

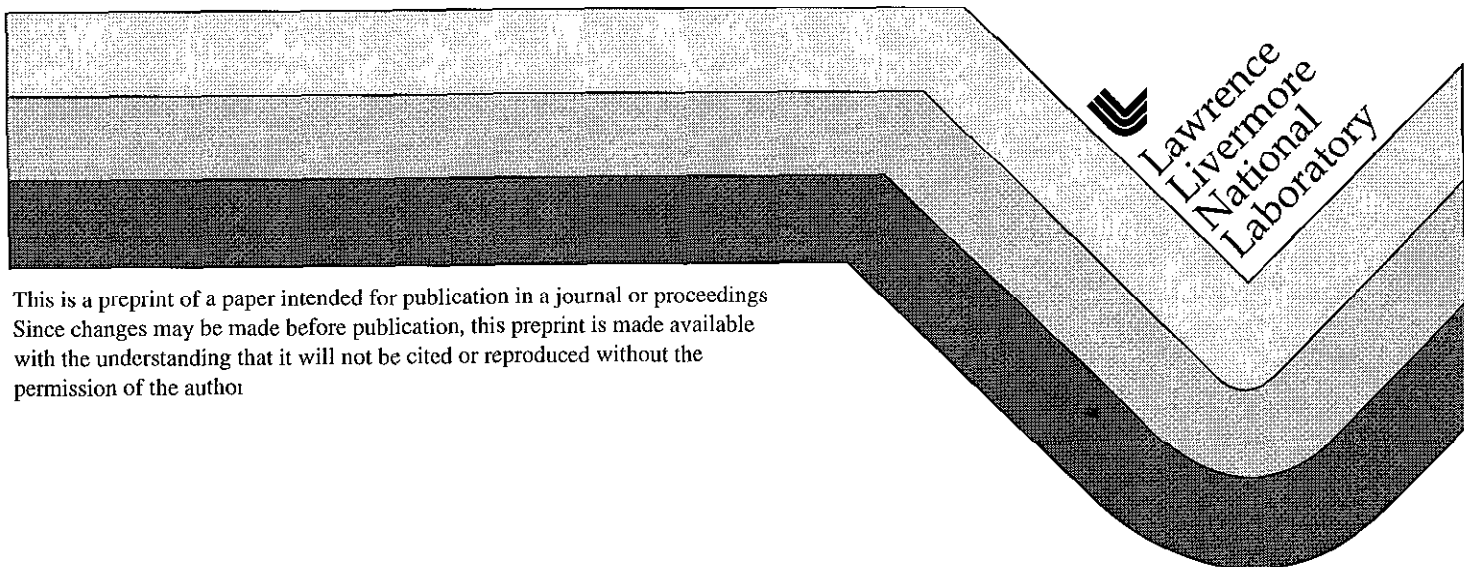
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PREPRINT

Lawrence Livermore National Laboratory's Joint Venture TSDF Audit Program

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Lawrence Livermore National Laboratory's Joint Venture TSDF Audit Program

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**This paper was prepared for submittal at the joint conference on
Campus Safety and Hazardous Waste
New Orleans, LA**

July 22, 1998

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Introduction

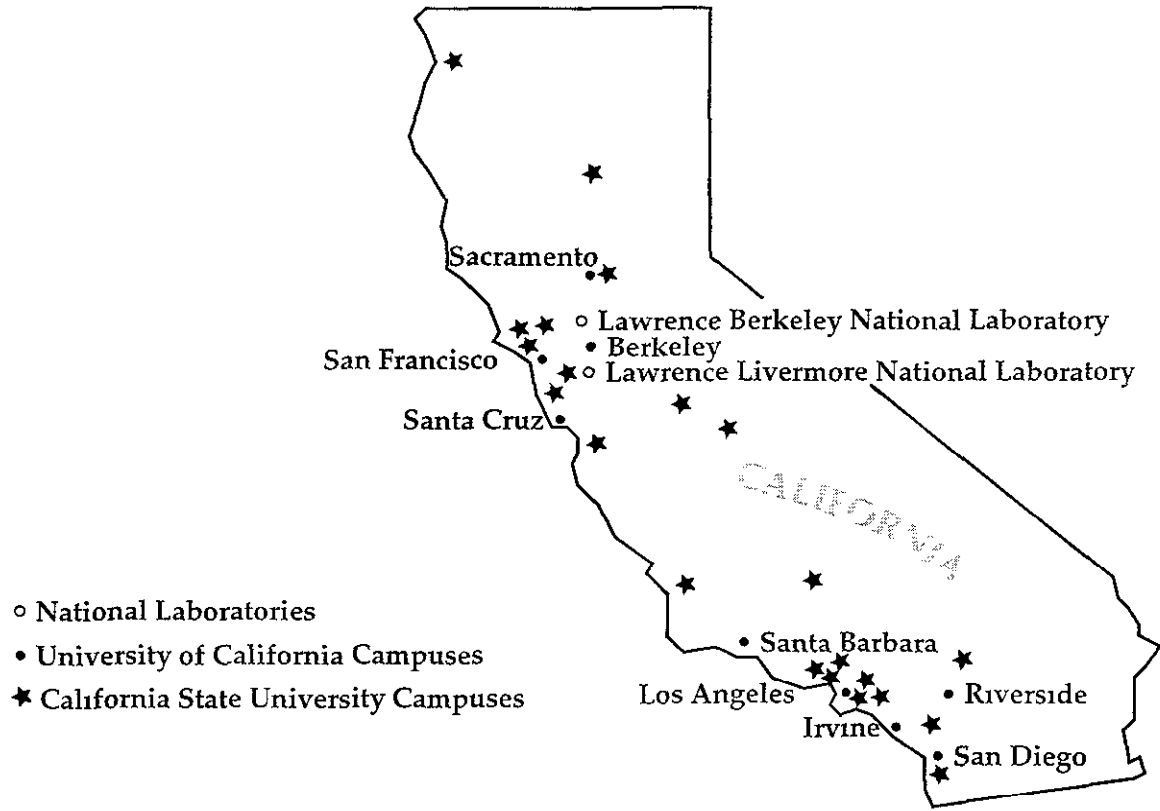
Lawrence Livermore National Laboratory (LLNL) is owned by the Department of Energy (DOE) and is one of three National Laboratories operated by the University of California. The other two laboratories are Lawrence Berkeley National Laboratory (LBNL), and Los Alamos National Laboratory (LANL) located in New Mexico. Both LLNL and LBNL are located in the San Francisco Bay area of California

The University of California operates the following 9 campuses

- UC Berkeley
- UC Davis
- UC Irvine
- UC Los Angeles
- UC Riverside
- UC San Diego
- UC San Francisco
- UC Santa Barbara
- UC Santa Cruz

The California State University operates the following 22 campuses.

- CSU Bakersfield
- CSU Chico
- CSU Dominguez Hills
- CSU Fresno
- CSU Fullerton
- CSU Hayward
- CSU Humboldt
- CSU Long Beach
- CSU Los Angeles
- CSU Maritime Academy
- CSU Monterey Bay
- CSU Northridge
- CSU Pomona
- CSU Sacramento
- CSU San Bernardino
- CSU San Diego
- CSU San Francisco
- CSU San Jose
- CSU San Luis Obispo
- CSU San Marcos
- CSU Sonoma
- CSU Stanislaus



Location of Laboratories and Campuses

1) Development of Treatment, Storage, and Disposal Facility (TSDF) Audit Program

Lawrence Livermore National Laboratory's (LLNL's) management assigned the responsibility of conducting TSDF audits to the Waste Certification Office in August of 1994. Prior to this date, there was no mandate for LLNL to audit waste facilities, nor was there a structured program in place for conducting the audits. Program development took approximately 10 months. This included writing a TSDF Audit Procedure, writing a Quality Assurance (QA) Plan, developing the required audit check lists, and using the documentation on a trial basis. A typical TSDF audit lasted one full day using three hazardous waste specialists. The QA Plan is based on the quality assurance and management system requirements of DOE Order 5700.6C (Quality Assurance) and ASME NQA-1 (Quality Assurance Program Requirements for Nuclear Facilities).

In 1994, the UC Hazardous Waste Action Group (HWAG) was formed. The Group consisted of hazardous waste management professionals from each of the nine UC campuses, Lawrence Berkeley National Laboratory (LBNL), and LLNL. HWAG meetings continue to be held quarterly. Initially, the nine UC campuses were randomly conducting their own audits without standardization, and without any commonality regarding their use or discussion on compliance status. Driven by a common desire to reduce liability to the University of California, LLNL's established TSDF Audit Program was seen as a means to attain this goal. Potential audit team members from the University System were trained in audit protocol, and in July 1995 a joint venture agreement was signed with UC for conducting audits. A similar joint venture agreement was signed with LBNL in September 1995. The California State University System joined the program in January of 1996. The program is managed by a LLNL Lead Auditor who typically selects two hazardous waste specialist team members from selected campuses/labs to conduct a well defined audit of the TSDF.

The number of TSDF audits completed in a year ranges between 15 - 20, including the writing of an in-depth report on the facility. Distribution of the report is strictly controlled and limited to campuses and laboratories in the joint venture program.

Audits are conducted for the sole purpose of protecting the campuses and laboratories from liability under the Comprehensive Environmental Restoration, Compensation, and Liability Act (CERCLA) of 1980. The Audit Team does not approve or disapprove a TSDF for use, but rather provides management with the necessary information for them to make a risk-based assessment on the use of the facility.

2) Program Objectives

Minimize liability:

As previously noted, TSDf audits are conducted for the sole purpose of protecting the campuses and laboratories from liability. Audits are conducted on primary TSDfS (where the waste is initially treated), and also on selected secondary TSDfS (where the waste may be forwarded for further processing). The generators of waste are responsible for their waste from "cradle-to-grave" and need to be assured that their waste is handled in compliance with the required codes and regulations. TSDfS in use must be financially sound to ensure the generator does not become a PRP (potentially responsible party) for site remediation. Liability has also been minimized by reducing the number of TSDfS in use by the University System. At the beginning of the program there were approximately 150 TSDfS in use by the campuses and laboratories; today this number has been reduced to around 100.

Cost savings:

The joint venture program is cost effective. Previously each campus and laboratory were conducting their own type of audit. There was little communication or documentation on the findings of these audits, and there was no overall objective in reducing the number of TSDfS in use. The audit program is now well structured, duplication of effort has been minimized, and quality audits are performed by well qualified personnel. Theoretically, the joint venture program has replaced more than 40 separate audits.

Communication:

Waste management representatives from the campuses and laboratories meet quarterly to discuss waste issues and establish policies. At the meetings TSDf audit reports are reviewed, concerns evaluated, and a common decision made regarding the use of the facility. TSDfS are also prioritized and audit team members selected for future audits. Open discussions are held regarding the disposition of problem waste streams.

Leverage:

Although not the original intent of the program, working together as "one organization" has generated a positive effect, hazardous waste services are being improved; overall waste disposal costs, including administrative costs are being reduced; and contract negotiations have been centralized.

3) Selection of TSDFs for Audit

One of the major advantages of the cooperative venture program is being able to identify the commonality of TSDFs in use by all partners. A matrix has been developed listing all TSDFs currently in use by the university system. Approximately 70% are located within California. The remainder are located in adjacent states, with the number decreasing as a function of distance from California. The goal is to audit TSDFs most widely used by the partners, therefore TSDFs being used by a single campus will probably never get audited under the current program. This is a positive means to reduce the number of TSDFs in use.

The guidelines for conducting an audit under the current program are established by DOE/LLNL since DOE is funding the administration of the program. Due to the commonality of use of the TSDFs and the willingness of members to be flexible, the guidelines have not caused any conflict with the cooperative partners. The guidelines are as follows:

- 1) Any TSDF receiving waste from LLNL must be audited under the current program. These TSDFs include both primary and secondary facilities. Secondary facilities may be excepted by management if the primary facility is financially sound and the secondary facility is "recognized" in the industry. This ruling does not negate the requirement for a future audit.
- 2) Audited TSDFs must be in use by LLNL. TSDFs may be audited if there is potential for future use by LLNL.

Audit priorities are typically established at the quarterly HWAG meetings. Factors that are prominent in establishing an audit priority are:

- Commonality of use
- Prior audit requirement
- Knowledge of the TSDF (good/bad)
- Contract negotiation
- Geographical location

4) Bases for Audit Checklists

The standards typically referred to for auditing hazardous waste TSDFs are documented in 40 CFR (Code of Federal Regulations) Parts 260 through 272. The standards typically referred to for auditing radioactive waste facilities are documented in 10 CFR Part 20. The audit checklists are primarily developed from the following Regulations:

RCRA Facility:	40 CFR Part 264	Standards for Owner and Operators of Hazardous Waste Treatment Storage, and Disposal Facilities
	40 CFR Part 265	Interim Status Standards for Owner and Operators of Hazardous Waste Treatment Storage, and Disposal Facilities
TSCA Facilities:	40 CFR Part 761	<i>PCB Manufacturing, Processing and Distribution in Commerce, and Use Prohibitions</i>
OSHA Standard:	29 CFR Part 1910	Occupational Safety and Health
Rad Waste Facility:	10 CFR Part 20	Standards for Protection Against Radiation
	10 CFR Part 61	Licensing Requirements for Land Disposal of Radioactive Waste

5) Program Overview

The time frame required for scheduling an audit, conducting the audit, completing the audit report, and closing the audit, is typically about 10 weeks. This schedule may be significantly reduced depending upon the urgency for approval and use of the TSDF

The activities of a typical audit include:

Pre-Audit Preparation: Request for a pre-audit package from the TSDF, Select and confirm availability of the audit team; Obtain a Dun & Bradstreet financial report on the TSDF; Compile a pre-audit package and make assignments for the audit team; Schedule a review of public records at the applicable state office. Schedule the audit with TSDF management. Hold meeting/conference call with team members to discuss audit activities and travel arrangements.

State Office Records: Visit the state office to review the public records. Identify areas of concern to be addressed during the audit. Make copies of required documentation. Meet with applicable state inspector(s) for the TSDF

Conducting the Audit: A typical audit consists of three personnel on site for one day. The sequence of activities includes: A pre-audit briefing meeting with management. A facility tour by team members: Team members conduct individual assignments verifying and copying information. Post-audit briefing with facility management where findings/observations are discussed.

Post Audit: Address open issues resulting from the audit and document close out. Compile audit supporting documentation obtained from State office and during the audit (for QA purposes). Obtain written assignments on audit from team members. Develop first draft of audit report for review by team members. Hold meeting/conference call to resolve comments. Formal release of report. Report distribution. Presentation of audit report. Decision on use of TSDF by management.

6) Scope of On-Site Audit

The scope of a typical RCRA hazardous waste TSDF audit is per the check list created from the Subparts of 40 CFR 264/5. Much of this checklist and the standards can be applied to other types of facilities. Without listing all the subparts, the following areas of review are considered important for compliance and possible use of the facility:

- Input from regulatory agencies
- Compliance history.
 - Repetitive problems
 - Fines
- Manifest system and tracking
- Environmental
 - Container storage areas
 - Runoff
 - Groundwater monitoring
- Secondary waste disposal facilities in use
- Facility inspections and self assessment program
 - Audit Team inspections
 - Trends/observations
- Personnel training and safety record
- Facility security
- Closure/post closure insurance
- Liability insurance
- Financial stability

7) Report Evaluation and Distribution

Two audit reports are generated as part of the TSDF Audit Program: one for internal distribution, and one for external distribution. One copy of the external report is forwarded to each campus (i.e., 9 to the UC campuses, 23 to the CSU campuses, and 1 to LBNL). The reports provide the necessary information for management to form a risk-based evaluation on the use of the TSDF, they do not make a recommendation on their use.

1) Internal Report (LLNL only):

- Evaluation committee
- Decision on use:
 - Acceptable
 - Not Acceptable
 - Conditional

2) External Report:

- UC Campuses - Group decision on use
- LBNL - Individual decision
- CSU Campuses - Individual decisions

Report distribution is strictly controlled.

8) Summary

- TSDF Audit Program is well established and recognized.
- Team members are knowledgeable and well qualified.
- Program eliminates duplication of effort.
- Program provides a significant dollar savings
- Audit reports are shared among the University System
- Program increases communication on waste issues
- Liability is minimized by the reduced number of TSDFs in use
- A “rush” audit can quickly be accomplished
- Program is well supported and benefits all.

Hazardous Waste Management— California Style: Part II

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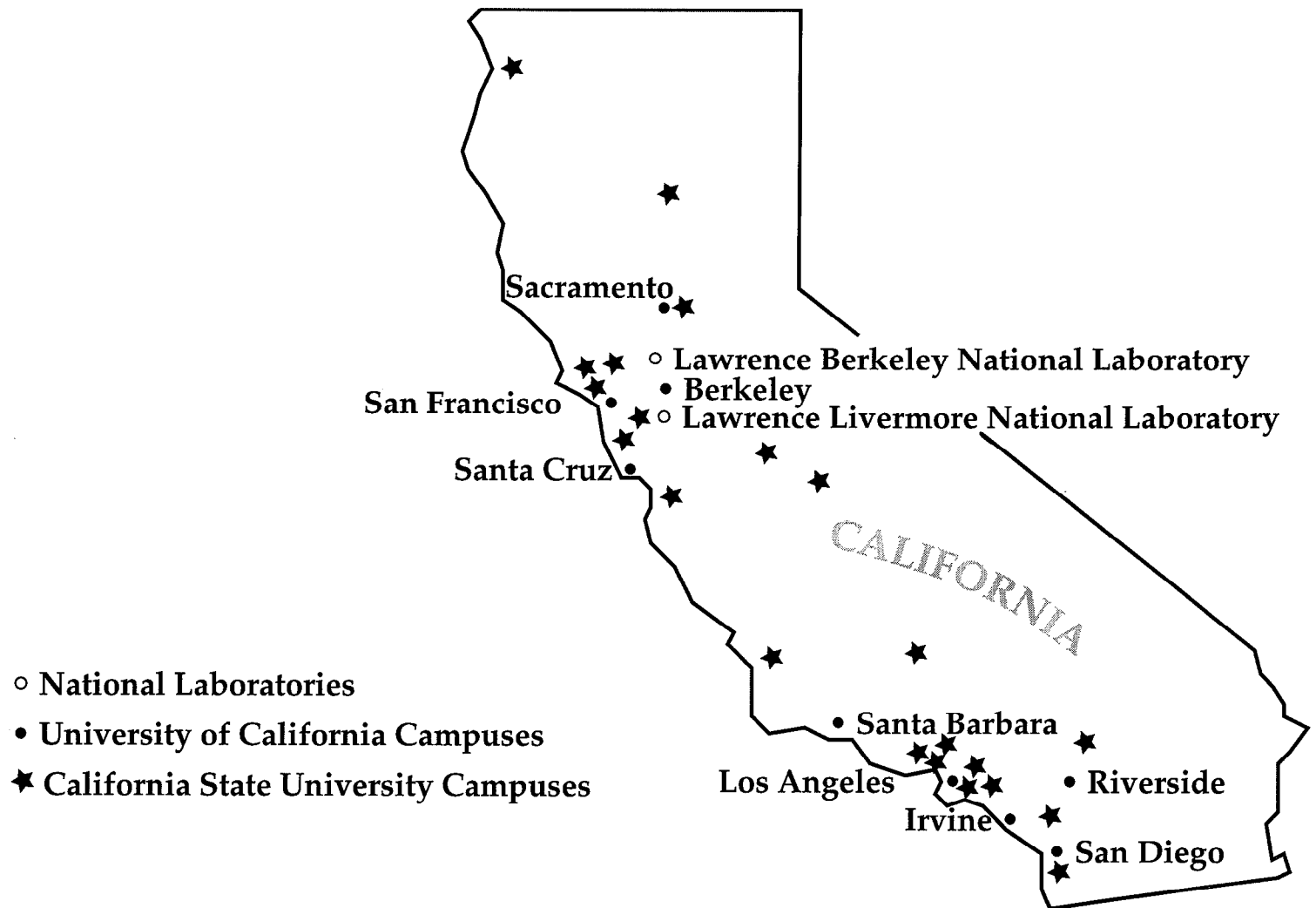
Presentation Format

- Introduction
- Development of Treatment, Storage and Disposal Facility (TSDF) Audit Program
- Program Objectives
- Selection of TSDFs for Audit
- Bases for Audit Checklists
- Program Overview
- Scope of On-Site Audit
- Report Evaluation and Distribution
- Summary
- Questions and Answers

Introduction

- Lawrence Livermore National Laboratory
 - Owned by DOE
 - Operated by University of California
- Lawrence Berkeley National Laboratory
- University of California
 - 9 campuses
- California State University
 - 22 campuses

Location of Labs and Campuses



Program Development

- Program began in 1994
 - 10 months to develop documentation, checklists, trial use

- Basis
 - DOE Order 5700.6C (Quality Assurance)
 - ASME NQA-1 (Quality Assurance Program for Nuclear Facilities)

Program Development (cont.)

- Training
- UC System Agreement July 1995
- LBNL Agreement September 1995
- CSU System Agreement January 1996

Program Objectives

■ Minimize Liability

- Responsible “cradle to grave”
- TSDF must be financially sound
- Minimize the number of TSDFs in use

■ Cost Savings

- Duplication of effort minimized
- Well structured program in place

Program Objectives (cont.)

■ Communication

- TSDf audits are discussed and prioritized

■ Leverage

- Working together as “one organization”
- Contract negotiations have been centralized

Selection of TSDFs for Audit

- LLNL use, or at least have potential for future use
- Commonality with the user group
- Priority or concern
- Contract negotiation

Bases for Audit Checklists

■ RCRA Facility: 40 CFR Part 264

Standards for Owner and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities

■ TSCA Facilities: 40 CFR Part 761

PCB Manufacturing, Processing and Distribution in Commerce, and Use Prohibitions

Bases for Audit Checklists (cont.)

- OSHA Standard: 29 CFR Part 1910
Occupational Safety and Health

- Rad Waste Facility: 10 CFR Part 20
Standards for Protection Against Radiatio
10 CFR Part 61
*Licensing Requirements for Land Disposal
of Radioactive Waste*

Program Overview

■ Pre-Audit Preparation

- Pre-audit package from TSDF
- Select audit team
- Checklists/audit package preparation
- Scheduling
- Meetings

■ State Office

- Review public records (approx. 3 years)
 - ✦ Copy documentation as necessary
- Meet with state personnel

Program Overview (cont.)

■ Conducting the Audit

- In-briefing
- Facility tour
- Team assignments
- Team meeting
- Out-briefing

■ Post Audit

- Closeout of open issues
- Develop audit report
- Meeting/conference call to review draft report
- Review/release of report
- TSDF review and evaluation
- Audit closeout

Scope of On-Site Audit

- Input from regulatory agencies
- Compliance history
 - Repetitive problems
 - Fines
- Manifest system and tracking
- Secondary waste disposal

Scope of On-Site Audit (cont.)

■ Environmental

- Container storage areas
- Runoff
- Groundwater monitoring

■ Facility inspections and self-assessment program

- Audit team evaluation
- Trends/observations

Scope of On-Site Audit (cont.)

- Personnel training and safety record
- Facility security
- Closure/post-closure insurance
- Liability insurance
- Financial stability

Report Evaluation and Distribution

■ Internal Report

- Evaluation committee
- Decision on use
 - ✦ Acceptable
 - ✦ Not acceptable
 - ✦ Conditional

■ External Report

- UC Campuses—group decision on use
- LBNL—individual decision on use
- CSU Campuses—individual decisions on use

Summary

- TSDF Audit Program is well established and recognized
- Team members are knowledgeable and well qualified
- Program provides significant dollar savings
- Program eliminates duplication of effort
- Reduced the number of TSDFs in use
- Program is well supported and benefits all