

KEY DECISION STATUS: KD-3 DATE STATUS ACHIEVED: 12/01/92 CONSTRUCTION COMPLETION DATE: 03/95

-TRU-								RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	Y	Y	Y	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Final	SCDHEC/EPA	09/30/92	/ /

OTHER INFORMATION

Design capacity (liquid) = 4.5 million kg/yr.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Facility operates under a RCRA Part B permit. Waste generation and treatment covered under the Land Disposal Restriction Federal Facility Compliance Agreement. New wastes must be listed with the EPA.

Permit has BTU limits and flow rate limits. BTU limits for high heat value liquids waste = 7,500 to 20,000 BTU/lb. Flow rate limit = 687 lbs/hr. BTU limits for low heat value liquid waste = 0 - 7,000 btu/lbs. Flow rate limit = 950 lbs/hr. There are restrictions on receipt of heavy metals. Permit prohibits acceptance of off-site waste.

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM

Construction is 22 percent complete.

OTHER PERMIT LIMITATIONS & COMMENTS

Permit restricts capacity to onsite needs only.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Included in LDR FFCA between DOE and EPA. CIF milestones are: (1) submit quarterly construction reports to EPA; (2) notify EPA 90 days prior to a trial burn & processing of waste; (3) submit semi-annual operational status reports to EPA; (4) begin production runs of LDR waste within 39 months of the effective date of the CIF RCRA permit; and (5) within 90 days of start of production runs, propose to EPA annual waste processing rate milestones & completion date for processing of LDR waste.

Per agreement between EPA, DOE & SCDHEC, the LDR FFCA will be amended by Nov. 30, 1993 to allow for development of a strategic solid waste plan to support the FFCAct process. At this time, CIF schedule will not be modified. However, any changes in funding or strategy may impact CIF schedule contained in LDR FFCA.

TECHNOLOGY	MATRIX
Incineration	Organic Liquids
	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Savannah River Site

FACILITY: Consolidated Incineration Facility

SYSTEM: 00142, CIF Incinerator - Solid Feed System

CONTACT: D. Salem 803-557-7222

		DESIGN	PERMIT
	M3/YR	0	100424

System Capacity

PERMIT [Other UNIT of MEASURE]: 2025 pounds/hour

ADS NUMBER:

STATUS: Planned Approved

KEY DECISION STATUS: KD-3 DATE STATUS ACHIEVED: 12/01/92 CONSTRUCTION COMPLETION DATE: 03/95

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	Y	Y	Y	Y	N	Y

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Final	SCDHEC/EPA	09/30/92	/ /

OTHER INFORMATION

Design capacity (solid) = 4 million kg/yr.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Facility operates under RCRA Part B permit. Waste generation and treatment covered under the Land Disposal Restriction Federal Facility Compliance Agreement. New wastes must be listed with the EPA.

Permit has BTU limits and flow rate limits. Permit limits for solid waste feed system - flow rate = 687 lbs/hr. There are restrictions on receipt of heavy metals. Container requirements limit containers to cardboard boxes 21 inches square and between 25 and 75 lbs. Permit prohibits acceptance of off-site waste.

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM

Construction is 22 percent complete.

OTHER PERMIT LIMITATIONS & COMMENTS

Permit restricts capacity to onsite needs only.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Included in LDR FFCA between DOE and EPA. CIF milestones are: (1) submit quarterly construction reports to EPA; (2) notify EPA 90 days prior to a trial burn & processing of waste; (3) submit semi-annual operational status reports to EPA; (4) begin production runs of LDR waste within 39 months of the effective date of the CIF RCRA permit; and (5) within 90 days of start of production runs, propose to EPA annual waste processing rate milestones & completion date for processing of LDR waste.

Per agreement between EPA, DOE & SCDHEC, the LDR FFCA will be amended by Nov. 30, 1993 to allow for development of a strategic solid waste plan to support the FFCAct process. At this time, CIF schedule will not be modified. However, any changes in funding or strategy may impact CIF schedule contained in LDR FFCA.

TECHNOLOGY	MATRIX
Incineration	Organic Sludges/Particulates
	Inorganic Sludges/Particulates
	Organic Debris
	Reactive Metals

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Savannah River Site
FACILITY: DWPF Vitrification Plant
SYSTEM: 00141, DWPF Vitrification Plant
CONTACT: K. Z. Wolf 803-557-1082

ADS NUMBER:
STATUS: Planned Approved

	DESIGN	PERMIT
KG/YR	18570	4542

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
Y	N	N	N	RH	Y	Y	Y	N	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
CWA-SCPCA	Final	State	08/17/92	/ /

OTHER INFORMATION
DWPF testing will be conducted through 1995.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION
Facility will treat waste under a state industrial wastewater permit. Waste generation and treatment covered under the Land Disposal Restriction Federal Facility Compliance Agreement. New waste must be listed with the EPA.

No organics can be received into the melter.
REQUIREMENTS FOR USE OF EXISTING SYSTEMS
DWPF is undergoing chemical runs testing. Need completion of startup testing, completion of planned modifications, and completion of ORR (operational readiness review) prior to treating HW.
OTHER PERMIT LIMITATIONS & COMMENTS
Permit to operate was issued 08-17-92. Operating Permit No. 16783.
RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
FFCA Startup Date.
FFA Waste Removal Schedule.
Per agreement between EPA, DOE, and SCDHEC, the LDR FFCA will be amended by November 30, 1993 to allow for development of a strategic solid waste plan to support the FFCAct processes. At this time, DWPF schedule will be modified to support a revised startup date.

TECHNOLOGY	MATRIX
Vitrification	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Savannah River Site
FACILITY: F/H Area Effluent Treatment Facility
SYSTEM: 00300, F/H Area Effluent Treatment Facility
CONTACT: T. Syfert 803-557-0320

ADS NUMBER:
STATUS: Existing Operating

	DESIGN	PERMIT
M3/YR	600000	400000

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	RN	Y	Y	Y	Y	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
CWA	Final	State	09/30/88	/ /
SCPCA	Final	State	09/30/88	/ /
NPDES	Final	State	09/30/88	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Permit number 12870. Facility operates under NPDES permit. Permit limits discharge to 400,000 m3/yr. Present discharge 16,000 m3/yr.

Facility cannot accept PCBs or fissile material under permit conditions. Metals treated include Cr, Hg, Pb, Zn & Cu plus radionuclides H3, Cr51, Co58, Co60, Zn65, Sr89, Sr90, Y90, Ru106, Sb124, Sb125, I131, Cs134, Cs137, Ce141, Y91, Nb95, Zr95, Ru103, Ce144, Pr144, Pm147, Pu239. Facility is capable of accepting influent wastewaters via tankers or drums. New influents require special permits and approvals from the state.

TECHNOLOGY	MATRIX
Carbon Adsorption	Aqueous Liquids
Chemical Precipitation	Aqueous Liquids
Evaporation	Aqueous Liquids
Filtration	Aqueous Liquids
Ion Exchange	Aqueous Liquids
Mercury Absorption	Aqueous Liquids
Neutralization	Aqueous Liquids
Reverse Osmosis	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Savannah River Site				
FACILITY:	Hazardous Waste/Mixed Waste Disposal Facility				
SYSTEM:	00147, Acid Leaching and Chemical Precipitation Unit		KG/YR	1432	1432
CONTACT:	J. Demelio	803-725-6479			
				System Capacity	

ADS NUMBER:

STATUS: Planned Approved

			-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	Y	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	None	SCDHEC/EPA	/ /	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Proposed facility. RCRA permit application not yet submitted. Project rescoping has required DOE-HQ review and approval. NEPA-EA in draft. However, EIS requirement is under review. If it is determined that an EIS is needed, a significant delay will occur.

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM

Due to project rescoping (necessary to align MW/MM TB processes with LDR "third third" rule promulgation), a baseline change proposal has been submitted to DOE-HQ to change cost, schedule & scope. Until finalized, the project schedule cannot be determined. At such time, when a defined path forward is available, KD status will be determined.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Included as part of the LDR FFCA between DOE & EPA. Current milestone requires project schedule submittal for the MW/MM TB to the EPA by 11/30/93. As agreed upon in a Sept. 13, 1993 meeting with the EPA, DOE and the State, the LDR FFCA will be amended before 11/30/93. The MW/MM TB milestone will be replaced with milestones directed at the development of a strategic plan which will support the FFCAct process.

TECHNOLOGY	MATRIX
Acid Leaching	Inorganic Debris
Chemical Precipitation	Inorganic Debris

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Savannah River Site
FACILITY: Hazardous Waste/Mixed Waste Disposal Facility
SYSTEM: 00144, Macroencapsulation Unit - SRS
CONTACT: J. Danielle 803-725-6479

ADS NUMBER:
STATUS: Planned Approved

	DESIGN	PERMIT
System Capacity M3/YR	73	73

HLW	LLW	TRU	TRU ALPHA	HANDLING METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	Y	N	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	None	SCDHEC/EPA	/ /	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Proposed facility. RCRA permit application not yet submitted. Project rescoping has required DOE-HQ review and approval. NEPA-EA in draft. However, EIS requirement is under review. If it is determined that an EIS is needed, a significant delay will occur.

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM

Due to project rescoping (necessary to align MW/MW TB processes with LDR "third third" rule promulgation), a baseline change proposal has been submitted to DOE-HQ to change cost, schedule & scope. Until finalized, the project schedule cannot be determined. At such time, when a defined path forward is available, KD status will be determined.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Included as part of the LDR FFCA between DOE & EPA. Current milestone requires project schedule submittal for the MW/MW TB to the EPA by 11/30/93. As agreed upon in a Sept. 13, 1993 meeting with the EPA, DOE and the State, the LDR FFCA will be amended before 11/30/93. The MW/MW TB milestone will be replaced with milestones directed at the development of a strategic plan which will support the FFCAct process.

TECHNOLOGY	MATRIX
Macroencapsulation	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
	Elemental Lead
	Inorganic Solids
	Organic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Savannah River Site

FACILITY: Hazardous Waste/Mixed Waste Disposal Facility

SYSTEM: 00146, Mercury Amalgamation Unit

CONTACT: J. Damelio 803-725-6479

ADS NUMBER:

STATUS: Planned Approved

	DESIGN	PERMIT
System Capacity KG/YR	1	1

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CM	Y	Y	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	None	SCDHEC/EPA	/ /	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Proposed facility. RCRA permit application not yet submitted. Project rescoping has required DOE-HQ review and approval.

NEPA-EA in draft. However, EIS requirement is under review. If it is determined that an EIS is needed, a significant delay will occur.

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM

Due to project rescoping (necessary to align MW/MW TB processes with LDR "third third" rule promulgation), a baseline change proposal has been submitted to DOE-HQ to change cost, schedule & scope. Until finalized, the project schedule cannot be determined. At such time, when a defined path forward is available, KD status will be determined.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Included as part of the LDR FFCA between DOE & EPA. Current milestone requires project schedule submittal for the MW/MW TB to the EPA by 11/30/93. As agreed upon in a Sept. 13, 1993 meeting with the EPA, DOE and the State, the LDR FFCA will be amended before 11/30/93. The MW/MW TB milestone will be replaced with milestones directed at the development of a strategic plan which will support the FFCAct process.

TECHNOLOGY	MATRIX
Amalgamation	Inorganic Debris
	Liquid Mercury

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Savannah River Site				
FACILITY:	Hazardous Waste/Mixed Waste Disposal Facility				
SYSTEM:	00145, Mercury Roasting/Retorting And Recovery Unit		M3/YR	17	17
CONTACT:	J. Damelio	803-725-6479			
				System Capacity	

ADS NUMBER:

STATUS: Planned Approved

			-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	Y	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	None	SCDHEC/EPA	/ /	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Proposed facility. RCRA permit application not yet submitted. Project rescoping has required DOE-HQ review and approval.

NEPA-EA in draft. However, EIS requirement is under review. If it is determined that an EIS is needed, a significant delay will occur.

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM

Due to project rescoping (necessary to align MW/MW TB processes with LDR "third third" rule promulgation), a baseline change proposal has been submitted to DOE-HQ to change cost, schedule & scope. Until finalized, the project schedule cannot be determined. At such time, when a defined path forward is available, KD status will be determined.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Included as part of the LDR FFCA between DOE & EPA. Current milestone requires project schedule submittal for the MW/MW TB to the EPA by 11/30/93. As agreed upon in a Sept. 13, 1993 meeting with the EPA, DOE and the State, the LDR FFCA will be amended before 11/30/93. The MW/MW TB milestone will be replaced with milestones directed at the development of a strategic plan which will support the FFCAct process.

TECHNOLOGY	MATRIX
Hg Roasting/Retorting	Inorganic Sludges/Particulates
	Inorganic Debris
	Soils

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Savannah River Site				
FACILITY:	Hazardous Waste/Mixed Waste Disposal Facility				
SYSTEM:	00151, Size Reduction		M3/YR	2398	2398
CONTACT:	J. Damelio	803-725-6479			
				System Capacity	

ADS NUMBER:

STATUS: Planned Approved

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	Y	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	None	SCDHEC/EPA	/ /	/ /

OTHER INFORMATION

Normal and operating capacity is 500 m3/yr.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Proposed facility. RCRA permit application not yet submitted. Project rescoping has required DOE-HQ review and approval.

NEPA-EA in draft. However, EIS requirement is under review. If it is determined that an EIS is needed,a significant delay will occur.

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM

Due to project rescoping (necessary to align MW/MW TB processes with LDR "third third" rule promulgation), a baseline change proposal has been submitted to DOE-HQ to change cost, schedule & scope. Until finalized, the project schedule cannot be determined. At such time, when a defined path forward is available, KD status will be determined.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Included as part of the LDR FFCA between DOE & EPA. Current milestone requires project schedule submittal for the MW/MW TB to the EPA by 11/30/93. As agreed upon in a Sept. 13, 1993 meeting with the EPA, DOE & the State, the LDR FFCA will be amended before 11/30/93. The MW/MW TB milestone will be replaced with milestones directed at the development of a strategic plan which will support the FFCAct process.

TECHNOLOGY	MATRIX
Compaction	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
Shredding	Inorganic Debris
	Heterogeneous Debris
Size Reduction	Cemented Solids
	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
Sorting	Organic Debris
	Inorganic Debris
	Heterogeneous Debris

Information Developed to Facilitate Identification of Potential Treatment Options — Date: 10/20/93

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Savannah River Site
FACILITY: Hazardous Waste/Mixed Waste Disposal Facility
SYSTEM: 00149, Soil Washing
CONTACT: J. Damelio 803-725-6479

ADS NUMBER:
STATUS: Planned Approved

	DESIGN	PERMIT
M3/YR	340	340

System Capacity

HLV	LLV	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	Y	Y	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	None	SCDHEC/EPA	/ /	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Proposed facility. RCRA permit application not yet submitted. Project rescoping has required DOE-HQ review and approval.

NEPA-EA in draft. However, EIS requirement is under review. If it is determined that an EIS is needed, a significant delay will occur.

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM

Due to project rescoping (necessary to align HW/MW TB processes with LDR "third third" rule promulgation), a baseline change proposal has been submitted to DOE-HQ to change cost, schedule & scope. Until finalized, the project schedule cannot be determined. At such time, when a defined path forward is available, ID status will be determined.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Included as part of the LDR FFCA between DOE & EPA. Current milestone requires project schedule submittal for the HW/MW TB to the EPA by 11/30/93. As agreed upon in a Sept. 13, 1993 meeting with the EPA, DOE & the State, the LDR FFCA will be amended before 11/30/93. The HW/MW TB milestone will be replaced with milestones directed at the development of a strategic plan which will support the FFCAct process.

TECHNOLOGY	MATRIX
Soil Washing	Soil with <50% Debris
	Soils

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Savannah River Site

FACILITY: Hazardous Waste/Mixed Waste Disposal Facility

SYSTEM: 00148, Stabilization/Solidification Unit

CONTACT: J. Damelio 803-725-6479

		DESIGN	PERMIT
System Capacity	M3/YR	484	484

ADS NUMBER:

STATUS: Planned Approved

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	Y	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	SCDHHS/EPA	/ /	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Proposed facility. RCRA permit application not yet submitted. Project rescoping has required DOE-HQ review and approval.

NEPA-EA in draft. However, EIS requirement is under review. If it is determined that an EIS is needed, a significant delay will occur.

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM

Due to project rescoping (necessary to align MW/MW TB processes with LDR "third third" rule promulgation), a baseline change proposal has been submitted to DOE-HQ to change cost, schedule & scope. Until finalized, the project schedule cannot be determined. At such time, when a defined path forward is available, KD status will be determined.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Included as part of the LDR FFCA between DOE & EPA. Current milestone requires project schedule submittal for the MW/MW TB to the EPA by 11-30-93. As agreed upon in a Sept. 13, 1993 meeting with the EPA, DOE & the State, the LDR FFCA will be amended before 11-30-93. The MW/MW TB milestone will be replaced with milestones directed at the development of a strategic plan which will support the FFCAct process.

TECHNOLOGY	MATRIX
Stabilization	Aqueous Liquids
	Inorganic Sludges/Particulates
	Inorganic Debris

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Savannah River Site
FACILITY: M-Area Liquid Effluent Treatment Facility
SYSTEM: 00027, M-Area Liquid Effluent Treatment Facility
CONTACT: J. B. Pickett 803-725-3838

		DESIGN	PERMIT
M3/YR	480	0	

System Capacity
PERMIT [Other UNIT of MEASURE]: .038 million gal

ADS NUMBER:
STATUS: Existing Operating

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	Y	N	N	Y	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Part A App	SCDHEC	01/01/86	/ /
RCRA	Part B App	SCDHEC	07/26/88	09/01/92
NPDES	Final	SCDHEC	07/03/85	/ /

OTHER INFORMATION

An end-of-pipe industrial wastewater treatment facility. The facility is a close-coupled system which can accept direct transfers of wastewater from piped laboratories or permitted transfer containers. No radioactive materials other than uranium are included in the permit.

The LETF wastewater permit limits the chemical constituents to those used in the M-Area aluminum forming and metal plating operations. The primary constituents are Ni, Al, and depleted U.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Facility operates under a state industrial wastewater permit. A portion of the facility, the M-Area Process Waste Interim Treatment/Storage Facility, operates under RCRA Interim Status. It is a part of the Land Disposal Restriction Federal Facility Compliance Agreement. Any new waste must be listed with the SCDHEC (NPDES permit modification) & EPA (LDR FFCA modification).

OTHER PERMIT LIMITATIONS & COMMENTS

The wastewater treatment system is permitted for 0.038 million gallons/day (about 26 gallons/minute). The waste storage tanks (RCRA) have a total capacity of about 8330 m3 (2.2 million gallons).

The wastewater permit specifies that only those effluents generated in M-Area, from facilities that are close-coupled to the LETF may be treated. Any other materials would require a modification to the wastewater permit, the interim status RCRA Part A, and the RCRA Part B (submitted).

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

The RCRA storage tanks are included in the LDR FFCA with EPA Region IV. The effective date was 3-13-91. It was modified 4-24-92. It is between DOE-SR & EPA. The key milestones are: (1) submit all permits needed to treat the stored wastes by 6/30/94; (2) start treatment of the LDR wastes within 180 days of permit approval.

TECHNOLOGY	MATRIX
Chemical Precipitation	Aqueous Liquids
Filtration	Aqueous Liquids
Flocculation	Aqueous Liquids
Neutralization	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Savannah River Site

FACILITY: M-Area Vendor Treatment

SYSTEM: 00150, M-Area Vendor Treatment

CONTACT: J. B. Pickett 803-725-3838

		DESIGN	PERMIT
		System Capacity	
KG/YR		2765	0

ADS NUMBER:

STATUS: Planned Approved

KEY DECISION STATUS: KD-0 DATE STATUS ACHIEVED: / / CONSTRUCTION COMPLETION DATE: 06/95

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CH	Y	Y	N	N	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
NPDES	Mod App	SCDHEC	06/30/94	/ /
RCRA	None	SCDHEC	06/30/94	/ /

OTHER INFORMATION

The design capacity will be 730,000 gallons treated in one year. The treatment schedule will provide for a two year period, to allow for contingencies.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Proposed facility to operate under NPDES permit. Contract for vendor to be awarded in calendar year 1993. Initial contract and permits will be limited to M-Area waste only.

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM

Only the funds for "Title II equivalent" design have been approved.

KD-0 completed - final specifications transmitted 6-7-93. Final design (Title II equivalent) scheduled to start when contract awarded. Now goaled for 12/93. FY 94 funding approved.

Permit applications to be submitted by 6-30-94.

Actual operation contingent on FY 95, 96, & 97 funding approval.

OTHER PERMIT LIMITATIONS & COMMENTS

The vendor treatment system will be permitted for 730,000 gallons/yr. The modification to the wastewater permit will specify only those wastes stored in the M-Area, from electroplating/aluminum forming operations. No other wastes will be accepted. The storage pad for the final stabilized waste will accept only the M-Area stabilized wastes.

A RCRA permit may be necessary for this process. An industrial wastewater permit will be applied for in parallel with NPDES permit. Untreated and stabilized sludges will be stored in RCRA units.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

LDR FFCA between DOE-SR & EPA, Region IV modified 4-24-92. Key commitments: (1) submit treatment schedule within 90 days of contract award; (2) submit all permits by 6-30-94; and (3) start treatment within 180 days of permit(s) approvals.

TECHNOLOGY	MATRIX
Stabilization	Aqueous Liquids
Vitrification	Inorganic Sludges/Particulates

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Savannah River Site
FACILITY: SRL Ion Exchange Treatment Probe
SYSTEM: 00116, High Activity
CONTACT: N. Spearman 803-725-8802

ADS NUMBER:
STATUS: Existing Operating

	DESIGN	PERMIT
M3/YR	210	210

System Capacity
PERMIT [Other UNIT of MEASURE]: 55,482 gal/yr

HLV	LLV	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	RN	Y	Y	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	SCDHEC	/ /	/ /

OTHER INFORMATION

The SRL (SRTC) Ion Exchange Probes for the High-activity tanks were installed in 1991. The waste that leaves the SRTC MWST is not usually hazardous, and therefore, treatment is generally not necessary. The RCRA Part A permit limits the throughput of the MWST treatment processes (High-activity and Low-activity combined) to 14,400 gallons/day (5,256,000 gallons/yr). The RCRA Part A permit also limits the total annual quantity of waste that is permitted to pass through the SRTC MWST to 457,299 gallons/yr (1,714 m3/yr). Because this number is lower, it limits the amount of waste that the Ion Exchange Probes can treat annually. From this total annual quantity, the treatment and design capacity of the SRL (SRTC) Ion Exchange Treatment Probes is 55,482 gallons/yr (210 m3/yr) for the high-activity waste.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

High and low activity ion exchange probes operate under interim status. Waste treatment is covered by the Land Disposal Restriction Federal Facility Compliance Agreement. Any new waste stream must be listed with the EPA.

Facility is a closed system operating under a waste acceptance criteria which is tied into operating practices at Savannah River Technology Center (Savannah River Laboratory) where the waste is generated.

OTHER PERMIT LIMITATIONS & COMMENTS

Permit of facility that receives the discharge from the SRL tanks prohibits receipt of listed waste.

TECHNOLOGY	MATRIX
Ion Exchange	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Savannah River Site
FACILITY: SRL Ion Exchange Treatment Probe
SYSTEM: 00301, Low Activity
CONTACT: M. Spearman 803-725-8802

ADS NUMBER:
STATUS: Existing Operating

	DESIGN	PERMIT
M3/YR	1500	1500

System Capacity
PERMIT [Other UNIT of MEASURE]: 396,300 gal/yr

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	Y	Y	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	SCDHEC	/ /	/ /

OTHER INFORMATION

The SRL (SRTC) Ion Exchange Probes for the Low-activity tanks were installed in 1992. The waste that leaves the SRTC MAST is not usually hazardous, and therefore, treatment is generally not necessary. The RCRA Part A permit limits the throughput of the MAST treatment processes (High-activity and Low-activity combined) to 14,400 gallons/day (5,256,000 gallons/yr). The RCRA Part A permit also limits the total annual quanitity of waste that is permitted to pass through the SRTC MAST to 457,229 gallons/yr (1,714 m3/yr). Because this number is lower, it limits the amount of waste that the Ion Exchange Probes can treat annually. From this total annual quantity, the treatment and design capacity of the SRL (SRTC) Ion Exchange Treatment Probes is 396,300 gallons/yr (1,500 m3/yr) for the low-activity waste.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

High and low activity ion exchange probes operate under Interim Status. Waste treatment is covered by the Land Disposal Restriction Federal Facility Compliance Agreement. Any new waste stream must be listed with the EPA.

Facility is a closed system operating under a waste acceptance criteria which is tied into operating practices at Savannah River Technology Center (Savannah River Laboratory) where the waste is generated.

OTHER PERMIT LIMITATIONS & COMMENTS

Permit prohibits receipt of listed waste of the facility that receives the discharge from the SRL tanks.

TECHNOLOGY	MATRIX
Ion Exchange	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Savannah River Site
FACILITY: Transuranic Waste Facility
SYSTEM: 00152, Transuranic Waste Facility
CONTACT: B. A. Daugherty 803-725-6414

ADS NUMBER:
STATUS: Planned Approved

	DESIGN	PERMIT
KG/YR	722	722

System Capacity

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	N	Y	Y	CH	Y	Y	Y	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Pending	EPA/SCDHEC	/ /	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Facility is in the planning stages. A RCRA permit application has not yet been submitted. NEPA-EA complete. However, evaluation is ongoing in regard to requirements for an EIS. A significant delay will be created if an EIS must be done.

Facility is designed to sort waste and repackage so that TRU waste destined for WIPP will meet the waste acceptance criteria. No actual treatment is performed.

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM

Pre-transition project - did not require KD approval.

Due to project cost escalation resulting from additional functional requirements, the DOE position not to perform treatment, and uncertainties associated with WIPP, the TWF has been split into 2 phases: Low Activity Tru Facility (LATF) and High Activity TRU Facility (HATF). Phase I is retrieval of TRU waste drums & LATF. Phase II is the HATF and is a separate line item. Retrieval is presently funded and will start Title I design in FY 94.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Included in the LDR FFCA between DOE and EPA. Current milestones are: (1) DOE-SR will retrieve & process TRU wastes (including LDR TRU wastes) and prepare that waste for certification & disposal at the WIPP; (2) DOE will submit a complete RCRA permit to SCDHEC by Nov. 30, 1993; (3) DOE-SR will begin construction of TWF within 90 days of the effective date of the permit; (4) DOE-SR will submit quarterly construction progress reports to EPA; (5) DOE-SR will notify EPA & SCDHEC 90 days prior to mixed waste processing; and (6) DOE-SR will begin preparing waste for shipment to WIPP within 60 months after the effective date of the RCRA permit.

As agreed upon in the Sept. 13, 1993 meeting with the EPA, DOE & the State, the LDR FFCA will be amended before 11/30/93. The TWF milestones will be replaced with milestones directed at the development of a strategic plan which will support the FFCAct process.

TECHNOLOGY	MATRIX
Repackaging	Organic Liquids
	Inorganic Sludges/Particulates
	Organic Debris
Sorting	Organic Liquids
	Inorganic Sludges/Particulates
	Organic Debris

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Savannah River Site				
FACILITY:	Z-Area Saltstone Facility				
SYSTEM:	00120, Z-Area Saltstone Facility		KG/YR	41000	41000
CONTACT:	K. Z. Wolf	803-557-1082			
				System Capacity	

ADS NUMBER:

STATUS: Existing Operating

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	RN	Y	Y	N	N	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
CWA/SCPCA	Final	State	07/18/88	/ /

OTHER INFORMATION

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Facility operates under a state industrial wastewater permit for the treatment process and an industrial solid waste permit for the disposal vaults. Facility and waste stream are included under the Land Disposal Restriction Federal Facility Compliance Agreement. New waste streams must be identified to EPA.

Facility is excluded from RCRA under the totally enclosed treatment facility exclusion. The exclusion was granted contingent to the facility accepting only waste from the H-Area tank farm via a pipeline.

OTHER PERMIT LIMITATIONS & COMMENTS

Permit Number 12683.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

FFCA waste removal schedule.

FFCA.

TECHNOLOGY	MATRIX
Stabilization	Aqueous Liquids
	Inorganic Debris

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: Scientific Ecology Group - Oak Ridge, TN
FACILITY: Scientific Ecology Group - Oak Ridge, TN
SYSTEM: 00517, SEG Incinerator - Commercial
CONTACT: John Hose 615-220-1236

	DESIGN	PERMIT
KG/YR	0	0

System Capacity

ADS NUMBER:
STATUS: Planned Approved

HLV	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	Y	N	Y	Y	N	N

OTHER INFORMATION

Depending on dose rates/concentrations, waste streams containing transuranic alpha emitters could potentially be treated in this system. Some waste streams requiring Remote Handling also could potentially be treated in this system.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

To be determined during permitting process (1994/1995).
Radionuclides limitations are specified in our Tennessee Radioactive Materials Licenses. Limited isotopes: H-3 (limit in curies - 300.0); C-14 (limit in curies - 100.0); PO-210 (limit in curies - 10.0); RA-226 (limit in curies - 5.0); TH-232 (limit in curies 10.0); U-235 (limit of grams - 350.0); U-238 (limit in curies - 100.0); U-233 (limit of grams - 200.0); U-Other (limit in curies - 1.0); PU-238 (limit of grams - 200.0 < total Pu limit - 3.63 PU grams); PU-239; PU-240; PU-241; PU-242; AM-241 (limit in curies - 225.0); AT.NO. 3-83 (limit in curies - 360.0); AT.NO. 84-91 (limit in curies - 1.1); and AT.WT. >238 (limit in curies - 1.1). Additional limits may apply based on NESHAPS permit.

OTHER PERMIT LIMITATIONS & COMMENTS

This unit is not currently RCRA permitted. Part B application to be submitted First Quarter 1994.

TECHNOLOGY	MATRIX
Incineration	Organic Liquids
	Aqueous Liquids
	Organic Sludges/Particulates
	Inorganic Sludges/Particulates
	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
	Soil with <50% Debris
	Soils
	Lab Packs with Metals
	Lab Packs without Metals
	Inorganic Solids
	Organic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Scientific Ecology Group - Oak Ridge, TN				
FACILITY:	Scientific Ecology Group - Oak Ridge, TN				
SYSTEM:	00515, SEG Stabilization - Commercial		KG/YR	0	0
CONTACT:	John Hess	615-220-1236			
				System Capacity	

ADS NUMBER:

STATUS: Existing Operating Commercial

			-TRU-					RCRA CHARACTERISTICS		
HLW	LLW	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	N	CN	Y	N	N	N	N	N

OTHER INFORMATION

Depending on dose rates/concentrations, waste streams containing Transuranic alpha emitters could potentially be treated in this system. Some waste streams requiring Remote Handling could potentially be treated in this system.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

To be determined during process (in progress). Same as SEG Incinerator limits, except for NESHAPS limits which do not apply to this unit.

OTHER PERMIT LIMITATIONS & COMMENTS

Part B permit application currently under review.

TECHNOLOGY	MATRIX
Stabilization	Aqueous Liquids
	Inorganic Sludges/Particulates
	Inorganic Debris
	Heterogeneous Debris
	Soil with <50% Debris
	Soils
	Elemental Lead
	Calcine Solids
	Inorganic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	Scientific Ecology Group - Oak Ridge, TN				
FACILITY:	Scientific Ecology Group - Oak Ridge, TN				
SYSTEM:	00540, SEG Ultracompactor/TRUPress - Commercial		M3/YR	0	0
CONTACT:	John Hess	615-220-1236			
				System Capacity	

ADS NUMBER:

STATUS: Planned Approved

		-TRU-						RCRA CHARACTERISTICS		
MLV	LLV	TRU	ALPHA	HANDLING	METALS	MERCURY	ORGANICS	IGNITABLE	CORROSIVE	REACTIVE
N	Y	Y	Y	CN	Y	N	Y	N	N	N

OTHER INFORMATION

These units would be used primarily to reduce volumes awaiting available treatment capacity to meet LDR requirements.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

To be determined during permitting process (in progress).

Same as SEG Incinerator limits, except that NESHAPS limits do not apply to this unit.

These units would be used primarily to reduce volume awaiting available treatment capacity to meet LDR requirements.

TECHNOLOGY	MATRIX
Compaction	Organic Debris
	Inorganic Debris
	Heterogeneous Debris
	Soil with <50% Debris
	Soils
	Calcine Solids
	Inorganic Solids
	Organic Solids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	West Valley Demonstration Project				
FACILITY:	Integrated Radwaste Treatment System				
SYSTEM:	00346, Integrated Radwaste Treatment System		M3/YR	2305	2305
CONTACT:	Elizabeth Matthews	716-942-4930			

System Capacity

ADS NUMBER:

PERMIT (Other UNIT of MEASURE): 2700 metric tons

STATUS: Existing Operating

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
Y	N	Y	Y	RM	Y	Y	N	N	N	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	NYSDEC	06/01/90	/ /
St. Water	SPDES	NYSDEC	/ /	09/01/90

OTHER INFORMATION

Chemical Precipitation Step Design Capacity = 2305 m3/yr.
Salts Dissolution Step Design Capacity = 2305 m3/yr.
Ion Exchange Step Design Capacity = 2123 m3/yr.
Evaporation Step Design Capacity = 8502 m3/yr.
Stabilization Step Design Capacity = 1842 m3/yr.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

System is operating under interim status.
The IRTS consists of four major treatment steps - (1) Sludge Mobilization and Wash; (2) Ion Exchange; (3) Evaporation; and (4) Cement Stabilization.
The waste stream is LLW when it reaches the Evaporation and Stabilization steps. These last two steps cannot accept HLW.
The final waste form must be < 100 nCi/gr alpha emitters (Stabilization).

OTHER PERMIT LIMITATIONS & COMMENTS

System throughput is limited to 2700 metric tons/yr in the Part A permit.
The system is operated by the DOE, but title to the system is held by NY State.

Other Permits:
NESHAP:(LWTS): approval to construct (modification) was issued 5-25-89: EPA; no renewal required.
NESHAP:(PVS): approval to construct was issued 10-05-87: EPA; no renewal required.
NESHAP:(01-14): approval to construct was issued 5-25-89: EPA; no renewal required.
State Air:(Cement Silo): certificate to operate issued 3-85; NYSDEC renewal 6-94.

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Operation is subject to the conditions of the "WVDP Act" and "Cooperative Agreement" between the US DOE and NYS Energy Research and Development Authority.
The IRTS has been identified as a SWMU and a Hazardous Waste Treatment Facility in a RCRA 3008(h) consent order issued to the facility. It is part of an ongoing RCRA facility investigation.

TECHNOLOGY	MATRIX
Chemical Precipitation	Aqueous Liquids
Evaporation	Aqueous Liquids
Ion Exchange	Aqueous Liquids

Information Developed to Facilitate Identification of Potential Treatment Options — Date: 10/20/93

Salts Dissolution	Aqueous Liquids
Stabilization	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

				DESIGN	PERMIT
SITE:	West Valley Demonstration Project				
FACILITY:	Liquid Pretreatment System				
SYSTEM:	00555, Liquid Pretreatment System - 82		M3/YR	4731	4731
CONTACT:	Elizabeth Matthews 716-942-4313				
				System Capacity	

ADS NUMBER:

STATUS: Existing Could be used for mixed waste

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
N	Y	N	Y	CH	Y	N	Y	N	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
St. Water	SPDES	NYSDEC	01/01/81	09/30/90

OTHER INFORMATION

Construction complete, system in stand-by mode.

SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

Not permitted to treat mixed wastes.

The facility can only accept trace organics and trace metals.

REQUIREMENTS FOR USE OF EXISTING SYSTEMS

Current waste stream treatment is permitted under the SPDES program and meet necessary RCRA requirements. New waste streams would require SPDES permit modification, at a minimum.

OTHER PERMIT LIMITATIONS & COMMENTS

State Water permit was transferred in 1981 from previous owner. Renewal application is pending.

System designed to treat radiologically contaminated groundwater, which (to date) has not contained hazardous constituents. In order to treat additional waste streams, a SPDES modification would be necessary (at a minimum).

RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER

Operation is subject to the conditions of the "WVDP Act" and the "Cooperative Agreement" between the DOE and NYS Energy Research and Development Authority.

The LPS has been identified as a solid waste management unit in a RCRA 3008 (h) Consent Order issued to the facility and is part of an ongoing RCRA facility investigation.

TECHNOLOGY	MATRIX
Carbon Adsorption	Organic Liquids
	Aqueous Liquids
Filtration	Organic Liquids
	Aqueous Liquids
Separation	Organic Liquids
	Aqueous Liquids

INFORMATION SHEET FOR CANDIDATE TREATMENT SYSTEMS

SITE: West Valley Demonstration Project
FACILITY: Vitrification Facility
SYSTEM: 00212, Vitrification Facility
CONTACT: Elizabeth Matthews 716-942-4313

		DESIGN	PERMIT
KG/YR		83	83

System Capacity

ADS NUMBER:
PERMIT [Other UNIT of MEASURE]: 11 metric tons/yr
STATUS: Planned Approved
KEY DECISION STATUS: KD-4 DATE STATUS ACHIEVED: 10/01/82 CONSTRUCTION COMPLETION DATE: 10/95

HLW	LLW	TRU	TRU ALPHA	HANDLING	METALS	MERCURY	ORGANICS	RCRA CHARACTERISTICS IGNITABLE	CORROSIVE	REACTIVE
Y	N	Y	Y	RN	Y	Y	N	N	Y	N

PERMIT STATUS INFORMATION

REGULATION	PERMIT TYPE	REG AGENCY	DATE PERMIT ISSUED OR APPLICATION SUBMITTED	RENEWAL DATE
RCRA	Interim	NYSDEC	06/01/90	/ /
St. Water	SPDES	NYSDEC	01/01/81	09/01/90

OTHER INFORMATION
Facility is currently under construction.
Plan date operation - FY96.
SYSTEM ADMINISTRATIVE LIMITATIONS AND OTHER RELEVANT INFORMATION

STATUS / ACTIVITIES OF PLANNED, APPROVED SYSTEM
Construction and regulatory approvals are proceeding on schedule to be completed prior to initiating operations in FY 96.
OTHER PERMIT LIMITATIONS & COMMENTS
The State Water SPDES permit was transferred from the previous owner in 1981, and the 9-90 renewal application is pending.
System throughput is limited to 11 metric tons/yr as specified in Part A permit.
System is operated by DOE, but title to the system is held by NY state.
NESHAP:(SFCM): application for approval to construct (modification) was submitted 9-93: EPA; renewal TBD.
NESHAP:(In-Cell HVAC): application for approval to construct was submitted 9-93: EPA; renewal TBD.
State Air:(In-Cell HVAC): application for approval to construct was submitted 10-93; NYSDEC; renewal TBD.
RELATIONSHIP OF SYSTEM TO ENFORCEABLE AGREEMENT OR ORDER
Operation is subject to the conditions of the "WVDP Act" and the "Cooperative Agreement" between the US DOE and NYS Energy Research and Development Authority.
The VF has been identified as a solid waste management unit in a RCRA 3008(h) consent order issued to the facility and is part of an ongoing RCRA facility investigation.

TECHNOLOGY	MATRIX
Vitrification	Aqueous Liquids
	Inorganic Sludges/Particulates

Definition of Terms Contained in Treatment System Information Sheets

Table Element	Definition
Site	Department of Energy site where treatment system is/will be located.
Facility	Name of facility in which treatment system is/will be located.
System	Name of treatment system. A treatment system is generally defined to include one waste entry point and one waste exit point, and, could be operated independently of other systems to treat mixed waste streams.
Contact	Primary technical point of contact and telephone number.
ADS Number	Department of Energy Activity Data Sheet number for the treatment system (or facility).
Status	The current status of the treatment system, as defined by the Department of Energy. The terms/phrases used are: - Existing Operating. System is currently operating and treating mixed wastes. - Existing Could be Used for Mixed Waste. Existing system not currently treating mixed wastes. System may be treating other waste (low-level, hazardous, sanitary, etc.) or may not be operating at this time (but has at least reached KD-4). - Planned Approved. System that has reached, at the minimum, the KD-0 approval stage (approval of mission need), or equivalent. Typically, the funds for the system's conceptual design have been authorized or the system is under construction. - Planned Unapproved. System that has not reached the KD-0 approval stage or no funds for the system's conceptual design have been authorized. - Commercial. This modifier is added to the system status terms/phrases listed above for commercial, non-DOE treatment systems. This field does not reflect the permitted status of the treatment system. See "Permit Status Information" for the permitted status of each system.

Definition of Terms Contained in Treatment System Information Sheets

Table Element	Definition
Key Decision Status	Key Decision (KD) is Department of Energy nomenclature denoting the status of major system acquisitions or major projects. The KD status indicates the Headquarters approval level achieved and the associated stage(s) of engineering design/construction activities. Key Decision status is given for "Planned Approved" systems only. For "Planned Approved" projects not funded or approved through the KD process, the status given in this field is the KD status which most closely reflects the current phase of the project. The Key Decision status (and design/construction stage) are: - KD-0 (approval to begin Conceptual Design) - KD-1 (approval to begin Title I Design) - KD-2 (approval to begin Title II Design) - KD-3 (approval to begin Construction)
Date Status Achieved	The date the KD status/approval was achieved.
Construction Completion Date	For "Planned Approved" systems, the estimated date construction will be completed. Construction completion date format is "MM/YY".
System Capacity - Design	Design, or technically achievable, capacity (or throughput) in cubic meters per year (m^3/yr). If design capacity is reported in other units of measure, the design capacity is indicated as 0 m^3/yr in this field. The design capacity (in the alternate units of measure) is presented in the "Other Information" field.
System Capacity - Permit	Capacity of the system, as specified in the final permit, draft permit, or interim status Part B permit application, in cubic meters per year (m^3/yr). If permitted capacity is specified in other units of measure, the permitted capacity is indicated as 0 m^3/yr, and the capacity (in the other unit of measure) is provided directly under this field.

Definition of Terms Contained in Treatment System Information Sheets

Table Element	Definition
Radioactivity Groups	Mixed waste radioactivity categories as defined in the Interim Mixed Waste Inventory Report (IMWIR). HLW - High Level Waste LLW - Low Level Waste TRU - Transuranic Waste TRU Alpha - Transuranic Alpha emitters A "Y" indicates the treatment system can manage the radioactivity group. A "N" indicates the treatment system cannot manage the radioactivity group. A "Y" in the HLW category and a "N" in the TRU and/or LLW category indicates that the system might be able to manage the TRU or LLW mixed waste, but in order to avoid generation of treatment residuals that are HLW, good operating practices would exclude those waste forms from the treatment system.
Handling	Type of handling associated with the treatment system, or the waste handling category(ies) that can be managed in the system. CH - Contact-handled wastes only RH - Remote-handled wastes only B - Both contact-handled and remote-handled wastes can be managed
Applicable Contaminants	Mixed waste contaminant categories as defined in the IMWIR. Metals - RCRA metals (except for mercury) Mercury - Mercury Organics - RCRA organic compounds A "Y" indicates the treatment system can (potentially, technically) treat the contaminant category to LDR standards. A "N" indicates the treatment system cannot (potentially, technically) treat the contaminant category to LDR standards.

Definition of Terms Contained in Treatment System Information Sheets

Table Element	Definition
RCRA Characteristics	RCRA characteristic for ignitability, corrosivity, and reactivity. A "Y" indicates the treatment system can (potentially, technically) treat to remove the hazardous characteristic(s) and/or treat to LDR standards. A "N" indicates the treatment system cannot (potentially, technically) treat to remove the hazardous characteristic(s) and/or treat to LDR standards.
Permit Status Information	Status of the facility/system in the permitting process. Regulation - Regulations applicable to treatment system. Permit Type - Status of each permit associated with treatment system. Reg Agency - Regulatory Agency issuing each permit. Date Permit Issued or Application Submitted - Self-explanatory Renewal Date - Permit renewal date for facility/systems with a final permit.
Other Information	Information concerning the design (or proposed design) capacity of the treatment system. The design capacity of the treatment system is provided in this field if the capacity is specified in units of measure other than cubic meters per year. This field also contains other information about planned dates of operation and EPA RCRA waste codes acceptable in the system.
System Administrative Limitations	Current non-technical limitations on treatment system operation.
Other Relevant Information	This field provides current (quantitative) technical limitations and/or restrictions concerning waste forms to be treated in the system. This field is intended to present major waste acceptance criteria for the system.
Requirements for Use of Existing Systems	Activities required to start treating mixed wastes in "Existing Could be Used for Mixed Waste" systems.

Definition of Terms Contained in Treatment System Information Sheets

Table Element	Definition
Status / Activities of "Planned, Approved" or "Planned, Unapproved" System	Additional information concerning the current status of KD or pre-KD activities of "Planned Approved" or "Planned Unapproved" systems. Examples of the status of pre-KD activities include "conducting feasibility studies" or "funding for FY 1994 is budgeted". Examples of the status of KD activities include: "Conceptual Design is 50% complete" or "Approval to begin Title I Design received in July 1993. Title I Design will start in January 1994".
Other Permit Limitations/Comments	Additional information relevant to the permit status, if any. Field contains information that could affect the receipt of off-site waste, including restrictions in a final permit, a draft permit, or in the permit application submitted by DOE. This section is intended to provide additional information concerning the permit limitations of off-site treatment options identified in CSTPs.
Relationship of System to Enforceable Agreement or Order	If the treatment facility/system is part of an agreement or order with EPA and/or the state, this field identifies the title of the agreement/order, the parties, and the effective date. The agreement/order's milestones pertaining to the facility/system are summarized.
Technology	Treatment technology(ies) that are/can be performed within the treatment system.
Matrix	Physical/chemical matrices that can (potentially, technically) be treated by the corresponding technologies in the system. The matrix categories include those defined in the IMWIR. Other matrices (matrices not adequately characterized in the IMWIR list) that (potentially, technically) can be treated in the system are specified.

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