

U.S. DEPARTMENT OF ENERGY

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**YUCCA MOUNTAIN  
SITE CHARACTERIZATION  
PROJECT**

**DRAFT**

AUDIT REPORT:

ENVIRONMENTAL COMPLIANCE AUDIT

OF

REYNOLDS  
ELECTRICAL AND ENGINEERING  
COMPANY, INCORPORATED (REECO)

AT THE

YUCCA MOUNTAIN SITE  
CHARACTERIZATION PROJECT

MARCH 1993

**DRAFT**



UNITED STATES DEPARTMENT OF ENERGY  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE

U.S. DEPARTMENT OF ENERGY

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ENCLOSURE 1

DOCUMENTATION STATEMENT FOR ILLEGIBLE PAGES IN RECORD

"I have reviewed this record and the illegible information that appears in Appendices C9, C12, and C13 does not impact future, in-process, or completed work. The examples of permits in these appendices are adequate for their intended purpose."

Sid Dodd

Record Source Name (print or type)



Record Source Signature



Record Source's Manager

Wendy R. Dixon

-2-

May 7, 1993

cc w/o encl:

A. S. Dodd, SAIC, Las Vegas, NV, 517/T-11

E. W. McCann, SAIC, Las Vegas, NV, 517/T-11

P. J. Mrenak, SAIC, Las Vegas, NV, 517/T-11

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QA: N/A

May 7, 1993

Carl P. Gertz, Project Manager  
ATTN: Wendy R. Dixon  
U.S. Department of Energy  
Yucca Mountain Site Characterization  
Project Office  
P.O. Box 98608  
Las Vegas, NV 89193-8608

AUDIT REPORT: ENVIRONMENTAL COMPLIANCE AUDIT OF REYNOLDS  
ELECTRICAL AND ENGINEERING COMPANY, INC. (REEC<sub>o</sub>) AT THE YUCCA  
MOUNTAIN SITE CHARACTERIZATION PROJECT (YMP), MARCH 1993.  
CONTRACT #DE-AC08-87NV10576. (SCP: N/A)

The Audit Report for Audit FY93A (Enclosure 1), an environmental compliance audit  
of the Yucca Mountain Project Division of REEC<sub>o</sub> is enclosed for your review and approval.  
The remaining post-audit activities scheduled to occur subsequent to your approval of the  
Audit Report are listed for your information in Enclosure 2. If you have any questions,  
please contact Edward McCann at 794-7758 or Sid Dodd at 794-7522.



Michael W. Harris  
Assistant Project Manager  
Environmental & Regional Programs  
Technical and Management  
Support Services

MWH:ASD:pjm:20051

Enclosures:

1. Audit Report,  
March 1993
2. Schedule of Post-Audit  
Activities

## ENVIRONMENTAL COMPLIANCE AUDIT REPORT ORGANIZATION

### REPORT OVERVIEW

This audit report describes the results of Environmental Compliance Audit FY93A of the Yucca Mountain Project Division of the Reynolds Electrical and Engineering Co., Inc. (REECo). The audit was conducted March 8-12, 1993 by the Technical and Management Support Services (T&MSS) Environmental Compliance and Permitting Department (ECPD) as directed by the Yucca Mountain Site Characterization Project Office (YMPO) Project and Operations Control Division (POCD) Director.

The EXECUTIVE SUMMARY briefly describes the audit process and summarizes the audit team findings. It includes a summary table of all findings arranged by subject area and distinguished as compliance, best management practice, or noteworthy practice findings.

- Section 1 INTRODUCTION. highlights the U.S. Department of Energy (DOE) and YMPO environmental oversight responsibilities and discusses the purpose and general objectives of this audit.
- Section 2 SITE LOCATION AND DESCRIPTION. briefly describes the Yucca Mountain Site Characterization Project (YMP) location and its setting.
- Section 3 AUDIT PROCESS. summarizes the areas evaluated during the audit, discusses the audit team composition, and describes the methods and procedures used to conduct the audit.
- Section 4 ENVIRONMENTAL COMPLIANCE AUDIT FINDINGS. defines audit finding categories and discusses each specific finding of the audit investigative process. Each subject area contains an overview followed by finding presentations that include the following elements: finding number, finding category, finding title, finding statement, and a discussion of the finding.

### Appendices

- Appendix A Environmental Compliance Audit Plan
- Appendix B Environmental Compliance Plans, Procedures, and Field Operations Instructions
- Appendix C Permit Agreements
- Appendix D Audit Schedules
- Appendix E List of Audit Team Members
- Appendix F List of Audit Team Contacts and Interviews
- Appendix G List of Documents Reviewed by the Audit Team
- Appendix H Regulated Materials Listing

An Acronym List (fold out) is provided immediately following Appendix.



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## TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
List of Tables .....	
EXECUTIVE SUMMARY .....	
1.0 INTRODUCTION .....	
1.1 Oversight Responsibilities .....	
1.2 Environmental Compliance Audit Purpose and Objectives .....	
2.0 SITE LOCATION AND DESCRIPTION .....	
2.1 Site Location	
2.2 Site Description	
2.2.1 Climate	
2.2.2 Water Resources	
2.2.3 Biological Resources	
2.2.4 Cultural Resources	
2.2.5 Demography	
2.2.6 Land Use	
3.0 AUDIT PROCESS	
3.1 Audit Scope	
3.2 Audit Schedule	
3.3 Team Composition	
3.4 Audit Techniques	
3.5 Findings	
3.5.1 Findings Support Data	
3.5.2 Findings Development	
3.6 Meetings	
3.7 Working Papers and Records	
3.8 Post-Audit Activities	

**TABLE OF CONTENTS**  
(continued)

<u>Section</u>	<u>Page</u>
3.8.1 Project and Operations Control Division Briefing	
3.8.2 Audit Report Review and Approval	
3.8.3 Corrective Action Plan	
3.8.4 Corrective Action Verification	
<b>4.0 ENVIRONMENTAL COMPLIANCE AUDIT FINDINGS</b>	
4.1 Reporting and Processing of Operations Information (RAP)	
4.1.1 Overview	
4.1.2 RAP Compliance Finding	
4.1.3 RAP Best Management Practice Finding	
4.2 Regulated Materials Management (RMM)	
4.2.1 Overview	
4.2.2 RMM Compliance Findings	
4.2.3 RMM Best Management Practice Finding	
4.2.4 RMM Noteworthy Practice Finding	
4.3 Hazard Communication (HAC)	
4.3.1 Overview	
4.3.2 HAC Compliance Finding	
4.4 Waste Minimization (WAM)	
4.4.1 Overview	
4.4.2 WAM Compliance Findings	
4.5 Resolutions of Environment, Safety and Health Concerns (REC)	
4.5.1 Overview	
4.5.2 REC Compliance Finding	
4.5.3 REC Best Management Practice Finding	
4.6 Environmental Safety and Health Appraisal (ESA)	
4.6.1 Overview	
4.6.2 ESA Compliance Finding	
4.6.3 ESA Noteworthy Practice Finding	

**TABLE OF CONTENTS**  
(continued)

<u>Section</u>	<u>Page</u>
4.7 Environmental, Safety and Health Protection Program for U.S. Department of Energy Operations (EPP)	
4.7.1 Overview	
4.7.2 EPP Compliance Findings	
4.8 Permit Agreement Compliance (PAC)	
4.8.1 Overview	
4.8.2 PAC Compliance Findings	
4.8.3 PAC Best Management Practice Findings	
4.9 Environmental Training Program (ETR)	
4.9.1 Overview	
4.9.2 ETR Compliance Findings	
4.9.3 ETR Best Management Practice Finding	
4.10 Environmental Management Findings	
4.10.1 Overview	
4.10.2 Environmental Management Noteworthy Practice Findings	
Appendix A Environmental Compliance Audit Plan	
Appendix B Environmental Compliance Plans, Procedures, and Field Operations Instructions	
B1 Administrative Procedure (AP)-2.9, Occurrence Reporting and Processing of Operations Information	
B2 AP-5.38, Environmental Safety and Health Appraisal	
B3 AP-5.43, Environmental Safety and Health Protection Program for U.S. Department of Energy Operations	
B4 AP-5.46, Environmental Compliance and Auditing and Surveillance of Yucca Mountain Site Characterization Activities	
B5 AP-6.13, Authorization for Use of Regulated Hazardous Substances and Materials	
B6 AP-6.18, Resolutions of Environment, Safety and Health Concerns	
B7 YMP 91-27, Yucca Mountain Site Characterization Project Training Management Plan	
B8 AP-6.25, Operating Hazardous Waste Satellite Accumulation Areas	
B9 AP-6.27, Waste Assessment	

**TABLE OF CONTENTS**  
**(continued)**

**Section**

- B10 Yucca Mountain Site Characterization Project-Field Operations Instruction (YMP-FOI-3001, Yucca Mountain Field Training Programs
- B11 YMP-FOI-4705, YMP Work Site and Area Access and Controls
- B12 YMP-FOI-5601, Yucca Mountain Personnel and Visitors Control Procedures

**Appendix C Permit Agreements**

- C1 Air Quality Permit to Construct No. 2693
- C2 Air Quality Permit to Construct No. 2893
- C3 Air Quality Permit to Construct No. 3084
- C4 Air Quality Permit to Construct No. 3197
- C5 Air Quality Permit to Construct No. 3198
- C6 Air Quality Permit to Construct No. 3199
- C7 Air Quality Permit to Construct No. 3267
- C8 Air Quality Permit to Construct No. 3268
- C9 Permit to Appropriate Public Waters of Nevada No. 52338
- C10 Permit to Appropriate Public Waters of Nevada No. 57373
- C11 Permit to Appropriate Public Waters of Nevada No. 57374
- C12 Permit to Change Point of Diversion, Manner of Use and Place of Use of Public Waters of Nevada No. 57326T
- C13 Permit to Change Point of Diversion, Manner of Use and Place of Use of Public Waters of Nevada No. 57375
- C14 Permit to Change Point of Diversion, Manner of Use and Place of Use of Public Waters of Nevada No. 57376
- C15 Free Use Permit Vegetative or Mineral Material No. N-55574
- C16 Free Use Permit Vegetative or Mineral Material No. N56844
- C17 Underground Injection Control Permit Modification 1 No. NEV89031

**Appendix D Audit Schedules**

- D1 General Schedule
- D2 Daily Schedule - Audit Phase

**Appendix E List of Audit Team Members**

**Appendix F List of Audit Contacts/Interviews**

**Appendix G List of Documents Reviewed by the Audit Team**

**TABLE OF CONTENTS**  
**(continued)**

**Section**

Appendix H Regulated Materials Listings

- H1 REECo Materials That Are Approved per AP-6.13
- H2 Verbal Authorization Approval
- H3 REECo Regulated Materials That Are Verbally Approved for YMP Use
- H4 REECo Regulated Materials That Are Non-Approved by the POCD for YMP Use

Acronyms (fold out)

List of Tables

- ES-1 Compliance Audit FY93A Findings Summary

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## EXECUTIVE SUMMARY

### INTRODUCTION

The U.S. Department of Energy (DOE) and the Yucca Mountain Site Characterization Project Office (YMPO) are committed to performing Yucca Mountain Site Characterization Project (YMP) activities in an environmentally safe and sound manner. Primary YMP environmental program objectives are to provide oversight of environmental performance and to achieve full compliance and excellence in the environmental area.

The YMPO Project and Operations Control Division (POCD) Director insures that YMP activities are performed in compliance with environmental program requirements and permit stipulations. To that end, the POCD Director tasked the Technical and Management Support Services (T&MSS) Environmental Compliance and Permitting Department (ECPD) to develop a program to conduct environmental compliance audits of YMP Participants. This report documents results of the initial audit (Audit FY95A), an environmental compliance audit of the Yucca Mountain Project Division of Reynolds Electrical and Engineering Co., Inc. (REECO).

### AUDIT SITE

The primary audit site was the Yucca Mountain project site. Audit activities also took place at REECO offices in the Bank of America Center and at other Las Vegas locations.

### AUDIT TEAM

The audit team consisted of an Audit Team Leader, a Technical Coordinator, and five technical specialists from the T&MSS ECPD.

### AUDIT PURPOSE AND OBJECTIVES

The audit purpose is to determine whether REECO YMP Project Division is in compliance with federal/state regulatory requirements and YMP policies /standards and continually improve the system. The general audit objectives are: 1) determine YMP vulnerabilities, risks, and liabilities associated with compliance status, environmental conditions, and environmental management practices; 2) assure management that potential exposure to compliance problems is known and being reduced to acceptable levels; 3) verify adequacy of environmental management and organizational structure; 4) determine compliance with DOE Orders and YMP environmental plans/policies/procedures; and to 5) identify and assure corrective action of deficiencies.

## AUDIT SCOPE

The audit scope includes the following subject areas: Reporting and Processing of Operations Information; Regulated Materials Management; Waste Minimization; Hazard Communication; Resolutions of Environment, Safety and Health Concerns; Permit Agreement Compliance; Environmental Training Program; Environmental Safety and Health Appraisal Program; and Environmental Safety and Health Protection Program of DOE Energy Operations.

## AUDIT TECHNIQUES

Various techniques were used to obtain and verify audit information. First, numerous interviews were conducted with personnel from REECo, matrix-support organizations, and other Participants. Interviews helped to determine the interaction between various organizational units and to assess general understanding of environmental management systems and adherence to procedural requirements. Second, documents pertaining to environmental policies, procedures, and other relevant subjects were extensively reviewed to verify the formality of the system and to confirm interview information. Third, direct observations of personnel, processes, and procedures further verified and supported data obtained through interviews and document reviews. Finally, audit checklists were developed and used to facilitate the audit techniques, to evaluate procedural/regulatory practices, and to identify areas of deficiency and areas of excellence.

## AUDIT FINDINGS

Based on the judgement of the audit team, environmental compliance audit results were assigned to one of the three following finding categories: compliance, best management practice, and noteworthy practice. Briefly defined, compliance findings are conditions that may not comply with regulatory or procedural requirements; best management practice findings indicate conditions where management practices could be improved; and noteworthy practice findings identify conditions of merit that are applicable to other YMP activities.

The audit investigative process produced 34 total findings in the three categories. Approximately 65 percent of the findings were compliance findings, with almost half of these occurring in regulated materials management activities. The balance of the total findings was equally divided between best management and noteworthy practice findings. Table ES-1 summarizes Audit FY93A findings.

## CONCLUSIONS

REECo has a positive attitude toward YMP environmental compliance. This outlook is highlighted by the Technical Project Officer's active participation and assistance in this audit and by the fully cooperative, helpful and positive attitude of REECo staff toward audit team

members. The level of compliance deficiency found in this audit is not insignificant and requires correction. However, taken in context of the audit scope and REECo's extensive environmental activities, the non-compliance reflects a detailed, intensive audit by subject matter experts more than it does an environmental compliance program in difficulty.

Based on audit objectives, the following conclusions may be drawn with respect to the subject areas named in the audit scope: YMP vulnerability, risk, and liability associated with REECo environmental compliance and management practices are currently minimal and will improve with correction of identified deficiencies; REECo is aware of the compliance deficiencies cited in this report and is taking or will take action to eliminate or reduce problems to acceptable levels; REECo's environmental management and organizational structure, except in some administrative and procedural aspects, is adequate; and REECo's level of compliance with DOE Orders and YMP environmental plans/policies/procedures is satisfactory.

ES-4

DISCIPLINE	COMPLIANCE FINDINGS	BEST MANAGEMENT PRACTICE FINDINGS	NOTEWORTHY PRACTICE FINDINGS	OBSERVATIONS/ ISSUES
Occurrence Reporting and Processing of Operations Information (AP-2.9)	1	1		No procedure for notifying FOC of occurrences.  Average time for processing environmental surveillance forms is 2 months.
Regulated Materials Management	10	1	1	Deficiencies in: approving and updating the MRHP; RFA routine and emergency processing; SAA establishment, operation, inspection, and operator training.  Regulated material storage without POCD approval.  Accurate tracking of non-hazardous waste activities (no regulatory requirement).
Hazard Communications	1			Deficiency in updating MSDS Notebook.
Waste Minimization	2			Deficiencies in waste minimization reporting and waste minimization-related MRHP documentation.

TABLE ES-1 COMPLIANCE AUDIT FY93A FINDINGS SUMMARY

ES-5

DISCIPLINE	COMPLIANCE FINDINGS	BEST MANAGEMENT PRACTICE FINDINGS	NOTEWORTHY PRACTICE FINDINGS	OBSERVATIONS/ ISSUES
Resolutions of Environment, Safety and Health Concerns (AP-6.18)	1	1		REECO does not follow YMP AP-6.18.  Environmental surveillance deficiencies not being tracked for resolution or completion, trend analyses, or causal relationships.
Environmental Safety and Health Appraisal (AP-5.38)	1		1	Four administrative steps in AP-5.38 with no equivalents in REECO Procedure MC-14.1 (Environmental, Safety and Health Internal Appraisal Program).  REECO conducts informal internal ES&H appraisals.
Environmental, Safety and Health Protection Program for U.S. DOE Operations (AP-5.43).	2			REECO procedure MC-14.1 does not comply with reporting requirements of AP-5.43.

TABLE ES-1 COMPLIANCE AUDIT FY93A FINDINGS SUMMARY (continued)

ES-6

DISCIPLINE	COMPLIANCE FINDINGS	BEST MANAGEMENT PRACTICE FINDINGS	NOTEWORTHY PRACTICE FINDINGS	OBSERVATIONS/ ISSUES
Permit Agreement Compliance	2	2		UZ-16: Water discharge to an unlimited pit; Altered air quality permit.  Deficiency in communication of air quality permit conditions; compressor labeling deficiency UZ-16.
Environmental Training Program	2	1		Lack of YMPO approval for participant developed training program; non-GET trained work party and supervisor working on-site.  No documentation of individuals who are scheduled for GET training.
Environmental Management Findings			4	Four noteworthy environmental management programs in internal communications, staff development and training, and formality of programs.

TABLE ES-1 COMPLIANCE AUDIT FY93A FINDINGS SUMMARY (continued)

## Section 1.0 - INTRODUCTION

### 1.1 Oversight Responsibilities

The U.S. Department of Energy (DOE) is committed to performing its activities in an environmentally safe and sound manner in accordance with applicable environmental statutes and regulations. A primary objective of the DOE and the Yucca Mountain Site Characterization Project Office (YMPO) is to provide oversight of environmental performance, in support of the broader goal of achieving full compliance and excellence in the environmental area. The environmental program is structured to achieve this objective and satisfy applicable statutory requirements. It is integrated with other programs under the direction of the DOE Office of Civilian Radioactive Waste Management (OCRWM).

The YMPO, as part of OCRWM, is responsible for all activities at the Yucca Mountain site. The Project Manager (PM) is the authorized official responsible for managing all Yucca Mountain Site Characterization Project (YMP) activities including the environmental protection program.

The YMPO Project and Operations Control Division (POCD) Director is responsible for the environmental program and for daily activities being performed in compliance with applicable environmental requirements and permit stipulations. To insure that YMP activities are undertaken and conducted in an environmentally sound manner, the Technical and Management Support Services (T&MSS) Environmental Compliance and Permitting Department (ECPD) was tasked to develop an environmental compliance audit program and to conduct oversight assessments of YMP Participant organizations. The Yucca Mountain Project Division of Reynolds Electrical and Engineering Co., Inc. (REECo) was designated by the POCD Director as the subject of the initial audit under this program. This report documents the results of the REECo environmental compliance audit. The audit is designated Environmental Compliance Audit FY93A.

### 1.2 Environmental Compliance Audit Purpose and Objectives

The environmental compliance policy of the DOE/YMP is full compliance with the letter and spirit of environmental laws, regulations, and requirements as an integral part of DOE/YMP operations. Within the context of this policy, the purpose of this audit as described in the audit plan (Appendix A) was to evaluate and improve the environmental compliance status of YMP Participant REECo.

The general objectives of this audit were to: 1) determine YMP vulnerabilities, risks, and liabilities associated with compliance status, environmental condition, and environmental management practices; 2) assure management that potential exposure to compliance problems is known and being reduced to acceptable levels; 3) verify adequacy of environmental management and organizational structure; 4) determine compliance with DOE Orders and YMP environmental plans/policies/procedures; and to 5) identify and assure corrective action of deficiencies.

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## Section 2.0 - SITE LOCATION AND DESCRIPTION

### 2.1 Site Location

The Yucca Mountain site is located in Nye County, Nevada, approximately 100 miles northwest of Las Vegas, Nevada. Primary ground access to the site is via U.S. Highway 95. The Project site is on the southwestern boundary of the Nevada Test Site (NTS) and includes U.S. Air Force (USAF) and Bureau of Land Management (BLM) lands. Access to USAF and BLM lands has been obtained by rights-of-way granted to DOE.

### 2.2 Site Description

The Yucca Mountain site is in the southern Great Basin of the Basin and Range Province, a regional setting characterized by linear mountain ranges separated by intervening valleys with few flowing streams or rivers.

The Project site encompasses ecological zones ranging from the Mojave Desert to the south through a transition zone that extends beyond the site boundary to the cooler and wetter Great Basin Desert to the north. Soils are generally rocky or sandy and dry primarily supporting low bushes and shrubs. Yucca Mountain, a long north-south aligned volcanic ridge of 4,900 feet elevation, is the major topographical feature of the site. The mountain slopes steeply west to Crater Flats and gradually east to Jackass Flats. The largest of five washes that cross the site east of Yucca Mountain is Fortymile Canyon that drains to the Armagosa Valley 15 to 20 miles south.

#### 2.2.1 Climate

The climate at the Project site is characterized by considerable solar radiation, little precipitation, low relative humidity, and large temperature ranges. July and August have the highest average maximum daily temperatures (mid-nineties); December and January the lowest (low-fifties). Average annual precipitation is less than six inches and is concentrated in the winter months. Southerly winds are most common in the spring and summer; northerly winds dominate in fall and winter. Average monthly wind speeds range from approximately nine miles per hour in April to six miles per hour in November.

#### 2.2.2 Water Resources

Free-flowing surface water does not exist at the Project site. Drinking water is pumped from groundwater sources. Water tables are generally deep beneath the surface of the ranges and most valleys with recharge from precipitation falling at higher elevations to the north. The Project site overlies two aquifers--one local and relatively shallow (approximately 1,600 feet deep), the other regional and very deep (probably in excess of 4,100 feet). Most groundwater discharges south and southwest of the site in Armagosa Valley and Death Valley.

### 2.2.3 Biological Resources

Plant associations of two different botanical zones are recognizable at the Project site. At lower elevations, creosote bush, bursage, and blackbrush comprise the vegetation associations. Creosote bush, boxthorn, and hopsage characterize middle elevations, and boxthorn and hopsage dominate higher elevations. Despite the number of species found at the site, plant life is considered generally sparse, typical of any desert region.

As many as 46 species of mammals may occur in the vicinity of the site. Most numerous are rodents, followed by jackrabbits and cottontails. Mammalian predators include the coyote, and to a much lesser extent, the bobcat, badger, and kit fox. None of the species present are threatened/endangered but all fur-bearing animals are protected by the State of Nevada.

Site-specific surveys in 1982 recorded 35 bird species including 6 species of raptors. No permanent or seasonal bird species are threatened or endangered; the endangered Peregrine Falcon may occasionally migrate through the area.

Reptiles are represented at the site by eight species of lizards, four snake species, and one species of tortoise. The tortoise species is the Desert Tortoise, listed as threatened by the U.S. Fish and Wildlife Service (USFWS) and the subject of an intensive study program at the site.

### 2.2.4 Cultural Resources

Archaeological resources found at the site indicate significant past use by small, highly mobile groups of aboriginal hunter-gatherers. These aboriginal groups were followed by Euroamericans who made limited use of the site area for travel, transportation, prospecting, surveying, and possibly ranching. As a result of numerous archaeological surveys in the project area over 450 historical properties have been identified.

### 2.2.5 Demography

Counties bordering the Project site are essentially rural with low population density (approximately 0.5 person per km<sup>2</sup>). The county populations (1990 census) are as follows: Lincoln - 3,775; Nye - 17,781; Esmeralda - 1,344; and Inyo (California) - 18,281. Clark County, to the southeast and well outside the study area, has a population of 741,459 distributed as follows: Las Vegas - 258,295; Henderson - 64,942; North Las Vegas - 47,707; Boulder City - 12,567; Mesquite - 1,871; other - 356,077.

### 2.2.6 Land Use

The Project site is on lands controlled by the DOE, the USAF, and the BLM. Access to much of the land is restricted. Lack of surface water and the generally harsh desert conditions prevalent in the area limit opportunities for agriculture or recreation on lands immediately adjacent to the site. The nearest agricultural areas are the Armagosa Valley, 15 miles south, and the Pahrupp Valley, 60 miles southeast. No BLM grazing leases have been issued for lands surrounding the site. Mining activity takes place at Bare Mountain, 12 miles away, and near the town of Beatty. Outdoor recreation occurs to the south and southwest of the site.

## Section 3.0 - AUDIT PROCESS

### 3.1 Audit Scope

The scope of Environmental Compliance Audit FY93A included evaluations of REECo's compliance with applicable federal and state environmental regulations, requirements, permits, and agreements as well as compliance with U.S. Department of Energy (DOE) Orders and Yucca Mountain site Characterization Project (YMP) plans, policies, and procedures as they apply to environmental activities. Specific subject areas, based on YMP Administrative Procedures (APs) and existing permit agreements, were evaluated during the audit. These specific areas were: Reporting and Processing of Operations Information pertinent to the YMP environmental programs; Regulated Materials Management; Waste Minimization; Hazard Communication; Resolutions of Environment, Safety and Health Concerns; REECo's compliance with stipulated conditions of permit agreements made with federal and state regulatory agencies where such agreements are in place; the effectiveness of REECo's environmental training program; Environmental Safety and Health Appraisal Program; and the Environmental Safety and Health Protection Program of DOE Energy Operations. The APs and permit agreements that formed the basis for the audit are provided in Appendix B and Appendix C, respectively.

### 3.2 Audit Schedule

All audit activities conducted during the pre-audit, audit, and post-audit phases of Environmental Compliance Audit FY93A are shown in Appendix D. A detailed schedule of daily activities during the March 8-12, 1993 audit phase is also shown in Appendix D.

### 3.3 Team Composition

The REECo Environmental Compliance Audit FY93A was conducted by an audit team (AT) comprised of an Audit Team Leader (ATL), Technical Coordinator, and technical specialists from the Technical and Management Support Services (T&MSS) Environmental Compliance and Permitting Department (ECPD) as audit team members. AT member biographical sketches and primary responsibilities are listed in Appendix E.

The ATL managed the team and served as the primary contact point with the Project and Operations Control Division (POCD), the ECPD, and REECo. Additional ATL responsibilities were audit team organization, staffing, and support as necessary to ensure audit report accuracy, objectiveness, and thoroughness. The ATL provided overall policy guidance to the AT and was the liaison with REECo contacts for administrative matters. He was also responsible for review of daily reports, agenda revisions, staff supervision, records maintenance, audit report production, and audit closeout activities.

The Technical Coordinator, an experienced, technically qualified, senior environmental staff member, directed the technical efforts of the AT members and monitored audit results in close coordination with the Team Leader.

The AT core membership was composed of ECPD technical specialists. Team member selection was based on knowledge of contemporary environmental issues, statutes, regulations, and YMP regulations and administrative procedures for matters pertinent to their technical specialty areas.

### **3.4 Audit Techniques**

Various auditing techniques were employed to obtain information regarding compliance with regulatory requirements, to find out if written policies were being carried out in actuality, to assess whether operations were safe and environmentally wise, and to determine if good management practices were in evidence. Information was gathered through numerous interviews with REECo personnel in the YMP Project Division, with personnel in REECo matrix-support organizations, and with personnel in other Participant organizations. A summary table of audit contacts and interviews is provided in Appendix F. During both the pre-audit and audit phases, the audit team conducted extensive document reviews. The documents included environmental-related policies, procedures, appraisals, self-assessment, occurrence reporting, and other pertinent documents. The purpose of these document reviews was to gain an understanding of REECo operations and existing and potential problem areas in order to direct the audit focus to relevant areas. A list of documents reviewed is provided in Appendix G. Direct observation of personnel, work-site processes, and compliance procedures was a technique employed by all audit team members to verify and support information obtained through interviews and document reviews.

Audit checklists were developed directly from their respective procedures (Appendix B) or permits (Appendix C) to facilitate employment of the audit techniques described above. The checklists also helped to ensure that all aspects of a particular procedure or permit agreement were adequately covered. The checklists were used by the auditors to assess adherence to procedural and regulatory practices and to identify areas of non-compliance. Prior to the audit, copies of all checklists were provided to REECo for review and to assist with audit preparation.

### **3.5 Findings**

#### **3.5.1 Findings Support Data**

Using the audit techniques described in Section 3.4 above, a variety of data were obtained by each AT member to support potential findings. These information elements included:

- The specific nature of the problem, issue, condition, or practice.
- A detailed location, if appropriate.
- The framework or perspective in which the problem exists.
- The regulatory standard or procedure being violated.
- Supporting information describing the problem or practice, or events leading to the problem.
- Information on whether REECo is aware of the issue and actions being taken to address the problem or practice
- Information on how the AT member learned of the problem or practice.

### **3.5.2 Findings Development**

Development and validation of findings was an interactive process that involved discussion among the individual AT member, ATL Technical Coordinator, and other team members to arrive at a well-documented, defensible finding statement. It should be noted that the existence of a planned or in-progress corrective action did not eliminate the basis for a finding, but such action was noted in the finding discussion.

All findings were reviewed by the ATL Technical Coordinator, and other team members. The purpose of these reviews was to ensure that the findings were technically accurate and complete, in the correct format, and that they were clear, concise, and grammatically correct. In addition, potential findings under review by the audit team were briefed daily to REECo personnel to obtain verbal comments.

### **3.6 Meetings**

The ATL conducted daily caucus sessions with the audit team. These caucus sessions were held for the benefit of the auditors to exchange information, review team observations, discuss potential findings, identify problem areas, and to make adjustments to the daily agenda. Caucus sessions helped ensure the progress of the audit plan and permitted modification or redirection of the plan, as appropriate. These sessions also served to validate data and provide additional assurance of the factual accuracy of observations and potential report findings prior to closeout of the on-site audit activities.

A daily debriefing was conducted for the benefit of the audited organization and was open to appropriate REECo personnel. These personnel interacted with AT members during discussion of issues and potential findings to help insure the technical accuracy of the information being used to develop the potential findings.

A formal closeout meeting at the conclusion of audit activities was conducted by the ATL. Meeting attendees included the Technical Coordinator, AT members, the REECo Technical Project Officer (TPO), and REECo YMP Division and matrix-support personnel. The purpose of the closeout meeting was to provide an overview of the audit process and discuss tentative results of the audit.

### **3.7 Working Papers and Records**

Each team member used a logbook and maintained comprehensive, organized, and coherent working papers to describe information gathered, how it was gathered (e.g., direct observations, interviews, document reviews), the sources of information, and any other data necessary to support findings contained in this report. The working papers were developed as official records of the audit and their use began concurrently with the team member's participation in the audit. The following items were developed or updated as part of the compliance audit records:

- Daily agenda
- Meeting notes and attendance sheets

- List of interviews
- List of documents reviewed
- Daily activities report
- Problems encountered on a daily basis

This audit generated no quality assurance records. Copies of the audit report, correspondence, logbooks, and all other documents created as a result of pre-audit, audit, and post-audit activities will be kept to document this audit and will comprise the audit administrative record file. This administrative record file will be submitted to the Las Vegas Local Records Center by the ECPD to be forwarded to the Central Records Facility.

### **3.8 Post-Audit Activities**

In addition to the preparation of this report, other post-audit activities include a briefing, the audit report review and approval process, development of a corrective action plan, verification of the corrective action, and audit closure.

#### **3.8.1 POCD Briefing**

Following the on-site audit phase and the audit closeout briefing to REECO personnel (Section 3.6 above), the ATL briefed the POCD director, the T&MSS Assistant Project Manager (APM) for Environmental and Regional Programs, and the T&MSS ECPD Manager on the audit and findings.

#### **3.8.2 Audit Report Review and Approval**

The audit report will be provided to the T&MSS ECPD Manager for review and approval. On completion of the ECPD Manager's review/approval process, the audit report will be forwarded to the POCD Director for final review and approval.

#### **3.8.3 Corrective Action Plan**

The POCD Director will transmit the approved audit report to the REECO Technical Project Officer (TPO) and formally request the development of a corrective action plan to address the audit findings. The TPO or designee will direct the preparation of the corrective action plan by REECO personnel. When complete, the TPO will submit the plan to the POCD Director for approval. The TPO will be responsible for ensuring implementation of the approved corrective action plan and for tracking REECO adherence to the plan and any other activities undertaken to address the audit findings.

#### **3.8.4 Corrective Action Verification and Audit Close**

Verification of the completion of corrective actions will be documented by the ATL and a brief, written report closing the audit will be submitted by the Team Leader to the POCD Director.

## Section 4.0 - ENVIRONMENTAL COMPLIANCE AUDIT FINDINGS

The Technical and Management Support Services (T&MSS) environmental compliance audit team identified findings in three general categories: compliance findings (CF), best management practice findings (BMPPF), and noteworthy practice findings (NPF). Each finding category is defined below:

- CF - A condition that, in the judgement of the audit team, may not satisfy federal or state environmental regulations, applicable U.S. Department of Energy(DOE)/Yucca Mountain Site Characterization Project (YMP) orders and directives, permit conditions, or site policies/procedures.
- BMPPF - A condition where, in the absence of regulatory requirements and in the professional judgment of the audit team, management practices could be improved.
- NPF - A condition or finding that, in the judgment of the audit team, is noteworthy and will have application to other YMP activities or participants.

Each finding category applicable to the audited subject area is presented in the following sections of this audit report. The findings presented in each section are not necessarily arranged in order of relative significance and not all sections have findings in each of the three findings categories.

### 4.1 Reporting and Processing of Operations Information (RAP)

#### 4.1.1 Overview

This section addresses how environmental information is accumulated and reported by REECo. The Administrative Procedures (APs) used as the basis for this audit subject area are:

- AP-2.9, Occurrence Reporting and Processing of Operations Information (Appendix B1)
- AP-5.46, Environmental Compliance Auditing and Surveillance of YMP Activities (Appendix B4)

In general, REECo personnel did not seem familiar with the APs listed above. REECo Company Procedure (CP) 1.11.05 is the guidance used to report occurrences through the Nevada Test Site (NTS) chain of command. REECo field personnel are aware of the YMP environmental surveillance process, but do not directly connect the surveillance process with an AP. Again, this appears to be due to the fact that REECo follows their CPs and shows no requirements flowdown from YMP documentation.

#### 4.1.2 RAP Compliance Finding

**Finding Number:** RAP/CF-1

**Finding Title:** Procedural Non-Compliance

**Regulatory Requirement:** AP-2.9. Occurrence Reporting and Processing of Operations Information requires that "...the Field Operations Center (FOC) is to be informed or notified of all occurrences."

**Finding:** No REECo documentation was found to indicate that REECo is following the reporting requirements of this procedure. A clear, concise notification hierarchy for FOC notification (i.e., who should be notified and in what order) is not available; the notification process is confusing.

**Discussion:** REECo personnel indicated that REECo CP 1.11.05, Occurrence Reporting, was used for reporting occurrences.

In general, there appears to be confusion about environmental occurrence reporting: a dual reporting system (REECo and FOC) seems to currently be in effect. A review of REECo procedural guidance pertinent to occurrence reporting (e.g., CPs, YMP Management Control Procedures, and Department Standard Operating Procedures) revealed no written requirement to notify responsible YMP officials (FOC, Site Manager [SM], or Project and Operations Control Division [POCD]).

#### 4.1.3 RAP Best Management Practice Finding

**Finding Number:** RAP/BMPF-1

**Finding Title:** Surveillance Form Completion Delay

**Regulatory Requirement:** Not Applicable (N/A)

**Finding:** The average time from the T&MSS Environmental Compliance and Permitting Department (ECPD) surveillance to REECo completion and return of the surveillance form is two months.

**Discussion:** Environmental surveillances at sites where various field activities occur are conducted by YMP POCD and T&MSS ECPD personnel. Actions identified by surveillance personnel are documented on a surveillance form. Many actions identified are completed by REECo personnel within a day or two after being identified by surveillance personnel. However, there is a delay from the time the form is sent to REECo until it is received by T&MSS.

REECo, YMP POCD, and T&MSS ECPD personnel need to look at a "quick to close" method with the idea in mind of completing the required action and associated paperwork within two to three days. A work simplification evaluation regarding the processing of the surveillance form should also be considered.

## 4.2 Regulated Materials Management (RMM)

### 4.2.1 Overview

YMP procedures have been developed to ensure that all YMP activities are undertaken and conducted in an environmentally sound manner. Regulated materials management auditing activities were conducted to determine if YMP activities performed by REECo comply with YMP requirements. The regulated materials management audit was conducted using the following APs:

- AP-6.13. Authorization for the Use of Regulated Hazardous Substances and Materials (Appendix B5)
- AP-6.25. Operating Hazardous Waste Satellite Accumulation Areas (Appendix B8)

These APs are derived from requirements in the Resource Conservation and Recovery Act (RCRA) and codified in 40 Code of Federal Regulations (CFR) 260 through 265.

The purpose of auditing REECo's regulated materials management was to determine if all REECo regulated materials used in conjunction with YMP activities were identified and authorized for use in accordance with AP-6.13. In addition, the regulated materials management audit was conducted to determine if waste generated from the use of regulated materials was managed in accordance with YMP requirements.

Audit data were collected through interviews with REECo personnel, evaluation and verification of regulated materials storage/use, evaluations of hazardous waste Satellite Accumulation Areas (SAAs), and review of YMP/REECo documents. The regulated materials management data collected provided verification for ten compliance findings, one best management practice finding, and one noteworthy practice finding.

### 4.2.2 RMM Compliance Findings

**Finding Number:** RMM/CF-1

**Finding Title:** Lack of Approval Documentation for the REECo Materials Reporting and Handling Plan (MRHP)

**Regulatory Requirement:** AP-6.13. Authorization for the Use of Regulated Hazardous Substances and Materials, requires YMP Participants to submit their MRHP to the POCD for approval. The T&MSS ECPD is required to review the MRHP and submit comments to the POCD; the POCD and Project Manager (PM) are required to review/approve the MRHP and notify the Participant that approval is granted.

**Finding:** Documentation was not made available during the audit to verify that Revision 3, dated May 1992, of the REECo MRHP was submitted by REECo to the POCD, was reviewed by the T&MSS ECPD, or was reviewed/approved by the POCD or the PM.

**Discussion:** The REECo MRHP copy, Revision 3, May 1992, that was given to the T&MSS ECPD has a signature page on which the REECo Technical Project Officer's (TPO) signature appears, giving REECo management approval for the document. Similar signature pages, or approval letters, from the POCD, T&MSS ECPD, and/or PM, do not accompany the REECo MRHP; REECo personnel did not provide documentation verifying the required reviews/approvals. In addition, REECo personnel did not provide documentation verifying that the REECo MRHP had been formally submitted to the POCD to obtain the required approvals.

Documentation verifying PM and T&MSS ECPD approval of Revisions 1 and 2 of the REECo MRHP was obtained from the T&MSS ECPD and filed in Audit Logbook #4, Tab D of the RMM audit records.

**Finding Number:** RMM/CF-2

**Finding Title:** Regulated Material Use Without POCD Approval

**Regulatory Requirement:** AP-6.13, Authorization for the Use of Regulated Hazardous Substances and Materials, requires YMP Participants to submit to the POCD a Request for Authorization (RFA) Form and a Material Safety Data Sheet (MSDS) for each regulated material identified or proposed for use.

**Finding:** REECo is using regulated materials on-site in YMP activities for which RFA Forms and MSDSs have not been submitted to or approved by the POCD.

**Discussion:** Krylon 7165 Safety Red Marking Paint requires approval through the AP-6.13 RFA process. This regulated material is being used by the REECo Construction Department on the YMP site and is not approved for use by the POCD. Sixty-eight cans of this material were in a flammable storage cabinet at the Exploratory Studies Facility (ESF) Men's Change Facility, located behind the Field Operations Center.

**Finding Number:** RMM/CF-3

**Finding Title:** Deficiencies in Updating the REECo Materials Reporting and Handling Plan (MRHP)

**Regulatory Requirement:** AP-6.13, Authorization for the Use of Regulated Hazardous Substances and Materials, requires YMP Participants to develop a program for handling and reporting the use of all regulated materials that demonstrates the regulated materials are handled in a safe and environmentally sound manner. The program should be documented in a Participant MRHP. YMP Participants are required to revise the MRHP to include each regulated material that has been approved for use by the POCD and the PM.

In addition to the AP-6.13 requirement, the YMP Hazardous Materials Management and Handling Plan (HMMHP) has a flow down requirement for the MRHP to contain a regulated material identification section. This section will contain the name of the regulated materials to be used.

the maximum quantity of the regulated materials to be kept at the activity's location, the means of storage, and physical and safety information about the regulated materials.

**Finding:** The REECo MRHP has not been revised to include all regulated materials, or other required information for those materials, for which REA Forms have been completed and approved by the POCD and PM.

**Discussion:** The REECo MRHP contains some of the regulated materials (items not circled in Appendix H1) used by REECo and other required information for those materials. The REECo MRHP does not contain any information for those materials circled on the REECo Regulated Materials that are Approved per AP-6.13 (Appendix H1).

The REECo MRHP was last revised in May 1992. Regulated materials approved after that date do not appear in the MRHP and therefore the MRHP is not current.

The REECo Hazardous Materials Coordinator (HMC) stated that the REECo MRHP will be revised to include all required information and to make it a more usable document for all REECo employees. Also, REECo is working to make the MRHP a controlled document so all REECo departments receive current copies of the MRHP.

**Finding Number:** RMM/CF-4

**Finding Title:** Deficiencies in Obtaining Emergency Authorization for the Use of Regulated Materials

**Regulatory Requirement:** AP-6.13, Authorization for the Use of Regulated Hazardous Substances and Materials, requires YMP Participants to request emergency authorization for the use of regulated materials by contacting the POCD and providing information required to complete the request form.

**Finding:** REECo contacts the T&MSS ECPD instead of the POCD to obtain emergency authorization prior to the use of regulated materials. The T&MSS ECPD, who grants emergency authorization approvals, has not been formally designated to act on behalf of the POCD and grant emergency authorization approvals for the use regulated materials.

**Discussion:** All emergency/verbal authorizations for regulated materials initiated by and granted to REECo have been accomplished using the following procedure:

The REECo HMC (or alternate) notifies T&MSS ECPD by telephone that REECo requires emergency/verbal approval for a given regulated material. The REECo HMC (or alternate) then faxes the MSDS to T&MSS ECPD. T&MSS ECPD reviews the MSDS and other pertinent data, and gives REECo approval based on this information (Appendix H2).

The request procedure described above fails to comply with the emergency authorization procedural requirements of AP-6.13 in two respects. First, the Participant's request for

emergency authorization is directed to the incorrect organization. Second, the emergency authorization is granted by an organization that has not been formally designated to issue such approvals.

**Finding Number:** RMM/CF-5

**Finding Title:** Deficiencies in Submitting Routine Request Information After Emergency Authorization is Granted

**Regulatory Requirement:** AP-6.13, Authorization for the Use of Regulated Hazardous Substances and Materials, requires YMP Participants to submit a routine request form to the POCD within seven days after emergency authorization is granted.

**Finding:** REECo did not submit routine request information to the POCD within seven days after emergency authorization was granted.

**Discussion:** REECo was given emergency/verbal approval by the T&MSS ECPD (see finding number RMM/CF-4 above) for the materials listed on REECo Regulated Materials that are Verbally Approved for YMP Use (Appendix H3).

When the emergency/verbal authorization was given, REECo personnel gave a commitment to the T&MSS ECPD to submit routine request information (RFAs) per AP-6.13, but a specific date was not set for that submittal. The routine request information, which is required within seven days after emergency/verbal authorization is given, has not been submitted by REECo for verbally approved materials to this date. For example, the Firm Foot Aerosol, for which routine request information has not been submitted, was granted emergency/verbal approval on November 20, 1992. The REECo Hazardous Materials Coordinator (HMC) and alternate HMC stated that they were not aware of the AP-6.13 seven day time limit.

The REECo HMC is currently preparing the required routine request information for those materials that have emergency/verbal authorization; this information will be submitted to the POCD in accordance with AP-6.13.

**Finding Number:** RMM/CF-6

**Finding Title:** Deficiencies in the REECo MRHP

**Regulatory Requirements:** The YMP HMMHP, Section 5.1.3, requires each YMP Participant's MRHP to designate SAA Operators. The designation should appear in the Hazardous Waste Accumulation and Handling section of the MRHP. In addition, the HMMHP, Section 5.1.4, requires that the Emergency Preparedness Plan in the MRHP will contain the identification of the SAA Operators or designees.

**Finding:** The REECo MRHP does not identify the SAA Operators.

**Discussion:** The REECo MRHP states that, "the names of the SAA Operators of the Division are listed in the MRHP-Activity and Site Listings (ASL) for each site." The REECo MRHP-ASL does not give the names of the SAA Operators. Thus, the REECo MRHP does not meet a requirement established in the YMP HMMHP.

**Finding Number:** RMM/CF-7

**Finding Title:** Lack of Training for the SAA Operator

**Regulatory Requirement:** AP-6.25, Operating Hazardous Waste Satellite Accumulation Areas, and the YMP HMMHP, Revision 0, effective July 1992, require all SAA personnel to have regulated materials and hazardous waste training.

**Finding:** The REECo SAA Operator at UZ-16, where the LM-300 Drillrig is operating, has not had the required training.

**Discussion:** REECo has a training program called Waste Management for the Generator, which meets the SAA Operator training requirements given in Section 7.0 of the YMP HMMHP. The LM-300 SAA Operator has not taken this training, nor any equivalent training, in order to be qualified to operate the SAA. The SAA Operators at Well J-13 and at the Subdock are properly trained and qualified to operate an SAA.

The REECo alternate HMC stated that REECo has been trying to obtain training for the LM-300 SAA Operator since before the operation of the LM-300 Drilling at the UZ-16 site began. However, the training has not been available.

**Finding Number:** RMM/CF-8

**Finding Title:** Deficiencies in SAA Accumulation Logbooks

**Regulatory Requirement:** AP-6.25, Operating Hazardous Waste Satellite Accumulation Areas, requires SAA Operators to complete a SAA Accumulation Log for each container as waste is added (Appendix B8, p. B8-8).

**Finding:** The REECo SAA Operators at the Subdock and at Well J-13 do not complete a SAA Accumulation Log for the SAA containers as waste is added.

**Discussion:** The SAA Operator is required by AP-6.25 to complete an accumulation log each time waste is added to the SAA container. The accumulation log was not completed each time waste was added to the hazardous waste containers at the Well J-13 SAA (non-empty aerosol spray cans, RE-05-F003-93-02) or at the two Subdock SAAs (non-empty aerosol spray cans, RE-01-F003-92-05 [02]; soil, rags, and debris contaminated with lead-based pipe dope, RE-01-D008-92-07). Thus, the requirement in AP-6.25 is not being met.

The hazardous waste accumulated at the Well J-13 SAA is non-empty aerosol spray cans

(RE-05-F003-93-02). This SAA was established on March 1, 1993. Cans were present in the SAA hazardous waste container, but the required SAA accumulation log documentation was never originated at the Well J-13 SAA to show the time, date, and quantity of hazardous waste accumulation. The SAA Operator stated that the Well J-13 SAA was empty. However, aerosol cans were present in the SAA. As of March 12, 1993, this SAA no longer existed. It was dismantled and moved outside YMP boundaries. The hazardous waste currently being accumulated at the Subdock SAA is non-empty aerosol spray cans (RE-01-F003-92-05 [02]). As an alternative method to the SAA accumulation log, the Subdock SAA Operator writes a note which states the date, time, and quantity of hazardous waste addition to the SAA container; he places this note on his desk. When the SAA Operator completes the weekly inspection sheet, the information on the notes is incorporated into the checklist. To preclude the possibility that one of the notes may be lost and the cans added to the SAA container are not logged for any one particular time, an SAA accumulation log should be completed each time the waste is added to the SAA container.

The hazardous waste that was previously being accumulated at the Subdock, and was removed for disposal on January 13, 1993, was a mixture of soil, rags and debris contaminated with lead-based pipe dope (RE-01-D008-92-07). No SAA accumulation log existed for this material during the period when hazardous materials were placed in the SAA.

**Finding Number:** RMM/CF-9

**Finding Title:** Deficiencies in SAA Inspection Checklists

**Regulatory Requirement:** AP-6.25, Operating Hazardous Waste Satellite Accumulation Areas, requires SAA Operators to inspect SAAs weekly, and formally document inspections with a SAA inspection checklist.

**Finding:** During the period from July 1, 1992 through March 5, 1993, SAA checklists were not completed three times (three weeks missed out of a possible of thirty-six weeks) at the Subdock SAA (non-empty aerosol spray cans, RE-01-F003-92-05) and eight times (eight weeks missed out of a possible of thirty-six weeks) at the LM-300 drillrig SAA (rags contaminated with 1,1,1-trichloroethane, RE-03-U226-92-04). In addition, inspections for the Subdock SAA that contained soil, rags, and debris contaminated with lead-based pipe dope (RE-01-D008-92-07) were not conducted, and checklists were not completed.

**Discussion:** 40 CFR 262.34(d)(2), which references 40 CFR 265.174, from which AP-6.25 requirements originate, states that "areas where [hazardous waste] containers are stored [must be inspected], at least weekly . . ." Since weekly checklists were not completed for a total of eleven times between the Well J-13 SAA and one of the Subdock SAAs (non-empty aerosol spray cans), and not at all for the Subdock SAA that contained soil, rags, and debris contaminated with lead-based pipe dope, the weekly inspection requirement is not being met.

**Finding Number:** RMM/CF-10

**Finding Title:** Lack of Documentation for Establishing and Operating REECo SAAs

**Regulatory Requirement:** AP-6.25, Operating Hazardous Waste Satellite Accumulation Areas, establishes a process for establishing and operating YMP Participant SAAs.

**Finding:** The Well J-13 SAA (non-empty aerosol cans, RE-05-F003-93-02) and the Subdock SAA (Mixture of soil, rags, and debris contaminated with lead-based pipe dope, RE-01-DO08-92-07) were neither established nor operated according to AP-6.25.

**Discussion:** AP-6.25 requirements for SAAs are listed below. These requirements have not been met by REECo personnel; thus, the documentation required by AP-6.25 does not exist:

- a) The REECo HMC is required to submit a memo to the T&MSS ECPD providing notification of SAA establishment. This memo does not exist for either the Well J-13 SAA or the Subdock SAAs.
- b) The REECo HMC is required to prepare a site-specific SAA emergency management and contingency plan, and have that plan approved by the POCD, Facility Manager, and Facility Custodian. The emergency management and contingency plan which exists in the MRHP does not address the Well J-13 SAA (non-empty aerosol spray cans) or the Subdock SAA (soil, rags, and debris contaminated with lead-based pipe-dope). Thus, REECo does not have a SAA-specific emergency management and contingency plan in place for these SAAs.
- c) The SAA Operator is required to complete a Hazardous Waste Stream Identification form for each type of hazardous waste generated and submit this form to the T&MSS ECPD to obtain a Waste Stream Identification Number. After the Form is completed by the T&MSS ECPD, the SAA Operator is required to retain a copy. The Waste Stream Identification Numbers were obtained through verbal communication between the SAA Operators and the T&MSS ECPD over the telephone. Written documentation did not follow the verbal communication.

The documentation in Item a) and Item c) above is **not** required for the Subdock SAA (non-empty aerosol spray cans) and LM-300 Drill rig SAA (rags contaminated with 1,1,1-trichloroethane) because they were established prior to August 17, 1992, the effective date of AP-6.25. The documentation in Item b) above is required for all SAAs. The Well J-13 SAA (non-empty aerosol spray cans) and the Subdock SAA (soil, rags, and debris contaminated with lead-based pipe dope) were established after AP-6.25 became effective; thus, all written documentation specified in AP-6.25 is required for these SAAs. Since the two SAAs in question no longer exist, documentation establishing them is unnecessary. However, future SAAs should be established and operated according to AP-6.25.

#### 4.2.3 RMM Best Management Practice Finding

**Finding Number:** RMM/BMP-1

**Finding Title:** Regulated Material Storage Without POCD Approval

**Regulatory Requirement:** AP-6.13. Authorization for the Use of Regulated Hazardous Substances and Materials, requires YMP Participants to submit a RFA Form and a MSDS for each regulated material identified or proposed for use to the POCD.

**Finding:** Regulated materials for which RFA Forms and MSDSs have not been submitted to or approved by the POCD are being stored at the Yucca Mountain Site by REECo.

**Discussion:** RFA forms have not been submitted for regulated materials on the list, REECo Regulated Materials that are Non-Approved by the POCD for YMP Use (Appendix H4). These regulated materials are being stored at the Subdock, the LM-300 drill rig (UZ-16), NRG-3, the ESF Men's Change Facility, and Well J-13 on the YMP site.

The REECo alternate HMC stated that the Subdock and NRG-3 non-approved regulated materials have been brought into the YMP area by other YMP Participants, by other REECo departments, or by REECo employees. For example, lithium chloride was brought into the YMP area by another YMP Participant before a routine RFA or emergency/verbal authorization could be processed. This material is stored at the Subdock, and currently does not have an approved RFA. An RFA was submitted after the lithium chloride was in YMP boundaries, but it was rejected by the POCD because lithium chloride was excluded from the tracer permit.

When the REECo alternate HMC is made aware of non-approved REECo regulated materials that exist in the YMP area, the materials are confiscated and placed in a locked flammable storage cabinet (or other locked area) at the Subdock. The material is held until emergency/verbal authorization is obtained or until the materials can be disposed of. The locked storage areas are controlled by the Subdock SAA Operator.

REECo has sent some non-approved regulated materials off-site for recycling or disposal, or to other REECo departments. REECo personnel are currently checking to see if other regulated materials at the Subdock and NRG-3 (Appendix H4) can be recycled.

Mechanics' trucks from Area 6 carry non-approved regulated materials (Appendix H4) to the YMP site. The Environmental Compliance Coordinator for Operations Equipment/Well J-13 SAA Operator stated that regulated materials on mechanics' trucks that are not approved by the POCD are not used within the YMP area. He stated that these regulated materials are not removed from the trucks before the trucks enter the YMP area because the trucks respond to Areas 5 and 6, where these materials are required.

Although some regulated materials on the mechanics' trucks are not approved for use by the POCD, they are being managed properly through the Hazard Communication Program as required by 29 CFR 1910.1200. The regulated materials on the mechanics' trucks appear on a REECo hazardous materials list for Well J-13; MSDSs were also at Well J-13 for these materials.

Thus, Well J-13 workers who could potentially be exposed to these chemicals have access to hazard information for these chemicals.

**Recommendation:** To preclude unauthorized use of the stored regulated materials, information for those materials that require RFAs and do not have them should either be submitted to the PCOD for the approval process, or should be disposed of/recycled in accordance with applicable regulations. Regulated materials should not enter the YMP boundaries (in maintenance trucks or otherwise) unless they have an RFA, regardless of storage or use.

#### 4.2.4 RMM Noteworthy Practice Finding

**Finding Number:** RMM/NPF-1

**Finding Title:** Non-Hazardous Materials Tracking

**Regulatory Requirement:** N/A

**Finding:** The SAA operator at the Subdock maintains an accurate log of non-hazardous waste activities.

**Discussion:** This practice is noteworthy because a regulatory requirement does not exist for tracking non-hazardous wastes. The system for tracking non-hazardous wastes was set up to track hydrocarbon stained soil and waste oil/water.

Each time waste oil or stained soil is added to a drum, applicable information is logged. This information includes the drum's number, the date that the drum's content was added, the type of material in the drum, and the location from which the material originated. In addition, the amount of material in the drum is noted each time new material is added. This practice allows the SAA Operator/site manager to know what type of material is in each drum at the Subdock. When the material in the drum is sent off-site for recycling, disposal, or bioremediation, and the drum is emptied, this information is logged in the logbook. In addition to noting that the particular drum is empty, the date, time and transporter are also noted.

REECo is also writing a company procedure which will continue the above process if a personnel change occurs.

### 4.3 Hazard Communication (HAC)

#### 4.3.1 Overview

Hazard communication auditing activities were conducted to determine if YMP activities performed by REECo comply with applicable requirements in 29 CFR 1910.1200. Specifically, the purpose of auditing REECo's hazard communication program was to ensure that written information required by 29 CFR 1910.1200 was provided to all employees who work with/around regulated materials.

Audit information was collected through REECo personnel interviews and document review. The information collected provided verification for one compliance finding.

In general, the REECo Hazard Communication Program fulfills all requirements of the applicable CFR.

#### 4.3.2 HAC Compliance Finding

**Finding Number:** HAC/CF-1

**Finding Title:** Deficiency in updating the Material Safety Data Sheet (MSDS) Notebook

**Regulatory Requirement:** 29 CFR 1910.1200 specifies requirements for maintaining MSDSs in the workplace and ensuring that those MSDSs are readily accessible to all employees. In addition, REECo Company Procedure 1.8.14, Revision 2, states that each department office shall maintain a central file within the department that contains copies of MSDSs for all materials currently in use by that department.

**Finding:** The MSDS notebook for the REECo Construction Department is not updated to reflect current REECo hazardous materials used within the YMP area.

**Discussion:** The MSDS notebook for the REECo Construction Department contains some MSDSs for which there is no inventory. This MSDS notebook, maintained by the REECo Construction Superintendent, is located at the ESF Men's Change Facility behind the FOC.

Six MSDSs were taken out of the MSDS notebook by the REECo HMC on March 10, 1993, as the audit was taking place. The HMC indicated that this situation would be corrected by March 12, 1993.

#### 4.4 Waste Minimization (WAM)

##### 4.4.1 Overview

YMP requirements have been established to ensure that all YMP activities are undertaken and conducted in an environmentally sound manner. Waste minimization auditing activities were conducted to determine if YMP activities performed by REECo comply with YMP requirements: YMP requirements for the regulated materials management portion of this audit are in AP-6.27, Waste Assessments (Appendix B9), and YMP 91-35, the YMP Hazardous Materials Management and Handling Plan, Appendix C. Additional waste minimization requirements are established by DOE Order 5400.1, General Environmental Protection Program.

The purpose of auditing REECo's waste minimization was to determine if REECo is implementing waste minimization practices to eliminate or minimize waste generation through source reduction, material substitution, and recycling. Audit information was collected through REECo personnel interviews and YMP/REECo document review. The information collected provided verification for two compliance findings.

#### 4.4.2 WAM Compliance Findings

**Finding Number:** WAM/CF-1

**Finding Title:** Deficiencies in Waste Minimization Reporting

**Regulatory Requirement:** DOE Order 5400.1 and the YMP HMMHP, Appendix C, Section 6.0, require all YMP Participants to initiate waste minimization activities and methods, and accomplish waste minimization reporting. In addition, the REECo MRHP, Section 5.2, states that "the HMC shall submit an Annual Report of Minimization Practices to the ECPD by February 1."

**Finding:** Although REECo YMP has been utilizing waste minimization practices, REECo YMP did not contribute to YMP Waste Minimization reporting for 1992.

**Discussion:** REECo YMP waste minimization is practiced according to the REECo MRHP, Section 5.0, Waste Minimization. REECo waste minimization written documentation was not supplied to the T&MSS ECPD for incorporation into the YMP Waste Minimization Report.

The alternate HMC stated that the lack of written input for REECo YMP was due to an oversight of the required day (February 1, specified in the REECo MRHP) to provide this information to the T&MSS ECPD. T&MSS ECPD stated that although REECo has a requirement in the REECo MRHP to submit waste minimization information by February 1, T&MSS ECPD did not request REECo to submit waste minimization information. However, this does not relieve REECo of the responsibility to meet their MRHP requirement.

AP-6.27, which requires YMP Participants to conduct waste assessments, became effective February 8, 1993. This procedure requires participants to create waste minimization options for their facility (which will be reported to the T&MSS ECPD), and prepare and submit quarterly status reports to the T&MSS ECPD documenting technical success and the economic cost/benefits of the implemented waste minimization options. Thus, upon full implementation of AP-6.27, REECo should comply with the requirements in the REECo MRHP, the DOE Order 5400.1, and the YMP HMMHP, Appendix C, Section 6.0.

**Finding Number:** WAM/CF-2

**Finding Title:** Deficiencies in the Waste Minimization Section of the REECo MRHP

**Regulatory Requirement:** REECo MRHP

**Finding:** The REECo MRHP references REECo Company Procedure 4.2.1 for guidance regarding waste generation. REECo Company Procedure 4.2.1 states in its scope that it "applies to the NTS only and not to the Tonopah Test Range or the Yucca Mountain Project." Thus, the REECo MRHP references a document that is not applicable to REECo YMP.

**Discussion:** The REECo MRHP references the REECo Company Procedure 4.2.1 in

Section 5.0, Waste Minimization. The REECo MRHP says, "The REECo Environmental Compliance Officer (ECO) reviews hazardous materials purchase requests submitted to the Procurement Department for production of hazardous waste. If waste is expected, the ECO tries to find a non-hazardous substitute or process change to reduce the waste production. This is detailed in REECo's Company Procedure 4.2.1."

Since the scope of REECo Company Procedure 4.2.1 exempts the YMP, the REECo MRHP should not reference it as giving details for REECo YMP procurement processes or substitute material's determination processes.

#### **4.5 Resolutions of Environment, Safety and Health Concerns (REC)**

##### **4.5.1 Overview**

The purpose of this section is to evaluate REECo compliance with YMP AP-6.18 (Appendix B6) and compliance with overall environmental, safety and health concerns. The documents reviewed relative to this section are listed in Appendix G of this report. This section addresses one compliance finding and one best management practice finding. No noteworthy practice findings were identified.

##### **4.5.2 REC Compliance Finding**

**Finding Number:** REC/CF-1

**Finding Title:** REECo does not follow YMP AP-6.18.

**Regulatory Requirement:** AP-6.18, Resolutions of Environment, Safety and Health Concerns, "applies to all YMP field activities and activities in the Valley Bank Complex (now Bank of America) and other locations as approved by the YMPO".

**Finding:** REECo does not follow AP-6.18, but rather has several Company Procedures (CPs) which do not clearly meet the intent of AP-6.18.

**Discussion:** Due to the many REECo procedures which, when combined or portions thereof, may relate to AP-6.18 (i.e., report and provide corrective action for instances of imminent danger to the environment, safety and health), it was difficult for the auditor to determine if, in fact, all of the steps and the intent of AP-6.18 are fully satisfied by REECo procedures. There is no REECo procedure or set of procedures that are deemed by the auditor to completely and clearly link to the AP in question.

Some of the REECo procedures which, when combined or portions thereof, may relate to AP-6.18 are as follows:

- REECo Company Procedure 1.11.5, Occurrence Reporting System
- REECo Company Procedure 1.11.1, System Deficiency Report
- REECo Company Procedure 1.11.17-01, Stop Work Order
- REECo Company Procedure 1.8.21, Safety and Health Committee Program

- REECo Occupational Safety Code A-10, Occurrence Reporting

#### **4.5.3 REC Best Management Practice Finding**

**Finding Number:** REC/BMP-1

**Finding Title:** Environmental Surveillance Concerns Not Tracked by REECo management.

**Regulatory Requirement:** AP-5.46, Environmental Compliance Auditing and Surveillance.

**Finding:** Environmental surveillance deficiencies are not being tracked for resolution/completion, trend analyses, or causal relationships.

**Discussion:** Environmental surveillance deficiencies/concerns, as identified on Environmental Compliance Surveillance Reports per AP-5.46, are not being tracked by REECo senior management. Thus, items are not being prioritized for resolution or analyzed for trends or causal relationships. We recommend that T&MSS Environmental Compliance and Permitting Department provide REECo's Division Quality Coordinator with copies of the table entitled "Summary of Open Environmental Compliance Surveillance/Audit Action Items" for assistance in tracking outstanding surveillance action items.

#### **4.6 Environmental Safety and Health Appraisal (ESA)**

##### **4.6.1 Overview**

The purpose of this section is to evaluate REECo compliance with YMP AP-5.38 (Appendix B2) and compliance with overall environmental, safety and health appraisals. The documents reviewed relative to this section are listed in Appendix C of this report. There is one compliance finding and one noteworthy practice finding for this section. There are no best management practice findings identified.

##### **4.6.2 ESA Compliance Finding**

**Finding Number:** ESA/CF-1

**Finding Title:** Minor Non-Compliance with Intent of AP-5.38.

**Regulatory Requirement:** AP-5.38 "applies to the Yucca Mountain Site Characterization Project Office (YMPO) and all YMP Participants".

**Finding:** REECo follows Management Control (MC) Procedure-14.1. There are four administrative steps in AP-5.38 that do not have an equivalent step in REECo MC-14.1.

**Discussion:** Although REECo does not use YMP AP-5.38, they have a functionally equivalent procedure entitled "Management Control Procedure MC-14.1, Environmental, Safety

and Health Internal Appraisal Program". The following four administrative steps in AP-5.38 are not mentioned in REECO's MC-14.1:

- Identified time frame for completion and transmittal of the appraisal report (see step 13 in AP-5.38).
- Step to respond in writing to the appraisal report within 30 days (see step 14 in AP-5.38).
- Mention of quarterly status reports of outstanding corrective actions being sent to the YMPO (see step 14 in AP-5.38).
- Step stating that internal appraisals shall be reviewed for adequacy of performance at least every 3 years (see step 18 in AP-5.38).

**Discussion:** These steps should be added to REECO's MC-14.1 to comply with the intent of AP-5.38.

#### 4.6.4 ESA Noteworthy Practice Finding

**Finding Number:** ESA/NPF-1

**Finding Title:** Informal Internal Appraisals.

**Regulatory Requirement:** AP-5.38.

**Finding:** The Industrial Hygiene Department conducts informal internal appraisals of the Environment, Safety and Health Program through "health hazard inventories" and periodic spot checks in the field.

**Discussion:** The Industrial Hygienist II inspects REECO operations to determine environmental, safety and health compliance or non-compliance. Potential problems are identified and, in the case of the Health Hazard Inventory, a health hazard analysis is performed which ties into AP-6.13, Request for Authorization for Use of Regulated Materials. Along with periodic spot checks in the field (which are documented in logs with the T&MSS SAIC Safety and Health Coordinator), environmental, safety and health compliance can be evaluated.

#### 4.7 Environmental, Safety and Health Protection Program for U.S. Department of Energy Operations (EPP)

##### 4.7.1 Overview

The purpose of this section is to evaluate REECO compliance with YMP AP-5.43 (Appendix B3). The documents reviewed relative to this section are listed in Appendix C of this report. There are two compliance findings for this section. There are no best management practice or noteworthy practice findings identified.

#### 4.7.2 EPP Compliance Findings

**Finding Number:** EPP/CF-1

**Finding Title:** Minor Non-Compliance with Intent of AP-5.43.

**Regulatory Requirement:** AP-5.43 "applies to all YMP Participant organizations and their employees".

**Finding:** REECo procedure MC-14.1 does not state that written reports for internal environmental appraisals be sent to the POCD Director, per AP-5.43. REECo procedure MC-14.1 also does not state that internal safety and health appraisals be sent to the U.S. DOE Safety and Health Department, per AP-5.43.

**Discussion:** None.

**Finding Number:** EPP/CF-2

**Finding Title:** Minor non-compliance with the intent of AP-5.43.

**Regulatory Requirement:** See EPP/CF-1.

**Finding:** The POCD Director is not listed as a recipient of the completed appraisal report in REECo Environmental Compliance Office Standard Operating Procedure AAFzz.D.05.00, Section 5.5, "Post Visit Activities".

**Discussion:** None.

#### 4.8 Permit Agreement Compliance (PAC)

##### 4.8.1 Overview

The purpose of this section is to evaluate REECo compliance with all applicable state and federal permits pertaining to the YMP. Permit agreement compliance auditing activities were conducted to determine if YMP activities performed by REECo comply with all applicable permit conditions. All permits examined, relative to this section, are listed in Appendix C of this report.

Audit data were collected from interviews with REECo personnel, document reviews, and field observations. The permit agreement compliance data collected provided verification for three compliance findings and one best management practice finding.

##### 4.8.2 PAC Compliance Findings

**Finding Number:** PAC/CF-1

**Finding Title:** UZ-16 Water Discharge Non-compliance

**Regulatory Requirement:** Compliance with all conditions, verbal or in writing, set forth in an AP 8.1 approval notice is mandatory.

**Finding:** On March 10, 1993, at approximately 9:00 am, water from the drilling process at UZ-16 was being discharged into an unlined pit.

**Discussion:** When an audit team member and a REECo employee visited the UZ-16 site on March 10, 1993, water from the drilling process was being discharged into an unlined pit.

In a conversation with two ECPD personnel on March 12, 1993, the audit team member learned that the POCD had requested that REECo discharge the water into a tank in order for the suspended solids to fall out. At this point the water could be disposed of. POCD had also requested installation of impervious liners in all pits to be used for water discharge.

When a Science Applications International Corporation (SAIC) employee returned to UZ-16 at approximately 11:30 am on March 10, 1993, REECo had stopped discharging water into the pit, and the water was being pumped into the approved holding tank.

This event may represent an isolated incident.

**Finding Number:** PAC/CF-2

**Finding Title:** Altered Permit at UZ-16

**Regulatory Requirement:** Air Quality Permit to Construct No. 3198

**Finding:** Air Quality Permit to Construct No. 3198, located at UZ-16, has been altered. In its original form, the permit states that the compressor will not operate in excess of 6 hours per day, and more than 1,560 hours total per calendar year. The permit has been altered with red pen, and now reads that the compressor will not operate in excess of 11 hours per day, and more than 2,200 hours per calendar year. There is no documentation explaining this change, located with the other permit information in a trailer at UZ-16 job site.

**Discussion:** In a March 16, 1993, telephone conversation with a REECo employee, the audit team member learned that REECo intended to move to double shifts on the LM-300 drill rig at UZ-16. This was the explanation for the increase in daily and calendar year hours. However, the REECo employee told the audit team member that an SAIC (ECPD) employee contacted the Nevada Division of Environmental Protection (NDEP) to request an increase in operating hours.

In a conversations with two ECPD employees, on March 15, 1993 and March 16, 1993, the audit team member learned that perhaps the State was not contacted concerning additional operating hours because REECo had chosen not to move to double shifts. No documentation discussing this series of events was located.

In a conversation with a REECo employee on March 16, 1993, the audit team member learned that because REECo did not move to double shifts, the compressor has never operated in excess of 6 hours per day. To avoid confusion, in the future, REECo should document any changes made to permits.

#### **4.8.3 PAC Best Management Practice Findings**

**Finding Number:** PAC/BMPF-1

**Finding Title:** Participant Air Quality Communication Finding

**Regulatory Requirement:** Air Quality Permit to Construct Nos. 2693, 2893, 3084, 3198, and 3199

**Finding:** Air Quality Permit to Construct Nos., 2693, 2893, 3084, 3198, and 3199 require that PM10 and opacity be measured. Air Quality Permit to Construct Nos. 3198 and 3199 require that sulfur oxides, carbon monoxide, and nitrogen oxide be measured.

In discussions on March 9, 1993 and March 10, 1993, four REECo employees, who are engaged in activities governed by the subject Air Quality Permits, indicated that they were uncertain whether the required measurements could be taken and, if so, who would be responsible for them.

**Discussion:** The audit team member, in a telephone conversation with a SAIC Radiological/Environmental Field Programs employee on March 10, 1993, learned that the SAIC Radiological/Environmental Field Programs Department does perform PM10, opacity, and air quality tests to meet Air Quality Permit requirements. This information is submitted to the Yucca Mountain Project Office (YMPO) and to the NDEP. SAIC does not directly submit this information to REECo. The Radiological/Environmental Field Programs Department does not correspond with REECo industrial hygienists because the air quality work that the REECo industrial hygienists perform is not relevant to air quality permit issues.

There appears to be a disconnect in the processing of information. In order to be certain that these requirements are being met, REECo must be aware of what organization is performing these tests, if the tests are being performed, and what can and cannot be measured.

Field observations suggest that this issue may represent a common occurrence. Perhaps adequate personnel training on the implementation of applicable permits is a contributing factor to this finding.

**Finding Number:** PAC/BMPF-2

**Finding Title:** Labeling Deficiency on a Sullair Compressor 85063 at UZ-16

**Regulatory Requirement:** Nevada Administrative Code (NAC) 445.705

**Finding:** On March 10, 1993, at approximately 9:00am, a Sullair Compressor (#85063),

labeled 515 horsepower, was in place at UZ-16. As mandated in NAC 445.705, machinery operating at 500 horsepower or more requires a permit.

**Discussion:** When an audit team member and a REECo employee visited the UZ-16 site on March 10, 1993, at approximately 9:00 am, a Sullair Compressor (#85063) labeled 515 horsepower was on-site.

At the March 10, 1993, daily audit debriefing the audit team leader brought this issue to the attention of the attending REECo employees.

On March 11, 1993, at approximately 11:00 am, a REECo employee telephoned the audit team member to explain that he had a statement from Sullair Corporation indicating that, with the current engine, the maximum total horsepower of this compressor is 415 (fan horsepower: 43; compressor horsepower: 372). The REECo employee faxed this statement to the audit team member.

Based on the information provided by the manufacturer, Sullair compressor #85063 does not require a permit. This issue may represent an isolated incident, however, the compressor needs to be properly labeled to prevent future confusion.

#### **4.9 Environmental Training Program (ETR)**

##### **4.9.1 Overview**

The purpose of this section is to evaluate REECo's environmental training program to determine if training was provided to employees in accordance with the policies and procedures established by the DOE YMP. Audit data were obtained through interviews with REECo personnel, field observations, and document reviews. Sections applicable to environmental training requirements in the following documents formed the basis for this portion of the environmental compliance audit: YMP Training Management Plan, AP-6.25, YMP-FOI-3001, YMP-FOI-4705, and YMP-FOI-5601. (Appendices B7, B8, B10, B11, and B12, respectively). Those sections of the HMMHP pertinent to environmental training were also reviewed. There are two compliance findings and one best management practice finding for this section. No noteworthy practice findings were identified.

##### **4.9.2 ETR Compliance Findings**

**Finding Number:** ETR/CF-1

**Finding Title:** Implementation of a Participant-Developed Training Program Without prior YMPO Approval

**Regulatory Requirement:** The YMP HMMHP establishes certain guidelines for Participant-developed training programs. Training programs prepared by Participants must be approved in draft by the YMPO before implementation, and training documentation is to be provided to the YMP Training Center and the ECPD. In addition, AP-6.25, Operating Hazardous

Waste Satellite Accumulation Areas, has a HMMHP flow down requirement to provide and document SAA operator training.

**Discussion:** Waste Management for the Generator is a REECO developed course of four hours duration designed to provide an overview of hazardous waste regulations found in 40 CFR 265-270. The course focuses on SAAs and applicable regulations. It provides an overview of Hazardous Waste Management Procedures, the REECO Waste Minimization Plan, and REECO's Product control and Tracking Procedure. The target audience is all hazardous waste generators. Course content is not at issue in this finding. Rather, the following information identifies procedural deficiencies in the administrative processing of the Participant's training course. No documentation was available to verify that this training program was approved by the YMPO prior to course implementation or that records of training accomplished were being provided to the YMP Training Center and ECPD. A discussion of this issue with the course instructor, a REECO Environmental Systems Specialist, indicated that she was not made aware that the YMPO had to approve the draft training program before implementation. The probable cause of this finding is a lack of familiarity with or inadvertent oversight of the HMMHP and AP-6.25 approval/reporting requirements.

**Finding Number:** ETR/CF-2

**Finding Title:** Failure to obtain General Employee Training (GET)

**Regulatory Requirement:** YMP-Field Operations Instruction (FOI)-3001 (Appendix B10) establishes guidelines to ensure all project participants have been appropriately trained for conducting field activities. GET is required for all DOE and project Participant personnel who need frequent unescorted access to perform field work. Non-GET trained personnel must be escorted at all times by an individual who has completed GET. Similar training programs may not be substituted for this required training.

YMP-FOI-5601 (Appendix B12) establishes personnel and visitor control procedures, compatible with the NTS program, that give the YMP flexibility to control access to the "Ranch" (land area dedicated to the YMP). The FOC processes and controls all project personnel access to the Ranch through an FOC sign-in log and is also responsible for properly badging Project visitors. NTS badged personnel are not authorized access into all areas of the YMP (Area 25).

YMP-FOI-4075 (Appendix B11) establishes controls at YMP field work sites/areas for property security, personal health and safety, site technical integrity, and environmental protection. A log of all work sites, access controls in place at the sites, and any special restrictions is maintained by the FOC Manager.

**Discussion:** When NTS matrix support personnel are needed at the YMP, a REECO Yucca Mountain Project Division Request for Matrix Support Services (RMSS) form is used to assign personnel to accomplish the job. The RMSS stipulates that if GET- trained personnel are available they should be provided or, if GET- trained personnel are not available, arrangements will be made to obtain the required training. Information obtained during interviews with REECO personnel indicated that matrix support personnel not badged for the YMP are either escorted by

a qualified supervisor or, depending on the length of the task to be performed, are GET-trained. On March 10, 1993, a five-person work crew was working at well J-13 work site. No one in the work crew was observed to have a YMP badge. An NTS-badged supervisor was present at the work site. However, he did not have a YMP badge nor had he received GET training. Therefore, based on the regulatory requirements above, this individual was not qualified to act as a YMP Supervisor. Subsequent to these observations at well J-13, a review of the FOC sign-in log revealed that the work party had not signed in at the FOC nor had the FOC been advised that the work crew was on site. The probable cause of this finding is a failure to observe established requirements to perform work on the YMP.

#### **4.9.3 ETR Best Management Practice Finding**

**Finding Number:** ETR/BMP-1

**Finding Title:** No Formal System to Track Personnel Scheduled for General Employee Training (GET)

**Regulatory Requirement:** N/A

**Discussion:** The current procedure used to schedule personnel for GET training is for the Department Manager (or designee) to telephone the Training Administrator (or designee) with a list of individuals who need GET. The Training Administrator then telephones the YMP Training Center and schedules the individuals for the required GET training. A record of individuals scheduled is not kept by the Training Administrator. Thus, no "paper trail" exists that can be used to cross check individuals scheduled against individuals attending (using Training Center attendance rosters). In discussions concerning this procedure, it was indicated that the primary interest was on results i.e., who actually attended rather than on who was scheduled. However, continued use of this procedure presents the possibility that individuals who fail to attend scheduled classes--for whatever reason--could go undetected and, absent necessary prerequisites, still engage in project site activities (see finding ETR/CF-2 above).

#### **4.10 Environmental Management Findings**

##### **4.10.1 Overview**

DOE Order 5400.1, General Environmental Protection Program, states that the "DOE is committed to good environmental management of all its programs and at all its facilities to correct existing environmental problems, to minimize risks to the environment or public health, and to anticipate and address potential environmental problems before they pose a threat to the quality of the environment or the public welfare".

The purpose of this section is to evaluate compliance with DOE Order 5400.1 relative to REECo's environmental management program. The information used to develop this section was obtained through discussions with REECo personnel and through reviewing documents pertinent to the subject area. The names of persons interviewed and the documents reviewed are listed in Appendix F and Appendix G, respectively. The four noteworthy practice findings (NPFs) described in this section indicate that REECo's environmental management activities are



**Finding:** REECo regularly distributes environmental compliance information to employees via "checkstuffers" inserted in pay envelopes.

**Discussion:** REECo has a "checkstuffer program" where, along with an employee's paycheck, environmental, safety and health information is included in each employees pay envelope. Examples of the information conveyed to employees on a regular basis include the following:

- Natural Resources, Artifacts, and Wildlife
- Reduction of Spills at the NTS
- Environmental Hotline
- Sightseeing on the NTS
- Waste Reduction and Pollution Prevention
- Desert Tortoise Protection

**Finding Number:** MDT/NPF-1

**Finding Title:** Environmental Observer Program

**Regulatory Requirement:** N/A

**Finding:** Environmental Observer Program

**Discussion:** REECo conducts an "Environmental Observer Program" for certain support staff members. The program target audience is the support staff of line managers. These staff members receive approximately four hours of training per month to enable them to recognize environmental concerns and initiate actions, as appropriate.

APPENDIX A  
AUDIT PLAN  
FOR  
ENVIRONMENTAL COMPLIANCE AUDIT FY93A  
OF  
REYNOLDS ELECTRICAL AND  
ENGINEERING CO., INC. (REECO)  
AT THE  
YUCCA MOUNTAIN SITE  
CHARACTERIZATION PROJECT

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## 1.0 INTRODUCTION

The Yucca Mountain Site Characterization Project Office (YMPO) Project and Operations Control Division (POCD) is responsible for Yucca Mountain Site Characterization Project (YMP) activities being performed in compliance with applicable environmental requirements and permit conditions. To insure that YMP activities are undertaken and conducted in an environmentally sound manner, the Technical and Management Support Services (T&MSS) Environmental Compliance and Permitting Department (ECPD) was tasked to develop an environmental compliance audit program and to conduct oversight assessments of YMP Participant organizations.

The audit program is intended to evaluate and improve the environmental compliance status of YMP Participants and to reflect the responsibility of Participants for conducting operations in an environmentally safe and sound manner. The Yucca Mountain Project Division of Reynolds Electrical and Engineering Co., Inc. (REECo) is the subject of the initial audit, Audit FY93A, under this program. An audit of the Desert Research Institute will follow.

The audit shall be conducted in accordance with the requirements of the Environmental Regulatory Compliance Plan (ERCP) (DOE/RW-0209), Section 4.4, Environmental Compliance Audit Program, as implemented by Administrative Procedure (AP)-5.46, Environmental Auditing and Surveillance of Yucca Mountain Site Characterization Project Activities.

The scope of the REECo audit, Audit FY93A, will include, but will not be limited to, the following areas: Reporting and Processing of Operations Information pertinent to the YMP environmental programs; Regulated Materials Management; Waste Minimization; Hazard Communication; Resolutions of Environment, Safety and Health Concerns; REECo's compliance with stipulated conditions of permit agreements made with federal and state regulatory agencies where such agreements are in place; the effectiveness of REECo's environmental training program; Environmental Safety and Health Appraisal Program; and the Environmental Safety and Health Protection Program of U.S. department of Energy Operations.

## 2.0 ENVIRONMENTAL AUDIT IMPLEMENTATION

### 2.1 Audit Team Composition and Responsibilities

The REECo Environmental Compliance Audit (FY93A) will be conducted by an audit team (AT) comprised of an Audit Team Leader (ATL), Technical Coordinator, and technical specialists from the T&MSS ECPD as audit team members.

The ATL will manage the team and serve as the primary contact point with the POCD, the ECPD, and REECo. The ATL is responsible for audit team organization, staffing, and support as necessary to ensure that the audit report is accurate, objective, and

thorough. The ATL, with help from the Technical Coordinator, will provide overall policy guidance to the audit team and will be responsible for the detailed technical conduct and results of the audit. The Team Leader will act as liaison with REECO contacts for administrative matters such as meetings, facilities, safety, and security. The ATL is also responsible for review of daily reports, agenda revisions, staff supervision, records maintenance, audit report production, and audit closeout activities.

The Technical Coordinator will be an experienced, technically qualified senior environmental staff member. The coordinator will manage and direct the technical efforts of the audit team members in close coordination with the Team Leader.

The core membership of the audit team will be comprised of ECPD technical specialists. Team members will be knowledgeable of contemporary environmental issues, techniques, statutes, regulations, and YMPO regulations and administrative procedures for matters pertinent to their technical disciplines or specialty areas. The names of AT members and their primary responsibilities are listed below:

<u>NAME</u>	<u>DISCIPLINE</u>
Sid Dodd	Audit Team Leader
Kent Wirtz	Technical Coordinator
Bonnie Fogdall	Reporting and Processing Operations Information
Kathy Jensen	Regulated Materials Management Waste Minimization Hazard Communication
Karen Olsson	Resolutions of Environment, Safety and Health Concerns Environmental Safety and Health Appraisal Environmental Safety and Health Protection Program of U.S. Department of Energy Operations
Chris Robinson	Permit Agreement Compliance
Debbie Springer	Environmental Training Program

Administrative support will be provided by ECPD administrative staff specialists.

## 2.2 Pre-Audit Activities

Pre-audit activities for the REECO FY93A environmental compliance audit include the following:

- Advance notice of the audit is provided to the Site Manager and REECO (January 21).
- An introduction/information request memorandum is issued (January 25).
- ATL attends a DOE-sponsored environmental compliance auditing course (January 27-29).
- A pre-audit meeting is held (February 17).
- Requested information is reviewed and the audit plan is finalized (February 17-22).
- An audit agenda is developed (February 23-March 1).
- The audit agenda is forwarded to REECO (March 1).
- Environmental compliance audit training for AT technical specialists is conducted (March 1-5).

The pre-audit meeting will be attended by the Audit Team Leader, Technical Coordinator, and Audit Team members. The purpose of the meeting is to: brief REECO personnel on the purpose and scope of the environmental compliance audit effort; become familiar with REECO organizational structure, management, and operations; review information being supplied; request additional information if necessary; coordinate plans for the audit with REECO; and have AT members meet and engage in one-on-one discussions with REECO counterparts

The Audit Team Leader, with concurrence of the ECPD Manager and POCD Director, may make modifications to the audit team composition, the audit plan, and/or the audit checklist based on information obtained during the pre-audit meeting.

## 3.0 AUDIT ACTIVITIES

### 3.1 Introductory Briefing

The Audit Team Leader will begin the compliance audit with an introductory briefing, similar to one presented at the pre-audit site visit. The briefing will present the goals and objectives of the audit, explain planned activities, review the daily agenda and applicable procedures, and introduce audit team members. It is anticipated that REECO personnel will present an overview of their organization, operations, and environmental programs.

### 3.2 Site Tour

After the introductory briefing, the audit team will participate in an overall REECO orientation tour conducted by REECO personnel. The purpose of the tour is to familiarize the AT members with REECO facilities, operations, and environmental activities prior to beginning detailed on-site activities.

### 3.3 Near-Term Threats to Public Health or the Environment

Any acute condition or situation, e.g., hazardous waste spill or release to the environment, which is or could soon become dangerous to site personnel, the general public, or the environment is generally referred to as a "near-term threat". An important objective of this audit is to identify such conditions and to mobilize necessary resources to remove the near-term threat in a timely manner.

The Team Leader will be immediately notified if the audit team discovers any operation or activity at the site that poses a near-term threat to workers, public health or the environment, or represents a gross violation of regulatory requirements. The Team Leader will then notify REECO, the Site Manager, the ECPD manager, and the POCD Director.

### 3.4 Meetings

The Audit Team Leader will conduct daily caucus sessions with the audit team. These caucus sessions are for the benefit of the auditors to exchange information, review team observations, discuss potential findings, identify problem areas, and to make adjustments to the daily agenda. Caucus sessions will help ensure the progress of the audit plan and permit modification or redirection of the plan, as appropriate. These meetings will also serve to validate data and provide additional assurance of the factual accuracy of observations and potential report findings prior to closeout of the on-site audit activities. The Team Leader will designate a team member to take accurate notes at all meetings and record attendance.

A daily debriefing will also be conducted. The debriefing is for the benefit of the audited organization and will be open to appropriate REECO personnel. These personnel may interact with AT members during discussion of issues and potential findings to help insure the technical accuracy of the information being used to develop the potential findings.

### 3.5 Working Papers and Records

Each team member will develop a logbook and maintain comprehensive, organized, and coherent working papers to describe information gathered, how it was gathered (e.g., observations, interviews, document reviews), the sources of information, and any other data necessary to support findings contained in the report. The working papers will be developed as official records--written in ink, on one side of the paper only, corrections lined through and initialed. Use of the logbooks will begin concurrently with the team member's participation in the audit. The logbooks should be reasonably understandable and useful should someone other than the preparer review them. At the close of each day, the audit team member will sign and date after the last entry. During an examination of a logbook, it

should be clear by whom, when, and by what manner results were obtained.

The following items will be developed or updated as part of the compliance audit records:

- Daily agenda
- Meeting notes and attendance sheets
- List of interviews
- List of documents reviewed
- Daily activities report
- Problems encountered on a daily basis

Appendix A contains sample forms for the collection, organization, and maintenance of the compliance audit information.

### 3.6 Audit Checklists

Checklists have been developed directly from their respective procedures or permits to help ensure that all aspects of a particular procedure, subject area, permit, etc. are adequately covered. It should be noted that not all checklist items will apply to REECo i.e., the responsibility for completing the action belongs to another organization. Thus, the response section of each checklist item has a "not applicable (N/A)" check-off option. When the N/A response is checked, it indicates that the audited organization, REECo, is not directly responsible for the accomplishment of the action. The checklists will be used as a guide by the auditors to assess adherence to procedural, regulatory, and best management practices and to identify areas of non-conformance.

### 3.7 Development of Findings

#### 3.7.1 Audit Findings

The audit team will identify findings that fall into three general categories: compliance findings (CF), best management practice findings (BMPF), and noteworthy practice findings (NPF).

Compliance findings are conditions that, in the judgement of the audit team, may not satisfy federal or state environmental regulations, applicable DOE/YMP orders and directives, permit conditions, or site policies/procedures.

BMP findings are conditions where, in the absence of regulatory requirements and in the professional judgment of the audit team, management practices could be improved.

The third type of finding is a Noteworthy Practice Finding (NPF). These are conditions or findings that, in the judgment of the audit team, are noteworthy and will have application to other YMP activities or participants.

The findings will be presented in sections of the audit report specific to each audited area. The findings in each area will not necessarily be arranged in order of relative significance.

In addition to identifying findings, AT members will identify and document probable causal factors for each finding. Probable causal factors are those underlying reasons why findings occur or may continue to occur, and if addressed, should eliminate the findings in the future. Root causes will not be identified in the audit report. REECo will be required to further evaluate each finding and associated causal factors to determine root cause, which should be addressed in their corrective action plan.

A variety of information will be obtained by the AT member for a potential finding. These information elements include:

- The specific nature of the problem, issue, condition, or practice.
- A detailed location, if appropriate.
- The framework or perspective within which the problem or practice exists.
- The regulatory standard or procedure being violated.
- Supporting information describing the problem or practice, or events leading to the problem.
- Information on whether REECo is aware of the issue and actions being taken to address the problem or practice
- Information on how the AT member learned of the problem or practice.

The individual team member will discuss the information elements and the potential finding with the Audit Team Leader, Technical Coordinator, and other team members. It will be jointly determined whether or not the information constitutes a finding, and whether additional information should be obtained. Development and validation of a finding is an interactive process which should result in a well-documented, defensible finding statement. It should be noted that the existence of a planned or in progress corrective action does not eliminate the basis for a finding, but will be fully described in the finding discussion.

All findings will undergo one or more reviews by the Team Leader and Technical Coordinator. The Team Leader may request team members to review findings other than their own if they are knowledgeable in another area. The purpose of these reviews is to ensure that the findings are technically accurate and complete, the format is correct, and that they are clear, concise, and grammatically correct before they are incorporated in the audit report.

### **3.7.2 Technical Accuracy Review**

To the extent possible, all potential findings developed by the audit team will undergo a technical accuracy review before the on-site closeout of the audit. This review may be accomplished by having appropriate REECO personnel review findings and provide comments, and/or through meetings of the technical specialist, the ATL and Technical Coordinator, and REECO personnel knowledgeable about the findings under review to obtain verbal comments.

### **3.8 Closeout Meeting**

A formal closeout meeting at the conclusion of audit activities will be conducted by the Team Leader. Meeting attendees will include the Team Leader, Technical Coordinator, audit team members, and appropriate personnel from REECO.

The purpose of the closeout meeting is to provide an overview of the audit process and discuss tentative results of the audit. The Team Leader will also provide a schedule of post-audit activities to the audited organization.

## **4.0 POST-AUDIT PROCEDURES**

### **4.1 Briefing**

Immediately after the audit closeout, the POCD Director, the T&MSS Assistant Project Manager (APM) for Environmental and Regional Programs, and the T&MSS ECPD Manager will be provided a briefing on the audit and findings.

### **4.2 Audit Report Preparation**

The Audit Team Leader, assisted by the Technical Coordinator and audit team members will prepare the audit report during the week following the audit closeout meeting. The audit report format will be as shown in Appendix B.

### **4.3 Audit Report Review and Approval**

The audit report will be provided to the T&MSS ECPD Manager for review and approval. On completion of the ECPD Manager's review/approval process, the audit report will be forwarded to the POCD Director for final review and approval.

#### 4.4 Corrective Action Plan

The POCD Director will transmit the approved audit report to the REECO Technical Project Officer (TPO) and formally request the development of a corrective action plan to address the audit findings. The TPO or designee will direct the preparation of the corrective action plan by REECO personnel. When complete, the TPO will submit the plan to the POCD Director for approval. The TPO will be responsible for ensuring implementation of the approved corrective action plan and for tracking REECO adherence to the plan and any other activities undertaken to address the audit findings.

#### 4.5 Corrective Action Verification and Audit Close

Verification of the completion of corrective actions will be documented by the Audit Team Leader and a written report closing the audit will be submitted by the Team Leader to the POCD Director.

#### 5.0 RECORDS

There are no quality assurance records generated as a result of this audit. Copies of the audit report, correspondence, logbooks, and all other documents generated by pre-audit, audit, and post-audit activities will be kept to document this audit and will comprise the audit administrative record file. This administrative record file will be submitted to the Las Vegas Local Records Center by the ECPD to be forwarded to the Central Records Facility.

APPENDIX B

ENVIRONMENTAL COMPLIANCE PLANS, PROCEDURES,  
AND FIELD OPERATIONS INSTRUCTIONS (FOIs)

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**YMP-054-R0 YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE  
7/12/91  
DOCUMENT APPROVAL SHEET**

NO. 10  
 Non O

APPROVAL

PROJECT MANAGER: Mari P. Tette 7/12/90  
 Signature Date

DIRECTOR OF QUALITY ASSURANCE: W. Wilcups and D. J. Horton 2/12/90  
 Signature Date

N/A N/A N/A  
 (OTHER, AS REQUIRED) Signature Date

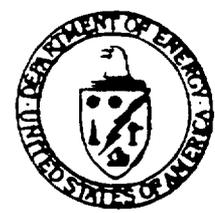
REVISION 0 EFFECTIVE DATE: 2/26/90

REVISIONS

	INITIAL AND DATE			
	REVISION 1	REVISION 2	REVISION 3	REVISION 4
PROJECT MANAGER:	<u>[Signature]</u>			
DIRECTOR, QA:	<u>N/A</u>			
Site Manager	<u>Winked G. Wilson</u>			
(OTHER, AS REQUIRED)	<u>1/7/92</u>			
EFFECTIVE DATE:	<u>7/27/92</u>			

Complete Revision

**INFORMATION COPY**



TRAINING REQUIRED  YES  N/A NUMBER OF DAYS REQUIRED FOR TRAINING 10

COMMENTS: Self study for personnel required to maintain training on procedure.  
Discussed with T. McCarty 7/12/92.  
7:30  
7/12/92

[Signature] FOR 7/12/92  
 TRAINING OFFICER/TRAINING MANAGER DATE

YMP-053-R0  
7/12/91

## YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: 42-2.2

OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS  
INCIDENTS

Revision:

Page 2 of 11

### 1.0 PURPOSE AND SCOPE

#### 1.1 PURPOSE

This procedure assigns responsibility and provides a process for reporting occurrences and events related to all Yucca Mountain Site Characterization Project (YMP) Participants, and for processing such information to provide appropriate and timely corrective actions, in accordance with the latest revision of U.S. Department of Energy (DOE) YMP Safety and Health Plan (YMP/90-37).

#### 1.2 SCOPE

This procedure defines a system to: (1) identify any and all reportable conditions and events, (2) provide for the assignment of Facility Managers (FMs) and Facility Representatives (FRs), (3) provide notice to appropriate management personnel, (4) set out a structure for decisions and actions relative to the unusual occurrence, and (5) provides for a record of unusual occurrence and all such actions.

### 2.0 APPLICABILITY

This procedure applies to all YMP offices, personnel, YMP participants, and any subcontractor or supporting personnel and facilities. YMP participants with work locations remote from Nevada (e.g., Lawrence Livermore National Laboratory, Sandia National Laboratories, Los Alamos National Laboratory, etc.) who are governed by other DOE-compliant occurrence reporting systems, will utilize their reporting systems, internal procedures, and instructions to report related YMP incidents through their channels upward. However, for the YMP, the Field Operations Center (FOC) is to be informed or notified of all occurrences.

### 3.0 DEFINITIONS

Terms in this procedure are used as defined in the YMP Safety and Health Plan, DOE Order 5000.3A, and Project Glossary. The following definitions are adopted for the purposes of this procedure.

#### 3.1 EVENT

An event is a real-time occurrence (e.g., death, or serious injury, environmental damage, pipe break, valve failure, loss of power, or loss of DOE-owned equipment).

#### 3.2 CONDITION

A condition is an occurrence which may have adverse safety, health, security, operational, or environmental implications. A condition is more

Programs to locate an event, an error in engineering analysis or calculation, an anomaly associated with design or performance, or an item indicating a weakness in the management process.

**1.2 FACILITY**

A facility is any equipment, structure, system, process, or activity that fulfills a specific purpose. Examples include the data consolidation and retrieval system, the sample management facility, and the integrated data system.

**1.3 FACILITY REPRESENTATIVE**

For each major facility or group of lesser facilities, the Facility Representative (FR) is that DOE individual assigned responsibility by the YMP Project Manager for monitoring the performance and operations of the facility. This individual shall be the primary point of contact with the contractor and will be responsible for implementing the requirements of this procedure. The FR may delegate these responsibilities to a designee.

**1.4 FACILITY MANAGER**

A Facility Manager (FM) is that individual, or designee, who has direct line responsibility for operation of a facility or group of related facilities, and who has authority to direct physical changes to the facility. An FM is usually, but not always, a contractor employee.

**1.5 OCCURRENCE REPORT**

An occurrence report is a written evaluation of an event or a condition. The report is prepared in sufficient detail to enable the reader to (1) assess the occurrence's significance, consequences, or implications; and (2) evaluate the actions being proposed or employed to correct the condition or avoid recurrence.

**1.7 REPORTABLE OCCURRENCE**

A reportable occurrence is an event or condition to be reported in accordance with the criteria defined in DOE Order 5000.3A.

**1.8 EMERGENCY**

An emergency is the most serious occurrence and requires an increased alert status for onsite personnel and, in specified cases, for offsite authorities. The types of occurrences that are to be categorized as emergencies are defined in DOE Order 5000.3A.

YMP-053-R0  
7/12/91

## YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AE-2.2

OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS  
PROCEDURE

Revision:

Page 4 of 11

### 2. UNUSUAL OCCURRENCE

An unusual occurrence is a nonemergency occurrence that has significant impact or potential for impact on safety, environment, health, security, or operations.

### 3.10 OFF-NORMAL OCCURRENCE

An off-normal occurrence is an abnormal or unplanned event or condition that adversely affects, potentially affects, or is indicative of degradation in the safety, security, environmental, or health protection performance or operation of a facility.

### 3.11 NEVADA OCCURRENCE REPORTING SYSTEM OPERATIONS CENTER

Nevada Occurrence Reporting System Operations Center (NORSCC) is the planned operations center to which all DOE/NV occurrences are initially reported, and through which subsequent reporting requirements are facilitated.

## 4.0 RESPONSIBLE PARTIES

The following YMP individuals or organizations are responsible for activities identified in Section 5.0 of this procedure.

1. YMP Project Manager
2. Technical Project Officer (TPO)
3. DOE FR
4. EM
5. Yucca Mountain Site Manager (SM) - Nevada Test Site, Area 25
6. Yucca Mountain Site Office FOC
7. Yucca Mountain Project Office
8. Project Operations and Control Division (POCD) Director

**YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
PROCEDURE**

Procedure No.: AP-2.9

**OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS  
INFORMATION**

Revision:

Page 3 of 10

**5.0 PROCEDURE**

A flowchart of the following processes described in this procedure is attached as Figure 1.

<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
<b>FACILITY OCCURRENCE PROCEDURE IMPLEMENTATION</b>		
TSO/SM	1.	Identify facilities or groups of facilities. Designate an FM for each facility or group identified. Notify the YMP Project Manager of these designations.
YMP Project Manager	2.	Designate an FR for each facility or group identified in Step 1.
	3.	Notify the DOE/Nevada Operations Office (NV) Emergency Preparedness Branch of these designations for the listing of FMs and DOE FRs.
FM	4.	Define any unique and specific requirements that apply to the facilities.
	5.	Prepare an internal occurrence reporting procedure for the facility to implement compliance with this administrative procedure. Forward the procedures to the SM/FR for review and acceptance.
SM/FR	6.	Review and accept the internal occurrence reporting procedures.
FM	7.	Train all personnel who utilize the facility on the proper implementation of the internal occurrence reporting procedure.
	8.	Implement the internal occurrence reporting procedures.
	9.	Distribute copies of the internal occurrence reporting procedures to the DOE/NV Emergency Preparedness Branch, YMP Project Manager, and FR. Forward procedures for a non-Participant (i.e., DOE) facility to the Document Control Center for distribution in accordance

RESPONSIBLE PARTY \_\_\_\_\_  
 STEPS \_\_\_\_\_  
 PROCEDURE \_\_\_\_\_  
 Also Administrative Procedure (AP)  
 AP-101, License and Maintenance of  
 Incurred Documents.

**REPORTABLE OCCURRENCE HANDLING**

- 10. Report any occurrence involving YMP participation to the FCC regardless of geographic location.
- 11. Notify the DOE Director of the occurrence adversely affects the environment.
- 12. Take mitigation measures dictated by the circumstances when any participant individual detects a reportable occurrence and reports it to the EM and appropriate ER.
- 13. Verbally report the initial occurrence and any significant changes to the EOC/ER.
- 14. Perform preliminary categorization in accordance with DOE Order 500.3A. Contact DOE for assistance in categorization if occurrence involves environmental subjects.
- 15. Complete the process of notification within the following time frames, as required by DOE Order 500.3A. If the occurrence is:
  - a. An emergency, notify within fifteen minutes of categorization. Categorize within two hours of the occurrence.
  - NOTE: The YMP Project Manager can declare an emergency occurrence at YMP.
  - b. An unusual occurrence, notify within two hours of categorization.

**YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
PROCEDURE**

Procedure No.: **YMP-2.2**

**OCURRENCE REPORTING AND PROCESSING OF OPERATIONS  
INFORMATION**

Revision:

Page 7 of 10

<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
EM	15.	In an off-normal occurrence, notify in writing within 24 hours of categorization.
	16.	Take a follow-up verbal notification for each of the following conditions: <ul style="list-style-type: none"> <li>a. Any further degradation in the level of safety, or worsening conditions, including those that require declaring an emergency action level.</li> <li>b. Any change from one categorization level to another.</li> <li>c. Termination of an emergency.</li> </ul>
EM with the assistance of FOC and/or FR	17.	Establish a communication link (verbal, if possible) with the SM or YMP Project Manager, POCD Director (as applicable).
	NOTE:	The FOC will notify the SM.
	18.	Discuss the occurrence categories and confirm the Reporting requirements.
	19.	Officially notify Office of Civilian Radioactive Waste Management.
EM	20.	Notify the DOE/NV NORSOC.
EM	21.	Proceed with written occurrence reporting, including corrective action, action plans, follow-up responses, data base entry, and closure in accordance with applicable procedures and DOE Order 5000.2A.
TPO and/or EM	22.	Record and archive all information pertaining to such occurrences.



# YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-2.9  
OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS INFORMATION

Revision:

Page 9 of 10

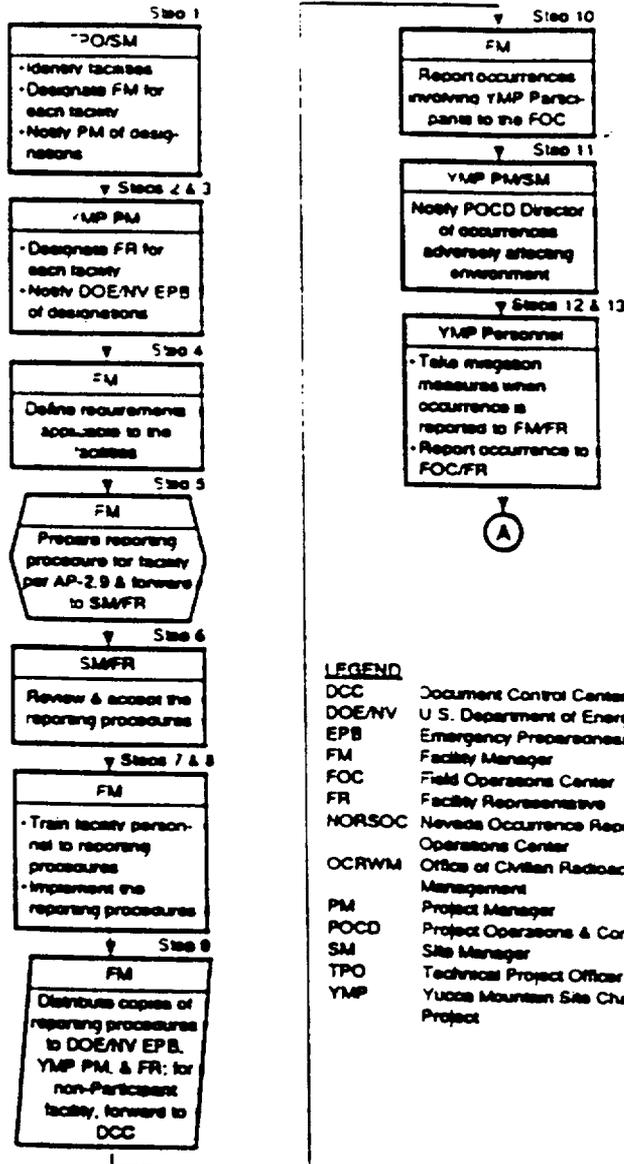


Figure 1 - AP-2.9 Flowchart

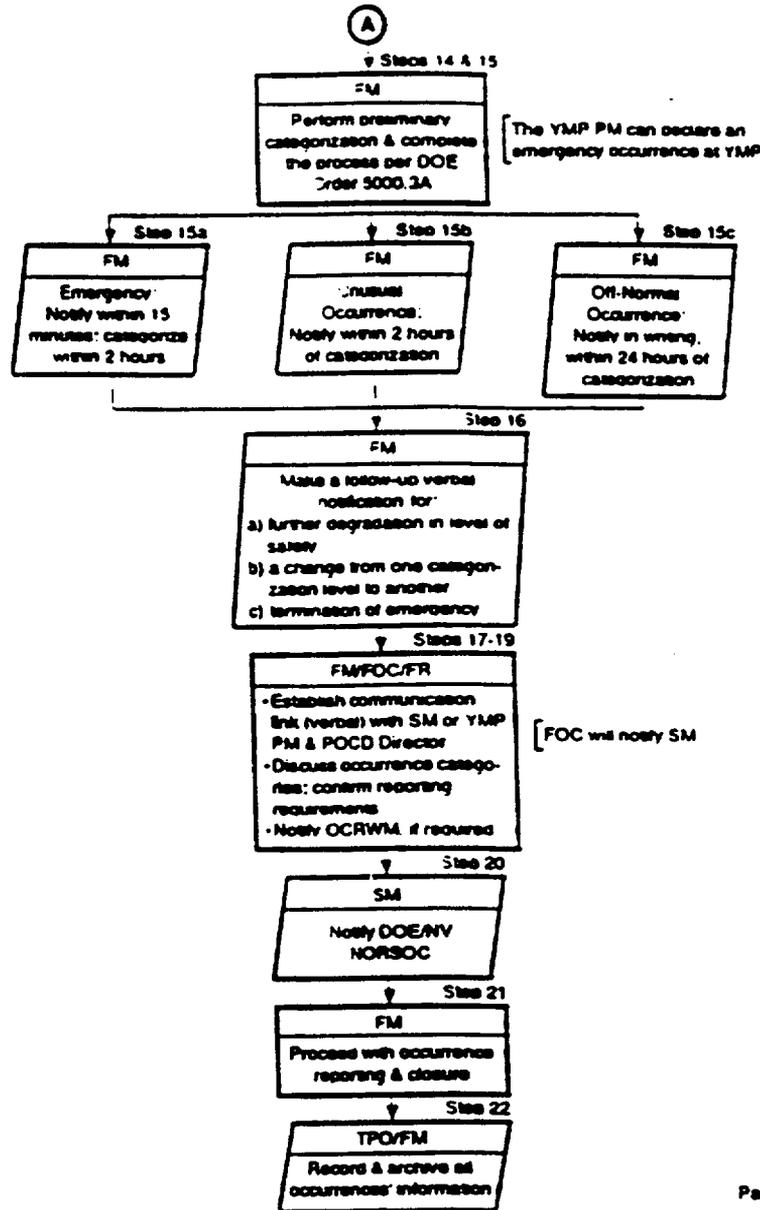


Figure 1 - AP-2.9 Flowchart (continued)

APPENDIX B2

AP-5.38

ENVIRONMENTAL SAFETY  
AND HEALTH APPRAISAL

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YMP-053-RO  
7/12/91

## YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-5.38  
ENVIRONMENTAL SAFETY AND HEALTH APPRAISAL

Revision:

Page 2 of 10

### 1.0 PURPOSE AND SCOPE

#### 1.1 PURPOSE

The purpose of this administrative procedure (AP) is to standardize the process for conducting appraisals of Yucca Mountain Site Characterization Project (YMP) and YMP Participant environment, safety and health programs and to ensure compliance with U.S. Department of Energy (DOE) Order 5482.1B, Environment, Safety and Health Appraisal Program.

#### 1.2 SCOPE

This procedure describes the environment, safety and health appraisal process, including the initiation or management, functional, and internal appraisals; establishment of appraisal criteria and an Appraisal Team; review of environmental, safety and health standards by the Appraisal Team; documentation and review of findings; preparation of an appraisal report; implementation and monitoring of any necessary corrective actions; and formal closeout documentation.

### 2.0 APPLICABILITY

This procedure applies to the Yucca Mountain Site Characterization Project Office (YMPO) and all YMP Participants.

### 3.0 DEFINITIONS

Terms in this procedure are used as defined in the Project Glossary, YMP/89-15. The following additional definitions are adopted for the purposes of this procedure.

#### 3.1 FUNCTIONAL APPRAISAL

A documented review of environment, safety and health specialty discipline performed in accordance with written guidance and criteria. Specifically, the appraisal will verify, by examination and evaluation of objective evidence at the facility and/or operation, that applicable elements of the program have been developed, documented, and effectively implemented in accordance with specific environment, safety and health requirements and needs.

#### 3.2 INTERNAL APPRAISAL

An examination and evaluation at the YMPO and YMP Participant level of those portions of their internal environment, safety and health program, program plan implementation, and operations under their direct control.

### 3.3 MANAGEMENT APPRAISAL

A documented determination of managerial effectiveness in establishing and implementing environment, safety and health program plans that conform to DOE policy requirements. It is based on an analysis of functional appraisals, internal appraisals, other information, and on the application of appropriate criteria. The appraisal is a review and evaluation of management performance covering all environmental, safety and health disciplines and management responsibilities to ensure the program addresses environment, safety and health requirements and needs. Positive findings shall be emphasized, as well as program deficiencies.

### 3.4 APPRAISAL TEAM

An individual or group of individuals with the qualifications for and responsibility of conducting, documenting, and reporting specific environment, safety and health program appraisals. Qualifications are based on education, work experience, and training in the specialty being appraised.

### 3.5 FOLLOW-UP APPRAISAL

A follow-up visit to evaluate the implementation of corrective actions on identified deficiencies.

### 3.6 FINDING

A Finding is a statement of fact concerning a condition in the Environment, Safety and Health program that was investigated during an appraisal. It may be a simple statement of proficiency or a description of a deficiency. Both severity and potential consequences should be address in describing a deficient condition.

## 4.0 RESPONSIBLE PARTIES

The following individuals and organizations are responsible for activities identified in Section 5.0 of this procedure.

1. Division Director (DD)
2. Site Manager (SM)
3. YMP Participant Management
4. Appraisal Team
5. Director, Project and Operations Control Division (POCD)

**5.0 PROCEDURE**

A flowchart of the following processes described in this procedure is attached as Figure 1.

RESPONSIBLE PARTY                      STEPS    PROCEDURE

**INITIATING A MANAGEMENT APPRAISAL**

- |            |  |
|------------|--|
| DD/SM/POCD | <ol style="list-style-type: none"><li>1. Determine Participant to be appraised.</li><li>2. Notify Participant Technical Project Officer (TPO), or equivalent individual, or organization's selection for appraisal.</li><li>3. Select Appraisal Team and determine scope of the appraisal. Go to Step 7.</li></ol> |
|------------|--|

**INITIATING A FUNCTIONAL APPRAISAL**

4. Determine need for functional appraisal and notify TPO.

NOTE: Functional appraisals shall be scheduled and conducted at least every two years for each safety and health program element unless operational history or a risk assessment/safety analysis indicate a need for greater or lesser frequency.

5. Select Appraisal Team and determine scope of the appraisal. Go to Step 7.

NOTE: For a functional appraisal, the Appraisal Team shall include at least one specialist for each area being appraised and involve both the manager and the staff being appraised.

**INITIATING AN INTERNAL APPRAISAL**

- |   |  |
|---|--|
| DD/SM/POCD or YMP<br>Participant Management | <ol style="list-style-type: none"><li>6. Determine need for internal appraisal, select Appraisal Team, and determine scope of the appraisal. Go to Step 7.</li></ol> |
|---|--|

# YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-5.38  
ENVIRONMENTAL SAFETY AND HEALTH APPRAISAL

Revision:  
1

Page 5 of 10

<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
--------------------------	--------------	------------------

DD/SM/POCD or YMP Participant Management	NOTE:	For internal appraisals, the Appraisal Team will function primarily in an advisory capacity to a designated position or to management so that corrective action(s) can be taken. The initiating manager shall ensure that members of the Appraisal Team are not directly responsible for the performance of activities being appraised.
---	-------	---

### CONDUCTING AN APPRAISAL

Appraisal Team

7. Establish appraisal criteria using written guidance, criteria, and performance measures as detailed in the appropriate 5480 series of DOE orders.

8. Meet with appropriate manager(s) to discuss scope and schedule of appraisal.

NOTE: For management and functional appraisals the appropriate manager is the TPO or equivalent individual. For internal appraisals, the initiating manager will determine the responsible manager(s) for the function or entity being appraised.

9. Review previous appraisal records, if any.

NOTE: For management appraisals, information from Participant functional and internal appraisals shall be examined for implementation and compliance with safety and health requirements.

10. Conduct appraisal.

NOTE: Appraisals should emphasize positive findings as well as program deficiencies.

11. At conclusion of appraisal, meet with appropriate manager(s) (see Note to Step 8).

**YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
PROCEDURE**

Procedure No.: AP-5.38

ENVIRONMENTAL SAFETY AND HEALTH APPRAISAL

Revision:

:

Page 6 of 10

<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
DD/SM/POCD or YMP Participant Management, and Appraisal Team	12.	Evaluate findings. Assess need for corrective action(s), and make recommendations.
Appraisal Team	13.	Prepare a written appraisal report, and transmit report to the appropriate manager(s) (see Note to Step 8).
	NOTE:	The appraisal report shall detail findings to ensure corrective action(s) can be effectively carried out.  Reports for management appraisals shall be prepared and transmitted within 45 days of the completion appraisal. Reports for functional appraisals shall be prepared and transmitted within 30 days of the appraisal.  Reports for internal appraisals shall be prepared and transmitted in a timeframe to be determined by the initiating manager.
DD/SM/POCD or YMP Participant Management	14.	Respond in writing to appraisal report within 30 days of report receipt. Indicate any corrective action(s) taken or not to be taken.
	NOTE:	For management and functional appraisals the YMP Participant TPO shall provide the YMPO with quarterly status reports of any corrective action(s) still outstanding.
	15.	Schedule and implement corrective action(s), if any.
	16.	Notify, in writing, the YMPO or TPO, as appropriate, when corrective action(s) is completed.
	17.	Screen appraisal report(s), responses, and any supporting documentation.

# YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-5.38  
ENVIRONMENTAL SAFETY AND HEALTH APPRAISAL

Revision:  
1

Page 7 of 10

<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
DD/SM/POCD or YMP Participant Management		<p>a. If the appraisal and corrective action(s) is satisfactory go to Step 18.</p> <p>b. If the appraisal or corrective action(s) is unsatisfactory go to Step 8.</p> <p>NOTE: If the YMPO or TPO deem it necessary, the Appraisal Team shall conduct a follow-up appraisal(s) to review the adequacy of any corrective action(s) implemented. Follow-up appraisals shall be performed in accordance with the process described in Steps 8 through 18 of this procedure.</p> <p>18. Formally close appraisal. Inform, in writing, the appropriate manager(s) of appraisal closeout.</p> <p>NOTE: Initiating management shall review internal appraisals for adequacy of performance at least every three (3) years.</p>

## 6.0 REFERENCES

Refer to the latest revision of the documents listed below unless otherwise stated.

### 6.1 REQUIREMENTS DOCUMENTS

DOE Order 5482.1B, Environment, Safety and Health Appraisal Program

OCRNM Safety Plan, DOE/RW-0119

Environmental Management Plan, YMP/CC-0006

### 6.2 INTERFACE DOCUMENTS

Project Glossary, YMP/89-15

YMP-053-R0  
7/12/91

## YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-5.38  
ENVIRONMENTAL SAFETY AND HEALTH APPRAISAL

Revision:  
:

Page 8 of 10

### 7.0 FIGURES AND ATTACHMENTS

Figure 1, AP-5.38 Flowchart

### 8.0 RECORDS

There are no Quality Assurance records generated as a result of this procedure. The Appraisal Record Package will include the initiating letter (letter of transmittal), the Appraisal Report, the Participant organization's response, and the close-out response. Appraisal Records will be submitted to the Local Records Center.

# YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-5.38

ENVIRONMENTAL SAFETY AND HEALTH APPRAISAL

Revision:

Page 9 of 10

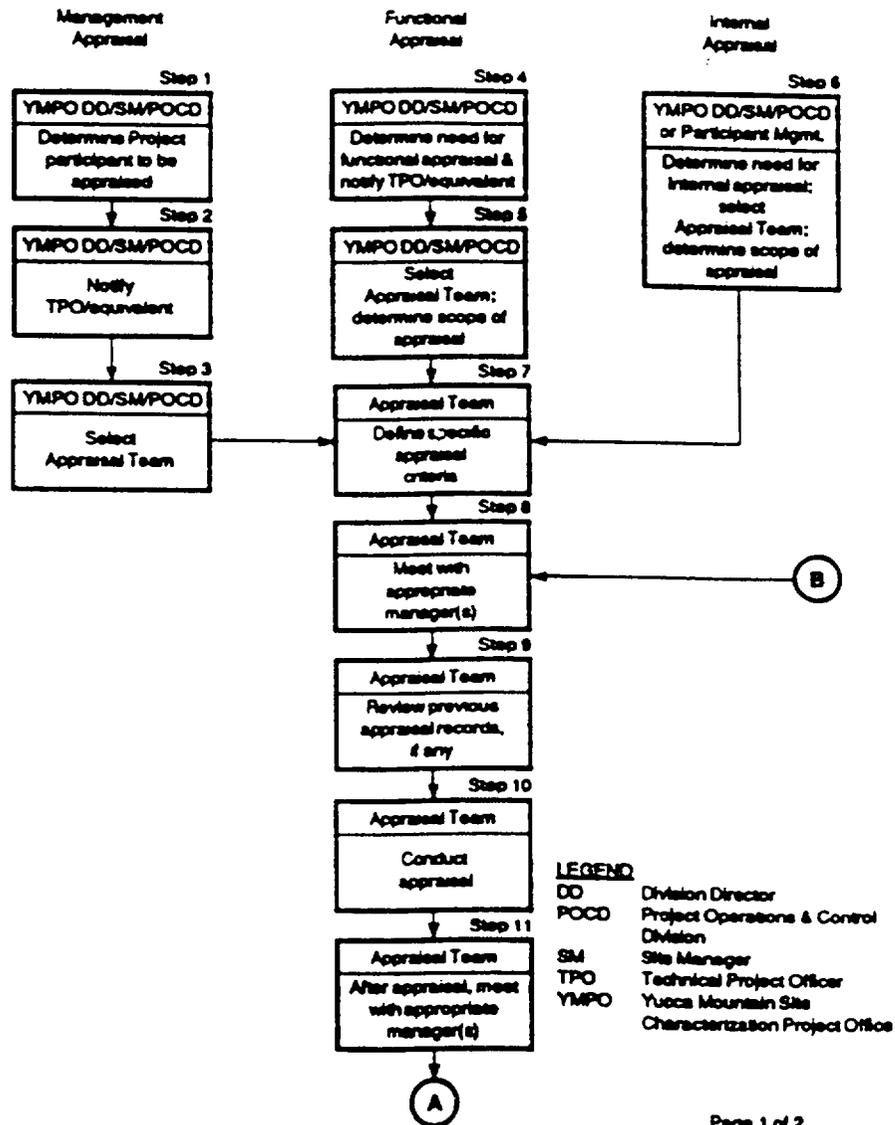
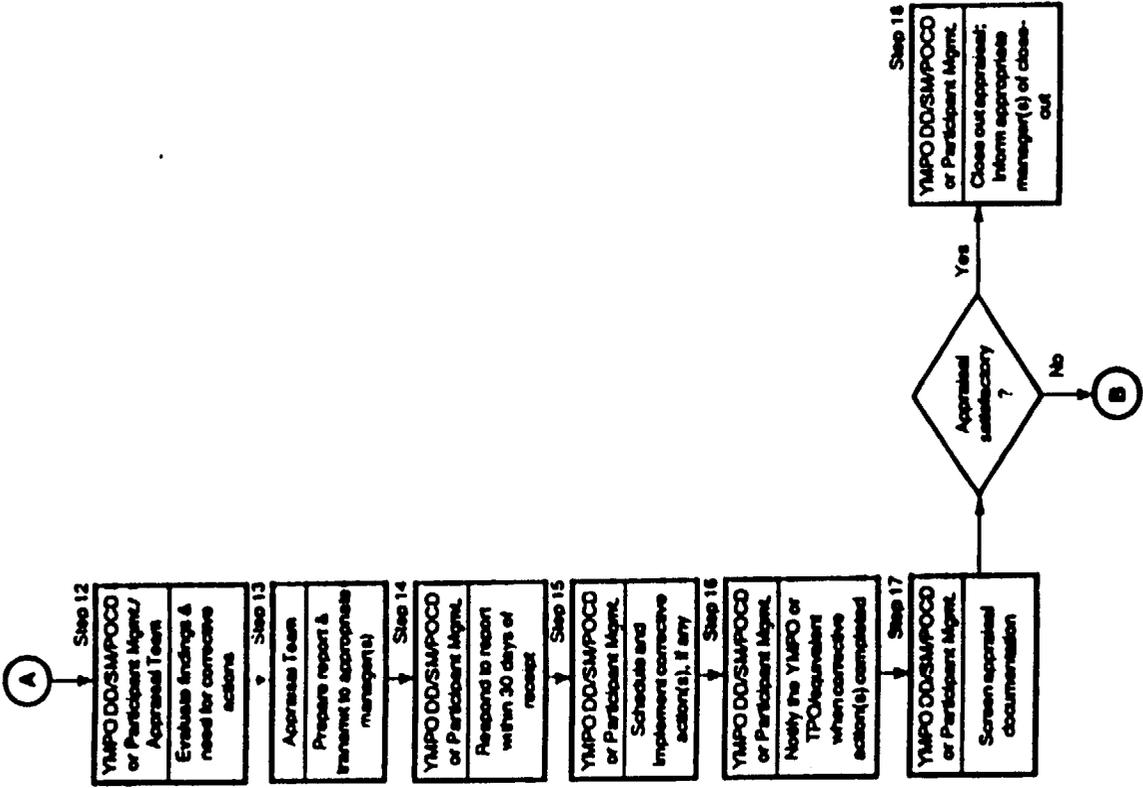


Figure 1 - AP-5.38 Flowchart.

MP-053-R0 YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
 '12/91 PROCEDURE

Procedure No.: AP-5.38  
 ENVIRONMENTAL SAFETY AND HEALTH APPRAISAL

Revision: 1  
 Page 10 of 10



Page 2 of 2  
 AP-5.38 03/9-17-88

Figure 1 - AP-5.38 Flowchart (continued)



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YMP-054-R0 YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE  
7/12/91  
DOCUMENT APPROVAL SHEET

Title ENVIRONMENTAL SAFETY AND HEALTH PROTECTION PROGRAM FOR  
U.S. DEPARTMENT OF ENERGY OPERATIONS

NO. AE-5.1.1  
10  
X Non O

APPROVAL  
N/A

PROJECT MANAGER \_\_\_\_\_ N/A  
Signature \_\_\_\_\_ Date \_\_\_\_\_  
N/A N/A

DIRECTOR OF QUALITY ASSURANCE: \_\_\_\_\_  
Signature \_\_\_\_\_ Date \_\_\_\_\_  
S & H Compliance Manager: Henry Phillips 9/16/92  
FOC Manager: Wendell O. Wilson 9-15-92  
(OTHER, AS REQUIRED) \_\_\_\_\_  
Signature \_\_\_\_\_ Date \_\_\_\_\_

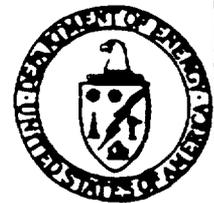
REVISION 0 EFFECTIVE DATE: 9/22/92

REVISIONS

INITIAL AND DATE

	REVISION 1	REVISION 2	REVISION 3	REVISION 4
PROJECT MANAGER:	_____	_____	_____	_____
DIRECTOR, QA:	_____	_____	_____	_____
(OTHER, AS REQUIRED)	_____	_____	_____	_____
EFFECTIVE DATE:	_____	_____	_____	_____

INFORMATION COPY



TRAINING REQUIRED  YES  N/A NUMBER OF DAYS REQUIRED FOR TRAINING N/A

COMMENTS: No pre-existing population of personnel required to maintain training. Training will be afforded upon request.  
Discussed with T. McCarty, 6-9-92  
FW 9/18/92

Tom O. O. TRAINER/TRAINING MANAGER DATE 9-18-92

1700000000

YMP-053-RO  
7/12/91

## YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No: 053-RO  
ENVIRONMENTAL SAFETY AND HEALTH PROTECTION  
PROGRAM FOR U.S. DEPARTMENT OF ENERGY OPERATIONS

Revision:

Page 2 of 3

### 1.0 PURPOSE AND SCOPE

#### 1.1 PURPOSE

The purpose of this procedure is to develop steps to ensure the coordination of the environment, safety and health efforts at the Yucca Mountain Site Characterization Project (YMP) work sites and to maintain the safety and well being of YMP employees and the general public, consistent with the guidance provided in the YMP Safety and Health Plan, (YMP/90-37) and the Environmental Management Plan (YMP/CO-0006).

#### 1.2 SCOPE

The scope of this procedure is designed to ensure that YMP participants develop and implement environment, safety and health programs.

### 2.0 APPLICABILITY

This procedure applies to all YMP participant organizations and their employees.

### 3.0 DEFINITIONS

Terms in this procedure are used as defined in the Project Glossary, YMP/89-15. The following additional definitions are adopted for purposes of this procedure.

#### 3.1 SAFETY AND HEALTH PROTECTION PROGRAM FOR U.S. DEPARTMENT OF ENERGY OPERATIONS

The Safety and Health Protection Program for U.S. Department of Energy (DOE) Operations is an organized set of activities performed as independent functions. Its purpose is to ensure that all aspects of safety and health-related activities at the program, project and contractor level are addressed. It encompasses those requirements, activities, and functions in the conduct of all operations that are concerned with:

- a. limiting the risk to the well being of both operating personnel and the general public, and
- b. protecting property against accidental loss and damage.

#### 3.2 SAFETY AND HEALTH IMPLEMENTATION PLAN

The Safety and Health Implementation Plan is a concise description of the approach, resources, and time period planned for implementing DOE Orders that include a description of the execution of safety and health protection, safety and health responsibilities and authorities.

**YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
PROCEDURE**

Procedure No: **AE-0.43**  
**ENVIRONMENTAL SAFETY AND HEALTH PROTECTION**  
**PROCEDURE FOR U.S. DEPARTMENT OF ENERGY OPERATIONS**

Revision:

Page : of :

**3. ENVIRONMENTAL PROGRAM**

The Environmental Program is an organized set of activities to ensure that facilities are operated and managed in a manner that will protect, maintain, and restore environmental quality, minimize potential threats to the environment, and comply with environmental regulations and DOE policies.

**4.0 RESPONSIBLE PARTIES**

The following YMP individuals or organizations are responsible for activities identified in Section 3.0 of this procedure.

1. Project Manager (PM)
2. YMP participants
3. U.S. Department of Energy (DOE) Safety and Health (S&H) Staff
4. Director, Project and Operations Control Division (POCD)
5. Technical and Management Support Services (T&MSS) Environmental Compliance and Permitting Department (ECPD)

**5.0 PROCEDURE**

A flowchart of the following processes described in this procedure is attached as Figure 1.

<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
PM	1.	Ensure that YMP participants develop and implement environmental, safety and health programs.
Director, POCD	2.	Prepare Administrative Procedures (APs) and other directives for the Environmental Program.
YMP Participants	3.	Develop and implement environment, safety and health programs, plans and procedures in accordance with YMP Safety and Health Plan, YMP/90-37 and/or Environmental Management Plan, YMP/CC-0006; submit plan to PM.

YMP-053-R0  
7/12/91

## YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.

ENVIRONMENTAL SAFETY AND HEALTH PROTECTION  
DEPARTMENT OF ENERGY

Revision

Page 4 of 4

RESPONSIBLE PARTY	STEPS	PROCEDURE
1. Participants	1.	Conduct internal environmental, safety and health appraisals. Prepare written reports and send to PM. Send a copy of safety and health appraisals to DOE SD. Send a copy of environmental appraisals to Director, EOCB.
Director, EOCB/DOE SD	2.	Conduct appraisals of environmental, safety and health programs, plans, and facilities. Provide overview of environmental, safety and health activities.
EOCB	3.	Perform environmental audits and surveillances.

### 6.0 REFERENCES

Refer to the latest revision of the documents listed below unless otherwise stated.

#### 6.1 REQUIREMENTS DOCUMENTS

YMP Safety and Health Plan, YMP/90-37

Environmental Management Plan, YMP/CO-0006

#### 6.2 INTERFACE DOCUMENTS

AP-5.7, Safety and Health Compliance Inspection

AP-5.38, Safety and Health Appraisal

AP-5.46, Environmental Compliance Auditing and Surveillance of Yucca Mountain Site Characterization Project Activities

### 7.0 FIGURES AND ATTACHMENTS

Figure 1, AP-5.43 Flowchart

### 8.0 RECORDS

There are no Quality Assurance records generated as a result of this procedure. All other documents generated as a result of this procedure are non-record documents.

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
PROCEDURE

Procedure No: AP-5.43  
ENVIRONMENTAL SAFETY AND HEALTH PROTECTION  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Revision: \_\_\_\_\_ Page: 31

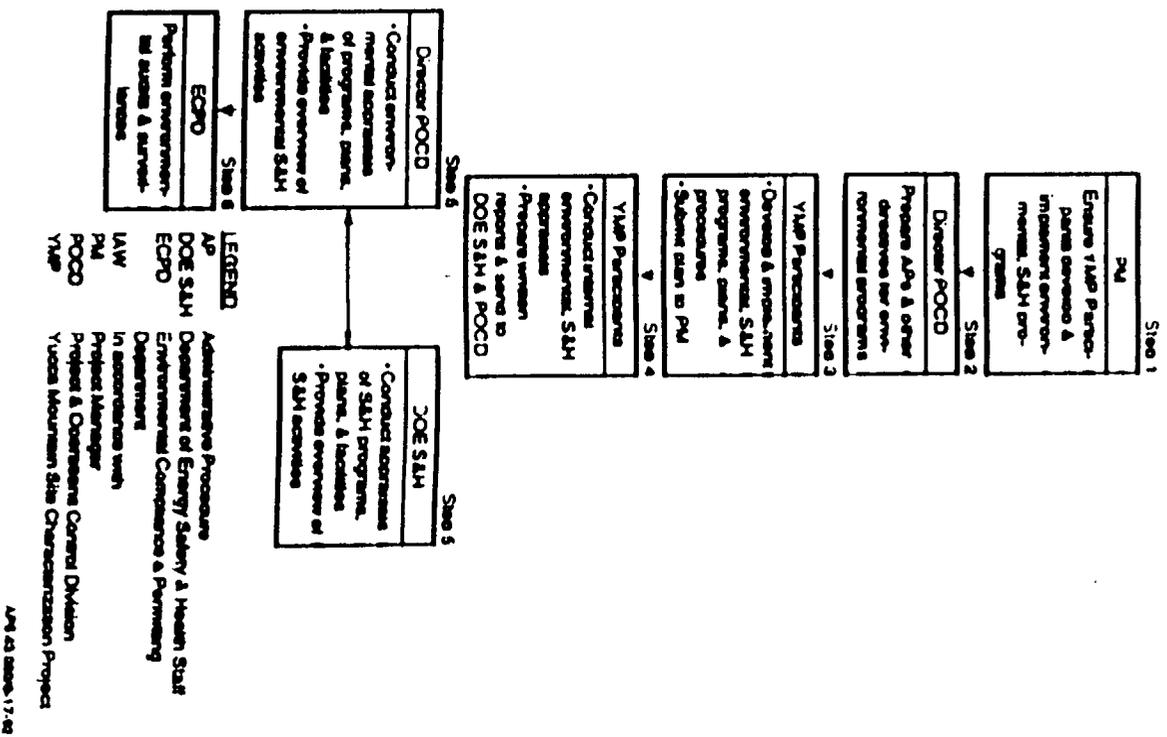


Figure 1 - AP-5.43 Flowchart

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APPENDIX B4

AP-5.46

ENVIRONMENTAL COMPLIANCE AUDITING AND  
SURVEILLANCE OF YUCCA MOUNTAIN SITE  
CHARACTERIZATION PROJECT ACTIVITIES

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YMP-054-R0 YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE  
7/12/91  
DOCUMENT APPROVAL SHEET

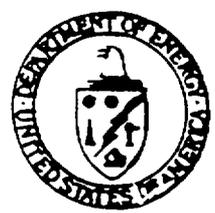
Title ENVIRONMENTAL COMPLIANCE AUDITING AND SURVEILLANCE OF YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT ACTIVITIES  
NO. AE-3.46  
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X Non O

APPROVAL  
PROJECT MANAGER: [Signature] 8/1/92  
Signature Date  
DIRECTOR OF QUALITY ASSURANCE: N/A N/A  
Signature Date  
Director P50CD  
(OTHER, AS REQUIRED) [Signature] 8-9-92  
Signature Date  
REVISION 0 EFFECTIVE DATE: 3/14/92

REVISIONS

	INITIAL AND DATE			
	REVISION 1	REVISION 2	REVISION 3	REVISION 4
PROJECT MANAGER:	N/A	N/A	N/A	N/A
DIRECTOR, QA:	N/A	N/A	N/A	N/A
<u>N/A</u> (OTHER, AS REQUIRED)	N/A	N/A	N/A	N/A
EFFECTIVE DATE:	N/A	N/A	N/A	N/A

INFORMATION COPY



TRAINING REQUIRED  YES  N/A NUMBER OF DAYS REQUIRED FOR TRAINING N/A  
COMMENTS: New document, training will be afforded upon request. Per telecon with Karen Olsson on 8-10-92  
[Signature] 8/10/92  
TRAINING OFFICER/TRAINING MANAGER DATE  
B4-1

An Environmental Compliance Audit is the act of systematically determining the environmental status of a given facility, site, activity or field work in order to verify compliance with established requirements and determine the effectiveness of implementation.

### ENVIRONMENTAL COMPLIANCE AUDIT

Terms in this procedure are used as defined in the Project Glossary, NRP/89-15. The following additional definitions are adopted for the purpose of this procedure.

### 3.0 DEFINITIONS

This procedure applies to all site characterization field activities performed by NRP staff and NRP participants at the Nevada Test Site, on the NTP Right-of-Way Reservation (FORM), and at other locations unless exempted by the Project Manager.

### 2.0 APPLICABILITY

The scope of this procedure covers all site characterization field activities and all NRP participants that are required to comply with environmental regulatory requirements. This procedure does not preclude periodic field inspections by cognizant environmental compliance specialists, nor does it relieve any worker of the responsibility to report potential environmental problems immediately.

### SCOPE

This procedure implements the requirements of the Environmental Regulatory Compliance Plan (EORCP) Section 4.4 Environmental Compliance Audit Program. The purpose of this procedure is to assist responsible and qualified personnel in conducting site characterization project (NRP) environmental compliance activities. The purpose is to ensure that NRP activities are being performed in compliance with applicable environmental regulatory, monitoring, and installation requirements, permit conditions and stipulations, and applicable environmental portions of NRP requirements documents.

### PURPOSE

### 1.0 PURPOSE AND SCOPE

Procedure No. 89-15	ENVIRONMENTAL COMPLIANCE MONITORING AND SURVEILLANCE IS
Revision:	Page 2 of 15

Procedure No. 5-3.40	Revision:	Page 1 of 10
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**ENVIRONMENTAL COMPLIANCE SURVEILLANCE**

An environmental compliance surveillance program is announced "good luck" during normal site activities. An environmental event or situation to ensure that significant portions of conditions are not occurring. Surveillance shall be performed periodically, as determined by the Project and Operations Control Division (POCD), and may cover all or all of the items investigated during an environmental compliance audit.

**1.1 CORRECTIVE ACTION**

A corrective action is a measure taken to remedy conditions that are not in compliance with environmental requirements.

**4.0 RESPONSIBLE PARTIES**

The following YMP individuals or organizations are responsible for activities identified in Section 5.0 of this procedure:

- 1. YMP Project and Operations Control Division (POCD)
- 2. Technical and Management Support Services (TSMSS) Environmental Compliance and Permitting Department (ECPD)
- 3. Audit Team
- 4. Audit Team Leader (ATL) and/or Surveillance Team Leader (STL)
- 5. Responsible State Person (RSP)
- 6. YMP Participant Technical Project Leader (TPL)

**5.0 PROCEDURE**

A flowchart of the following processes described in this procedure is attached as Figure 1.

**RESPONSIBLE PARTY STEPS PROCEDURE**

**PREPARING FOR THE AUDIT**

NOTE: An audit is formally scheduled (i.e., announced) prior to its undertaking.

- 1. Request ECPD to conduct an environmental compliance audit or surveillance on a

**YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
PROCEDURE**

Procedure No.: **AE-5.46**

Revision:

Page - of 10

**ENVIRONMENTAL COMPLIANCE AUDITING AND SURVEILLANCE OF  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT ACTIVITIES**

RESPONSIBLE PARTY

STEPS

PROCEDURE

ECOD

specific YMP activity once every six months, or as deemed necessary. If an audit is requested, proceed to Step 2. If a surveillance is requested, proceed to Step 30.

ECPD

2. Assign an ATL.

ATL

3. Review existing environmental compliance documentation pertaining to an activity or organization, including, but not limited to, the following items:

- a. Land access and environmental compliance approval for an activity received from Administrative Procedure (AP) AP-8.1, Land Access and Environmental Compliance.
- b. Environmental requirements specified in any requirements documents (e.g., APs, Hazardous Materials Management and Handling Plan (HMMHP) YMP/91-35, and ERCP) written for the activity
- c. Environmental permit conditions applicable to the activity
- d. Land access and/or ROWR conditions applicable to the activity
- e. Federal and state environmental regulations

4. Assemble an Audit Team to perform the audit.

NOTE: The qualifications of Audit Team members would vary depending on the activity and type of audit to be conducted.

5. Prepare an activity-specific audit checklist, with assistance from the Audit Team, as required. Attachment 1 provides a list of potential checklist items organized by general environmental category.

YMP-053-R0  
7/12/91

# YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: 42-5.10

ENVIRONMENTAL COMPLIANCE AUDITING AND SURVEILLANCE OF  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT ACTIVITIES

Revision:

Page 5 of 13

RESPONSIBLE PARTY

STEPS PROCEDURE

ATL

6. Prepare an audit plan to describe the details of the proposed audit that would, at a minimum, identify the following items:
  - a. Audit scope
  - b. Name of activity to be audited
  - c. Requirements governing the activity
  - d. Organization to be audited
  - e. Names of the Audit Team members
  - f. Audit schedule
  - g. Audit checklist
  - h. Applicable documents
7. Submit the audit plan and checklist to the PCOD for approval.
8. Approve the audit plan and checklist.
9. Notify the Site Manager of the proposed audit.
10. Notify the TPO of the audit and request that an RSP be named as the point-of-contact for the audit.

PCOD

### CONDUCTING THE AUDIT

ATL

11. Contact the designated RSP of the activity or organization being audited to initiate the audit and request any needed assistance, including scheduling audit activities, locating people or documents, and visiting the activity job-site.
12. Supervise and coordinate the audit to be conducted by the Audit Team.

Procedure No. Y2-5-16

ENVIRONMENTAL COMPLIANCE AUDITING AND SURVEILLANCE OF  
 YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Revision:

Page 4 of 13

**RESPONSIBLE PARTY**      **STEPS**      **PROCEDURE**

- |  |  |
|--|--|
| <p>12. Conduct the audit following approved audit plan by completing the audit checklist as instructed by the ATL.</p> <p>13. Submit the completed checklist to the ATL for compilation.</p> <p>14. Compile the completed checklists from Audit Team Members and receive classification from team, if necessary.</p> <p>15. Notify the ASB, TSO, Site Manager, and BOD of any deficient practices or conditions identified.</p> <p>16. Take immediate action to resolve deficiencies, including stopping work, if necessary.</p> <p>17. Notify ATL of immediate corrective action taken.</p> <p>18. If deficiencies warrant, initiate unusual occurrence reporting, in accordance with AP-2.3, Occurrence Reporting and Processing of Operations Information; and/or report the questionable activities or conditions, in accordance with AP-6.13, Resolutions of Environmental, Safety and Health Concerns.</p> | <p>ASB and ATL</p> <p>ASB</p> <p>ATL</p> <p>Audit Team</p> |
|--|--|

**REPORTING**

20. Document audit results in a report that contains, as a minimum, the following elements:
- a. Date of audit
  - b. Description of the activity or item audited
  - c. The requirements governing the activity

YMP-053-R0  
7/12/91

## YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-5.46

ENVIRONMENTAL COMPLIANCE AUDITING AND SURVEILLANCE OF  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT ACTIVITIES

Revision:

Page 7 of 13

<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
ATL		<ol style="list-style-type: none"><li>1. Persons conducting the audit</li><li>2. Persons contacted during the audit</li><li>3. Audit results/observations</li><li>4. Deficiencies identified during the audit (see Step 16)</li><li>5. Summary of any immediate corrective action taken (see Step 19)</li><li>6. Recommendations for future corrective action</li><li>7. Effectiveness of environmental compliance implementation</li></ol>
ECPD	21.	Sign and submit the audit report to the T&MS ECPD Manager.
POCD	22.	Review, approve, sign, and submit the audit report to POCD.
POCD	23.	Review, approve, sign, and transmit the audit report to the TPO with copies to the Project Manager, the responsible Division Directors, and the Site Manager. Audit reports should be issued within 10 days of completion of the audit. The report will establish the appropriate date for a response.

### CORRECTIVE ACTION

TPO	24.	Develop corrective action plan and submit to POCD.
POCD	25.	Review and approve the corrective action plan.
TPO	26.	Take corrective action and notify POCD when corrective action has been completed.

YMP-053-R0  
7/12/91

## YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-8.46

Revision:

Page 8 of 10

RESPONSIBLE PARTY	STEPS	PROCEDURE
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- |      |     |   |
|------|-----|---|
| ECFD | 17. | Instruct the ECFD to verify that corrective action is complete and adequate.  |
| ECFD | 18. | If adequate corrective action was taken, notify the PCCD. If not, return to Step 24.                                    |
| ECFD | 19. | Send written confirmation to the IPO and ATL that adequate corrective action was taken, and officially close the audit. |

### PREPARING FOR THE SURVEILLANCE

- |      |     |   |
|------|-----|---|
| ECFD | 20. | Assign an STL.  |
|      |     | NOTE: Surveillance is unannounced.  |
| STL  | 21. | Review existing/available environmental compliance documentation pertaining to an activity or organization, including, but not limited to, the following items: <ul style="list-style-type: none"><li>a. Land access and environmental compliance approval for an activity received from following the process described in AP-8.1</li><li>b. Environmental requirements specified in any requirements documents (e.g., APs, HMMHP, and ERCP) written for or about the activity</li><li>c. Environmental permit conditions applicable to the activity</li><li>d. Land access and/or ROWR conditions applicable to the activity</li><li>e. Federal and state environmental regulations</li></ul> |

# YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-5.46

ENVIRONMENTAL COMPLIANCE AUDITING AND SURVEILLANCE OF  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OPERATIONS

Revision:

Page 9 of 13

RESPONSIBLE PARTY	STEPS	PROCEDURE
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### CONDUCTING THE SURVEILLANCE

STL

32. Obtain an Environmental Compliance Surveillance Report (ECSR) form (see Attachment 2) and review prior to surveillance of activity or organization.
33. Notify the RSP on site commensurate with initiation of the surveillance.
34. Conduct surveillance and complete the appropriate sections of the ECSR form.

### REPORTING

35. Identify to RSP any items requiring immediate action. Complete and sign the ECSR form and submit copies to the RSP, TPO, and PCCD within 10 working days of the surveillance.

### CORRECTIVE ACTION

RSP

36. If immediate action is required, take corrective action(s) immediately. Proceed to Step 38.
37. If immediate action is not required (or if action taken was insufficient, see Step 41), assure that any deficient practices or conditions are corrected within 5 working days upon receipt of ECSR form.
38. Coordinate with the ECPD (mainly the STL) to ensure satisfactory correction action(s) was/were taken.
39. Upon completion of corrective actions, complete item 11 on the ECSR form and submit form to ECPD.

YMP-053-R0  
7/12/91

## YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-5.46

ENVIRONMENTAL COMPLIANCE AUDITING AND SURVEILLANCE OF  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT ACTIVITIES

Revision:

Page 1 of 1

RESPONSIBLE PARTY	STEPS	PROCEDURE
ECPD/STL	40.	Conduct a follow-up surveillance to verify that corrective action has taken place. Complete item 13 on ECSR form.
STL	41.	If corrective action was not taken as required, immediately inform RSP and return to Step 37.
	42.	If correction action was taken as appropriate, send ECSR form to PCCD for signature.
PCCD	43.	Ensure that adequate corrective action was taken, and sign ECSR form to officially close the surveillance period.
	44.	Send original ECSR form to ECPD and copies to the TPO and RSP.

### 6.0 REFERENCES

Refer to the latest revision of the documents listed below unless otherwise stated.

#### 6.1 REQUIREMENTS DOCUMENTS

Environmental Regulatory Compliance Plan, DOE/RW-0209

Environmental Management Plan, YMP/CC-0006

#### 6.2 INTERFACE DOCUMENTS

AP-1.18Q, Records Management: Las Vegas Record Source Responsibilities

AP-2.9, Occurrence Reporting and Processing of Operations Information

AP-6.13, Authorization for Use of Regulated Hazardous Substances and Materials

AP-6.18, Resolutions of Environmental, Safety and Health Concerns

AP-6.24, Operating the Hazardous Waste Project Accumulation Area Facility

YMP-053-R0  
7/12/91

## YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-5.46

ENVIRONMENTAL COMPLIANCE AUDITING AND SURVEILLANCE OF  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT ACTIVITIES

Revision:

Page 11 of 12

AP-6.23, Operating Hazardous Waste Satellite Accumulation Areas

AP-8.1, Land Access and Environmental Compliance

Hazardous Materials Management and Handling Plan (HMMHP), YMP/91-33

Materials Reporting and Handling Plan, as required by AP-6.13 and described in the HMMHP

Project Glossary, YMP/89-33

### 7.0 FIGURES AND ATTACHMENTS

Figure 1, AP-5.46 Flowchart

Attachment 1, Example Environmental Compliance Audit Checklist

Attachment 2, Environmental Compliance Surveillance Report

### 8.0 RECORDS

There are no quality assurance records generated as a result of this procedure. A complete administrative record file will be kept to document each activity review and action taken to protect the environment. These administrative record packages will be submitted to the Las Vegas Local Records Center by the ECPD to be forwarded to the Central Records Facility in accordance with AP-1.19Q).

# YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-5.46

Revision:

Page 12 of 13

ENVIRONMENTAL COMPLIANCE AUDITING AND SURVEILLANCE OF  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT ACTIVITIES

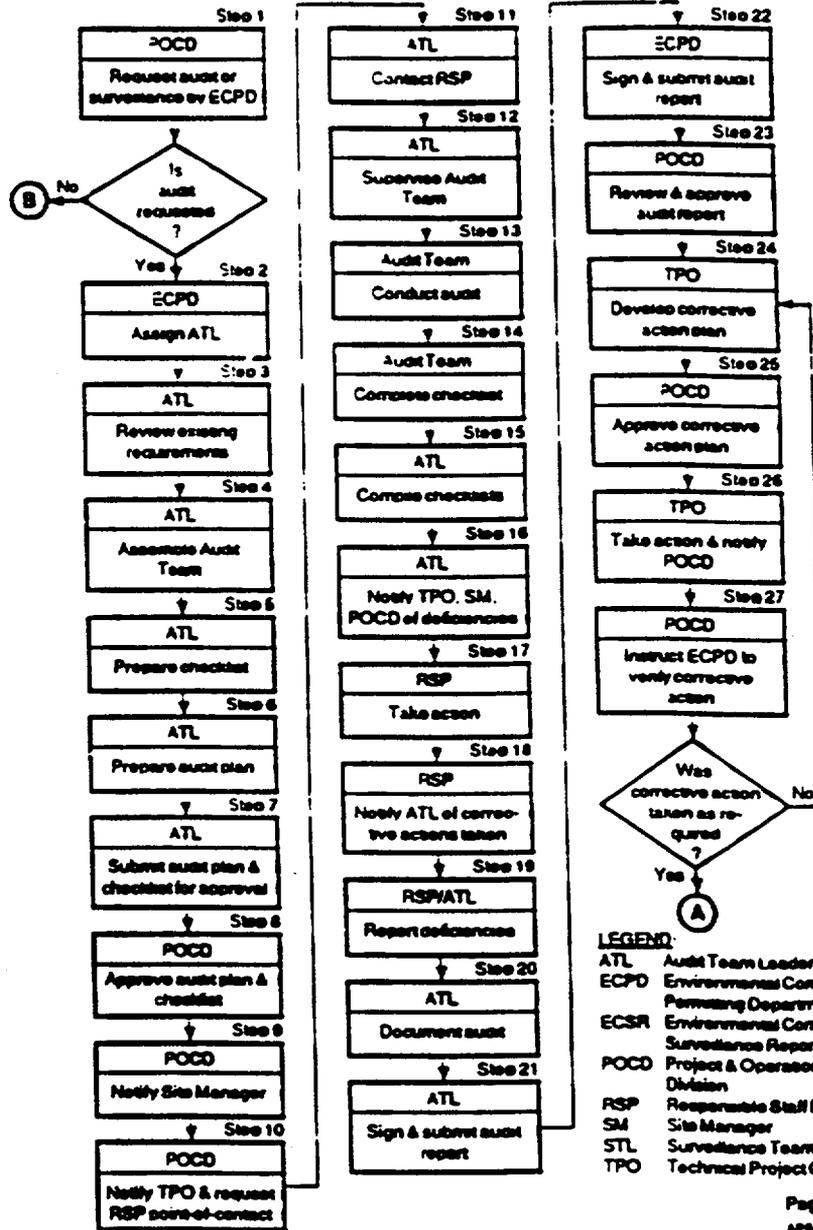


Figure 1 - AP-5.46 Flowchart

# YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-5.46

ENVIRONMENTAL COMPLIANCE AUDITING AND SURVEILLANCE OF  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Revision:

Page 10 of 13

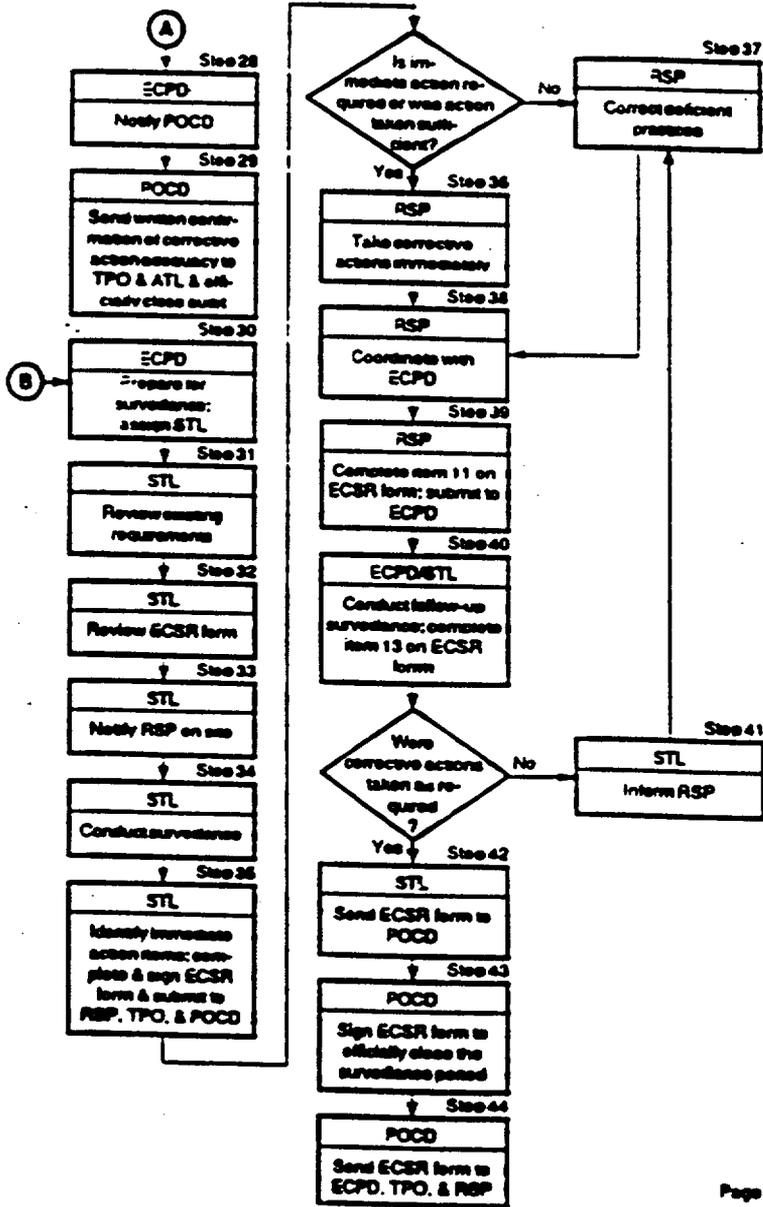


Figure 1 - AP-5.46 Flowchart (continued)

YMP-053-R0  
7/12/91

**YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
PROCEDURE**

Procedure No.: AP-5.46

Revision:

Page 1 of 2

ENVIRONMENTAL COMPLIANCE AUDITING AND SURVEILLANCE OF  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT ACTIVITIES

- I. ACTIVITY TITLE:
- II. ORGANIZATION CONDUCTING ACTIVITY:
- III. ACTIVITY LOCATION:
- IV. ACTIVITY DESCRIPTION:
- V. PERSON INTERVIEWED:
- VI. QUESTIONNAIRE: (SAMPLE)

Activities to be audited would generally fall into one of the categories described below. The categories are broadly defined and may be subdivided into sub-categories, where appropriate. The categories each require compliance with appropriate federal and state requirements, as well as Yucca Mountain Site Characterization Project commitments made to minimize impacts. A checklist developed by using questions from each applicable category would allow for consolidation of all environmental requirements and constraints that exist for an activity into one checklist. It would not be necessary to include all categories in every audit, and other categories may need to be included in some audits, e.g., radiological and safety and health categories.

1. Land disturbing activities: This category includes activities that remove or alter the surface of the land, and/or change topographical features. Includes biological, cultural, and archaeological impacts. Checklists would include such commitments as development of soil stockpiles with mulch or vegetative cover, and engineering slope angles of storage piles to minimize erosion; or commitments to protect archaeological resources and/or wildlife.
  - o Has land access and environmental compliance approval been obtained following AP-8.1?
  - o Was a copy of the BLM ROWR available at the job-site?
  - o Was off-road driving or parking observed?
  - o Were reclamation activities being performed as required?
  - o Were animals being harassed?
  - o Were any threatened or endangered species present or nearby (in close proximity to the site)?

Attachment 1 - Example Environmental Compliance Audit Checklist

**YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
PROCEDURE**

Procedure No.: AP-5.46

ENVIRONMENTAL COMPLIANCE AUDITING AND SURVEILLANCE OF  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT ACTIVITIES

Revision:

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Page 15 of 19

- o Had all personnel working at the site received environmental awareness training?
  - o Had archaeological resources been discovered?
  - o Was erosion noticeable?
  - o Was there any evidence of archaeological resources currently on site?
2. Air quality affecting activities: This category includes activities that generate dust, volatile organics (from fuels and solvents), emissions from motors (stationary sources and mobile vehicles), residuals from blasting operations, or other pollutant emissions. Requirements would include such items as determination of proper implementation of dust reduction procedures, the installation or utilization of mechanisms to reduce other forms of emissions, and compliance with permit conditions.
- o Had an air quality permit been received?
  - o Were permit conditions being satisfied?
  - o Was dust being controlled properly?
  - o Were gaseous emissions being controlled?
3. Surface water affecting activities: This category includes activities that alter drainages or the quality of surface waters, (may interrelate with Item 1 above).
- o Had necessary discharge or construction permits been received?
  - o Were permit conditions being satisfied?
  - o Were effluent streams being properly monitored?
  - o Were tracers used? Had approval to use the tracer been received?
  - o Were activities occurring in the 100-year floodplain?
  - o Was runoff being controlled to minimize erosion?
  - o Was runoff from potentially contaminated areas being controlled?

Attachment 1 - Example Environmental Compliance Audit Checklist (continued)

**YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
PROCEDURE**

Procedure No.: AP-5.40  
ENVIRONMENTAL COMPLIANCE AUDITING AND SURVEILLANCE OF  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT ACTIVITIES

Revision:

Page 16 of 19

4. Groundwater affecting activities: This category includes activities that impinge upon the saturated zone and that affect the quantity or quality of that water; may include injection and pumping procedures.

- o Had necessary appropriation and/or injection permits been received?
- o Were permit conditions being satisfied?
- o Were water withdrawals or injection streams being properly monitored?
- o Were tracers used? Had approval to use the tracer been received?

5. Hazardous materials/wastes activities: This category includes activities that include the use, storage, transportation and disposal, and that may allow the release of hazardous materials or their wastes into the environment.

- o Were hazardous materials being used?
- o Had these materials been approved following AP-6.13?
- o Were hazardous waste storage containers in good condition and properly labeled?
- o Were storage areas properly constructed and labeled?
- o Did storage areas have adequate containment, including secondary containment?
- o Were hazardous waste storage containers kept closed?
- o Had any spills occurred?
- o If so, were the spills promptly and adequately cleaned-up?
- o Was the spill appropriately documented and reported, if applicable?
- o Had a Satellite Accumulation Area (SAA) been established?
- o Were the procedures for the operation of the SAA (AP-6.25, Operating Hazardous Waste Satellite Accumulation Areas) being followed?

Attachment 1 - Example Environmental Compliance Audit Checklist (continued)

**YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
PROCEDURE**

YMP-053-R0  
7/12/91

Procedure No. YMP-053-R0  
ENVIRONMENTAL COMPLIANCE AUDITING AND SURVEILLANCE OF  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Revision: \_\_\_\_\_  
Page 17 of 22

Was a Contingency Plan in place?

Was an Emergency Preparedness Plan in place?

Were personnel properly trained?

Were records correct and properly filed?

Were the procedures for the operation of the project accumulation  
Area (AP-6.24), operating the Hazardous Waste Project Accumulation  
Area facility being followed?

Were waste minimization practices established and being followed,  
in accordance with the Hazardous Materials Management and  
Handling Plan (HMP), Appendix C, Waste Reduction and  
Minimization?

Non-hazardous wastes activities which include activities that  
generate, store or are associated with the disposal of non-hazardous  
wastes.

Were non-hazardous wastes being disposed of properly?

Were non-hazardous wastes removed from the site in a timely  
manner (i.e., trash picked up and removed from the area as  
frequent as necessary)?

Did uncovered trash containers exist?

Was there evidence of hazardous wastes being disposed of with the  
non-hazardous wastes?

**RECOMMENDED CORRECTIVE ACTION:**

\_\_\_\_\_  
Audit Team Member/Date

\_\_\_\_\_  
Audit Team Leader/Date

Attachment 1 - Example Environmental Compliance Audit Checklist (continued)

B4-17

YMP-053-R0  
7/12/91

# YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-5.46

ENVIRONMENTAL COMPLIANCE AUDITING AND SURVEILLANCE OF  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT ACTIVITIES

Revision:

Page 13 of 13

YMP-100-R0 8/14/92	<b>YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT ENVIRONMENTAL COMPLIANCE SURVEILLANCE REPORT</b>	Report No.: _____ Page 1 of _____
1 Date/Time: _____		
2 Activity: _____		3 Organization: _____
4 Location: _____		
5 Personnel Conducting/Overseeing/Title: _____		6 Surveillance Team/Overseeing/Title: _____
7 Items Investigated:		Ref. No. Comments
_____ Site Condition		
_____ Archeological/Biological		
_____ Resource Material Use		
_____ Effluents		
_____ Reclamation		
_____ Other		
8 Findings/Recommendations:		9 IMMEDIATE ACTION REQUIRED? YES _____ NO _____
10 Surveillance Team Leader Signature _____		Date _____

AP-5.46

Attachment 2 - Environmental Compliance Surveillance Report

YMP-053-R0  
7/12/91

# YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-5.46  
ENVIRONMENTAL COMPLIANCE AUDITING AND SURVEILLANCE OF  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT ACTIVITIES

Revision:  
)

Page 13 of 13

YMP-100-R0 071492	YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT ENVIRONMENTAL COMPLIANCE SURVEILLANCE REPORT	Report No.: _____ Page 2 of _____
11 <u>Corrective Action List</u>		
12		
_____ Responsible Staff Person Signature		_____ Date
13 <u>Corrective Action Verification</u>		
14		
_____ Surveillance Team Leader Signature		_____ Date
15 <u>Surveillance Closure</u>		
16		
_____ POCD Signature		_____ Date
17 <u>Distribution</u>		

AP-5.46

Attachment 2 - Environmental Compliance Surveillance Report (continued)

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**APPENDIX B5**

**AP-6.13**

**AUTHORIZATION FOR USE OF REGULATED  
HAZARDOUS SUBSTANCES AND MATERIALS**

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**YUCCA MOUNTAIN PROJECT OFFICE  
DOCUMENT APPROVAL SHEET**

Y-AD-002  
4/90

**Title**  
ADMINISTRATIVE PROCEDURE: AUTHORIZATION FOR USE OF REGULATED  
HAZARDOUS SUBSTANCES AND MATERIALS

NO. AP-9-13  
[ ] O  
[x] Non O

APPROVAL

PROJECT MANAGER:

*[Signature]*  
Signature

*10/19/90*  
Date

DIRECTOR OF QUALITY ASSURANCE:

*N/A*  
Signature

*10/19/90*  
Date

- N/A

N/A

N/A

(OTHER, AS REQUIRED)

Signature

Date

- REVISION 0 EFFECTIVE DATE: 10/19/90

REVISIONS

INITIAL AND DATE

REVISION 1

REVISION 2

REVISION 3

REVISION 4

PROJECT MANAGER:

\_\_\_\_\_

DIRECTOR, QA:

\_\_\_\_\_

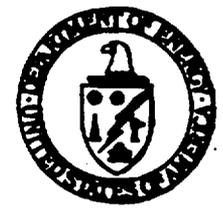
(OTHER, AS REQUIRED)

\_\_\_\_\_

EFFECTIVE DATE:

\_\_\_\_\_

**INFORMATION COPY**



# YUCCA MOUNTAIN PROJECT PROCEDURE

Y-AD-001  
4/90

Title

ADMINISTRATIVE PROCEDURE: AUTHORIZATION FOR USE OF REGULATED MATERIALS

## 1.0 PURPOSE AND SCOPE

### 1.1 PURPOSE

This procedure assigns responsibility and establishes a process for the identification of regulated materials and the process for obtaining authorization for their use in Yucca Mountain Project (Project) activities. The Project Hazardous Materials Management and Handling Program (HMMHP) provides guidance to Project Participants for implementing this procedure.

### 1.2 SCOPE

This procedure includes those activities relating to the identification of currently used or proposed use of regulated materials, planning for the use of the materials, and the process for obtaining approval of the use of such materials on the Project.

## 2.0 APPLICABILITY

This procedure applies to the use of regulated materials at the Yucca Mountain Site by any Project Participant. This procedure does not nullify the requirement to properly use materials specific to each Participant's facility or activity. In addition, this procedure applies to those Yucca Mountain Project Office (Project Office) or Participant personnel involved with the identification, authorization, and use of regulated materials at the Yucca Mountain Site or in activities controlled by the Project.

## 3.0 DEFINITIONS

NOTE: Terms in this procedure are used as defined in the Project Glossary. The following additional definitions are adopted for the purpose of this procedure.

### 3.1 REGULATED MATERIALS

Regulated materials are defined as any hazardous substance, material, and/or hazardous wastes as defined by Federal, State, and local regulations. The HMMHP provides further information concerning regulations applicable to the Project. (The procedure does not apply to radioactive mixed wastes.)

### 3.2 HAZARDOUS WASTE

Hazardous wastes are regulated under the Resource Conservation and Recovery Act and are defined in the Code of Federal Regulations (CFR) 40 CFR Parts 261.2 and 261.3.

Effective Date	Revision	Supersedes	Page	No.
10/10/90	0	B5-2	2 of 12	AP-6.13

# YUCCA MOUNTAIN PROJECT PROCEDURE

Y-AD-001  
4/90

Title

ADMINISTRATIVE PROCEDURE: AUTHORIZATION FOR USE OF REGULATED MATERIALS

## 3.3 MATERIAL SAFETY DATA SHEET

The Material Safety Data Sheet (MSDS) is a manufacturer summary of the regulated material, including information about the material's toxicity, handling methods, first aid, and procedures for spill cleanup and disposal.

## 4.0 RESPONSIBLE PARTIES

The following Project Office individuals or organizations are responsible for activities identified in Section 5.0 of this procedure:

1. Participant
2. Project Office
3. Project Manager (PM)
4. Environmental Compliance and Permitting Department (ECPD) of Technical and Management Support Services (T&MSS)
5. Hazardous Materials Coordinator (HMC)
6. Project Site Office (Site Office)
7. Project Operations and Control Division (POCD)

## 5.0 PROCEDURE

NOTE: A flowchart of the following processes described in this procedure is attached as Figure 1.

<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
--------------------------	--------------	------------------

### IDENTIFICATION OF HMC REGULATED MATERIALS

- |             |    |  |
|-------------|----|--|
| Participant | 1. | Appoint a HMC and alternate HMC to serve as a Project Office point-of-contact. |
|-------------|----|--|

### MATERIALS REPORTING AND HANDLING PLANNING

- |  |    |   |
|--|----|---|
|  | 2. | Review existing and proposed Participant activities to determine if regulated materials are currently being used, or are proposed for use, on the Project, following the process illustrated in Figure 1. |
|--|----|---|

Effective Date	Revision	Supersedes	Page	No.
10/19/90	0	B5-3	3 of 12	AP-6.13

# YUCCA MOUNTAIN PROJECT PROCEDURE

Y-AD-001  
4/90

Title

ADMINISTRATIVE PROCEDURE: AUTHORIZATION FOR USE OF REGULATED MATERIALS

RESPONSIBLE PARTY

STEPS

PROCEDURE

For assistance in determining regulatory status of proposed materials, contact the Project Office POC and the TMSR ECPD.

- a. If regulated materials are not currently being used and none are proposed for use, proceed to Step 4.
  - b. If emergency authorization for the use of a regulated material is required, proceed to Step 17.
  - c. If a Materials Reporting and Handling Plan (MRHP) has not been prepared, proceed to Step 3.
  - d. If a regulated material currently in use or proposed for use is not covered in an existing MRHP, proceed to Step 3.
3. Develop a program for handling and reporting the use of regulated materials, and document the program in a MRHP or revised MRHP. The MRHP must demonstrate the following: (1) handling of the materials in a safe and environmentally sound manner, and (2) compliance with applicable State and Federal requirements. The Project HMMHP provides guidance for developing the MRHP.
  4. If the use of regulated materials is not proposed, submit a MRHP that describes only contingency planning and reporting. The HMMHP provides guidance for preparing this portion of the MRHP.
  5. Submit the MRHP to the Project Office POC for review and approval and proceed to Step 8.

Effective Date	Revision	Supersedes	Page	No.
10/19/90	0	B5-4	4 of 12	AP-6.13

**YUCCA MOUNTAIN PROJECT  
PROCEDURE**

Y-AD-001  
4/90

Title

ADMINISTRATIVE PROCEDURE: AUTHORIZATION FOR USE OF REGULATED MATERIALS

RESPONSIBLE PARTY

STEPS

PROCEDURE

**REQUEST FOR AUTHORIZATION**

6. If the use of regulated materials is identified or proposed, complete Request for Authorization to Use Regulated Materials Form (Attachment 1).
7. Submit the Request Form, MRHP or revised MRHP, and MSDS for the regulated materials identified or proposed to the POCD.

**APPROVAL PROCESS**

Project Office POCD

8. Forward the Request Form, MSDS, and/or MRHP to the T&MSS ECPD for review.

T&MSS ECPD

9. Review the Request Form, MSDS, and/or MRHP to determine if the regulatory requirements are satisfied, as specified in the HMMHP.

10. Submit comments to the POCD for final review.

Project Office POCD

11. Conduct final review and make a recommendation to the PM regarding the authorization request and MRHP.
  - a. If MRHP and/or authorization form are inadequate, proceed to Step 12.
  - b. If MRHP and authorization form are adequate, proceed to Step 15.
12. Notify the Participant that the MRHP and/or request has been rejected and indicate the actions to be taken for the Participant to revise and resubmit the MRHP or the Request Form.
13. Revise MRHP and/or authorization form.
14. Submit revised MRHP and/or authorization form to POCD.

Effective Date	Revision	Supersedes	Page	No.
10/19/90	0	B5-5	5 of 12	AP-6.13

## YUCCA MOUNTAIN PROJECT PROCEDURE

Y-AD-001  
4/90

Title

ADMINISTRATIVE PROCEDURE: AUTHORIZATION FOR USE OF REGULATED MATERIALS

RESPONSIBLE PARTY	STEPS	PROCEDURE
PM	15.	Submit the MRHP and Request Form to the PM with a recommendation.
PM	16.	If accepted, approve the Request Form and MRHPs and notify the Participant and Site Office.
<b>EMERGENCY AUTHORIZATION</b>		
Participant	17.	Request an emergency authorization by contacting the Project Office POCD and providing the following: <ul style="list-style-type: none"> <li>a. Information required to complete the Request Form</li> <li>b. Justification for requesting an emergency authorization</li> <li>c. Commitment for submittal of the information required for a routine request</li> </ul>
Project POCD	18.	Review request for emergency authorization.
Project POCD	19.	Forward the emergency authorization request to the PM with a recommendation.
PM	20.	Grant approval based on the information provided, the volume of material involved, the hazardous nature of the reported material, and the circumstances justifying the request for emergency authorization, and notify the POCD.
Project POCD	21.	Inform the Participant and Site Office that the emergency authorization has been granted.
Participant	22.	Prepare revised MRHP and Request Form.
Participant	23.	Submit revised MRHP and Request Form to POCD within 7 days. Proceed to Step 8.

Effective Date	Revision	Supersedes	Page	No.
10/19/90	0	B5-6	6 of 12	AP-6.13

# YUCCA MOUNTAIN PROJECT PROCEDURE

Y-AD-001  
4/90

Title

ADMINISTRATIVE PROCEDURE: AUTHORIZATION FOR USE OF REGULATED MATERIALS

## 6.0 REFERENCES

NOTE: Refer to the latest revision of the documents listed below unless otherwise stated.

### 6.1 REQUIREMENTS DOCUMENTS

DOE (U.S. Department of Energy), 1988. Environmental Regulatory Compliance Plan, Yucca Mountain Project Office, Las Vegas, Nevada.

Project Glossary, YMP/89-15

Resource Conservation and Recovery Act, 42 USC 6901-6987 40 CFR Parts 261.2 and 261.3, 1987

### 6.2 INTERFACE DOCUMENTS

Yucca Mountain Project Hazardous Materials Management and Handling Program

## 7.0 FIGURES AND ATTACHMENTS

Figure 1, AP-6.13 Flowchart

Attachment 1, Request for Authorization to Use Regulated Materials Form and Continuation Page

## 8.0 RECORDS

All Participants through their assigned HMCs will maintain records as required by State and Federal regulations, as described in the HMMHP.

Effective Date	Revision	Supersedes	Page	No.
10/19/90	0	B5-7	7 of 12	AP-6.13

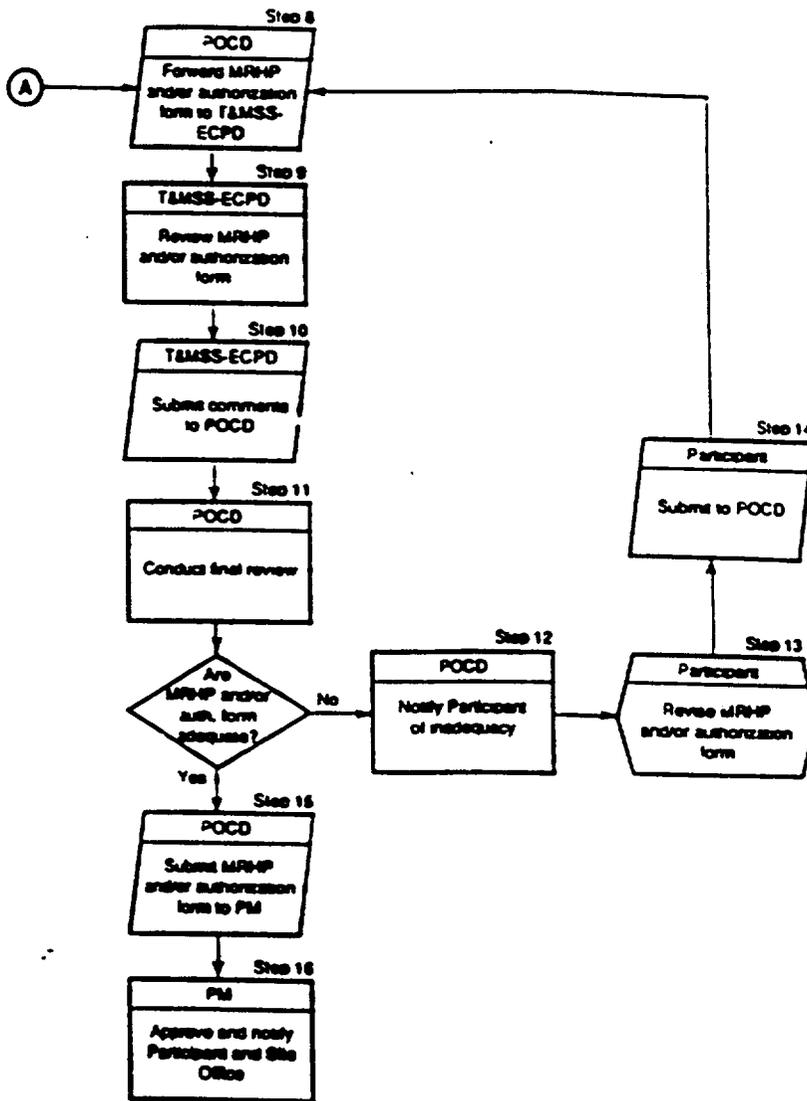


# YUCCA MOUNTAIN PROJECT PROCEDURE

Y-AD-001  
4/90

Title

ADMINISTRATIVE PROCEDURE: AUTHORIZATION FOR USE OF REGULATED MATERIALS



Page 2 of 3  
AP-6.13 04/19/90 3-00

Figure 1 - AP-6.13 Flowchart (continued)

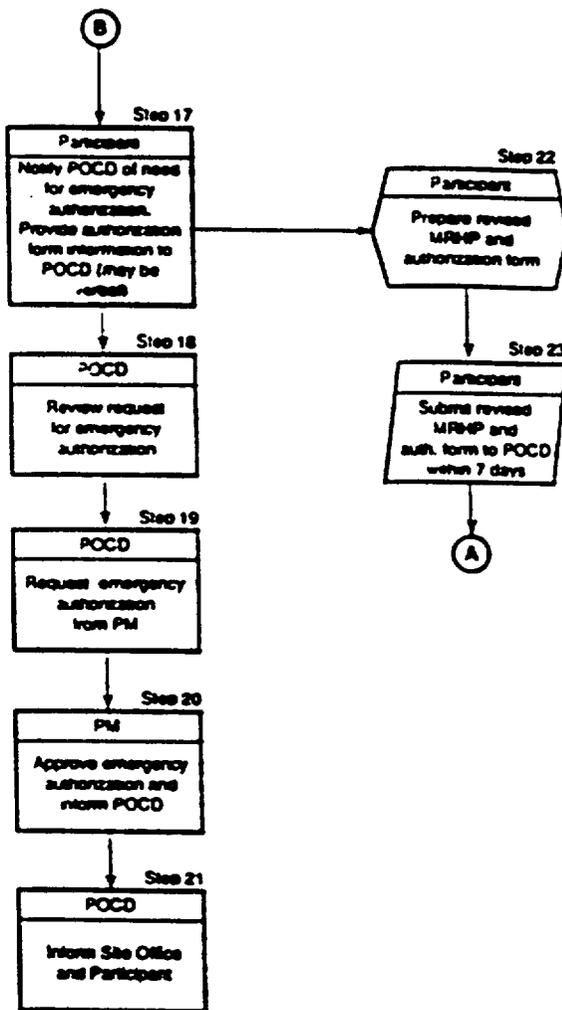
Effective Date	Revision	Supersedes	Page	No.
10/19/90	0	B5-9	9 of 12	AP-6.13

# YUCCA MOUNTAIN PROJECT PROCEDURE

Y-AD-001  
4/90

Title

ADMINISTRATIVE PROCEDURE: AUTHORIZATION FOR USE OF REGULATED MATERIALS



Page 8 of 9  
AP-6.13.002/10-3-90

Figure 1 - AP-6.13 Flowchart (continued)

Effective Date	Revision	Supersedes	Page	No.
10/19/90	0	B5-10	10 of 12	AP-6.13

**YUCCA MOUNTAIN PROJECT  
PROCEDURE**

Y-AD-001  
4/90

Title

ADMINISTRATIVE PROCEDURE: AUTHORIZATION FOR USE OF REGULATED MATERIALS

REQUEST FOR AUTHORIZATION TO USE REGULATED MATERIALS		N-QA-107 10/90
1 DATE OF REQUEST _____ ( _____ INITIAL _____ RENEWAL) FILE NO. _____		
2 REQUESTOR (Firm, Contact, Address and Phone): _____ _____ _____		
3 MATERIAL REQUESTED (Brand name, chemical material, vendors name, and address): _____ _____ _____ _____		
4 JUSTIFICATION (Reason for Hazardous rather than nonhazardous material): _____ _____ _____		
5 WILL REGULATED HAZARDOUS WASTE BE GENERATED? (YES _____ NO _____) IF YES, DESCRIBE: _____ _____ _____ _____		
6 RESPONSIBLE PARTY (Name and Title): _____ _____ Signature: _____		
FORWARD TO YUCCA MOUNTAIN PROJECT OFFICE, PROJECT AND OPERATIONS CONTROL DIVISION		

Attachment 1 - Request for Authorization to Use Regulated Materials Form  
and Continuation Page

Effective Date	Revision	Supersedes	Page	No.
10/19/90	0	B5-11	11 of 12	AP-6.13



# YUCCA MOUNTAIN PROJECT PROCEDURE

Title ADMINISTRATIVE PROCEDURE: AUTHORIZATION FOR USE OF REGULATED MATERIALS

Attachment 1 - Request for Authorization to Use Regulated Materials Form  
and Continuation Page (continued)

**REQUEST FOR AUTHORIZATION TO USE  
REGULATED MATERIALS  
CONTINUATION PAGE**  
MOA-107  
10/90

1 DATE OF RECEIVED: \_\_\_\_\_  
2 DATE ENTERED INTO HMF: \_\_\_\_\_

3 MATERIAL REGULATED STATUS: \_\_\_\_\_

CASRN \_\_\_\_\_ NCHA # \_\_\_\_\_ CERCLA NO \_\_\_\_\_  
OTHER IDENTIFIERS: \_\_\_\_\_

4 SAFETY EQUIPMENT REQUIRED: \_\_\_\_\_

5 SAFETY PLAN APPROVED: YES \_\_\_\_\_ NO \_\_\_\_\_ BY: \_\_\_\_\_

6 HAZARDOUS MATERIAL REPORTING AND HANDLING PLAN APPROVED? (YES \_\_\_\_\_ NO \_\_\_\_\_)  
Signature \_\_\_\_\_ Date \_\_\_\_\_  
Project Manager \_\_\_\_\_

7 RELEASE: \_\_\_\_\_  
INITIALED: \_\_\_\_\_

8 RECOMMEND ACTION ON CHEMICAL REQUEST/USE: (APPROVED \_\_\_\_\_ DISAPPROVED \_\_\_\_\_)  
Signature \_\_\_\_\_ Date \_\_\_\_\_  
Project Manager \_\_\_\_\_

9 CHEMICAL REQUEST/USE REQUEST: (APPROVED \_\_\_\_\_ DISAPPROVED \_\_\_\_\_)

**APPENDIX B6**

**AP-6.18**

**RESOLUTIONS OF ENVIRONMENT,  
SAFETY AND HEALTH CONCERNS**



DP-054-R0  
7/12/91

# YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE DOCUMENT APPROVAL SHEET

Title: RESOLUTIONS OF ENVIRONMENT, SAFETY AND HEALTH CONCERNS  
NO. AP-6118  
REVISION A 103  
STAMP KING O

### APPROVAL

PROJECT MANAGER: Original signed by	Maxwell Blanchard for C. P. Gertz	Signature	Date
DIRECTOR OF QUALITY ASSURANCE:	N/A DGH 1/15/91	Signature	Date
Site Manager (OTHER, AS REQUIRED)	Winfred A. Wilson	Signature	1/14/91

REVISION 0 EFFECTIVE DATE: 2/1/91

### REVISIONS

	INITIAL AND DATE			
	REVISION 1	REVISION 2	REVISION 3	REVISION 4
PROJECT MANAGER:	<i>[Signature]</i>			
DIRECTOR, QA:	N/A			
Site Manager (OTHER, AS REQUIRED)	<i>Winfred Wilson</i>			
EFFECTIVE DATE:	8/6/91			

## INFORMATION COPY



Page 1 of 14

TRAINING REQUIRED  YES  N/A NUMBER OF DAYS REQUIRED FOR TRAINING 10

COMMENTS:  
SELF-STUDY FOR  
BASELINED  
PERSONNEL

*[Signature]* 7/23/91  
TRAINING OFFICER/TRAINING MANAGER DATE

YMP-053-R0  
7/12/91

## YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-6.18

RESOLUTIONS OF ENVIRONMENT, SAFETY AND HEALTH CONCERNS

Revision:

Page 2 of 14

### 1.0 PURPOSE AND SCOPE

#### 1.1 PURPOSE

This procedure assigns responsibilities and establishes a process to stop activities when imminent danger involving the safety or health of Yucca Mountain Site Characterization Project (YMP) personnel, the public or damage to the environment, or natural barriers is suspected. It also establishes a process to initiate actions in response to these dangers, to verify implementation of abatement/corrective actions, and to restart work.

#### 1.2 SCOPE

This procedure applies to all YMP field activities and activities in the Valley Bank Complex and other locations as approved by the Yucca Mountain Site Characterization Project Office (YMPO). The intention of this procedure is not to influence or interfere with quality-affecting activities, but to implement response actions whenever serious environment, safety or health hazards appear to exist, including hazards associated with quality-affecting activities.

This procedure encompasses the following:

- a. The definition of practices or conditions that may require work to be interrupted or temporarily stopped for nonquality affecting reasons.
- b. The definition of responsibilities of individuals to report practices or conditions that may represent an unacceptable risk to life, health, environment, and property or to the completion of authorized work essential to the YMP mission.
- c. The identification of individuals with authority and responsibility to order immediate action to alleviate an environment, safety or health concern.
- d. The description of the process required for implementing and verifying corrective actions before resuming a questionable (undue risk) activity.

Implicit in this Administrative Procedure (AP) is the right and obligation of the contractor to immediately cease operations when the conduct of Participant personnel jeopardizes themselves or the work environment.

## 2.0 APPLICABILITY

This procedure is to be used only when practices or conditions exist or are encountered that present a clear and undue risk to the health and safety of Project personnel, the public, the environment, natural barriers or equipment.

NOTE: The initiator should first attempt to resolve concern through his own chain of command. This procedure is to be used when other processes fail to address the concern in a timely manner, or if the activity or condition presents an imminent danger.

## 3.0 DEFINITIONS

NOTE: Terms in this procedure are used as defined in the Project Glossary. The following additional definitions are adopted for the purposes of this procedure.

### 3.1 FIELD ACTIVITY

Field activity is any activity conducted that is related to the Exploratory Studies Facility (ESF), surface and nonsurface-based testing operations, and any other construction or maintenance and operation type work that is performed on the YMP support area and Area 25 or at an off-site location.

### 3.2 QUESTIONABLE ACTIVITY OR CONDITION

Questionable activity or condition is an activity observed or condition encountered, which, if not corrected or is allowed to persist, would represent a hazardous activity with undue risk for any of the reasons listed in Section 3.3.

### 3.3 ENVIRONMENT, SAFETY AND HEALTH CONCERN

Any activity or condition that gives rise to undue risk for any of the following reasons:

- a. Undue risk to the safety or health of YMP personnel or the public
- b. Significant risk of an uncontrolled release of either radioactive or hazardous materials
- c. Undue risk of substantial damage to YMP equipment, scientific data collection activities, or site integrity

- d. Significant risk to the environment or noncompliance with applicable environmental laws, regulations, permits, or environmental orders issued by the U.S. Department of Energy (DOE)
- e. Suspected or anticipated risk of jeopardizing natural barriers essential for waste isolation or the ability to develop essential site characterization data
- f. Any activity or condition that, if allowed to persist, would likely result in one or more of the above conditions

#### 3.4 IMMINENT DANGER

Imminent danger is any condition or practice which is such that a hazard exists that could reasonably be expected to cause death or serious physical harm to employees (permanent or prolonged impairment of the body or temporary disablement requiring hospitalization), unless immediate actions are taken to mitigate the effects of the hazards and/or remove employees from the hazard.

#### 3.5 UNDUE RISK

Undue risk is a level of identifiable risk that is unacceptable to DOE. It has the potential to impact people or the environment only on site.

#### 3.6 SIGNIFICANT RISK

Significant risk is a quantitative/qualitative expression of possible loss which considers both the probability that a hazard will cause harm and the consequences of that event. It has the potential to impact large numbers of people either onsite or offsite or will have a major impact on the environment.

#### 4.0 RESPONSIBLE PARTIES

NOTE: The following YMP individuals or organizations are responsible for activities identified in Section 5.0 of this procedure:

- 1. YMPO Site Manager (SM)
- 2. YMPO Division Director(s) (DD)
- 3. Responsible Facility Manager (FM) for specific activity
- 4. Parties with authority to request SM intervention and/or to stop questionable activities (appropriate party):

**YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
PROCEDURE**

Procedure No.: AP-6.18

RESOLUTIONS OF ENVIRONMENT, SAFETY AND HEALTH CONCERNS

Revision:

Page 5 of 14

- a. YMPO Safety and Health Staff (S&H Staff)
  - b. YMPO Operations Control Branch Chief (OCB)
  - c. Technical and Management Support Services (T&MSS) Safety and Health Compliance Department Manager
  - d. T&MSS Environmental Compliance and Permitting Department Manager
  - e. YMPO Construction Operations and Test Support Manager
  - f. YMPO Field Testing Coordinator (or designee)
  - g. Other individuals designated in writing by a YMPO DD
  - h. Responsible Technical Project Officer (TPO)
5. YMP Personnel (Any individual is authorized to request that an activity which is thought by the individual to represent imminent danger be halted until the responsible DD and the SM authorize work to resume.) (Initiator)
  6. Field Operations Center (FOC)
  7. YMPO S&H Staff

NOTE: The authority to stop work activities under this procedure is separate and independent of quality assurance (QA) responsibility to stop work as specified in the Office of Civilian Radiological Waste Management (OCRWM) QA Requirements Document, DOE/RW-0215.

**5.0 PROCEDURE**

NOTE: A flowchart of the following processes described in this procedure is attached as Figure 2.

<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
<b>INITIAL ACTIONS</b>		
Initiator	1.	Report questionable activities or conditions to Field Operations Center if at Yucca Mountain or YMPO Safety and Health Staff if in Valley Bank Complex.
FOC, S&H Staff or OCB	2.	Notify appropriate party (Item 4 of Section 4.0) to take action.

YMP-053-R0  
7/12/91

## YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-6.18  
RESOLUTIONS OF ENVIRONMENT, SAFETY AND HEALTH CONCERNS

Revision:

Page 6 of 14

<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
Appropriate Party	3.	Determine if questionable activity or condition represents imminent danger.  a. If an activity/condition presents imminent danger or damage to the environment, proceed to Step 4.  b. If an activity/condition does not present imminent danger, or damage to the environment, proceed to Step 14.
FOC, S&H Staff or OCB	4.	Contact the responsible FM or TPO by telephone or radio, and order immediate action, as appropriate, to protect lives, property, natural barriers and the environment.
Responsible FM or TPO	5.	Take immediate action to protect lives and property, as ordered.
	6.	Evaluate activity/condition and determine the actions needed and time required to abate the concern.
	7.	Verbally report actions taken to the Appropriate Party, FOC or S&H and the cognizant YMPO DD or Branch Chief.
	8.	If normal operations are delayed for more than two hours to resolve the concern, comply with occurrence reporting required by AP-2.9.
	9.	Restrict operation of equipment or access to hazardous area using appropriate Participant procedure or YMPO Field Operating Instructions (FOI) for posting warning tags or setting up barricades.
	10.	Notify SM, cognizant YMPO Branch Chief, and other appropriate parties of restricted activity.
	11.	Implement other actions as appropriate.

**YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
PROCEDURE**

Procedure No.: AP-6.18

RESOLUTIONS OF ENVIRONMENT, SAFETY AND HEALTH CONCERNS

Revision:

Page 7 of 14

<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
Responsible FM or TPO	12.	Verbally notify Appropriate Party, FOC or S&H Staff of actions taken to respond to concern. Document actions and notifications by completing Sections 1, 2 and 3 on Attachment 1, Resolution of ES&H Concerns Form and forward copies to the Appropriate Party, FOC or YMP S&H Staff.
Appropriate Party	13.	Inspect questioned work location(s), and verify adequacy of investigation, in accordance with DOE Order 5483.1A. Notify initiator of response(s) to the concern and complete appropriate documentation (Attachment 1). Go to Step 20.
	NOTE:	Steps beginning with 14 are followed when the risk described by the initiator is evaluated by the Appropriate Party to be less severe than imminent danger, but still represents an environment, safety and health concern.
	14.	Evaluate initiator's concern by investigating the questionable activity within two working days.
	15.	If the questionable activity is deemed not to represent a significant risk, go to Step 16; otherwise go to Step 17.
	16.	Notify initiator verbally and in writing that the concern has been investigated and that no action is deemed necessary, the reason for this determination, and his right to request a review of this decision by higher authority. Proceed to Step 27.
	17.	Verbally contact the FM or TPO, and request an evaluation of the initiator's concern.

YMP-053-R0  
7/12/91

## YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-6.18

RESOLUTIONS OF ENVIRONMENT, SAFETY AND HEALTH CONCERNS

Revision:

1

Page 8 of 14

RESPONSIBLE PARTY

STEPS

PROCEDURE

Responsible FM  
or TPO

18. Implement Steps 6 through 12 of this procedure.

Appropriate Party

19. Implement Step 13.

**PROBLEM RESOLUTION**

Responsible FM

20. Develop a corrective action plan, and submit to Appropriate Party and copy to SM if questionable activity is at the site.

Appropriate Party or SM

21. Determine if the corrective action plan is adequate to eliminate the risk(s).

a. If the corrective action plan is not adequate, return to responsible FM. Proceed to Step 22.

b. If the corrective action plan is adequate, approve, and notify responsible FM. Proceed to Step 25.

Responsible FM

22. Consider corrective action plan's inadequacy.

a. If in agreement, proceed to Step 24.

b. If not in agreement, escalate decision to DD (Step 23). Inform SM or Appropriate Party.

DD

23. Determine if corrective action plan is adequate.

a. If corrective action plan is inadequate, inform responsible FM and SM. Proceed to Step 24.

b. If corrective action plan is adequate, inform responsible FM and SM. Proceed to Step 25.

Responsible FM

24. Correct plan inadequacies, resubmit to SM, and proceed to Step 21.

**YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
PROCEDURE**

Procedure No.: AP-6.18

RESOLUTIONS OF ENVIRONMENT, SAFETY AND HEALTH CONCERNS

Revision:

Page 9 of 14

<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
Responsible FM	25.	Implement corrective action plan.
Appropriate Party	26.	Verify that the corrective actions that have been taken are effective and that long-term corrective actions to prevent similar occurrences have been initiated and complete Section 4 of Attachment 1.  a. If not effective and complete, return to Step 25.  b. If effective, recommend to DD that normal activity resume.
DD	27.	Concur with recommendation. Sign and transmit to SM.
SM	28.	Approve resumption of normal activities by signing signature block on Attachment 1.
Responsible FM	29.	Resume normal activities. Document the fact on Attachment 1, Resolution of ES&H Concerns form by signing appropriate block.

**6.0 REFERENCES**

NOTE: Refer to the latest revision of the documents listed below unless otherwise stated.

**6.1 REQUIREMENTS DOCUMENT**

DOE Order 5483.1A, Occupational Safety and Health Program for DOE Contractor Employees at Government-Owned Contractor-Operated Facilities

Yucca Mountain Site Characterization Project Safety and Health Plan, YMP/90-37

**6.2 INTERFACE DOCUMENTS**

Project Glossary, YMP/89-15

AP-2.9, Reporting of Unusual Occurrences

YMP-053-R0  
7/12/91

## YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-6.18  
RESOLUTIONS OF ENVIRONMENT, SAFETY AND HEALTH CONCERNS

Revision:  
1

Page 10 of 14

AP-6.14, Reportable Geologic Conditions

QMP-01-02, Stop Work

### 7.0 FIGURES AND ATTACHMENTS

Figure 1, AP-6.18 Initial Actions Flowchart

Figure 2, AP-6.18 Problem Resolution Flowchart

Attachment 1, Resolution of ES&H Concerns

### 8.0 RECORDS

Records packages of documentation generated as a result of this procedure shall be assembled and submitted to the appropriate Local Records Center in accordance with requirements specified in approved procedures. No QA records are generated as a result of this procedure.

**YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
PROCEDURE**

Procedure No.: AP-6.18  
RESOLUTIONS OF ENVIRONMENT, SAFETY AND HEALTH CONCERNS

Revision: 1  
Page 11 of 14

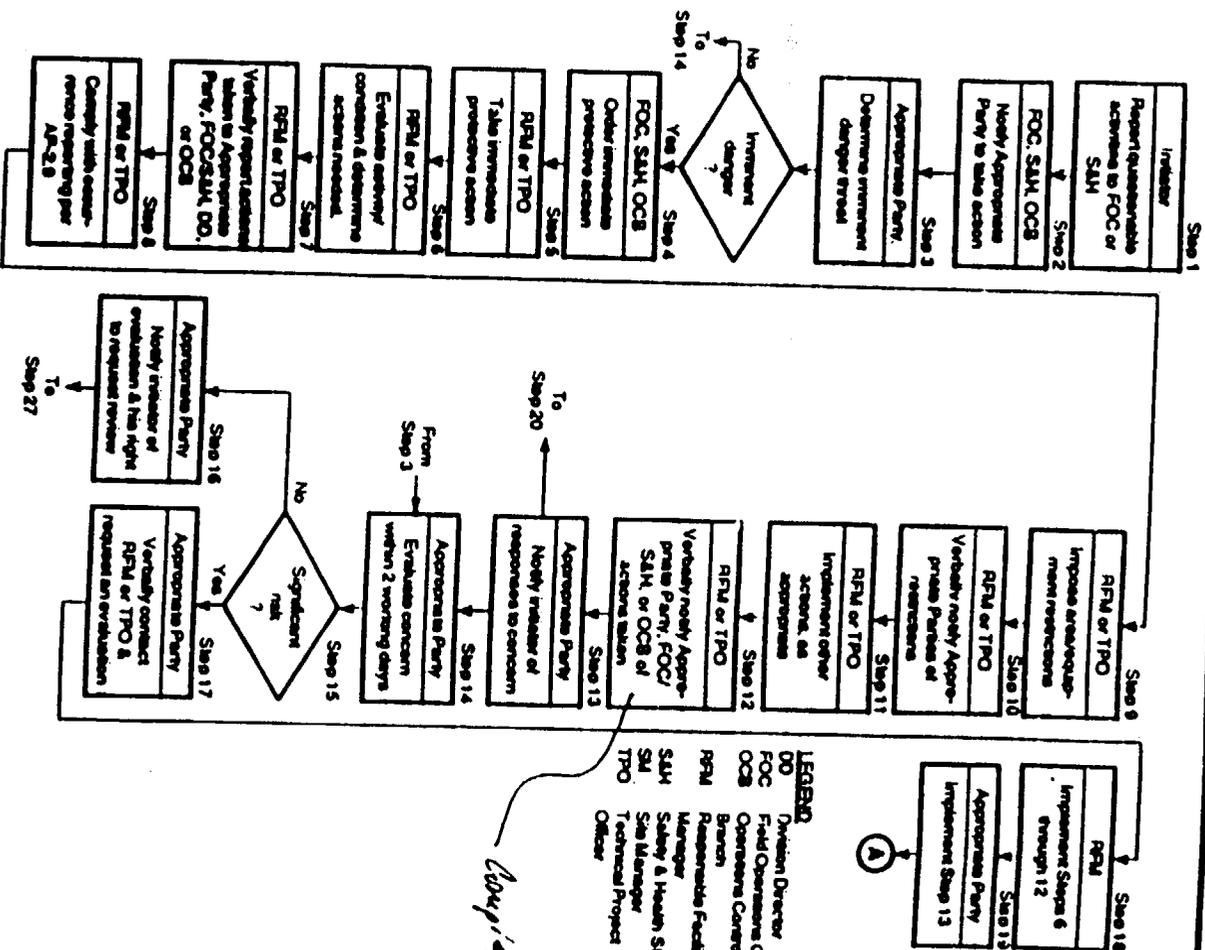
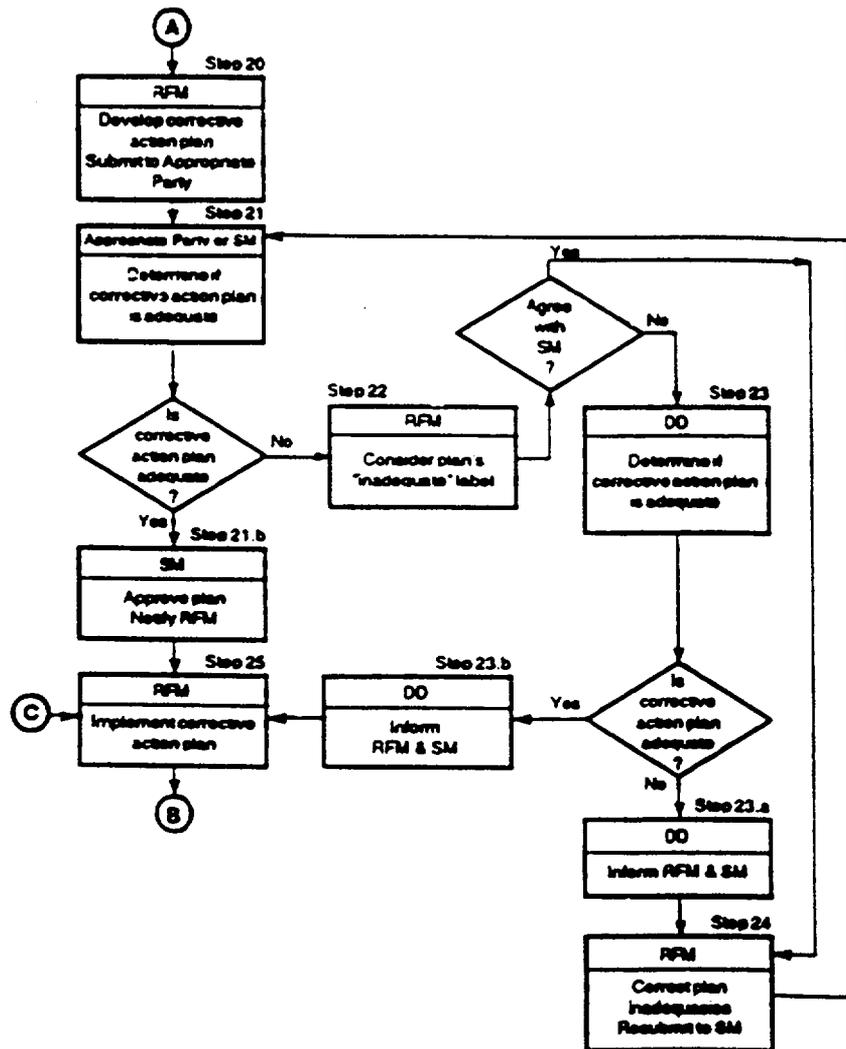


Figure 1 - AP-6.18 Initial Actions Flowchart

B6-11



Page 1 of 2  
AP-6.0206-3-01

Figure 2. AP-6.18 Problem Resolution Flowchart.

Figure 2 - AP-6.18 Problem Resolution Flowchart

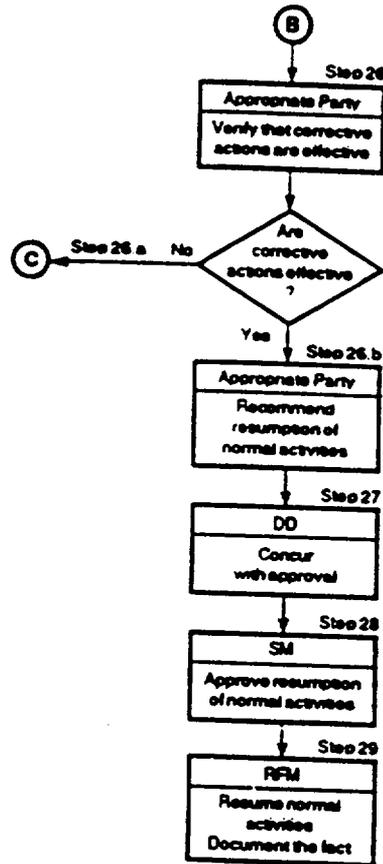


Figure 2. AP-6.18 Problem Resolution Flowchart (continued).

Figure 2 - AP-6.18 Problem Resolution Flowchart (continued)

YMP-053-R0  
7/12/91

# YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-6.18  
RESOLUTIONS OF ENVIRONMENT, SAFETY AND HEALTH CONCERNS

Revision:  
1

Page 14 of 14

## YMP-053-R0 YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT 8/8/91 RESOLUTION OF ES&H CONCERNS

DATE CONCERN RECEIVED: \_\_\_\_\_

1. CONCERN: *(Brief Description)*

2. ACTIONS TAKEN:

3. NOTIFICATIONS:

NAME OF PERSON NOTIFIED:

DATE:

TIME: *(Military)*

4. CORRECTIVE ACTIONS TAKEN:

VERIFIED BY:  
*(Signature/Date)*

DO Signature

Date

SM Signature

Date

Normal Activities have resumed.

FM Signature

Date

AP-6.18

Figure 2 - AP-6.18 Problem Resolution Flowchart (continued)

APPENDIX B7

YUCCA MOUNTAIN SITE CHARACTERIZATION  
PROJECT TRAINING MANAGEMENT PLAN

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Prepared for the Yucca Mountain Site Characterization project as part of the Civilian Radioactive Waste Management Program. The Yucca Mountain Site Characterization project is managed by the Yucca Mountain Site Characterization Project Office of the U.S. Department of Energy. The Yucca Mountain Site Characterization project work is sponsored by the U.S. Department of Energy Office of Civilian Radioactive Waste Management.

U.S. Department of Energy  
Office of Civilian Radioactive Waste Management

Prepared for:

JULY 1992

REVISION 0

TRAINING MANAGEMENT PLAN

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

INFORMATION COPY



EMP/91-27, Rev. 0

EMP/91-27, Rev. 0

FOREWORD

This Yucca Mountain Site Characterization Project (YMP) Training Management Plan (TMP) has been approved by the Yucca Mountain Site Characterization Project Office for implementation, through procedures, by YMP participant organizations. The TMP supplements and reinforces Section 15.0 of the Project Management Plan, YMP/88-2, by setting forth requirements and providing guidance on elements of the training process such as development responsibilities, operating practices, performance measurement, and documentation. The TMP also describes the objectives, responsibilities, and interrelationships of those YMP organizations that provide, or are dependent upon, a program of employee qualification, orientation, indoctrination, and other training.

Approved by:

Maxwell B. Blanchard  
Carl F. Gertsch, Project Manager  
Yucca Mountain Site Characterization  
Project Office

7-21-92  
Date

Maxwell B. Blanchard  
Maxwell B. Blanchard, Deputy Project Manager  
Yucca Mountain Site Characterization  
Project Office

7-21-92  
Date

E. Carol Renkoc  
E. Carol Renkoc, Training Officer  
Yucca Mountain Site Characterization  
Project Office

7/21/92  
Date

ATTACHMENT 1 - Example of a Training Assessment Plan . . . . . A-1

6.0 TRAINING DOCUMENTATION . . . . . 6.0

6.1 Employee Education and Experience Verification Records . . . . . 6-1

6.2 Employee Orientation, Indocctrination, and Training Records . . . . . 6-1

6.3 Instructor Qualification Records . . . . . 6-1

6.4 Quality Assurance Qualification Records . . . . . 6-1

6.5 Quality Assurance Training and Qualification Records (U.S. Department of Energy Systems 50) . . . . . 6-2

6.6 Training Assessment and Remedial Action Documentation . . . . . 6-2

7.0 PERFORMANCE MEASUREMENT CRITERIA . . . . . 7.0

7.1 Training Assessment . . . . . 7-1

7.2 Training Effectiveness . . . . . 7-1

7.3 Training Compliance . . . . . 7-1

7.4 Training Remedial Actions . . . . . 7-2

8.0 OPERATING PRACTICES . . . . . 8.0

8.1 Training Center . . . . . 8-1

8.2 Yucca Mountain Site Training . . . . . 8-1

8.3 Participant Training . . . . . 8-1

8.4 Training Resource Pooling . . . . . 8-1

8.5 Coordination of Training Management Plan Activities . . . . . 8-2

9.0 TRAINING DEVELOPMENT RESPONSIBILITIES . . . . . 9.0

9.1 Training Officer . . . . . 9-1

9.2 Training Manager . . . . . 9-1

9.3 Yucca Mountain Site Characterization Project Participants . . . . . 9-2

10.0 TRAINING MANAGEMENT OBJECTIVES . . . . . 10.0

10.1 Overview . . . . . 10-1

10.2 Training Objectives . . . . . 10-1

10.3 Technical Objectives . . . . . 10-1

10.4 Schedule Objectives . . . . . 10-2

10.5 Cost/Benefit Objectives . . . . . 10-2

10.6 Yucca Mountain Site Characterization Project Office Systematic Approach to Training Objectives . . . . . 10-3

11.0 INTRODUCTION . . . . . 11.0

11.1 Purpose . . . . . 11-1

11.2 Training Mission . . . . . 11-1

11.3 Training Management Plan Overview . . . . . 11-1

11.4 Training Management Organization . . . . . 11-1

11.5 Training Management Plan Documentation . . . . . 11-3

11.6 Training Development Process Definitions . . . . . 11-4

Page

TABLE OF CONTENTS

LIST OF FIGURES

<u>Figure</u>	<u>Title</u>	<u>Page</u>
1-1	Training Organization . . . . .	1-2

Management of the training development process is the responsibility of the Yucca Mountain Site Characterization Project Office (YMO) Training Officer who reports to the YMO Deputy Project Manager. Figure 1-1 illustrates the relationships of the YMO Training organizations. Specific applications of the TMP are carried out by a designated Training Manager in each YMP participating organization.

#### 1.4 TRAINING MANAGEMENT ORGANIZATION

The TMP includes all activities associated with employee qualification, orientation, indoctrination, and training necessary to enable individuals to perform specific tasks in a complex and highly regulated work environment. The TMP reduces essential management controls in the areas of training records management, (2) training schedules, (3) training materials development and configuration control of approved training materials, (4) evaluations of training effectiveness, (5) resource planning, and (6) types of records to be maintained, and limitations of access.

#### 1.5 TRAINING MANAGEMENT PLAN OVERVIEW

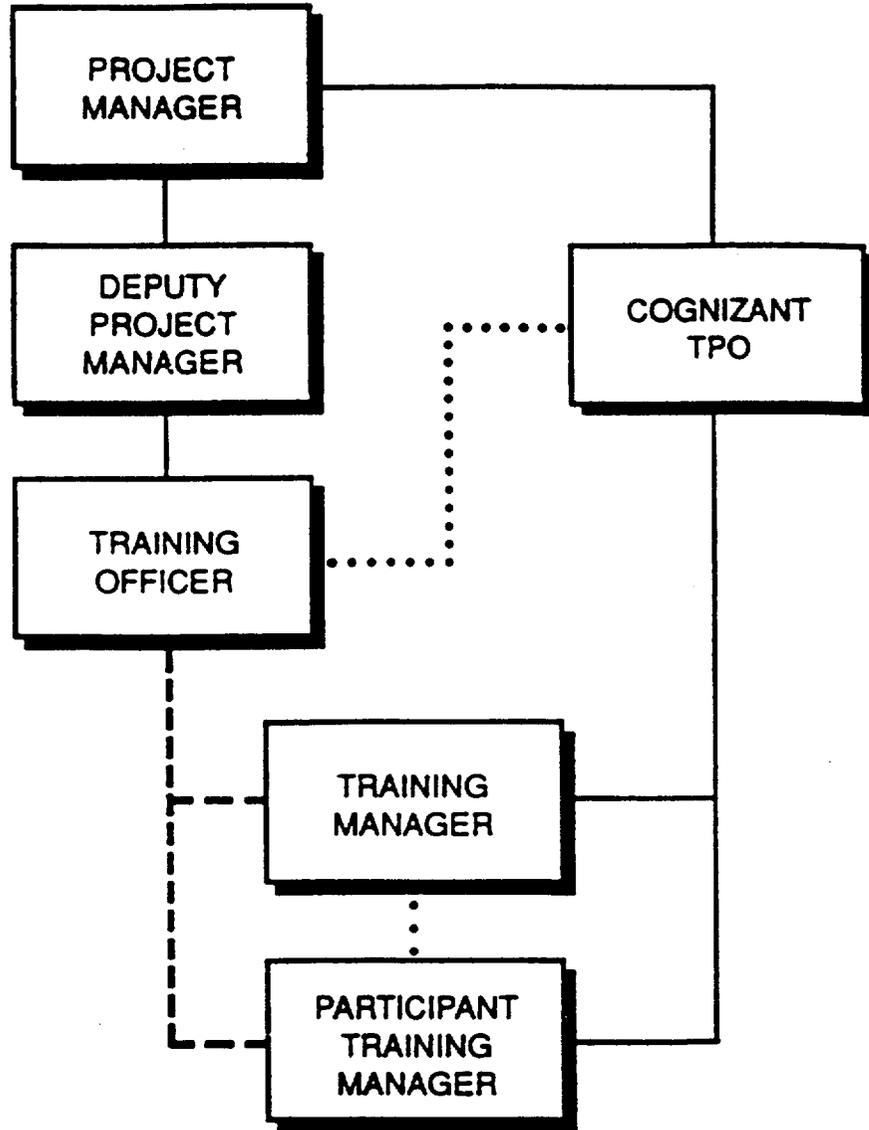
The training mission is to support the YMP commitment to excellence with a training program that provides for indoctrination and training of personnel to ensure that suitable productivity is achieved and maintained.

#### 1.6 TRAINING MISSION

The Training Management Plan (TMP) defines the unique application of a Systematic Approach to Training (SAT) for development of the Training Program for the Yucca Mountain Site Characterization Project (YMP). The Training Program produces documentation that personnel performing activities subject to quality program controls are qualified in the principles, techniques, and requirements of the activity to be performed. Through training both safety and quality are incorporated into each job task by teaching correct procedures and emphasizing mandatory compliance to procedures. The TMP identifies the (1) interface relationships, (2) organizational structures, (3) objectives, and (4) responsibilities of the individual organizations which provide, or depend upon, a program of employee qualification, indoctrination, and other training.

#### 1.1 PURPOSE

#### 1.0 INTRODUCTION



- ..... Direct Communication Regarding Training
- Direct Line of Functional Reporting
- - - - - Direct Guidance on Training Matters

TRAINORG.087/6-30-82

Figure 1-1. Training Organization

KEY TRAINING MANAGEMENT POSITIONS

Project Manager

The YMP Project Manager has overall responsibility and authority for the conduct of work on the YMP as presented in the Project Management Plan. The Office of the Project Manager, through the YMP Deputy Project Manager and YMP Training Officer, has oversight of the training mission. Direction is provided through plans, policies, and procedures, and written directives of the YMP Project Manager or his designee.

Training Officer

The YMP Training Officer reports to the YMP Deputy Project Manager and is the U.S. Department of Energy (DOE) YMP functional interface for training. The position is delegated full responsibility and authority to provide overall direction for YMP training and to establish training policy ensuring that the training programs for YMP personnel comply with regulatory requirements and YMP DOE goals.

Training Manager

The Training Manager is the individual authorized by the YMP Training Officer to operate the YMP Training Center and to provide organization, coordination, and other training for the YMP and other YMP contractor personnel located in Las Vegas, including those personnel supporting the Office of Civilian Radioactive Waste Management (OCRWM) Quality Assurance (QA) Program. The Training Manager has also been endorsed to conduct field training at the Nevada Mountain area.

As directed by the YMP Training Officer, the YMP Training Manager is delegated full responsibility and authority to develop and implement a training process that (1) includes a SAT for YMP and YMP support state working to the OCRWM QA program, and (2) complies with Federal, State, and regulatory requirements and YMP DOE goals.

Participant Training Managers

The Technical Subject Officer (TSO) for each participant organization may delegate responsibility for training. The YMP Participant Training Manager, or equivalent, may be delegated full responsibility and authority by the YMP Participant TSO for the development and implementation of a training program that (1) meets the guidelines set forth by the YMP Training Officer for a SAT within the participant organization, and (2) complies with Federal, State, and regulatory requirements and DOE goals.

1.5 TRAINING MANAGEMENT PLAN DOCUMENTATION

Documentation includes appropriate objective evidence of (1) individual qualifications and training records, (2) lesson plans and other training materials, (3) classroom attendance records, (4) required self-study assignment confirmations, (5) instructor qualifications, (6) training

assessments, and (7) remedial action documents, as applicable. Documents are processed and maintained in accordance with the YMP Records Management Plan, YMP/CC-0016. The scope and content of such records are governed by the Privacy Act of 1974.

YMP/91-27, Rev. 3

YMP/91-27, Rev. 3

## 1.6 TRAINING DEVELOPMENT PROCESS DEFINITIONS

Analysts - The phase of the SAT that assesses performance requirements or deficiencies, determines the needs that are best satisfied through training, and produces task performance data that serves as the foundation for training program design, development, and implementation.

Baseline Training/Maintenance Required - Baseline training/maintenance required as the employee's training assignments that are required to be maintained as assigned documents or activities are revised or changed.

Stippling - A method of documenting instructions, not requiring an approved lesson plan, for disseminating instructions or information to a group in an informal setting.

Classroom Training - Structured formal instruction presented in a classroom environment by a qualified instructor using a lesson plan. This instruction may be a lecture, or modified lecture, or seminar format.

Continuing Training (Maintenance) - A systematic program of instruction designed to maintain proficiency and improve incumbent job performance.

Design - The phase of the SAT in which products of the analysts phase are used to develop specifications for training program development and implementation; includes developing job performance measures, selecting training setting, developing learning objectives and tests, determining expected training entry-level skills and knowledge, and formulating the training plan.

Development - The phase of the SAT that involves establishment of learning activities, selection of media and methods, review and selection of existing course material, development of new material, and the layout and revision of course material.

Evaluation - The phase of the SAT in which instructors (e.g., operating experiences, employee performance, job requirements, etc.) are monitored, assessed, and used to maintain and improve the performance of a training program.

Formal Instruction - An in-depth instruction provided to personnel to develop and maintain proficiency in the application of selected requirements, methods, and procedures, and to adapt to changes in technology, methods, or job responsibilities. Formal instruction requires a lesson plan and evaluation to ensure that specified objectives are met. Evaluations may be achieved in writing, through demonstration, or by verbal answers.

Implementation - The phase of the SAT in which the training program is put into operation; includes implementing the training plan, preparing for and conducting training, conducting in-training evaluation, and documenting training.

Indoctrination - A method of training accomplished by meetings, self-study, classroom instruction, or a combination provided to familiarize personnel with documents, requirements, regulations, and policies applicable to assigned job activities.

Initial Training - A systematic program of training and indoctrination designed to assure that personnel possess the knowledge and skills necessary to perform assigned job functions. Achievement of proficiency in performing an assigned task is the desired result of initial training.

Instructor - An individual who is qualified to develop and conduct training, and evaluate trainee's accomplishment of learning objectives.

Laboratory Training (Workshop) - A method of instruction in which the training setting allows more than one condition of job performance to be simulated. This permits application of course material by the trainee in a hands-on environment.

Learning Objective - A statement that specifies measurable behavior that a trainee should exhibit after instruction, including the conditions of and standards for performance.

Lesson Plan - An approved instructor's document that outlines instructor and trainee activities, learning objectives, lesson content, and resources necessary for the conduct of training.

Maintenance of Proficiency - Those training actions required to sustain the ability to perform tasks in accordance with QA program controls. Proficiency may be maintained by self-study, classroom training, or ongoing task performance.

New Employee - A person recently hired or transferred for permanent or temporary assignment to the KMP and who requires KMP training.

Non-Permanent Personnel - Persons whose job assignment in support of OCRM is less than 90 consecutive days in duration.

On-the-Job Training - A method of instruction in which the trainee achieves learning objectives through structured training conducted in the job environment.

Orientations - Formal or informal indoctrination conducted to familiarize personnel with topics that may not be related to QA or regulatory requirements, but may be of general interest and value in enhancing job performance.

Position Description - Documentation of the duties to be performed and the minimum qualifying experience, education, and professional training required for a position, synonymous with job description.

Position Qualification Evaluation - A position qualification evaluation is a documented review by the supervisor to determine that an employee meets the minimum qualification requirements of the assigned position. This may be performed in the hiring process.

Proficiency - Proficiency is an employee's capability to demonstrate the cognitive process and/or the manual skills required to meet the conditions and standards of performance of an assigned task.

Privileged Record - A record that contains nonsecurity-classified information and requires protection against unauthorized disclosure.

Self Study - A method of instruction in which the pace of training is controlled by the trainee and guided by the program materials. This method does not satisfy the requirements of a SAT unless evaluation of learning objectives is performed.

Supervisor - Any person who directs the activities of one or more subordinates. The supervisor is responsible for performing the subordinate's qualification evaluation and for assigning training to the subordinate.

Systematic Approach to Training - A training approach determined by management that establishes training requirements based on the functions an individual employee is required to perform. The determined method should identify (1) assignment of initial and continuing training, (2) learning objectives if applicable, and (3) documentation of measurement and achievement of learning objective upon completion of formal instruction. Self-study training may be included in the SAT.

Task - A well-defined unit of work having an identifiable beginning and end, with two or more discrete actions executed during performance.

Trainee - An individual who has not completed his/her assigned training requirements.

Training - Formal instruction, direction, or indoctrination that provides the knowledge, skill, and proficiency required for an individual to become and to remain qualified. Training may be accomplished through classroom instruction, formal on-the-job instruction, self-study, or other methods of instruction. Training may include baseline/maintenance required, initial training, or continuing training.

Training and Qualification Records - These records containing information generated as a result of implementing personnel qualification, indoctrination and training, and certification procedures that provide evidence that DOE and contractor personnel have adequate education, training, and experience to perform activities subject to program requirements. These records are maintained as privileged records under DOE System 80 of the Privacy Act.

Training Officer - The individual who is directly responsible for the development, coordination, and implementation of the indoctrination and training program. The Training Officer is responsible for ensuring that the DOE System 80 program for privileged records is maintained. The Training Officer's actions and responsibilities may be delegated.

Training Program - A planned, organized sequence of documented training steps designed to prepare an individual to perform assigned activities and to maintain that individual's proficiency in performing those activities.

Qualification (Personnel) - The characteristics or abilities gained through training, experience, or both that enable an individual to perform a required function.

Qualified Party - A competent person or organization recognized as knowledgeable to perform certain functions.

Real-time Training - A method of indoctrination accomplished prior to performing quality affecting activities that familiarizes personnel in the requirements of documents that are not part of an individual's baseline training/maintenance required. This method of indoctrination requires the individual to read and understand the document prior to performing the non-baselined activity. Real-time training is only required for individuals attesting to performing a quality affecting activity by full signature on a QA record and is not required for Procedure Compliance Documentation forms or completion of Self-Study forms.

Refresher Training - Refresher training is supplementary periodic training designed to ensure maintenance of knowledge and skills necessary to meet or exceed established performance standards.

## 2.0 TRAINING MANAGEMENT OBJECTIVES

### 2.1 OVERVIEW

The YMPO Training Officer sets policy and defines objectives for the Training Development Process. Long- and short-range objectives to be achieved by the training process are determined by the YMPO Training Officer with input from the training managers and respective TPOs. To facilitate goal setting, periodic meetings of training managers, or their representatives, will be conducted for the purposes of information exchange, deliberation of policies and practices, program unification, and general Training Development Process improvement.

### 2.2 TRAINING OBJECTIVES

Training objectives identified by the YMPO Training Officer are as follows:

1. Meet regulatory requirements and DOE goals.
2. Develop and implement a SAT at all organizational levels.
3. Provide, or assist management in establishing, a measurable basis for determining individual training requirements.
4. Ensure effectiveness of training through objective standards of performance measurement.
5. Support management and staff in effectively achieving and maintaining required performance levels.

### 2.3 TECHNICAL OBJECTIVES

Technical objectives are framed in the applicable regulatory requirements and DOE Orders. Of primary importance are the criteria for preparing personnel for the complexity and hazard potential which may be encountered to meet mission objectives. Technical objectives identified by the YMPO Training Officer are:

1. Establish a controlled structure of SAT training requirements.
2. Establish a baseline of topics and skills categories related to each job function which must be mastered by the individuals assigned to that job. Further, ensure individuals can recognize and avoid hazards associated with each job.
3. Maintain current status of the achievement and maintenance of baseline skills and knowledge by individuals.

4. Assess the effectiveness of training disciplines based on performance feedback.
5. Institute corrective actions and a system for configuration control of approved training materials which provides the flexibility to adapt to changing YMP requirements.

#### 2.4 SCHEDULE OBJECTIVES

The effectiveness of the training function is directly related to the timeliness of the instructional schedule. It is a fundamental goal of the YMPO Training Officer to closely align the YMP curriculum with the YMP milestones established by YMP management. To achieve this end, the following objectives have been identified by the Training Officer:

1. Establish a baseline of training courses offered on a regular basis.
2. Provide assistance to managers and supervisors in identifying specific training needs to accomplish YMP goals.
3. Focus training schedules to ensure personnel are qualified to perform job-related tasks prior to the initiation and execution of the tasks.
4. Develop a curriculum of maintenance and refresher courses to coincide with the performance of job-related tasks.
5. Ensure instructors are qualified and needed training resources are in place to support scheduled YMP work activities.

#### 2.5 COST/BENEFIT OBJECTIVES

The YMP Training Program is designed to produce cost-effective instruction and qualification by integrating training activities with other business processes. Training needs are to be based on the job to be performed, rather than setting forth requirements for general exposure of all YMP personnel to policies, plans, and procedures that may not impact the duties of many. To this end, the following cost/benefit objectives are identified:

1. Minimize costly errors or omissions, use training aspects that are designed not only to familiarize the trainee with specific instructions to perform a job, but also to give the trainee an adequate background in the rationale for doing work in the prescribed manner and the consequences of certain actions.
2. Centralized training facilities and resource pooling are to be used whenever practicable to provide optimum exposure of training courses at least cost for such items as lesson preparation, facilities,

instructor qualification, classroom materials, travel, and other direct expenses associated with training.

3. Use of remote training such as videotaped instruction sessions and other techniques to offset the costs of bringing a large number of trainees requiring specific courses to a central location. An instructor may be made available for remote classes of 12 or more people.
4. In all cases, the instructional methods shall be chosen to provide initial and continuing training suitable to satisfy the regulatory requirements and management objectives with an emphasis on the value-added concept.

#### 2.6 YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE SYSTEMATIC APPROACH TO TRAINING OBJECTIVES

The YMPO Training Officer has directed the Training Manager to meet the following objectives in applying a SAT to YMPO and associated training:

1. Perform systematic evaluation of jobs identified to meet the mission objectives.
2. Derive learning objectives from job analyses that describe the desired performance of training candidates after training.
3. Base design and implementation of training on identified learning objectives.
4. Methodically evaluate trainee mastery of required learning objectives.
5. Assess the effectiveness of the training process and systematically revise the training regimen where inefficient or substandard results are discovered.

### 3.0 TRAINING DEVELOPMENT RESPONSIBILITIES

#### 3.1 TRAINING OFFICER

The YMPO Training Officer is delegated complete responsibility and authority to conduct orientation, indoctrination, and initial and continuing training for the YMP. The YMPO Training Officer establishes the training policy and requirements for the DOE and all contractors and matrixed support agencies performing work at the YMP. Primary areas of management attention include:

1. Providing direction to the Training Manager for support of YMPO training goals. This direction includes the commitment to a SAT; that is, use of training feedback loops and training needs analysis, and support in the evaluation of participant training programs and training needs.
2. Interfacing with DOE Headquarter's personnel for determination and coordination of training needs.
3. Providing programmatic direction and policy for the YMP training programs.
4. Ensuring that field training support is provided for by the Training Manager.
5. Interfacing with other YMP participants to ensure attainment of YMP training goals.

#### 3.2 TRAINING MANAGER

The Training Manager has been directed by the YMPO Training Officer to apply a SAT to the development and implementation of a training program. This program will comply with all QA, and regulatory requirements, and DOE goals. Under direction from the DOE, the Training Manager:

1. Has overall responsibility and authority for implementation of the training program for YMPO and support personnel (site and field).
2. Has overall responsibility and authority for all administrative duties associated with the YMPO Training Center.
3. Is responsible for interfacing with other managers, as necessary, to ensure compliance with training requirements and implementation of training programs.
4. Is responsible for interfacing with the YMPO Training Officer and providing support with the following:
  - Assessing participant training programs to ensure compliance with regulatory requirements and DOE goals

- Providing training to participants on selected subject matters
- Providing support in the development of video productions for training
- Coordinating participant training, as requested

### 3.3 YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PARTICIPANTS

Each YMP participant is responsible for defining its own training requirements. The TPO for each respective organization has overall accountability for establishing the individual training requirements and a SAT within that organization. Designated participant training managers will interface with the YMPO Training Officer to coordinate applicable implementation of this plan. In some instances, when participants employ one or more subcontractors, responsibility for training of subcontractor personnel remains with the YMP participant TPO. Participants shall provide the Training Officer with documentation of implementation or alternatives, as applicable, of the following activities:

1. Developing training materials.
2. Scheduling training activities.
3. Ensuring acceptable qualification of instructors and training program development staff.
4. Conducting proper delivery of classroom and other methods of training.
5. Evaluating trainee mastery of training assignments.
6. Qualifying and/or certifying trainees successfully completing assigned training modules, as appropriate.
7. Managing and controlling training records in accordance with requirements of the Project Records Management Plan and DOE System 90 Requirements (see Section 8.5).
8. Evaluating the effectiveness of the training development process and attending to corrective actions where necessary.

## 4.0 OPERATING PRACTICES

### 4.1 TRAINING CENTER

As directed by the YMPO Training Officer, the YMPO Training Center and Site Office Training Center are operated by the Training Manager. The facilities are used for qualification, orientation, indoctrination, and training of personnel. A staff of instructors, training coordinators, and training records personnel report to the Training Manager to carry out the implementation of the TMP. Facilities include classrooms, films and audio-visual equipment, and access to computer terminals for conducting software application training. The YMPO Training Center also maintains training records generated by the YMPO and Site Office training locations.

### 4.2 YUCCA MOUNTAIN SITE TRAINING

Training at the Yucca Mountain Site Office is conducted by YMPO Training Center personnel in support of the Site Manager. Site training is designed to meet the unique requirements of YMP personnel whose work is performed on the site. The curriculum is centered around site safety, environmental, security, and radiological considerations, commonly called General Employee Training, and applies to personnel from all YMP organizations. Some Project-wide training is also provided by the Training Center staff at the request of the Site Manager.

### 4.3 PARTICIPANT TRAINING

Orientation, indoctrination, and training activities are performed by YMP participants at their respective locations, with coordination and guidance by the YMPO Training Officer. The training programs of the participant organizations are to conform to the guidelines of this TMP, following an SAT format. Training for specific work to be performed is the responsibility of the participant TPO. Training content and schedules are managed by the respective training managers or their designees.

### 4.4 TRAINING RESOURCE POOLING

A major consideration for the conduct of Project-wide training is to optimize the cost effectiveness and efficiency of training activities. All YMP organizations are encouraged to share training resources whenever it is practical to do so. An inventory of available classroom instruction, videotapes, films, and other training materials may be compiled by the YMPO Training Officer to provide an integrated catalog of training assets.

#### 4.5 COORDINATION OF TRAINING MANAGEMENT PLAN ACTIVITIES

The training mission must be compatible with the YMP mission, thus coordination of activities is a key item for implementing the TMP. The YMPO Training Officer will conduct evaluations of scheduled principal training activities using milestones established for the YMP to schedule training deliverables. The training schedule may be used as one of the performance measurement criteria applied by the YMPO Training Officer in assessing the progress of TMP implementation. Other elements of training coordination may include periodic training representative meetings, site visitations, preparation of a newsletter highlighting training activities and accomplishments, and participation in focus groups and councils for Total Quality Management.

## 5.0 PERFORMANCE MEASUREMENT CRITERIA

### 5.1 TRAINING ASSESSMENT

The YMPO Training Officer will conduct assessments of each training organization to determine the effectiveness of implementation of this plan. The programs which implement this plan will be assessed based on the applicability of each component in the planned processes to the scope of work performed by the participant. Assessment teams will be determined by the YMPO Training Officer. Assessment teams will be determined by the YMPO Training Officer. Prearranged assessment objectives will be determined between the Training Officer and the cognizant TPO and used as the basis for the Training Assessment Plan (see example plan in Attachment I).

### 5.2 TRAINING EFFECTIVENESS

The following are some of the general categories which may be used to determine YMP implementation effectiveness:

1. Use of a systematic method for identifying and selecting tasks for initial qualification, and continuing training for individuals to perform their job functions, one which provides flexibility to adapt to changing job conditions.
2. Established learning objectives keyed to job task analyses which focus on skills and knowledge needed to perform each function.
3. Clearly defined goals, objectives, responsibilities, interfaces, and authorities for the training organization.
4. Methods that are in place to conduct regular evaluation of trainee performance after training using appropriate measurement standards and objectives.
5. Techniques that are established to systematically gauge the quality of the training program and make adjustments, as appropriate, where feedback shows improvements may be made.

### 5.3 TRAINING COMPLIANCE

Compliance with the laws, regulations, and orders governing the YMP ensures that the training program is designed to satisfy concerns that YMP activities are performed with maximum regard for worker and public safety, while ensuring collection and retention of designated data. Key evaluation elements that make up training compliance criteria are the following:

1. Functional task analysis methods are adequate to develop comprehensive and appropriate learning objectives.
2. Identified learning objectives contain actions, conditions, and standards for job performance that relate directly to the regulatory (i.e., Occupational Safety and Health Administration, U.S. Environmental Protection Agency, Mine Safety and Health Administration, etc.) and QA requirements for the job.
3. Training addresses appropriate subject matter, is organized and sequenced in instructional settings appropriate to the functional tasks, and records are produced and maintained for each training activity.
4. A process is in place to provide remedial training if the need is identified.
5. Internal and external evaluations of training performance are systematically performed, and continuing monitoring of staff instructor qualifications is supported by management.

#### 5.4 TRAINING REMEDIAL ACTIONS

Any remedial actions identified during the normal course of training administration, during internal or external evaluations, or assessments of training programs must be documented and corrected in a timely manner. Suggested corrective actions and objective evidence of corrective measures taken will be documented. Remedial actions may take several forms but generally are concerned with the following:

1. Maintenance of current training requirements as the conditions affecting job qualifications on the YMP change.
2. Procedures for adjusting learning objectives as job performance requirements change.
3. Re-evaluation of lesson plans, training materials, and instructional methods based on changing training needs.
4. Requalification training and additional or expanded disciplines to correct for substandard performance trends.
5. Training program enhancement based on instruction critiques and internal and external feedback of training procedures and practices.

## 6.0 TRAINING DOCUMENTATION

### 6.1 EMPLOYEE EDUCATION AND EXPERIENCE VERIFICATION RECORDS

Education and experience verification for each individual is the responsibility of each respective organization involved with the YMP. Documentation of this verification is maintained by the appropriate participant organization.

### 6.2 EMPLOYEE ORIENTATION, INDOCTRINATION, AND TRAINING RECORDS

Each training organization is responsible for generating and maintaining complete records for the training received by each individual. These records may contain sensitive information defined by DCE System 80 of the Privacy Act of 1974 and will be maintained and disclosed as described in Section 6.5 below. Typical training records may include self-study confirmations, classroom attendance rosters, evaluations and evaluation results, certifications, and specialized qualification records. The training organization also maintains records of lesson plans, training materials, procedures, plans, and policies governing the conduct of the Training Development Process. Records resulting from participant training activities are to be protected and processed in accordance with the requirements contained in the YMP Records Management Plan. These records will be submitted to the records system in accordance with DOE System 80, Administrative Procedure 1.180, Records Management: Las Vegas Record Source Responsibilities, or submitted in accordance with participant records procedures, as appropriate.

### 6.3 INSTRUCTOR QUALIFICATION RECORDS

Records for training staff personnel and subject matter experts who conduct formal classroom instruction are to be maintained by each training organization.

### 6.4 QUALITY ASSURANCE QUALIFICATION RECORDS

Qualification of QA Auditor and Quality Control (QC) Inspector certification is the responsibility of the QA organization. Records of QA Auditor qualification and QC Inspector certification may be maintained by a training organization in the individual employee's training file.

#### 6.5 QUALITY ASSURANCE TRAINING AND QUALIFICATION RECORDS (U.S. DEPARTMENT OF ENERGY SYSTEM 80)

QA records that contain personnel training and qualification information including certification records, shall be collected and managed as a special system of records (DOE System 80 of the Privacy Act of 1974) by the YMPO and each YMP participant's records management system.

DOE System 80 records are generated in accordance with applicable YMPO and participant procedures that include documentation of (1) Indoctrination and Training, (2) Verification of Personnel Qualification/Certification, and Qualification/Certification of Audit Personnel.

DOE System 80 records shall be maintained for review during the performance of audits and surveillances by DOE, and observed by Nuclear Regulatory Commission, affected state and local governments, and other Federal Government agencies.

Access of DOE System 80 records shall be limited to authorized training organization staff, supervisors, records management personnel, and QA audit and surveillance personnel who verify compliance with QA program requirements.

Other requests for access to training files shall be directed by the originator to the Freedom of Information Officer or the Director, Office of Quality Assurance, CCRWM, as appropriate.

YMPO and participant procedures implementing DOE System 80 shall address the specific training and qualification records subject to System 80 requirements and additional instructions on identification, transmittal, maintenance and storage of these records, in addition to access control per System 80 requirements.

#### 6.6 TRAINING ASSESSMENT AND REMEDIAL ACTION DOCUMENTATION

Applicable records of training program assessment findings, recommended corrective actions, and objective evidence of remedial actions taken are to be maintained by the affected training organization.

## ATTACHMENT I

## EXAMPLE OF A TRAINING ASSESSMENT PLAN

## OBJECTIVE:

To assess the overall effectiveness of a Systematic Approach to Training and impact on the qualifications and proficiencies of individuals who perform quality-affecting activities.

## AREAS OF ASSESSMENT

## I. Personnel Qualification

## A. Initial

1. Ensure all department managers establish a matrix of training requirements for their section and review it at least annually.

## B. Proficiency Maintenance (Feedback Loop)

1. Initial random interview with management to determine impact on performance after training.
2. Evaluate participant's critiques and determine impact on classroom presentation and instructor adequacy.
3. On random basis, evaluate instructor performance.

## II. Documentation Requirements

1. Evaluate Lesson Plans to ensure behavioral objectives are stated and satisfactorily met.
2. Ensure Subject Matter Expert concurrence with content presentation.
3. Ensure correctness of documentation by a document review process.
4. Evaluate "Orientation" content to ensure latest information is provided.

## III. Management Interface

1. Interface with management as necessary to establish policies conducive to achieving effective and timely training.

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**APPENDIX B8**

**AP-6.25**

**OPERATING HAZARDOUS WASTE  
SATELLITE ACCUMULATION AREAS**

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YMP-054-R0 YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE  
 7/12/91 DOCUMENT APPROVAL SHEET

Title OPERATING HAZARDOUS WASTE SATELLITE ACCUMULATION AREAS  
 NO. AP-6.03  
 IO  
 Non O

APPROVAL

PROJECT MANAGER: [Signature] 7-7-92  
 Signature Date  
 DIRECTOR OF QUALITY ASSURANCE: N/A N/A  
 Signature Date  
 Director POCD  
 (OTHER, AS REQUIRED) [Signature] 8-5-92  
 Signature Date

REVISION 0 EFFECTIVE DATE: 08/17/92

REVISIONS

	INITIAL AND DATE			
	REVISION 1	REVISION 2	REVISION 3	REVISION 4
PROJECT MANAGER:	_____	_____	_____	_____
DIRECTOR, QA:	_____	_____	_____	_____
(OTHER, AS REQUIRED)	_____	_____	_____	_____
EFFECTIVE DATE:	_____	_____	_____	_____

INFORMATION COPY



TRAINING REQUIRED  YES  N/A NUMBER OF DAYS REQUIRED FOR TRAINING 0/A  
 COMMENTS: New document training will be afforded upon request. For telecon with Karen Olson 10:45a 8-10-92 MT 8-10-92  
[Signature] 8/17/92  
 TRAINING OFFICER/TRAINING MANAGER DATE

YMP-053-R0  
7/12/91

## YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AF-6.25  
OPERATING HAZARDOUS WASTE SATELLITE  
ACCUMULATION AREAS

Revision:

Page 2 of 25

### 1.0 PURPOSE AND SCOPE

#### 1.1 PURPOSE

The purpose of this procedure is to assign responsibility and establish a process for establishing and operating Yucca Mountain Site Characterization Project (YMP) participant hazardous waste Satellite Accumulation Areas (SAAs).

#### 1.2 SCOPE

The scope of this procedure includes those activities relating to the accumulation, notification, handling, storage, and transporting of hazardous wastes at participant SAAs.

### 2.0 APPLICABILITY

This procedure applies to the temporary accumulation of hazardous wastes at the points of generation. This procedure is applicable to all YMP participants that generate hazardous wastes at the YMP site.

### 3.0 DEFINITIONS

Terms in this procedure are used as defined in the Project Glossary, YMP/89-15. The following additional definitions are adopted for the purpose of this procedure.

#### 3.1 ACUTELY HAZARDOUS WASTE

Hazardous waste that contains, either in part or in entirety, a chemical included on the "P" list (40 Code of Federal Regulations (CFR) 261.33(e)).

#### 3.2 CONTAINER

A container is any portable device in which material will be accumulated, stored, transported, treated, disposed, or otherwise handled.

#### 3.3 GENERATOR

A generator is the participant supervisor of the work location where hazardous wastes are generated.

**NOTE:** For offsite disposal of hazardous wastes, the U.S. Department of Energy (DOE) will be the generator of record on the U.S. Environmental Protection Agency (EPA) hazardous waste transportation manifest. The participant generator will be the generator of record up to the time of transport offsite.

YMP-053-R0  
7/12/91

## YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-6.25  
OPERATING HAZARDOUS WASTE SATELLITE  
ACCUMULATION AREAS

Revision:

0

Page 3 of 25

### 3.1 HAZARDOUS WASTE

Hazardous waste is solid waste or a combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may:

1. Cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness, or
2. Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of, or otherwise managed.

Hazardous waste is regulated under the Resource Conservation and Recovery Act (RCRA). Hazardous wastes are identified in 40 CFR 261, and do not include radioactive or radioactive-mixed wastes. The Hazardous Materials Management and Handling Plan (HMMHP) YMP/91-35, addresses handling and management of hazardous waste for YMP participants.

### 3.2 HAZARDOUS WASTE CONTAINER LOG

This log is a record that identifies and tracks hazardous waste materials that are generated and accumulated at SAAs prior to transfer to the Project Accumulation Area (PAA).

### 3.3 ON-SITE MANIFEST

The On-site Manifest is a document (shipping form) that is required for all on-site transport of hazardous wastes. This manifest is designed to track the contents and custody of a hazardous waste container as it is transferred from the participant SAAs to the PAA. It is patterned from the EPA Uniform Manifest.

### 3.4 POINT OF GENERATION

The area at or near the work place where wastes are generated.

### 3.5 PROJECT ACCUMULATION AREA

The PAA is a designated on-site facility that is established as a central location for temporary accumulation of all hazardous wastes that have been generated at the various participant SAAs. The accumulation time and quantity criterion for the PAA are up to 180 days (or up to 270 days if the wastes must be transported greater than 200 miles) and the total quantity accumulation during that time must not exceed 6,000 kilograms of hazardous waste or 1 kilogram of acutely hazardous waste.

YMP-053-R0  
7/12/91

## YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No: AP-6.25  
OPERATING HAZARDOUS WASTE SATELLITE  
ACCUMULATION AREAS

Revision:

Page 4 of 16

### 3.9 REGULATED MATERIALS

The terms "regulated materials," "substances," and "hazardous wastes" are often used interchangeably. When used generically in YMP procedures and plans, these terms will be collectively referred to as "regulated materials" and "hazardous wastes" and defined as any hazardous substance, material, and/or hazardous wastes, as defined by Federal, State, and local regulations. Wastes resulting from the use of regulated materials are not necessarily defined as "hazardous" under the RCRA.

### 3.10 SATELLITE ACCUMULATION AREA

The SAA is a designated area at or near the point of generation where a YMP participant accumulates hazardous waste prior to transfer to the PAA. A SAA may accumulate up to 55-gallons of hazardous waste or one quart of acutely hazardous waste. Upon accumulation of 55 gallons or one quart, the waste must be moved within 3 days to the PAA.

### 3.11 WASTE STREAM IDENTIFICATION NUMBER

The Waste Stream Identification (ID) Number is a unique number that provides a means of tracking hazardous wastes generated by participants. This number is assigned by the Environmental Compliance and Permitting Department (ECPD).

## 4.0 RESPONSIBLE PARTIES

The following Yucca Mountain Site Characterization Project Office (YMPO) individuals or organizations are responsible for activities identified in Section 5.0 of this procedure.

1. Participant
2. Participant Hazardous Materials Coordinator (HMC)
3. YMPO Project and Operations Control Division (POCD)
4. Technical and Management Support Services (T&MSS) Environmental Compliance and Permitting Department (ECPD)
5. SAA Operator
6. Reynolds Electrical and Engineering Co., (REECO) Waste Management Department (WMD)
7. REECO Health Protection Department (HPD)
8. REECO Occupational Medicine Department (OMD)

YMP-053-R0  
7/12/91

# YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-6.25

OPERATING HAZARDOUS WASTE SATELLITE  
IDENTIFICATION STEPS

Revision:

Page 3 of 26

9. Site Manager (SM)
10. DOE Safety and Health (SSH)
11. TSMSS Safety and Health (SSH)

## 5.0 PROCEDURE

A flowchart of the following processes described in this procedure is attached as Figure 1.

RESPONSIBLE PARTY	STEPS	PROCEDURE
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### IDENTIFICATION OF HAZARDOUS WASTE GENERATION

NOTE: Until construction of the PAA has been completed, hazardous waste will be transported directly from the SAAs to an offsite disposal facility.

Participant

1. Review existing and proposed participant activities to determine the use of regulated materials. AP-6.13, Authorization for Use of Regulated Hazardous Substances and Materials, requires that each participant request and obtain authorization from the POCG to use regulated materials. Those materials include any hazardous material as defined under the Occupational Safety and Health Administration (OSHA) and Hazardous Materials Transportation Act (with the exception of those items excluded under OSHA as common consumer items), and defined as hazardous wastes under the RCRA. In addition, regulated materials are defined further in the Nevada Administrative Code (NAC).

NOTE: Identification of hazardous wastes and forecasts of amounts to be generated shall be included in participant Materials Reporting and Handling Plans.

YMP-053-R0  
7/12/91

## YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: 42-6.25  
OPERATING HAZARDOUS WASTE SATELLITE  
ACCUMULATION AREAS

Revision:

Page 6 of 25

<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
Participant	1.	Sample and analyze unknown or unidentified wastes to determine if they are hazardous. Contact PCOD or ECPD for assistance in determining if hazardous wastes are being generated.
<b>ESTABLISH SATELLITE ACCUMULATION AREA</b>		
Participant HMC	2.	Appoint an SAA Operator for each point of generation where hazardous wastes will be accumulated until transfer to the SAA (see Step 29).
	4.	Submit memo to ECPD providing notification of the establishment of participant SAA.
ECPD	5.	Notify and coordinate with the SM and DOE and TSMSS S&H Departments regarding plans to establish an SAA. Notification will be by phone, and followed by written memo.
Participant HMC	6.	Prepare an SAA-specific emergency management and contingency plan (as specified in Appendix A and B of the YMP HMMHP, YMP/91-35), in coordination with the overall Site Emergency Management Plan; and have the plan approved by the PCOD, Facility Manager, and Facility Custodian to ensure consistency with all other planning activities.
ECPD	7.	Provide and document training of SAA Operator(s) per requirements identified in Section 6.0 of the HMMHP.
Participant HMC/ SAA Operator	8.	Select an SAA site near the point of generation of the hazardous waste streams. (Coordinate as in Step 5.)

YMP-053-R0  
7/12/91

# YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-6.25  
OPERATING HAZARDOUS WASTE SATELLITE  
ACCUMULATION AREAS

Revision:

Page 7 of 26

<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
Participant RMC/ SAA Operator	NOTE:	Location should be away from drains (and drainage ways if located out doors), high traffic areas, and at least 15 meters away from any open flame or heat source. If the hazardous material is combustible or flammable, do not locate the SAA adjacent to the building exit. If multiple sources of waste exist in a small, well defined area such as a building or drill site, locate the SAA near one of the sources. The location of the SAA is important because a change in location will require a new waste Stream ID Number or Numbers (see Step 10). Also, the accumulation of hazardous waste in an area away from the source (e.g., in a different building or at Area 25 or an equipment storage area for wastes generated at a drill site) is not allowed.
SAA Operator	9.	Establish the physical location of each SAA by marking (e.g., painting) an area on the floor if located in a building, or by fencing an area if located out doors.
	10.	Post proper placards identifying the area as a "Hazardous Waste Satellite Accumulation Area." The placard should identify the waste material, generator, and Waste Stream ID Number.

## HAZARDOUS WASTE STREAM IDENTIFICATION

11. Complete a Hazardous Waste Stream Identification form (see Attachment 1) for each type of hazardous waste generated and to be temporarily stored at the SAA, and submit it to the ECPD at Mail Stop 517/T-11 to obtain Waste Stream ID Number.

YMP-053-R0  
7/12/91

## YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-6.25  
OPERATING HAZARDOUS WASTE SATELLITE  
ACCUMULATION AREAS

Revision:

Page 4 of 26

<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
ECPO	12.	Assign a Waste Stream ID Number to each hazardous waste identified on Hazardous Waste Identification form, record the identification number on the form, and return the form to the SAA Operator. Retain a copy for files.
SAA Operator	13.	Complete the SAA Accumulation Log (see Attachment 4) for each container as waste is added.

### HAZARDOUS WASTE CONTAINERS

ECPO	14.	Notify REECO WMD of the location of participant SAA and the SAA hazardous waste container needs. Notification shall be by phone followed within 3 days by memo.
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NOTE: Selection of hazardous waste containers shall be compatible with the type of waste generated. Department of Transportation (DOT) regulations in 49 CFR Part 179, Shipping Container Specifications, provides guidance on approved containers applicable to shipments of hazardous wastes. REECO WMD can be contacted for assistance in determining container needs.

REECO WMD	15.	Deliver hazardous waste containers to the participant SAA. Provide SAA Operator with proper container labels.
SAA Operator	16.	Label and mark hazardous waste containers with the following information, as necessary: <ol style="list-style-type: none"><li>The words "Hazardous Waste"</li><li>The common name of the material</li><li>The DOT hazardous classification of material (e.g., flammable, toxic, caustic, or reactive)</li></ol>

YMP-053-R0  
7/12/91

# YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No: AE-0.25  
OPERATING HAZARDOUS WASTE SATELLITE  
ACCUMULATION AREAS

Revision:

Page 2 of 26

RESPONSIBLE PARTY	STEPS	PROCEDURE
SAA Operator	17.	The Waste Stream ID Number (see Step 12)
	18.	<u>Do not record start accumulation date on container</u> (accumulation time starts when container is full and ready to be picked up for transfer to the PAA).

EC2D	17.	Ensure proper container labels have been affixed.
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NOTE: Additional labeling and marking information is provided in 49 CFR 172.300 Subpart D, 49 CFR 172.400 Subpart E, and 49 CFR 262.

## HAZARDOUS WASTE HANDLING

NOTE: Proper personal protective equipment (PPE) must be worn at all times when handling hazardous wastes. Contact ODE and TSMSS SAH (who should, in turn, coordinate with other entities such as PEECo HPD and DMD) regarding proper PPE for wastes being accumulated.

Participant EMC	18.	Conduct and document SAA employee training, as necessary, to ensure wastes are handled properly and that appropriate PPE is worn when handling wastes.
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SAA Operator	19.	Place waste containers on secondary containment pallets that are capable of containing spills and leaks and that will facilitate inspection of containers.
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NOTE: Pallets must be of a type compatible with the waste being accumulated.

	20.	Ensure containers are kept closed except when placing waste in container.
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RESPONSIBLE PARTY	STEPS	PROCEDURE
SAA Operator	21	Ensure wastes are properly segregated and prevent mixing of incompatible wastes (see the HMWP regarding compatibility of wastes). Inspect SAA weekly for leaks and spills, and formally document inspections with SAA Inspection Checklist (an example is included as Attachment 2).
	NOTE:	As a standard operating procedure, SAA's should be visually inspected daily during site characterization activities.
	22	Notify the SM, ECPD, and PCCD via phone if a non-compliance condition is found (e.g., damaged container, leak, or spill). Also provide written notification, if necessary, follow AP-2.5, Occurrence Reporting and Processing of Operations Information.
ECPD	24	Prepare recommendations for corrective actions resulting from non-compliance condition at SAA. Submit corrective action recommendations to PCCD for approval.
PCCD	25	Approve recommended corrective action(s) and provide recommendations to SAA Operator for implementation.
SAA Operator	26	Implement the approved corrective action(s) at the SAA.
	27	In the event of a spill or leak notify the SM, ECPD, and the PCCD and take actions described in SAA Contingency Plan.

YMP-053-R0  
7/12/91

## YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: MF-6.25  
OPERATING HAZARDOUS WASTE SATELLITE  
ACCUMULATION AREA

Revision:

Page 11 of 16

RESPONSIBLE PARTY      STEPS      PROCEDURE

### TRANSPORT OF HAZARDOUS WASTES TO PROJECT ACCUMULATION AREA

SAA Operator

28. Notify EOPD that waste containers need to be picked up for transport to the PAA. Notification should be given 5 days prior to the container being full, or as needed if abandoning a particular work area.

EOPD

29. Notify REECO WMD that a hazardous waste pickup is necessary at the SAA. Notification shall be by phone followed within 5 days by a memo.

NOTE: Notification to REECO WMD shall include the location of the SAA, waste description (including Waste Stream ID Number) quantity and type of container, whether a replacement container will be needed (i.e., if the container is not suitable for transport), and the date the container needs to be picked up (i.e., the date the container will be full or needs to be removed from the work area).

30. Notify PAA Operator that the REECO WMD will be arriving with a hazardous waste delivery.

REECO WMD

31. Notify REECO HPD that hazardous waste containers need to be surveyed for radioactive contamination.

REECO HPD

32. Sign, date, and attach appropriate sticker (indicating radiation levels are below threshold) to waste containers prior to pick-up by REECO WMD for transport to the PAA.

SAA Operator

33. Complete On-site Manifest (see Attachment 3) at the SAA.

REECO WMD

34. Apply DOT/DOE/EPA transportation markings and labels as necessary. Sign transportation portion of On-site Manifest.

YMP-053-R0  
7/12/91

## YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-6.25  
OPERATING HAZARDOUS WASTE SATELLITE  
ACCUMULATION AREAS

Revision:

Page 10 of 16

<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
SAA Operator	35.	Sign On-site Manifest after confirming container contents, container markings and labels are appropriate. Retain a copy of the On-site Manifest for SAA records, including the Material Safety Data Sheets (MSDSs).
	36.	Enter "Accumulation Start Date" in container label. (The date entered is the date the container is picked up for transport to the PAA, or the date the container becomes full.)
	NOTE:	Hazardous waste regulations allow only 3 calendar days for transport of containers from SAAs once the maximum capacity for hazardous waste accumulation is reached. After this 3 day period, an SAA is considered a hazardous waste accumulation area and is subject to the same requirements that are applicable to the PAA. Therefore, it is imperative that adequate notification be provided for transport of hazardous waste from the SAA to the PAA. SAA operators must consider non-work days, such as weekends and holidays, if applicable, in this 3-day time limit.
REECo WMD	37.	Load hazardous waste containers on transport vehicle and transfer to the PAA. Present On-site Manifest to PAA Operator for signature accepting the hazardous waste.

### CLOSURE OF SATELLITE ACCUMULATION AREAS

SAA Operator	38.	Inspect SAA and surrounding area for indications of inadvertent spills or leaks that may have occurred and gone unnoticed.
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**YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
PROCEDURE**

Procedure No.: AP-6.25  
OPERATING HAZARDOUS WASTE SATELLITE  
IDENTIFICATION SPPAS

Revision:

Page 13 of 26

<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
SAA Operator	39.	Implement actions identified in the SAA Contingency Plan if there is evidence of spills or leaks upon container removal and transport to the PAA.
	NOTE:	For SAAs that are located out doors, where spills or leaks may have resulted in soil contamination, contaminated soil must be removed. Soil sampling should be conducted to determine presence and extent of contamination. Additional soil sampling may be needed to verify that all contaminated soils have been removed. Hazardous waste residues, contaminated soils, and materials used in clean-up are considered hazardous wastes and should be handled, packaged, and shipped as such. Participants are responsible for any soil sampling and analysis that may need to be conducted. The ECPD is to be contacted regarding sampling and analysis resulting from spills or leaks and will supervise all sampling and analysis efforts to ensure regulatory compliance and consistency.
	40.	Notify ECPD that SAA is being closed. Provide written notification within 3 days.
ECPD	41.	Notify POCD and visit SAA to verify that necessary clean-up has been conducted. This verification includes determining if soil sampling is necessary to assure any contaminated soil has been removed.
	42.	If the SAA is not adequately and appropriately cleaned up, arrange for soil testing to determine the presence of hazardous wastes, if deemed necessary. Oversee the appropriate cleanup of the SAA. Go to preceding Step.
SAA Operator/ECPD/ Participant HMC	43.	Upon receipt of manifest, maintain the SAA hazardous waste records for a minimum of 7 years.

YMP-053-R0  
7/12/91

## YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-6.25  
OPERATING HAZARDOUS WASTE SATELLITE  
ACCUMULATION AREAS

Revision:  
0

Page 14 of 26

<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
SAA Operator/ECPD/ Participant HMC	NOTE:	ECPD retains records for a minimum of 3 years (see Section 8.0 of this document).
	44.	After 7 years (3 years for ECPD), submit the SAA records to the Las Vegas Local Records Center (LRC) for forwarding to the YMP Central Records Facility (CRF) for storage and archival as lifetime records (see Section 8.0 of this document). Follow SP-1.36, Records Management: Records Source Implementation as required.

### 6.0 REFERENCES

Refer to the latest revision of the documents listed below unless otherwise stated.

#### 6.1 REQUIREMENTS DOCUMENTS

40 CFR Parts 261 through 263, Resource Conservation and Recovery Act Regulations

49 CFR Parts 300 and 400, Department of Transportation Hazardous Materials Transportation Regulations

Yucca Mountain Site Characterization Project Hazardous Materials Management and Handling Plan, YMP/91-35

#### 6.2 INTERFACE DOCUMENTS

Project Glossary, YMP/89-15

AP-1.19Q, Records Management: Las Vegas Record Source Responsibilities

AP-2.9, Occurrence Reporting and Processing of Operations Information

AP-6.13, Authorization for Use of Regulated Materials

AP-6.24, Operation of the Hazardous Waste Project Accumulation Area Facility

All other responsible parties (other than ISMSS EOPD) will submit records to the YMP CRF after 7 years of document retention.

Responsible parties will maintain records generated by or associated with this AP for a minimum of 7 years, with the exception of the ISMSS EOPD. The ISMSS EOPD will maintain records for 3 years and then forward those records to the LRC for storage and archival for an additional 4 years as the minimum, or as deemed necessary by the YMP CRF. (Note: Although 40 CFR 261 requires hazardous waste records retention for a minimum of 3 years, standard industry practice provides for a minimum of 7 years for records retention.) Throughout the life of YMP, the ISMSS EOPD will also submit relevant (as determined by RCDD) records/documentation to the RCDD as informational copies.

Records of record packages of documentation generated as a result of this procedure shall be assembled and submitted to the LRC in accordance with AP-1130.

8.0 RECORDS

- Attachment 1: AP-6108 Flowchart
- Attachment 2: Hazardous Waste Stream Identification Form
- Attachment 3: Satellite Accumulation Area Inspection Checklist
- Attachment 4: On-site Manifest
- Attachment 5: Satellite Accumulation Area Accumulation Log

7.0 FIGURES AND ATTACHMENTS

YMP-053-R0 7/12/91		YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE	
Procedure No.	AP-6108	Revision	1
OPERATING HAZARDOUS WASTE SATELLITE ACCUMULATION AREAS		Page	15 of 26

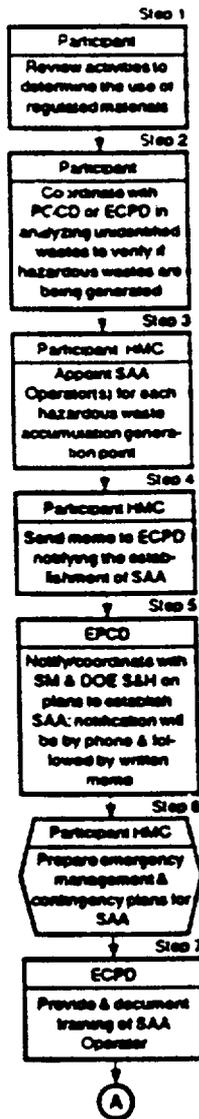
# YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-6.25

OPERATING HAZARDOUS WASTE SATELLITE  
ACCUMULATION AREAS

Revision:

Page 16 of 26



**LEGEND**

- CRF Central Records Facility
- DOE S&H Department of Energy Safety & Health Division
- ECPD Environmental Compliance & Permitting Department
- HMC Hazardous Materials Coordinator
- ID Identification
- LRC Local Records Center
- MSDS Material Safety Data Sheet
- PAA Project Accumulation Area
- POCO Project & Operations Control Division
- REEC<sub>o</sub> HPO Reynolds Electrical & Engineering Co., Inc. Health Physics Division
- REEC<sub>o</sub> WMD Reynolds Electrical & Engineering Co., Inc. Waste Management Division
- SAA Satellite Accumulation Area
- SM Site Manager
- YMP Yucca Mountain Site Characterization Project

Figure 1 - AP-6.25 Flowchart



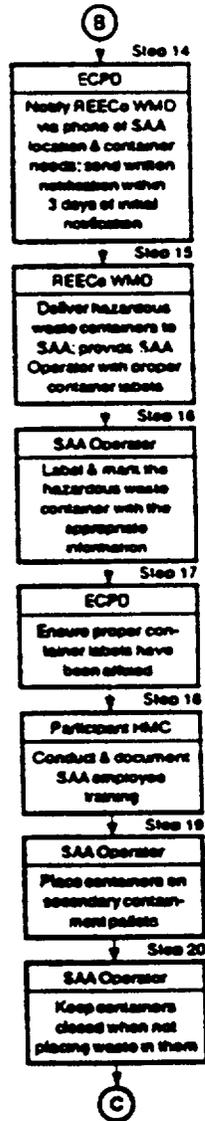


Figure 1 - AP-6.25 Flowchart (continued)

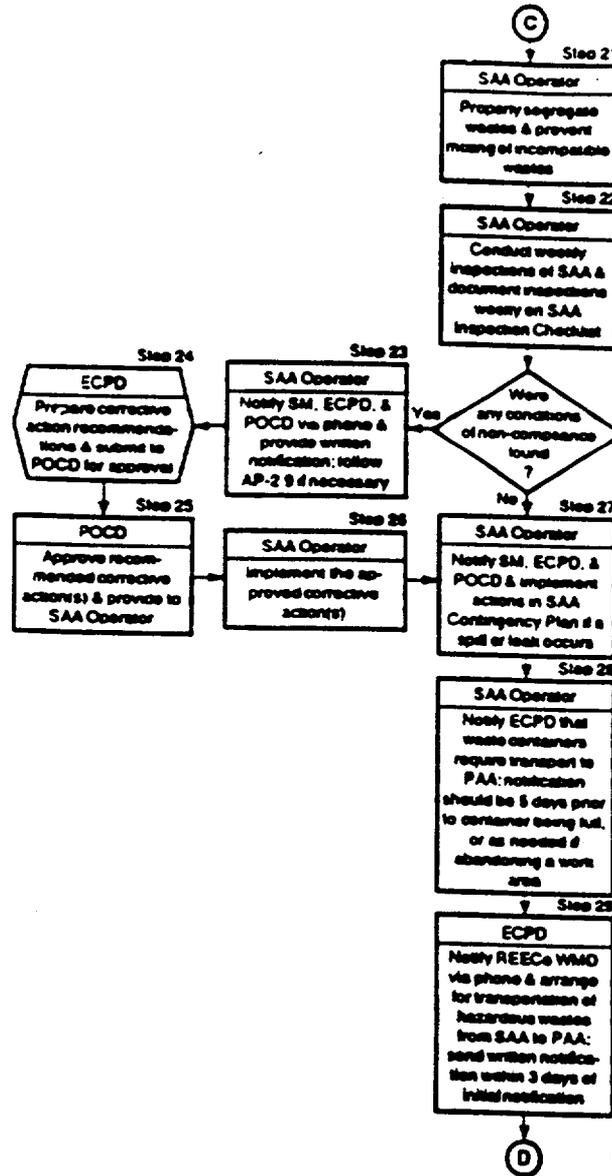


Figure 1 - AP-6.25 Flowchart (continued)

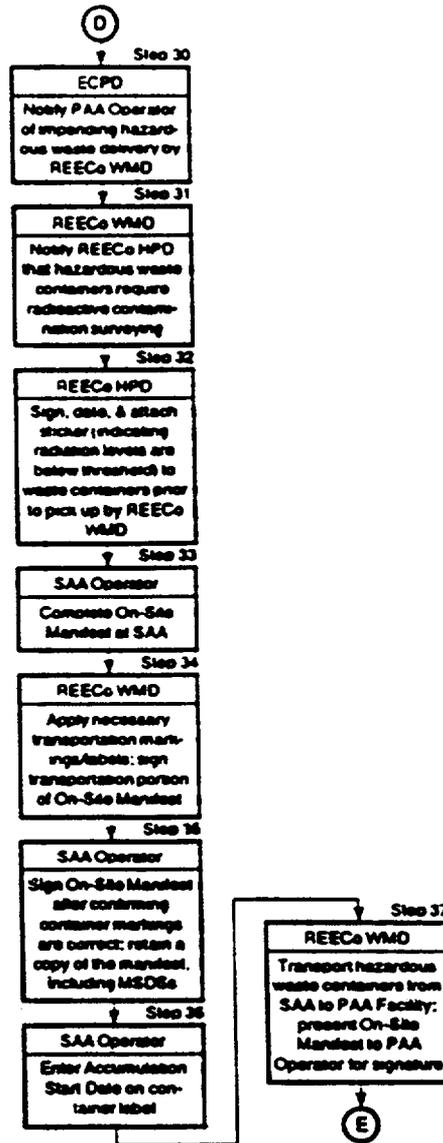
YMP-053-R0  
7/12/91

# YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No. AP-6.25  
OPERATING HAZARDOUS WASTE SATELLITE  
ADMINISTRATION ISSUES

Revision:

Page 27 of 36



Page 5 of 8  
AP-6.25 0037-21-00

Figure 1 - AP-6.25 Flowchart (Continued)

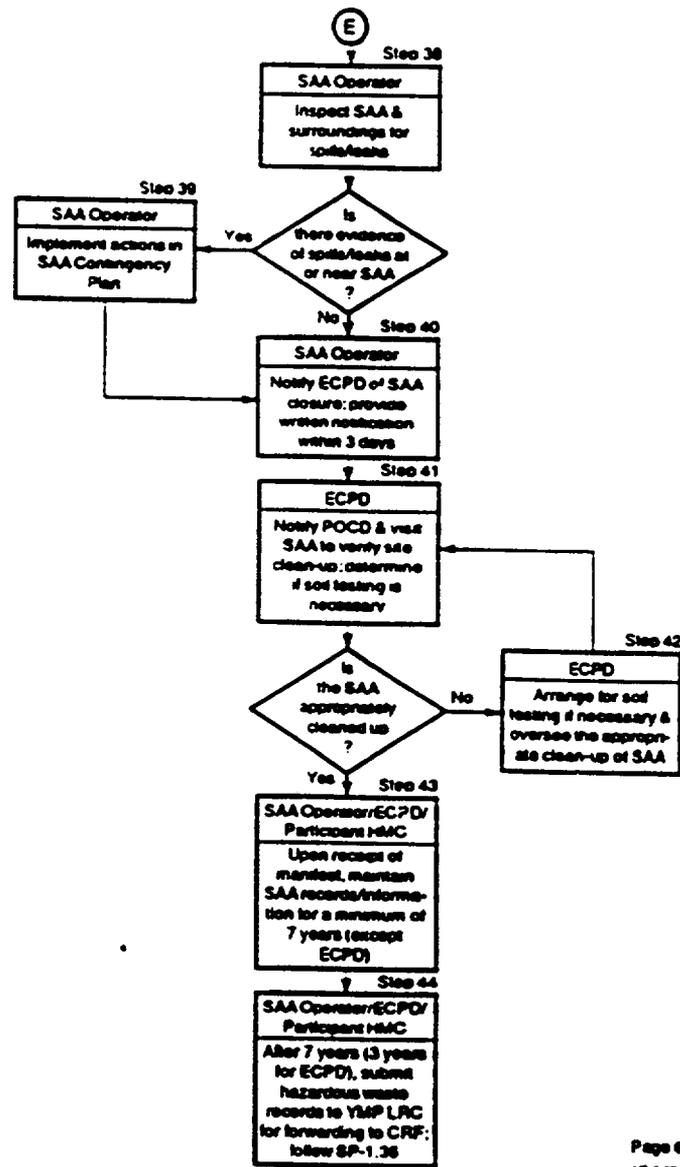


Figure 1 - AP-6.25 Flowchart (continued)



YMP-053-R0  
7/12/91

# YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-6.25  
OPERATING HAZARDOUS WASTE SATELLITE  
ACCUMULATION AREAS

Revision:  
)

Page 23 of 25

YMP-108-R0  
8/17/92

## YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT SAA INSPECTION CHECKLIST

QA: N/A

SAA Location: \_\_\_\_\_ Participant: \_\_\_\_\_

SAA Operator: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Time: \_\_\_\_\_

Item:

Compliance (circle one)

- |   |     |    |
|---|-----|----|
| 1. Accumulation area near point of generation                 | Yes | No |
| 2. Accumulation area clearly designated                       | Yes | No |
| 3. SAA Placard in place                                       | Yes | No |
| 4. No Smoking sign clearly visible                            | Yes | No |
| 5. Container labeled "HAZARDOUS WASTE"                        | Yes | No |
| 6. Contents identified on label                               | Yes | No |
| 7. Waste Stream ID Number on container                        | Yes | No |
| 8. Proper DOT labels on container                             | Yes | No |
| 9. Type of container _____                                    | Yes | No |
| a) Hazardous waste, or _____                                  |     |    |
| b) Acute hazardous waste _____                                |     |    |
| 10. Waste compatible with container                           | Yes | No |
| 11. Container(s) closed and properly secured *                | Yes | No |
| 12. Container(s) on secondary containment pallet              | Yes | No |
| 13. Inside container(s) located within designated area        | Yes | No |
| 14. Containers in good condition                              | Yes | No |
| 15. Waste container logbook maintained                        | Yes | No |
| 16. Evidence of spills or leaks                               | Yes | No |
| 17. Approximate volume in container _____                     | Yes | No |
| 18. "3-day rule" in effect **                                 |     |    |
| 19. MSDSs readily available to workers                        | Yes | No |
| 20. Eye wash/safety equipment accessible and properly working | Yes | No |
| 21. Spill equipment onsite and in good condition              | Yes | No |
| 22. Emergency communications/telephone in working order       | Yes | No |
| 23. Manifest/training records on file                         | Yes | No |

\* Secured means locking devices on the drum or the drum is within a locked enclosure.  
\*\* Container 7/8 full.

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Inspector Signature: \_\_\_\_\_

AP-6.25

Attachment 2 - Satellite Accumulation Area Inspection Checklist

YMP-053-R0  
7/12/91

## YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No: AP-6.25  
OPERATING HAZARDOUS WASTE SATELLITE  
ACCUMULATION AREAS

Revision:  
0

Page 24 of 25

YMP-115-R0 8/17/92		YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT ON-SITE WASTE TRANSPORT MANIFEST			MANIFEST DOCUMENT NO. _____
PAGE 1 OF _____					
1. GENERATOR'S NAME, ORGANIZATION AND LOCATION OF RECS (INCLUDE DEPT NO.) (PLEASE PRINT)  GENERATOR'S PHONE: _____		2. DATE OF ACCUMULATION OR TRANSPORT  _____			
2a. TRANSPORTER NAME (PLEASE PRINT)		2b. VEHICLE ID NUMBER			
4. U.S. DOT DESCRIPTION INCLUDING PROPER SHIPPING NAME, HAZARD CLASS AND ID NUMBER, EPA WASTE CODE AND WASTE STREAM AND PACKAGE IDENTIFICATION NUMBERS		3. CONTAINERS		5. TOTAL QUANTITY	7. UNIT WT/VOL
	NO.	TYPE			
A					
B					
C					
D					
USE CONTINUATION PAGES FOR ADDITIONAL ITEMS AS NECESSARY					
8. SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION					
9. GENERATOR'S CERTIFICATION  I HEREBY CERTIFY THAT THE CONTENTS OF THIS CONSIGNMENT ARE FULLY AND ACCURATELY DESCRIBED ABOVE BY PROPER SHIPPING NAME AND ARE CLASSIFIED, PACKED, MARKED AND LABELED, AND ARE IN ALL RESPECTS IN PROPER CONDITION FOR HIGHWAY TRANSPORT ACCORDING TO APPLICABLE REGULATIONS.  I FURTHER CERTIFY THAT THE CONTENTS INFORMATION ABOVE IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE THROUGH PROCESS KNOWLEDGE OR LABORATORY ANALYSIS. I CERTIFY THAT WHERE APPLICABLE, I HAVE APPROPRIATELY SEPARATED WASTES AND HAVE MADE A GOOD-FAITH EFFORT TO MINIMIZE THE AMOUNT OF WASTE GENERATED AT WORK LOCATIONS UNDER MY PURVIEW.					
10. GENERATOR'S SIGNATURE				DATE	
11. TRANSPORTER'S SIGNATURE				DATE	
12. DISCREPANCY INDICATION					
13. DISPOSAL/ACCUMULATION SITE SIGNATURE (ACKNOWLEDGES ACCEPTANCE OF WASTE)				DATE	

AP-6.25

Attachment 3 - On-site Manifest

YMP-053-R0  
7/12/91

# YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-6.25  
OPERATING HAZARDOUS WASTE SATELLITE  
ACCUMULATION AREAS

Revision:  
2

Page 23 of 26

YMP-115-R0 8/17/92		YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT ON-SITE WASTE TRANSPORT MANIFEST		MANIFEST DOCUMENT NO.
CONTINUATION PAGE		PAGE		OF
12 GENERATOR'S NAME, ORGANIZATION AND LOCATION OF RECE. INCLUDE DEPT. NO. 1 (PLEASE PRINT)		13 DATE OF ACCUMULATION OR TRANSPORT		
GENERATOR'S PHONE:				
14 TRANSPORTER NAME (PLEASE PRINT)				
17 U.S. DOT DESCRIPTION INCLUDING PROPER SHIPPING NAME, HAZARD CLASS AND ID NUMBER, EPA WASTE CODE, AND WASTE STREAM AND PACKAGE IDENTIFICATION NUMBER		18 CONTAINERS		19 TOTAL QUANTITY
		NO.	TYPE	20 UNIT WT/VOL
E				
F				
G				
H				
I				
USE CONTINUATION PAGES FOR ADDITIONAL ITEMS AS NECESSARY				
21 SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION				
22 GENERATOR'S SIGNATURE		DATE		
23 TRANSPORTER'S SIGNATURE		DATE		
24 DISPOSAL/ACCUMULATION SITE SIGNATURE ACKNOWLEDGES ACCEPTANCE OF WASTE				
25 DISCREPANCY INDICATION				

AP-6.25

Attachment 3 - On-site Manifest (continued)

B8-25



**APPENDIX B9**

**AP-6.27**

**WASTE ASSESSMENT**

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YMP-053-R1  
7/1/92

# YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT



49

## PROCEDURE

Title: <b>WASTE ASSESSMENT</b>			
Procedure No.: AP-6.27	Revision: 0	ICN: 0	Page 1 of 7
Approver: W R. Dixon	Date: 1-22-98	Approver: N/A	Date:
Approver: N/A	Date:	Concurrence: R.E. Spence	Date: 11/20/93

### REVISION HISTORY

<u>Rev. No.</u>	<u>GN No.</u>	<u>Effective Date</u>	<u>Description of Revision/ICN</u>
0		02/08/93	Initial Issue

## INFORMATION COPY

# YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-6.17

Revision: 1 | ICH: Page

WASTE ASSESSMENT

0 | 0 | 2 of 7

## 1.0 PURPOSE

This procedure assigns the responsibilities and establishes a process for the Yucca Mountain Site Characterization Project Office (YMPO) to perform waste assessments of Yucca Mountain Site Characterization Project (YMP) activities. The purpose is to identify types and quantities of waste being generated, and identify processes and operations that need to be improved or replaced in order to promote waste minimization.

This procedure implements the requirements of the *Hazardous Materials Management and Handling Plan, Appendix C, Waste Minimization and Pollution Prevention Awareness Plan, YMP/91-35*.

This procedure includes all YMP activities that generate any form of waste. The principle focus of this procedure is for those activities that generate regulated or hazardous wastes or waste streams, regulated under Administrative Procedure (AP) AP-6.13, *Authorization for Use of Regulated Hazardous Substances and Materials*. The procedure also applies to the generation of non-hazardous/regulated wastes.

## 2.0 APPLICABILITY

This procedure applies to all YMP participants at the Yucca Mountain Site and other locations and activities controlled by the YMPO.

## 3.0 DEFINITIONS

Terms in this procedure are used as defined in the *Project Glossary, YMP/89-15*. The following additional definitions are adopted for the purpose of this procedure. Acronyms used in this procedure are found in Attachment 8.1.

- 3.1 **Waste Assessment** - A comprehensive assessment of waste generating operations and waste streams to identify opportunities for waste minimization. It determines the amount of material in a work place that is disposed of as waste during work operations. A waste assessment provides a summary of hazardous materials usage and waste production, and identifies those processes and operations that need to be improved or replaced to promote waste minimization. It provides a basis for prioritizing the specific modifications to site processes or other waste minimization options that are developed during the assessment. Waste assessments will be conducted on a recurring basis as determined by the Waste Minimization Coordinator (WMC).
- 3.2 **Source Reduction** - Any practice that reduces the amount of any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment (including fugitive emissions) prior to recycling, treatment, or disposal, and reduces the hazards to public health and the environment associated with the release of such substances, pollutants, or contaminants.
- 3.3 **Recycling** - The diversion of materials from the solid waste stream and the beneficial use of such materials. Recycling can be accomplished through use, reuse, and reclamation (recovery) of materials after first considering the reduction of waste generation at the source.

# YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No: AP-6.27

Revision: 0    ICH: 0    Page

## WASTE ASSESSMENT

0    0    3 of 7

### 4.0 RESPONSIBILITIES

- 4.1 The Director, Project and Operations Control Division is responsible for the preparation and modification of this procedure.
- 4.2 This procedure and major modifications thereto are subject to review by the YMPO and those individuals and/or organizations identified on the Document Review Record.
- 4.3 The following YMP individuals or organizations are responsible for activities identified in Sections 5.0 of this procedure:
- a) Waste Assessment Team (WAT)
  - b) Waste Minimization Coordinator (WMC)
  - c) Hazardous Materials Coordinator (HMC)

### 5.0 PROCESS

A brief overview of this process is provided in the flowchart shown in Attachment 8.2.

#### 5.1 ORGANIZATION OF THE WASTE ASSESSMENT TEAM

##### 5.1.1 The WMC/HMC:

initiates a waste assessment on a specific YMP activity.

##### 5.1.2 The WMC:

documents the purpose and scope of the assessment.

##### 5.1.3 The HMC:

selects individuals for the WAT that are familiar with the operation to be assessed.

##### 5.1.4 The HMC/WAT:

prepares an assessment plan to describe the details of the assessment, including at a minimum, the following items:

- the operation being assessed
- purpose and scope of the assessment
- assessment schedule
- names of the team members
- checklist

WASTE ASSESSMENT

5.2 ASSESSMENT PHASE

The WAT conducts the waste assessment utilizing the following approach:

- a) determines the amount of material that is disposed of as waste during the activity operation;
- b) develops flow diagrams, process descriptions, material balances, and other applicable methods to assess the activity;
- c) reviews and characterizes waste streams; and
- d) collects data that will provide information on the activity such as maintenance records, log books, material inventories, and operating procedures and manuals.

5.3 DEVELOPMENT OF WASTE MINIMIZATION OPTIONS

5.3.1 The WAT:

- a) generates options, considering source reduction options first, followed by recycling technologies; and
- b) evaluates potential technical success and economic cost/benefit of each option.

5.3.2 The HMC:

- a) performs final technical and economic evaluation, and prioritizes each option by the potential technical success and the economic cost/benefit;
- b) documents the assessment results in a report to include at a minimum:
  - the assessed activity with a summary that describes the assessment and results;
  - the purpose and scope of the assessment;
  - date of the assessment;
  - the collected data and findings;
  - recommendations of options to promote waste minimization, including the estimated potential technical success and economic cost/benefit of each option; and
- c) submits the report to the WMC, Technical Project Officer/Organizational Equivalent, and Technical and Management Support Services Environmental Compliance and Permitting Department (ECPD).

# YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-6.27

Revision	ICN	Page
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WASTE ASSESSMENT

0	0	5 of 7
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## 5.4 IMPLEMENTATION OF WASTE MINIMIZATION OPTIONS

### 5.4.1 The WMC:

- a) evaluates the data and recommendations; and
- b) coordinates with the HMC to select the option(s) to be implemented.

### 5.4.2 The HMC:

- a) coordinates with appropriate management to implement the selected option(s);
- b) monitors and evaluate the performance of the implemented option(s); and
- c) prepares and submits a quarterly status report to ECPD documenting the technical success and the economic cost/benefits of the implemented options.

## 5.5 RE-EVALUATION OF PREVIOUS WASTE MINIMIZATION OPTIONS

### The WMC:

initiates review (when applicable) of the previous waste minimization options to re-evaluate previous options for technical success and economic cost/benefits. (Go to Subsection 5.2).

## 6.0 SUPPORTING DETAIL

None

## 7.0 RECORDS

There are no quality assurance records generated as a result of this procedure. A complete administrative record file will be kept to document each waste assessment. These administrative record packages will be submitted to the Las Vegas Local Records Center by the ECPD to be forwarded to the Central Records Facility (in accordance with AP-1.18Q, *Records Management: Las Vegas Record Source Responsibilities*).

## 8.0 ATTACHMENTS

### 8.1 ACRONYM LIST

### 8.2 AP-6.27 FLOWCHART

## 9.0 EXHIBITS

None

YMP-053-R1  
7/1/92

## YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No. JP-6.27

Revision 1.00

Page

### WASTE ASSESSMENT

AP	Administrative Procedure
ECPD	Environmental Compliance and Permitting Department
HMC	Hazardous Materials Coordinator
WAT	Waste Assessment Team
WMC	Waste Minimization Coordinator
YMP	Yucca Mountain Site Characterization Project
YMPO	Yucca Mountain Site Characterization Project Office

Attachment 8.1 - Acronym List

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
PROCEDURE

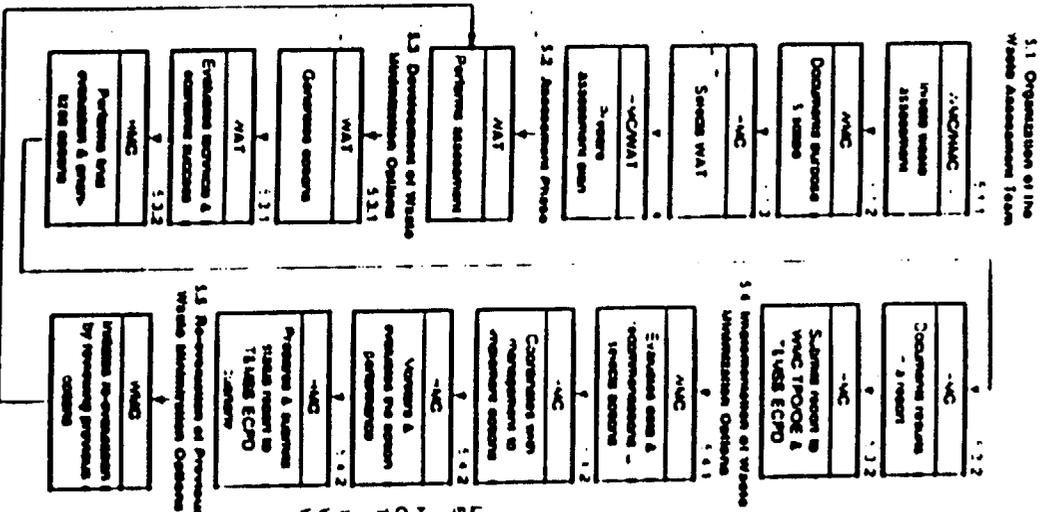
Procedure No.:

Y-6.27

Revision: 1 of 1 Page 1 of 2

WASTE ASSESSMENT

1 | 0 | 0 | - | of 2



**LEGEND**  
 ECPD - Environmental Compliance & Permitting Department  
 MAC - Materials Handling Coordinator  
 OE - Operations Evaluation  
 TSM&S Technical & Management Support Services  
 WAT - Waste Assessment Team  
 WMC - Waste Management Coordinator

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Attachment 8.2 - AP-6.27 Flowchart

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APPENDIX B10

YMP-FOI-3001

YUCCA MOUNTAIN FIELD TRAINING PROGRAM

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U.S. DEPARTMENT OF ENERGY  
FIELD OPERATING INSTRUCTIONS  
YUCCA MOUNTAIN SITE CHARACTERIZATION  
PROJECT OFFICE

YMP-FOI-3001, REV. 1

3001 YUCCA MOUNTAIN FIELD TRAINING PROGRAM

1. POLICY

A Field Training Program is established to assure that all project participants, contractors, and sub-contractors have been appropriately trained for conducting field activities/operations on the Nevada Test Site (NTS).

2. OBJECTIVES

Establish a Field Training Program for the training of all project participants, providing directions and instructions for performing field activities/operations at the NTS.

Provide documentation of all required field training activities and maintain a training records management system.

This training program is an administrative control only program and is not to be construed as a quality related program.

3. RESPONSIBILITIES AND AUTHORITIES

a. The YMP Site Manager

Responsible for ensuring that an effective field training program is established and maintained through a continuous monitoring and improvement program.

b. Training Department Manager

As directed by the Project Office Training Officer, appoints and directs Field Training staff to support the Yucca Mountain Site Office, and fulfills all field training needs and requirements as directed by the YMP Site Manager.

c. Field Training Staff

- (1) Receives programmatic guidance and direction from the Training Department Manager for the Field Training Program.
- (2) Ensures field training is conducted and documented in accordance with the Project Office Training Program.
- (3) Responsible for the development of the Field Training Program.

- (4) Responsible for the requisitioning of training aids and equipment and the maintenance of same.
- (5) Responsible for developing, scheduling and distributing field training schedules to all project participants and contractors.
- (6) Provides general employee training (GET).
- (7) Coordinates with other project participants as necessary to assure that all field training needs and requirements are fulfilled.
- (8) Responsible for issuing clips and dots for coded site badges to all project participants, contractors, sub-contractors and DOE personnel who complete initial and refresher GET training, respectively.
- (9) Responsible for the proper documentation and records management of the Field Training Program.
- (10) Responsible for notifying project personnel of their annual GET refresher training (henceforth referred to as GET 1.5) requirement.

d. Technical Project Officers (TPO's)

Responsible for ensuring that all their personnel assigned to project field duties/activities have attended and completed the YMSO mandatory field training program before scheduling their personnel for field activities.

4. PROCEDURES AND CONTROLS

- a. General Employee Training (GET) shall be required for those individuals who are physically assigned to the field or who need frequent unescorted access to perform field work.
  - (1) Individuals who do not have GET shall be escorted at all times by an individual who has completed GET.
- b. This training requires the compliance of all project participants, contractors, sub-contractors and DOE personnel assigned to field activities.
  - (1) Similar training programs conducted by other training organizations may not be substituted for this required training.
- c. Maintenance of GET training is achieved by successfully completing annual refresher training (that is, GET 1.5). All project personnel requiring initial GET training must successfully complete this refresher training to continue their field activities.

- d. GET refresher training may be accomplished by passing a written examination following self-study of course material and/or after attending a refresher class. (A "satisfactory" or "unsatisfactory" grade will be given, which will be based on whether a minimum of 70% of the test questions were answered correctly.) Those who fail this examination after self-study are required to: (1) attend a refresher or initial GET training class; and then (2) pass the written examination.
- e. Site visitors may attend GET training before being authorized to visit field work sites. Escorted visitors shall be given a safety briefing by the escorting official.
- f. Job specific training is the responsibility of each project participant and/or contractor as required, consistent with the job.
- g. Original documentation generated by the Field Training Program will be maintained at the Project Office Training Center for turnover to the Local Records Center (LRC). Copies of this documentation will be kept at the Yucca Mountain Site Office.

APPENDIX B11

YMP-FOI-4705

YMP WORK SITE AND AREA  
ACCESS AND CONTROLS

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responsible to the Site Manager for oversight and monitoring of work site access and controls to ensure Project Participants and contractors comply with applicable safety and health policies, regulations and procedures.

Site Safety Staff

- (1) Responsible to ensure clear guidance is provided to Project Participants and contractors regarding their responsibility in executing the access control system and in particular when multiple participants/contractors will be involved at the same work site or area at the same time.
- (2) Responsible for the implementation of the provisions of this Field Operation Instruction.

Site Manager (SM)

RESPONSIBILITIES AND AUTHORITIES

To establish a system of controls adequate to ensure that appropriate measures are exercised to meet the requirements specified by project fieldwork and control access to selected work sites and areas. Such control may be required or insisted for reasons of safety for the protection of personnel health and safety, to maintain or assure site technical integrity, and to control and/or protect environmental interests. These controls could involve a combination of all or several of these controls at each site or area.

Objectives

To ensure that adequate controls are established and maintained at selected Work Mountain Project field work sites and areas for the purpose of protecting various project interests and for meeting specific requirements that are considered by responsible project officials.

Policy

FOR THE WORK SITE AND AREA ACCESS AND CONTROLS

FIELD OPERATIONS INSTRUCTIONS  
MOUNTAIN VIEW SITE INVESTIGATION  
PROJECT OFFICE

c. Field Operations Center (FOC) Manager

- (1) Responsible for scheduling and coordinating work site access for all visitors with work site supervision and visitor control.
- (2) Maintains a point-of-contact listing for all work sites/shop supervisors responsible for work site access and controls.
- (3) Maintains a log of all work sites and the controls put in place to control access to these work sites and any special restrictions that may have been placed into effect.

d. TSMSS Field Safety and Health Office

Responsible for the coordination of field safety and health issue associated with all field activities and work site locations.

e. Protect Participants Contractors

- (1) Assure that job site supervisors have been appointed and identified in the Job Package with telephone numbers as to where they can be located.
- (2) Responsible for ensuring that any special instructions/controls for site access have been established and incorporated into the Job Package.
- (3) All revised access site controls or new instructions after issuance of the Job Package must be reported to the FOC.
- (4) Provide the FOC with a detailed list of personnel authorized to approve access if such a list is required; if not, the FOC will authorize access.

4. PROCEDURES AND CONTROLS

- a. Normal access to work areas whether in shop areas or field work sites (drill pads, trenches, construction, mining sites, etc.) are restricted to employees regularly assigned or those having official business. It is the responsibility of site supervision to regulate visitor control (persons not on official business) at all times.

Daily site access inspections and/or reports must be identified in the job package. These requirements may be verbal or written. If they are a written requirement, the job package must outline instructions as to what organizations/office is to receive these reports and these dispositions, if any, is required.

Site Inspections Reports

All visitors must, upon arrival to the work site, shall make their presence and purpose known to the proper site supervisor before entry into the work area is made. Occasional business or irregular site workers working in an underserved capacity shall be expected to comply with requests of attention from site supervisors.

Occasional Business or Escorts

Some sites may be controlled by some type of physical barrier such as fences with gates, barricades, etc. These barriers will have access instructions posted and will normally be controlled by the FOC.

(4) Some sites may be controlled by some type of physical barrier such as fences with gates, barricades, etc. These barriers will have access instructions posted and will normally be controlled by the FOC.

(5) To give visitors that access to all work sites are regulated to all persons not on occasional business including those where machinery or controls are in operation, the following signs (or the similar signs) are posted at each work site entrance. State the number of signs, the location of signs, and the location of signs in the restricted area - Authorized personnel only - Apply as needed.

(6) Work site supervisors are responsible to see that all visitors are properly escorted, briefed on all site hazards and in possession of required PPE such as hard hats, safety glasses and safety vests.

(7) Work site supervisor is authorized to stop a site operation when in the presence of a person or persons in the area constitutes an imminent hazard to the personnel or property. If operations are stopped, the site is to be notified immediately.

Site Area Supervisors

WORK SITE SUPERVISOR IS AUTHORIZED TO STOP A SITE OPERATION WHEN IN THE PRESENCE OF A PERSON OR PERSONS IN THE AREA CONSTITUTES AN IMMINENT HAZARD TO THE PERSONNEL OR PROPERTY. IF OPERATIONS ARE STOPPED, THE SITE IS TO BE NOTIFIED IMMEDIATELY.

WORK SITE SUPERVISORS ARE RESPONSIBLE TO SEE THAT ALL VISITORS ARE PROPERLY ESCORTED, BRIEFED ON ALL SITE HAZARDS AND IN POSSESSION OF REQUIRED PPE SUCH AS HARD HATS, SAFETY GLASSES AND SAFETY VESTS.

TO GIVE VISITORS THAT ACCESS TO ALL WORK SITES ARE REGULATED TO ALL PERSONS NOT ON OCCASIONAL BUSINESS INCLUDING THOSE WHERE MACHINERY OR CONTROLS ARE IN OPERATION, THE FOLLOWING SIGNS (OR THE SIMILAR SIGNS) ARE POSTED AT EACH WORK SITE ENTRANCE. STATE THE NUMBER OF SIGNS, THE LOCATION OF SIGNS, AND THE LOCATION OF SIGNS IN THE RESTRICTED AREA - AUTHORIZED PERSONNEL ONLY - APPLY AS NEEDED.

SOME SITES MAY BE CONTROLLED BY SOME TYPE OF PHYSICAL BARRIER SUCH AS FENCES WITH GATES, BARRICADES, ETC. THESE BARRIERS WILL HAVE ACCESS INSTRUCTIONS POSTED AND WILL NORMALLY BE CONTROLLED BY THE FOC.

11/8/91

B11-5

MP-5100 - Field Work Activities  
MP-5101 - MP Field Training Program  
MP-5102 - Field Safety and Health Program and Coordinator  
MP-5103 - MP Personnel and Visitors Control Procedures

REFERENCES

MP-5100 - Field Work Activities - any MP work area site or building where special access and controls are necessary for the protection of property, technical integrity of experiments, and where safety and health of assigned personnel, visitors and the public may be at stake. These work sites include, but are not limited to, the following: building sites, dismantling/excavation sites, mining, construction, EME area, and stock area, warehouses and machine shops.

MP-5101 - MP Field Training Program - all organizations that are authorized by the MP to conduct site characterization studies/field activities. These may include DOE, contractors, sub-contractors, and other government and state agencies.

REFERENCES

MP-5100 - Field Work Activities and Special Access and Controls  
MP-5101 - MP Field Training Program  
MP-5102 - Field Safety and Health Program and Coordinator  
MP-5103 - MP Personnel and Visitors Control Procedures

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**APPENDIX B12**

**YMP-FOI-5601**

**YUCCA MOUNTAIN PERSONNEL AND  
VISITORS CONTROL PROCEDURE**

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**AUTHORITY TO PUBLISH AND DISTRIBUTE  
YUCCA MOUNTAIN PROJECT FIELD OPERATING INSTRUCTIONS**

Y-AD-109  
7-90

YMP-FOI Title:

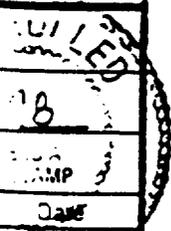
Yucca Mountain Personnel and Visitors  
Control Procedures

YMP-FOI No.:

YMP-FOI-5601

Date of Submission

11-5-90



Initiated By: (Responsible office, contact person and phone number)  
Robert Simms, YMP, Las Vegas Operations Center 794-7179

From: Yucca Mountain Site Office

Signature

Date

Routing:

Do Not  
Concur

Concur

Comments  
Attached

COPY

1 Manager FOC

✓

*Robert Simms*

8 Nov 90

Remarks:

Forwarded for Approval.

FOI has been reviewed by YMPO and comments evaluated by YMSO personnel.

INFORMATION COPY

Signature of Approving Officer: *Winfred A. Wilson*  
Winfred A. Wilson, YMP, Site Manager

Date:

11-8-90

U.S. DEPARTMENT OF ENERGY  
FIELD OPERATING INSTRUCTIONS  
YUCCA MOUNTAIN PROJECT

YMP-FOI-5601

5601 Yucca Mountain Personnel and Visitors Control Procedures

1. POLICY Because of the nature of business and activities conducted at the Nevada Test Site (NTS), it is necessary to establish and maintain a strict personnel safeguard and security program at the NTS.
2. OBJECTIVE To establish a Yucca Mountain Project personnel and visitor control procedure that is compatible with the NTS program but permits the YMP the flexibility of controlling access to the dedicated land area assigned to the YMP by Memorandum of Agreement between the Manager NV and the Manager YMP.
3. RESPONSIBILITIES AND AUTHORITIES
  - a. The Manager YMP delegates the responsibility for the administration and functions directed by this procedure to the Yucca Mountain Site Manager.
  - b. The Yucca Mountain Site Manager has full responsibility for the YMP NTS security program to include badging, property, facilities and personnel controls for project participants, contractors, subcontractors and non-participants gaining access to the NTS, Air Force Range and BLM land, and the dedicated land area of the NTS YMP, sometimes noted as the Ranch Area.
  - c. The Las Vegas Operation Center and/or the Yucca Mountain Site Office (YMSO) Field Operations Center will be responsible for processing visitor passes and badges for YMP, SAIC, Mactec personnel and non-participants going to the NTS.
  - d. YMP Participants and Contractors will be responsible for processing badges for their own personnel, visitors and subcontractors accessing onto the NTS.
  - e. The FOC is responsible for processing and controlling all project personnel access to the Yucca Mountain Project dedicated land area (Ranch).
4. PROCEDURES AND CONTROLS
  - a. Request for access
    - (1) The FOC will develop an identification and control system for permitting YMP personnel access to the YMP land area. This system will not, however, permit or allow YMP participants or non-participants access to the NTS (areas outside the boundary of the YMP dedicated land area). Project personnel apprehended

outside of the YMP dedicated land area without proper NTS badging could face U.S. Government trespassing charges, be dismissed from their job and no longer have access to the YMP land area. The YMP identification and control system will permit security personnel to instantly recognize properly cleared/identified project personnel. NTS badged personnel must have a YMP identification badge in addition to their NTS Badge before entry can be granted into certain restricted YMP areas. An NTS Badge does not authorize NTS personnel into all YMP areas of Area 25.

- (2) NTS Badges shall be worn in the thermoluminescent dosimeter (TLD) holder and conspicuously displayed on the upper portion of the body. YMP identification badges will be conspicuously displayed on the upper portion of the body. They will also be displayed in a thermoluminescent dosimeter (TLD) holder if they work with radioactive materials.
- (3) YMP identification badges shall be surrendered upon request to uniformed security personnel, DOE Security personnel, law enforcement official, DOE/YMP personnel, or FOC supervisory personnel.
- (4) Personal owned cameras, recorders, copying or reproduction devices shall not be taken into the forward area of the NTS without proper authorization. This is to include the YMP dedicated land area or any where outside of Mercury base camp of the NTS. This includes all of Area 25.
- (5) The YMSO Visitor Control Center (receptionist area) main entrance to Building 4015 Area 25 will properly badge project visitors with the proper identification, training and a need or requirement for visitation.
- (6) Training in most cases can be received in the FOC or in some cases the LVOC in Las Vegas. Personnel requesting access to most scientific and construction areas located within Area 25 will need special training requirement certificates before identification badges to the area will be issued. There are no exceptions to this policy.
- (7) Badging for ACCESS to the NTS proper can also be acquired at the Reception Desk upon proper identification and need for such a request. At no time will foreign nationals be issued access to the NTS proper. All foreign nationals visiting the NTS must be approved by DOE/HQ.

b. Visitor Requests

- (1) Any project participant may initiate a NTS Site visit by request. All requests, however, must be submitted to the YMSO for coordination and schedule arrangements.

- (2) Under certain conditions, such as maintenance of ongoing monitoring programs, walking access to off-road sites may be allowed. Field investigators should check with their supervisors to verify that their activity falls within acceptable parameters.
- (3) All harassment of the desert tortoise is to be avoided. Neither the animal itself nor its burrow should be touched or disturbed. Take special care to avoid hitting animals which may be crossing those roads on which vehicle travel is permitted.
- (4) All tours must stop at the FOC Building, 4015, to check in. The Site Manager's designee will perform a head-count, provide a briefing as required based on the itinerary for the visit, and ensure that the appropriate safety gear is issued to each visitor. If any training is required prior to going underground, the Site Manager's designee will direct the tour to the training center.
- (5) The tour guide and/or Site Manager's designee shall assure that non-media visitors do not use cameras, optical instruments, or binoculars and telescopes unless they have the appropriate permits.
- (6) The Site Manager shall ensure that the visitors are aware that they are not allowed to collect any rock, vegetation, or other material specimens from the site.

c. Special Controls

Listed below are specific actions required of all project personnel in order to ensure protection of the desert tortoise and its habitat during the consultation process. These measures as modified and adopted during the consultation process, as well as any other mitigation measures to be developed in consultation with the U.S. Fish and Wildlife Service, will become standard operating practices once the consultation process has been completed. These restrictions will remain in effect until you are notified otherwise.

- (1) Vehicular traffic is restricted to only the main and secondary roads. Main and secondary roads are defined as those roads which are paved or graveled, and which are regularly maintained. No off-road vehicle or equipment traffic is allowed. This condition must be strictly adhered to by all field personnel in order to avoid possible damage to the desert tortoise, its habitat or to burrows that may be occupied by the species.
- (2) Under certain conditions, such as maintenance of ongoing monitoring programs, walking access to off-road sites will be allowed. Field investigators should check with their supervisors to verify that their activity falls within acceptable parameters.
- (3) All harassment of the desert tortoise is to be avoided. Neither the animal itself nor its burrow should be touched or disturbed. Take special care to avoid hitting animals which may be crossing those roads on which vehicle travel is permitted.

- (4) If a desert tortoise is seen at the Yucca Mountain site, the sighting and location should be reported to the activity supervisor and the Project Office within 24 hours (contact FOC 295-5915).

Harassment of the desert tortoise could result in fines and jail sentences for individuals. These restrictions are part of our continuing effort to protect the desert tortoise.

d. Property Control

- (1) A complete list of equipment to be taken on to the NTS must be provided to the FOC upon reporting into the YMSO. The FOC will issue a property removal pass for the proper removal of personal property from the test site. If you have any problems, please notify 295-5915.
- (2) All rock samples leaving the NTS must be accompanied by a property removal form bearing a radioactive clearance sticker authorizing the material to be removed from the test site.

e. Entry into USAF Gunnery Ranges

The FOC coordinates all project participant requests requiring air space and/or land penetrations into the Nellis Bombing and Gunnery Range. Entry will be restricted to those who are participating in support of the project or site characterization activities. All personnel entering the Nellis Bombing and Gunnery Range must first report in to the FOC to double check that they have Air Force approval and to pick up radios if they do not have them. All parties entering into any off site or remote NTS areas must have a two-way radio with them.

f. BLM and Air Force

Right-of-Way land access must also be coordinated thru the FOC, not to be approved or disapproved but for the ingress parties welfare and contact in cases of emergency. These parties must also have radios in their possession when entering into these areas.

- g. Instruction for arrangements of YMP NTS tours will be contained in a separate FOI.

5. REFERENCES

- a. NTS-SOP-1202 Visits to NTS and Test Observation  
b. NTS-SOP-4401 Personal Property  
c. NTS-SOP-5602 General Security Operations  
d. NTS-SOP-5603 Physical Protection of Classified Matter  
e. DOE/NV Orders 5600 Series

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**APPENDIX C**

**PERMIT AGREEMENTS**

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APPENDIX C1

AIR QUALITY PERMIT TO CONSTRUCT  
NO. 2693

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STATE OF NEVADA  
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
DIVISION OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY  
123 WEST WYE LAKE  
CARSON CITY, NEVADA 89730

NO. 269:

AIR QUALITY PERMIT TO CONSTRUCT

Issued to: U.S. DEPARTMENT OF ENERGY, NEVADA OPERATIONS OFFICE  
P.O. Box 98518, LAS VEGAS, NEVADA 89193-8518  
Location: T13S, R49E, T13S, R50E; M08&M (HA 227A)

Restrictions Continued:

9. The proposed facility is subject to and must comply with the Clean Air Act, including the provisions of the 1990 amendments and any regulations adopted by the Federal Government and/or the State of Nevada pursuant thereto.
10. The final copy of this permit must be signed and returned to the Bureau of Air Quality no later than ten days of receipt of this permit to be in full force and effect.

This permit:

1. Is non-transferable in accordance with NAC 445.704.
2. Is issued on condition that the holder allows inspection of the premises by authorized representative of the department at any time during hours of construction or operation, without prior notice.
3. Is issued on condition of acceptance of all restrictions and conditions contained on this permit evidenced by the signing hereof by an authorized representative.

Signature Lowell H. Shifley, Jr. Signature  
Issued by Lowell H. Shifley, Jr., P.E. Print Name  
Chief, Bureau of Air Quality

Authorized Representative of  
U.S. Department of Energy

Phone 687-5065 Date June 12, 1991 Phone \_\_\_\_\_ Date \_\_\_\_\_

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APPENDIX C2

AIR QUALITY PERMIT TO CONSTRUCT  
NO. 2893

STATE OF NEVADA  
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
DIVISION OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY  
123 WEST NYE LANE  
CARSON CITY, NEVADA 89710

NO. 289

AIR QUALITY PERMIT TO CONSTRUCT

Issued to: U.S. DEPARTMENT OF ENERGY, YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
P.O. BOX 98608, LAS VEGAS, NEVADA 89193-8608

Location: T13S, R49E, MDB&M (HA 227A)  
N4076.94 KM, E548.06 KM, UTM (ZONE 11)

is granted a permit to construct, modify or establish the following source of air contaminant:

Cummins 600 horsepower portable engine, model FPC 0E66007, serial #37129213.

in accordance with Nevada Administrative Code (NAC) 445.430 through 445.846 and the pla specifications or other materials submitted.

Restrictions:

1. Maximum heat input must not exceed 3,769,600 Btu's per hour, utilizing #2 diesel as fuel.
2. Source must not operate in excess of 7,104 hours per calendar year.
3. The maximum allowable emission limits are as follows:
  - Particulates - 1.32 pounds per hour
  - Sulfur oxide - 1.23 pounds per hour
  - Carbon monoxide - 4.00 pounds per hour
  - Nitrogen oxide - 18.68 pounds per hour
4. Yearly consumption of #2 diesel and hours of operation must be submitted in writing to the Bureau of Air Quality by 15 annually for the preceding calendar year.
5. The Bureau of Air Quality must be notified in writing of commencement of construction, completion of construction commencement of operation in accordance with NAC 445.481.
6. Local grading, building, health or any other permits must be obtained from the appropriate agency as the issuance of permit to construct does not preclude the necessity for their procurement.
7. The owner/operator subject to the restrictions of this Permit to Construct shall cease operation when an upset or malfunction to the process or control equipment causes excess emissions, as defined in NAC 445.504.
8. This permit to construct expires if construction of the source is not commenced within one year from the date of iss or construction of the source is delayed for one year after initiated.
9. The opacity from this source must not exceed 20% as specified in the NAC.
10. The act of any person who:
  - A. makes any false material statement, representation, or certification in, or omits material information from, or at conceals, or fails to file or maintain any notice, application, record, report, plan, or other document required t permit or director;
  - B. fails to notify or report as required by the permit or director;
  - C. falsifies, tampers with, renders inaccurate, or fails to install any monitoring device or method required by the r or director;shall constitute a violation of this permit and may result in a revocation of this permit.

C2-1

Page 1 of 2

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
DIVISION OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY  
123 WEST NYE LANE  
CARSON CITY, NEVADA 89710

284  
NO. 2E

AIR QUALITY PERMIT TO CONSTRUCT

Issued to: U.S. DEPARTMENT OF ENERGY, YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
P.O. Box 98608, LAS VEGAS, NEVADA 89193-8608  
Location: T13S, R49E, MDB&M (HA 227A)  
N4076.94 KM, E548.06 KM, UTM (ZONE 11)

Restrictions Continued:

11. Any relaxation of any limits contained in this permit that increases the potential to emit above the application threshold will require a full PSD/BSA review of the source as though construction had not yet commenced.
12. The proposed facility is subject to and must comply with the Clean Air Act, including the provisions of the 1990 act and any regulations adopted by the Federal Government and/or the State of Nevada pursuant thereto.
13. The blue copy of this permit must be signed and returned to the Bureau of Air Quality postmarked within ten days of failure to do so will result in this permit being invalidated.

This permit:

1. Is non-transferable in accordance with NAC 445.704.
2. Is issued on condition that the holder allows inspection of the premises by authorized representat. the department at any time during hours of construction or operation, without prior notice.
3. Is issued on condition of acceptance of all restrictions and conditions contained on this per evidenced by the signing hereof by an authorized representative.

Signature Lowell H. Shifley, Jr.  
Issued by Lowell H. Shifley, Jr., P.E.  
Chief, Bureau of Air Quality

Signature \_\_\_\_\_  
Print Name \_\_\_\_\_  
Authorized Representative of  
U.S. Department of Energy  
Date \_\_\_\_\_

Phone 687-5065 Date Nov. 4, 1991

Phone \_\_\_\_\_  
Date \_\_\_\_\_  
C2-2

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APPENDIX C3

AIR QUALITY PERMIT TO CONSTRUCT  
NO. 3084

STATE OF NEVADA  
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
DIVISION OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY  
333 WEST NYE LANE  
CARSON CITY, NEVADA 89710

NO. 3084

AIR QUALITY PERMIT TO CONSTRUCT

Issued to: UNITED STATES DEPARTMENT OF ENERGY, YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
P.O. Box 98E08, LAS VEGAS, NV 89193-8608

Location: SECTION 19, T13S, R50E (HA 227)  
NORTH 4074.55 KM, EAST 554.19 KM, UTM (ZONE 11)

is granted a permit to construct, modify or establish the following source of air contaminant:

Screen borrow, Reynolds Electrical and Engineering manufacturer.

in accordance with Nevada Administrative Code (NAC) 445.430 through 445.846 and the plans, specifications or other materials submitted.

Restrictions:

1. Facilities Operation

All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of the Permit to Construct will at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions.

The owner/operator subject to the restrictions of this Permit to Construct will cease operation when an upset or malfunction to the process or control equipment occurs.

2. Excess Emissions

The Bureau of Air Quality will be notified by telephone within 24 hours following any failure of air pollution control equipment, process equipment, or of a process, to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in the Permit to Construct restrictions. In addition, the Bureau of Air Quality will be notified in writing within fifteen (15) days of any such failure. This notification will include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the Permit to Construct, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision will not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulation which such malfunction may cause.

3. Right to Entry

The Bureau of Air Quality staff, upon the presentation of credentials, will be permitted at any time:

- A. to enter upon the premises where the source is located or in which any records are required to be kept under the terms and conditions of the Permit to Construct;
- B. to have access to and copy any records required to be kept under the terms and conditions of the Permit to Construct;
- C. to inspect any equipment, operation, or method required in the Permit to Construct;
- D. to sample emissions from the source or other process materials and conditions.

4. Severability

The provisions of the Permit to Construct are severable, and if any provision of the Permit to Construct is held invalid the remainder of the Permit to Construct will not be affected thereby.

5. Other Applicable Regulations

The owner or operator of the facility will operate in compliance with all other applicable provisions of 40 CFR Parts 60 & 61 and Nevada Administrative Code 445.430 through 445.846.

C3-1

Page 1 of 3

STATE OF NEVADA  
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
DIVISION OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY  
333 WEST NYE LANE  
CARSON CITY, NEVADA 89710

NO. 3084

AIR QUALITY PERMIT TO CONSTRUCT

Issued to: UNITED STATES DEPARTMENT OF ENERGY, YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
P.O. BOX 98608, LAS VEGAS, NV 89193-8608

Location: SECTION 19, T13S, R50E (HA277)  
NORTH 4074.55 KM, EAST 554.19 KM, UTM (ZONE 11)

Restrictions Continued:

6. Air Pollution Equipment

U.S. - Department of Energy will operate and maintain the following air pollution controls to meet the emission limits specified in Section 7 (Emission Limits) of this Permit to Construct.

Control system consisting of water sprays.

7. Emission Limits

On and after the date of startup of the borrow screen, U.S. - Department of Energy will not discharge or cause the discharge into the atmosphere from the borrow screen, the following pollutants in excess of the following specified-limits:

1. The discharge of  $PM_{10}$  (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 4.8 pounds per hour.
2. The opacity from the borrow screen will not exceed 20%.

8. Operating Parameters

A. Maximum production will not exceed 200 tons per hour.

B. Hours

(1) The borrow screen will not operate in excess of 8 hours per day.

(2) The borrow screen will not operate more than 1560 hours total per calendar year.

C. Yearly production and hours of operation will be submitted in writing to the Bureau of Air Quality by April 15 annual for the preceding calendar year.

9. Testing and Sampling

A. The Bureau of Air Quality may require such testing and sampling as determined necessary, at any time, to verify compliance with NAC 445.430 through 445.846.

10. Noncompliance with any restrictions of the Permit to Construct (defined in Nevada Administrative Code 445.5635) will be deemed a violation of Nevada Administrative Code 445.430 through 445.846 and a notice of Alleged violation may be issued.

11. Fugitive dust from the handling, transporting or storing of any material will be controlled.

12. The Bureau of Air Quality will be notified in writing of commencement of construction, completion of construction, and commencement of operation in accordance with NAC 445.681.

13. The owner/operator subject to the restrictions of this Permit to Construct will cease operation when an upset or malfunction to the process or control equipment occurs.

14. Local grading, building, health or any other permits will be obtained from the appropriate agency at the issuance of this Permit to Construct does not preclude the necessity for their procurement. This permit does not cover any possible requirements water quality or hazardous waste permits that may be required by Nevada statutes or regulations.

C3-2

Page 2 of 3

STATE OF NEVADA  
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
DIVISION OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY  
333 WEST NYE LANE  
CARSON CITY, NEVADA 89710

NO. 3084

AIR QUALITY PERMIT TO CONSTRUCT

Issued to: UNITED STATES DEPARTMENT OF ENERGY, YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
P.O. Box 98608, LAS VEGAS, NV 89193-8608

Location: SECTION 19, T13S, R50E (HA227)  
NORTH 4074.55 KM. EAST 554.19 KM. UTM (ZONE 11)

Restrictions Continued:

15. This Permit to Construct expires if construction of the source is not commenced and pursued diligently within one year from the date of issuance or construction of the source is delayed for one year after initiated.
16. The act of any person who:
  - A. makes any false material statement, representation, or certification in, or omits material information from, or alters, conceals, or fails to file or maintain any notice, application, record, report, plan, or other document required by the permit or director;
  - B. fails to notify or report as required by the permit or director;
  - C. falsifies, tampers with, renders inaccurate, or fails to install any monitoring device or method required by the permit or director;will constitute a violation of this permit and may result in a revocation of this permit.
17. Any relaxation of any limits contained in this permit that increases the potential to emit above the application PSD/NSR threshold will require a full PSD/NSR review of the source as though construction had not yet commenced.
18. The proposed facility is subject to and must comply with the Clean Air Act, including the provisions of the 1990 amendment and any regulations adopted by the federal Government and/or the State of Nevada pursuant thereto.
19. The blue copy of this permit will be signed and returned to the Bureau of Air Quality postmarked within ten days of receipt. Failure to do so will result in this permit being invalidated.

This permit:

1. Is non-transferable in accordance with NAC 445.704.
2. Is issued on condition that the holder allows inspection of the premises by authorized representatives of the department at any time during hours of construction or operation, without prior notice.
3. Is issued on condition of acceptance of all restrictions and conditions contained on this permit: evidenced by the signing hereof by an authorized representative.

Signature Lowell H. Shifley, Jr.  
Issued by Lowell H. Shifley, Jr., P.E.  
Chief, Bureau of Air Quality

Signature \_\_\_\_\_  
Print Name \_\_\_\_\_  
Authorized Representative of  
U.S. Department of Energy

Phone 687-5065 Date June 8, 1992 Phone \_\_\_\_\_ Date \_\_\_\_\_

C3-3

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STATE OF NEVADA  
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
DIVISION OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY  
333 WEST NYE LANE  
CARSON CITY, NEVADA 89710

NO. 3197

AIR QUALITY PERMIT TO CONSTRUCT

Issued to: U.S. DEPARTMENT OF ENERGY, YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
P.O. BOX 98608, LAS VEGAS, NEVADA 89193-8608

Location: PORTABLE

is granted a permit to construct, modify or establish the following source of air contaminant:

Kolberg screening plant, Series 26, and associated conveyors.

in accordance with Nevada Administrative Code (NAC) 445.430 through 445.846 and the plans, specifications or other materials submitted.

Restrictions:

1. Facilities Operation

All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of the Permit to Construct will at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions.

2. Excess Emissions

The Bureau of Air Quality will be notified by telephone within 24 hours following any failure of air pollution control equipment, process equipment, or of a process, to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in the Permit to Construct restrictions. In addition, the Bureau of Air Quality will be notified in writing within fifteen (15) days of any such failure. This notification will include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the Permit to Construct, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision will not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulation which such malfunction may cause.

3. Right to Entry

The Bureau of Air Quality staff, upon the presentation of credentials, will be permitted at any time:

- A. to enter upon the premises where the source is located or in which any records are required to be kept under the terms and conditions of the Permit to Construct;
- B. to have access to and copy any records required to be kept under the terms and conditions of the Permit to Construct;
- C. to inspect any equipment, operation, or method required in the Permit to Construct;
- D. to sample emissions from the source or other process materials and conditions.

4. Severability

The provisions of the Permit to Construct are severable, and if any provision of the Permit to Construct is held invalid the remainder of the Permit to Construct will not be affected thereby.

5. Other Applicable Regulations

The owner or operator of the facility will operate in compliance with all other applicable provisions of 40 CFR Parts 60 and 51 and Nevada Administrative Code 445.430 through 445.846.

C4-1

Page 1 of 3

STATE OF NEVADA  
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
DIVISION OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY  
333 WEST NYE LANE  
CARSON CITY, NEVADA 89710

NO. 3197

AIR QUALITY PERMIT TO CONSTRUCT

Issued to: U.S. DEPARTMENT OF ENERGY, YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
P.O. Box 98608, LAS VEGAS, NEVADA 89193-8608

Location: PORTABLE

Restrictions Continued:

6. Air Pollution Equipment

The U.S. Department of Energy will operate and maintain the following air pollution controls to meet the emission limits specified in Section 7 (Emission Limits) of this Permit to Construct.

Control system consisting of water sprays

7. Emission Limits

On and after the date of startup of the screening plant, the Department of Energy will not discharge or cause the discharge into the atmosphere from the screening plant, the following pollutants in excess of the following specified limits:

1. The discharge of PM<sub>10</sub> (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 12.60 pounds per hour.
3. The opacity from the screening plant into the atmosphere will not exceed 20%.

8. Operating Parameters

- A. Maximum production will not exceed 350.00 tons per hour.

B. Hours

- (1) The screening plant will not operate in excess of 8 hours per day.
- (2) The screening plant will not operate more than 2,000 hours total per calendar year.
- C. The specified maximum throughput, emission limit, and pollution controls only apply when the screening plant is operating as a single unit. The maximum throughput, emission limit, and pollution controls may be modified when this source operated in conjunction with other portable or stationary sources. Any restrictions specified on a Site Specific Permit Attachment supersede those contained in this permit if more stringent.
- D. Actual production and hours of operation must be submitted in writing to the Bureau of Air Quality within 30 days completion of each job.

9. Testing and Sampling

The Bureau of Air Quality may require such testing and sampling as determined necessary, at any time, to verify compliance with NAC 445.430 through 445.846.

10. Noncompliance with any restrictions of the Permit to Construct (defined in Nevada Administrative Code 445.5635) will be deemed a violation of Nevada Administrative Code 445.430 through 445.846 and a Notice of Alleged Violation may be issued.
11. Fugitive dust from the handling, transporting or storing of any material will be controlled.
12. The Bureau of Air Quality will be notified in writing of commencement of construction, completion of construction, and commencement of operation in accordance with NAC 445.681.
13. The owner/operator subject to the restrictions of this Permit to Construct will cease operation when an upset or malfunction to the process or control equipment occurs.
14. Local grading, building, health or any other permits will be obtained from the appropriate agency as the issuance of this Permit to Construct does not preclude the necessity for their procurement. This permit does not cover any possible requirements: water quality or hazardous waste permits that may be required by Nevada statutes or regulations.

C4-2

Page 2 of 3

STATE OF NEVADA  
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
DIVISION OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY  
333 WEST NYE LANE  
CARSON CITY, NEVADA 89710

NO. 3197

AIR QUALITY PERMIT TO CONSTRUCT

Issued to: U.S. DEPARTMENT OF ENERGY, YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
P.O. Box 98608, LAS VEGAS, NEVADA 89193-8608

Location: PORTABLE

Restrictions Continued:

15. This Permit to Construct expires if construction of the source is not commenced and pursued diligently within one year from the date of issuance or construction of the source is delayed for one year after initiated.
16. The act of any person who:
  - A. makes any false material statement, representation, or certification in, or omits material information from, or alters conceals, or fails to file or maintain any notice, application, record, report, plan, or other document required by the permit or director;
  - B. fails to notify or report as required by the permit or director;
  - C. falsifies, tampers with, renders inaccurate, or fails to install any monitoring device or method required by the permit or director;will constitute a violation of this permit and may result in a revocation of this permit.
17. Any relaxation of any limits contained in this permit that increases the potential to emit above the applicable PSD/NSR threshold will require a full PSD/NSR review of the source as though construction had not yet commenced.  
The proposed facility is subject to and must comply with the Clean Air Act, including the provisions of the 1990 amendment and any regulations adopted by the federal Government and/or the State of Nevada pursuant thereto.
19. The blue copy of this permit will be signed and returned to the Bureau of Air Quality postmarked within ten days of receipt. Failure to do so will result in this permit being invalidated.

This permit:

1. Is non-transferable in accordance with NAC 445.704.
2. Is issued on condition that the holder allows inspection of the premises by authorized representatives of the department at any time during hours of construction or operation, without prior notice.
3. Is issued on condition of acceptance of all restrictions and conditions contained on this permit as evidenced by the signing hereof by an authorized representative.

Signature *L. H. Shifley, Jr.*  
Issued by Lowell H. Shifley, Jr., P.E.  
Chief, Bureau of Air Quality

Signature \_\_\_\_\_  
Print Name \_\_\_\_\_  
Authorized Representative of  
Department of Energy

Phone 687-5065 Date Sept. 21, 1992 Phone \_\_\_\_\_ Date \_\_\_\_\_

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STATE OF NEVADA  
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
DIVISION OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY  
333 WEST NYE LANE  
CARSON CITY, NEVADA 89710

NO. 3198

AIR QUALITY PERMIT TO CONSTRUCT

Issued to: U.S. DEPARTMENT OF ENERGY, YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
P.O. Box 98608, LAS VEGAS, NEVADA 89193-8608  
Location: PORTABLE

is granted a permit to construct, modify or establish the following source of air contaminant:

Atlas-Copco air compressors (2), skid mounted, model 71637000, serial #86078-16VA017963 and #86078-16VA017966, each rated at 53 horsepower.

in accordance with Nevada Administrative Code (NAC) 445.430 through 445.846 and the plans specifications or other materials submitted.

Restrictions:

1. Facilities Operation

All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of the Permit to Construct will at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions.

2. Excess Emissions

The Bureau of Air Quality will be notified by telephone within 24 hours following any failure of air pollution control equipment, process equipment, or of a process, to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in the Permit to Construct restrictions. In addition, the Bureau of Air Quality will be notified in writing within fifteen (15) days of any such failure. This notification will include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the Permit to Construct, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision will not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulator which such malfunction may cause.

3. Right to Entry

The Bureau of Air Quality staff, upon the presentation of credentials, will be permitted at any time:

- A. to enter upon the premises where the source is located or in which any records are required to be kept under the terms and conditions of the Permit to Construct;
- B. to have access to and copy any records required to be kept under the terms and conditions of the Permit to Construct
- C. to inspect any equipment, operation, or method required in the Permit to Construct;
- D. to sample emissions from the source or other process materials and conditions.

4. Severability

The provisions of the Permit to Construct are severable, and if any provision of the Permit to Construct is held invalid the remainder of the Permit to Construct will not be affected thereby.

5. Other Applicable Regulations

The owner or operator of the facility will operate in compliance with all other applicable provisions of 40 CFR Parts 60 or 51 and Nevada Administrative Code 445.430 through 445.846.

6. Air Pollution Equipment

The Department of Energy will operate and maintain the compressors to meet the emission limits as specified in Section (Emission Limits) of this Permit to Construct.

C5-1

Page 1 of 3

STATE OF NEVADA  
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
DIVISION OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY  
333 WEST NYE LANE  
CARSON CITY, NEVADA 89710

NO. 3198

AIR QUALITY PERMIT TO CONSTRUCT

Issued to: U.S. DEPARTMENT OF ENERGY, YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
P.O. Box 98608, LAS VEGAS, NEVADA 89193-8608  
Location: PORTABLE

Restrictions Continued:

7. Emission Limits

On and after the date of startup of the two air compressors, the Department of Energy will not discharge or cause the discharge into the atmosphere from the exhaust stack of the air compressors, the following pollutants in excess of the following specific limits:

1. The discharge of PM<sub>10</sub> (particulate matter less than 10 microns in diameter) to the atmosphere from both compressors will not exceed 2.34 pounds per hour (1.17 pounds per hour per compressor).
2. The opacity from each compressor into the atmosphere will not exceed 20%.
3. The discharge of sulfur oxides to the atmosphere from both compressors will not exceed 2.18 pounds per hour (1.09 pounds per hour per compressor).
4. The discharge of carbon monoxide to the atmosphere from both compressors will not exceed 7.10 pounds per hour (3.55 pounds per hour per compressor).
5. The discharge of nitrogen oxides to the atmosphere from both compressors will not exceed 32.76 pounds per hour (16.38 pounds per hour per compressor).

8. Operating Parameters

- A. Maximum horsepower will not exceed 532 horsepower per compressor.

3. HOURS

- (1) Each compressor will not operate in excess of 6 hours per day.
- (2) Each compressor will not operate more than 1,560 hours total per calendar year.
2. Actual production and hours of operation must be submitted in writing to the Bureau of Air Quality within 30 days completion of each job.

9. Testing and Sampling

The Bureau of Air Quality may require such testing and sampling as determined necessary, at any time, to verify compliance with NAC 445.430 through 445.846.

10. Noncompliance with any restrictions of the Permit to Construct (defined in Nevada Administrative Code 445.5635) will be deemed a violation of Nevada Administrative Code 445.430 through 445.846 and a Notice of Alleged Violation may be issued.
11. Fugitive dust from the handling, transporting or storing of any material will be controlled.
12. The Bureau of Air Quality will be notified in writing of commencement of construction, completion of construction, and commencement of operation in accordance with NAC 445.681.
13. The owner/operator subject to the restrictions of this Permit to Construct will cease operation when an upset or malfunction to the process or control equipment occurs.
14. Local grading, building, health or any other permits will be obtained from the appropriate agency as the issuance of this Permit to Construct does not preclude the necessity for their procurement. This permit does not cover any possible requirements water quality or hazardous waste permits that may be required by Nevada statutes or regulations.

C5-2

Page 2 of 3

STATE OF NEVADA  
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
DIVISION OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY  
333 WEST NYE LANE  
CARSON CITY, NEVADA 89710

NO. 3198

AIR QUALITY PERMIT TO CONSTRUCT

Issued to: U.S. DEPARTMENT OF ENERGY, YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
P.O. BOX 98608, LAS VEGAS, NEVADA 89193-8608

Location: PORTABLE

Restrictions Continued:

15. This Permit to Construct expires if construction of the source is not commenced and pursued diligently within one year from the date of issuance or construction of the source is delayed for one year after initiated.
16. The act of any person who:
  - A. makes any false material statement, representation, or certification in, or omits material information from, or alter conceals, or fails to file or maintain any notice, application, record, report, plan, or other document required by the permit or director;
  - B. fails to notify or report as required by the permit or director;
  - C. falsifies, tampers with, renders inaccurate, or fails to install any monitoring device or method required by the permit or director;will constitute a violation of this permit and may result in a revocation of this permit.
17. Any relaxation of any limits contained in this permit that increases the potential to emit above the applicable PSD/h threshold will require a full PSD/NSR review of the source as though construction had not yet commenced.  
The proposed facility is subject to and must comply with the Clean Air Act, including the provisions of the 1990 amendment and any regulations adopted by the Federal Government and/or the State of Nevada pursuant thereto.
19. The blue copy of this permit will be signed and returned to the Bureau of Air Quality postmarked within ten days of receipt. Failure to do so will result in this permit being invalidated.

This permit:

1. Is non-transferable in accordance with NAC 445.704.
2. Is issued on condition that the holder allows inspection of the premises by authorized representatives of the department at any time during hours of construction or operation, without prior notice.
3. Is issued on condition of acceptance of all restrictions and conditions contained on this permit evidenced by the signing hereof by an authorized representative.

Signature *L. H. Shifley, Jr.*  
Issued by Lowell H. Shifley, Jr., P.E.  
Chief, Bureau of Air Quality

Signature \_\_\_\_\_  
Print Name \_\_\_\_\_  
Authorized Representative of  
Department of Energy  
Date \_\_\_\_\_

Phone 687-5065 Date Sept. 21, 1992 Phone \_\_\_\_\_ Date \_\_\_\_\_

C5-3

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APPENDIX C6

AIR QUALITY PERMIT TO CONSTRUCT  
NO. 3199

STATE OF NEVADA  
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
DIVISION OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY  
333 WEST NYE LANE  
CARSON CITY, NEVADA 89710

AIR QUALITY PERMIT TO CONSTRUCT

NO. 3199

Issued to: U.S. DEPARTMENT OF ENERGY, YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
P.O. Box 98608, LAS VEGAS, NEVADA 89193-8608

Location: PORTABLE

is granted a permit to construct, modify or establish the following source of air contaminant:

Atlas-Copco air compressors (2), stud mounted, model 71837000, serial #86079-16VA017981 and #86079-16VA017892, each rated at 532 horsepower.

in accordance with Nevada Administrative Code (NAC) 445.430 through 445.846 and the plans, specifications or other materials submitted.

Restrictions:

1. Facilities Operation

All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of the Permit to Construct will at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions.

2. Excess Emissions

The Bureau of Air Quality will be notified by telephone within 24 hours following any failure of air pollution control equipment, process equipment, or of a process, to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in the Permit to Construct restrictions. In addition, the Bureau of Air Quality will be notified in writing within fifteen (15) days of any such failure. This notification will include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the Permit to Construct, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision will not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulation which such malfunction may cause.

3. Right to Entry

The Bureau of Air Quality staff, upon the presentation of credentials, will be permitted at any time:

- A. to enter upon the premises where the source is located or in which any records are required to be kept under the terms and conditions of the Permit to Construct;
- B. to have access to and copy any records required to be kept under the terms and conditions of the Permit to Construct;
- C. to inspect any equipment, operation, or method required in the Permit to Construct;
- D. to sample emissions from the source or other process materials and conditions.

4. Severability

The provisions of the Permit to Construct are severable, and if any provision of the Permit to Construct is held invalid the remainder of the Permit to Construct will not be affected thereby.

5. Other Applicable Regulations

The owner or operator of the facility will operate in compliance with all other applicable provisions of 40 CFR Parts 60 and 61 and Nevada Administrative Code 445.430 through 445.846.

6. Air Pollution Equipment

The Department of Energy will operate and maintain the compressors to meet the emission limits as specified in Section (Emission Limits) of this Permit to Construct.

C6-1

Page 1 of 3

STATE OF NEVADA  
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
DIVISION OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY  
333 WEST NYE LANE  
CARSON CITY, NEVADA 89710

NO. 3199

AIR QUALITY PERMIT TO CONSTRUCT

Issued to: U.S. DEPARTMENT OF ENERGY, YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
P.O. BOX 98608, LAS VEGAS, NEVADA 89193-8608  
Location: PORTABLE

Restrictions Continued:

7. Emission Limits

On and after the date of startup of the two air compressors, the Department of Energy will not discharge or cause the discharge into the atmosphere from the exhaust stack of the air compressors, the following pollutants in excess of the following specific limits:

- A. The discharge of PM<sub>10</sub> (particulate matter less than 10 microns in diameter) to the atmosphere from both compressors will not exceed 2.34 pounds per hour (1.17 pounds per hour per compressor).
- B. The opacity from each compressor into the atmosphere will not exceed 20%.
- C. The discharge of sulfur oxides to the atmosphere from both compressors will not exceed 2.18 pounds per hour (1.09 pounds per hour per compressor).
- D. The discharge of carbon monoxide to the atmosphere from both compressors will not exceed 7.10 pounds per hour (3.55 pounds per hour per compressor).
- E. The discharge of nitrogen oxides to the atmosphere from both compressors will not exceed 32.76 pounds per hour (16.38 pounds per hour per compressor).

8. Operating Parameters

- A. Maximum horsepower will not exceed 532 horsepower per compressor.

B. Hours

- (1) Each compressor will not operate in excess of 6 hours per day.
- (2) Each compressor will not operate more than 1,560 hours total per calendar year.

- C. Actual production and hours of operation must be submitted in writing to the Bureau of Air Quality within 30 days of completion of each job.

9. Testing and Sampling

The Bureau of Air Quality may require such testing and sampling as determined necessary, at any time, to verify compliance with NAC 445.430 through 445.846.

10. Noncompliance with any restrictions of the Permit to Construct (defined in Nevada Administrative Code 445.5635) will be deemed a violation of Nevada Administrative Code 445.430 through 445.846 and a Notice of Alleged Violation may be issued.
11. Fugitive dust from the handling, transporting or storing of any material will be controlled.
12. The Bureau of Air Quality will be notified in writing of commencement of construction, completion of construction, and commencement of operation in accordance with NAC 445.601.
13. The owner/operator subject to the restrictions of this Permit to Construct will cease operation when an upset or malfunction to the process or control equipment occurs.
14. Local grading, building, health or any other permits will be obtained from the appropriate agency as the issuance of this Permit to Construct does not preclude the necessity for their procurement. This permit does not cover any possible requirements for water quality or hazardous waste permits that may be required by Nevada statutes or regulations.

C6-2

Page 2 of 3

STATE OF NEVADA  
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
DIVISION OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY  
333 WEST NYE LANE  
CARSON CITY, NEVADA 89710

NO. 3199

AIR QUALITY PERMIT TO CONSTRUCT

Issued to: U.S. DEPARTMENT OF ENERGY, YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
P.O. Box 98608, LAS VEGAS, NEVADA 89193-8608

Location: PORTABLE

Restrictions Continued:

15. This Permit to Construct expires if construction of the source is not commenced and pursued diligently within one year from the date of issuance or construction of the source is delayed for one year after initiated.
16. The act of any person who:
  1. makes any false material statement, representation, or certification in, or omits material information from, or alter conceals, or fails to file or maintain any notice, application, record, report, plan, or other document required by this permit or director;
  2. fails to notify or report as required by the permit or director;
  3. falsifies, tampers with, renders inaccurate, or fails to install any monitoring device or method required by the permit or director;will constitute a violation of this permit and may result in a revocation of this permit.
17. Any relaxation of any limits contained in this permit that increases the potential to emit above the applicable PSD/A threshold will require a full PSD/NSR review of the source as though construction had not yet commenced.
18. The proposed facility is subject to and must comply with the Clean Air Act, including the provisions of the 1990 amendment and any regulations adopted by the Federal Government and/or the State of Nevada pursuant thereto.
19. The blue copy of this permit will be signed and returned to the Bureau of Air Quality postmarked within ten days of receipt. Failure to do so will result in this permit being invalidated.

This permit:

1. Is non-transferable in accordance with NAC 445.704.
2. Is issued on condition that the holder allows inspection of the premises by authorized representatives of the department at any time during hours of construction or operation, without prior notice.
3. Is issued on condition of acceptance of all restrictions and conditions contained on this permit evidenced by the signing hereof by an authorized representative.

Signature *L. H. Shifley, Jr.*  
Issued by Lowell H. Shifley, Jr., P.E.  
Chief, Bureau of Air Quality

Signature \_\_\_\_\_  
Print Name \_\_\_\_\_  
Authorized Representative of  
Department of Energy

Phone 687-5065 Date Sept. 21, 1992

Phone \_\_\_\_\_ Date \_\_\_\_\_  
C6-3

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APPENDIX C7

AIR QUALITY PERMIT TO CONSTRUCT  
NO. 3267

STATE OF NEVADA  
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
DIVISION OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY  
333 WEST NYE LANE  
CARSON CITY, NEVADA 89710

NO. 3267

AIR QUALITY PERMIT TO CONSTRUCT

Issued to: U.S. DEPARTMENT OF ENERGY, YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
P.O. Box 98608, LAS VEGAS, NEVADA 89193-8608

Location: PORTABLE

is granted a permit to construct, modify or establish the following source of air contaminant:

Cedareads model 1316 cone plant, consisting of a RCS4" cone crusher and a 6' x 20' screen, serial # unknown.

in accordance with Nevada Administrative Code (NAC) 445.430 through 445.846 and the plans, specifications or other materials submitted.

Restrictions:

1. Facilities Operation

All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of the Permit to Construct will at all times be maintained in good working order and be operated as efficiently as practical so as to minimize air pollutant emissions.

The owner/operator subject to the restrictions of this Permit to Construct will cease operation when an upset or malfunction to the process or control equipment occurs that results in continued excess emissions, subject to the provisions of NAC 445.667 through NAC 445.668.

2. Excess Emissions

The Bureau of Air Quality will be notified by telephone within 24 hours following any failure of air pollution control equipment, process equipment, or of a process, to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in the Permit to Construct restrictions. In addition, the Bureau of Air Quality will be notified in writing within fifteen (15) days of any such failure. This notification will include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the Permit to Construct, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision will not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause.

3. Right to Entry

The Bureau of Air Quality staff, upon the presentation of credentials, will be permitted at any time:

- to enter upon the premises where the source is located or in which any records are required to be kept under the terms and conditions of the Permit to Construct;
- to have access to and copy any records required to be kept under the terms and conditions of the Permit to Construct;
- to inspect any equipment, operation, or method required in the Permit to Construct;
- to sample emissions from the source or other process materials and conditions.

4. Severability

The provisions of the Permit to Construct are severable, and if any provision of the Permit to Construct is held invalid, the remainder of the Permit to Construct will not be affected thereby.

5. Other Applicable Regulations

The owner or operator of the facility will operate in compliance with all other applicable provisions of 40 CFR Parts 60 and 61 and Nevada Administrative Code 445.430 through 445.846.

Revised January 28, 1993

C7-1

Page 1 of 3

STATE OF NEVADA  
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
DIVISION OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY  
333 WEST NYE LANE  
CARSON CITY, NEVADA 89710

NO. 3267

AIR QUALITY PERMIT TO CONSTRUCT

Issued to: U.S. DEPARTMENT OF ENERGY, YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
P.O. Box 98608, LAS VEGAS, NEVADA 89193-8608

Location: PORTABLE

Restrictions Continued:

6. Air Pollution Equipment

The Department of Energy will operate and maintain the following air pollution controls during all times the above referenced sources are operational, in accordance with NAC 445.664, to meet the emission limits as specified in Section 7 (Emission Limits) of this Permit to Construct.

Control system consisting of water sprays

7. Emission Limits

On and after the date of startup of the cone plant, the Department of Energy will not discharge or cause the discharge into the atmosphere from the cone plant the following pollutants in excess of the following specified limits:

- A. The discharge of PM<sub>10</sub> (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 9.25 pounds per hour.
- B. The opacity from the cone crusher into the atmosphere will not exceed 15%. The opacity from the screen into the atmosphere will not exceed 10%.

8. Operating Parameters

- A. Maximum production will not exceed 225.00 tons per hour.
- B. Hours
  - (1) The cone plant will not operate in excess of 8 hours per day.
  - (2) The cone plant will not operate more than 2,000 hours total per calendar year.
- C. The specified maximum throughput, emission limit, and pollution controls only apply when the cone plant is operating as a single unit. The maximum throughput, emission limit, and pollution controls may be modified when this source is operated in conjunction with other portable or stationary sources. Any restrictions specified on a Site Specific Permit Attachment supersede those contained in this permit if more stringent.
- D. Actual production and hours of operation must be submitted in writing to the Bureau of Air Quality within 30 days of completion of each job.

9. Testing and Sampling

The Department of Energy will perform such testing and sampling as required by NAC 445.682, to verify compliance with NAC 445.430 through NAC 445.846, and the restrictions contained in this Permit to Construct.

10. Noncompliance with any restrictions of the Permit to Construct (defined in Nevada Administrative Code 445.5635) will be deemed a violation of Nevada Administrative Code 445.430 through 445.846 and a Notice of Alleged Violation may be issued.
11. Fugitive dust from the handling, transporting or storing of any material will be controlled.
12. The Bureau of Air Quality will be notified in writing of commencement of construction, completion of construction, and commencement of operation in accordance with NAC 445.681.
13. This Permit to Construct does not preclude or substitute for local grading, building, health or any other required federal, state or local permits, nor does it cover applicable requirements for water quality or hazardous waste permits required under Nevada statutes or regulations.
14. This Permit to Construct expires if construction of the source is not commenced and pursued diligently within one year from the date of issuance or construction of the source is delayed for one year after initiated.

Revised January 28, 1993

C7-2

Page 2 of 3

STATE OF NEVADA  
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
DIVISION OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY  
333 WEST NYE LANE  
CARSON CITY, NEVADA 89710

NO. 3267

AIR QUALITY PERMIT TO CONSTRUCT

Issued to: U.S. DEPARTMENT OF ENERGY, YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
P.O. BOX 98608, LAS VEGAS, NEVADA 89193-8608

Location: PORTABLE

Restrictions Continued:

15. The act of any person who:

- A. makes any false material statement, representation, or certification in, or omits material information from, or alters, conceals, or fails to file or maintain any notice, application, record, report, plan, or other document required by the permit or director;
- B. fails to notify or report as required by the permit or director;
- C. falsifies, tampers with, renders inaccurate, or fails to install any monitoring device or method required by the permit or director;
- D. violates any of the applicable provisions of NAC 445.430 through 445.846;

will constitute a violation of this permit and may result in a revocation of this permit and/or enforcement action in accordance with NAC 445.696.

17. Any relaxation of any limits contained in this permit that increases the potential to emit above the applicable PSD/NSR threshold will require a full PSD/NSR review of the facility as though construction of the new or altered equipment had not yet commenced.
18. The proposed facility is subject to and must comply with the Clean Air Act, including the provisions of the 1990 amendments and any regulations adopted by the Federal Government and/or the State of Nevada pursuant thereto.
19. The blue copy of this permit will be signed and returned to the Bureau of Air Quality postmarked within ten days of receipt. Failure to do so will result in this permit being invalidated.
20. Requests for change of location must be submitted, on the form provided, to the Bureau of Air Quality at least five working days prior to operation of the source at the new location. The request must include a \$90.00 fee and the estimated production in tons at the new location. However, operation must not commence until the Bureau of Air Quality approves the change of location.

This permit:

1. Is non-transferable in accordance with NAC 445.704.
2. Is issued on condition that the holder allows inspection of the premises by authorized representatives of the department at any time during hours of construction or operation, without prior notice.
3. Is issued on condition of acceptance of all restrictions and conditions contained on this permit as evidenced by the signing hereof by an authorized representative.

Signature Lowell H. Shifley, Jr.  
Issued by Lowell H. Shifley, Jr., P.E.  
Chief, Bureau of Air Quality

Signature \_\_\_\_\_  
Print Name \_\_\_\_\_

Authorized Representative of  
U.S. Department of Energy

Phone 687-5065 Date October 28, 1992 Phone \_\_\_\_\_ Date \_\_\_\_\_

Initial location:  
Section 7, T13S, R50E

Revised January 28, 1993

C7-3

Page 3 of 3

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APPENDIX C8

AIR QUALITY PERMIT TO CONSTRUCT  
NO. 3268

STATE OF NEVADA  
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
DIVISION OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY  
333 WEST NYE LANE  
CARSON CITY, NEVADA 89710

NO. 3268

AIR QUALITY PERMIT TO CONSTRUCT

Issued to: U.S. DEPARTMENT OF ENERGY, YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
P.O. BOX 98608, LAS VEGAS, NEVADA 89193-8608

Location: PORTABLE

is granted a permit to construct, modify or establish the following source of air contaminant:

Kolberg Series 28 diesel-hydraulic screening plant, serial # unknown.

in accordance with Nevada Administrative Code (NAC) 445.430 through 445.846 and the plans, specifications or other materials submitted.

Restrictions:

1. Facilities Operation

All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of the Permit to Construct will at all times be maintained in good working order and be operated as efficiently as practical so as to minimize air pollutant emissions.

The owner/operator subject to the restrictions of this Permit to Construct will cease operation when an upset or malfunction to the process or control equipment occurs that results in continued excess emissions, subject to the provisions of NAC 445.667 through NAC 445.668.

2. Excess Emissions

The Bureau of Air Quality will be notified by telephone within 24 hours following any failure of air pollution control equipment, process equipment, or of a process, to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in the Permit to Construct restrictions. In addition, the Bureau of Air Quality will be notified in writing within fifteen (15) days of any such failure. This notification will include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the Permit to Construct, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision will not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause.

3. Right to Entry

The Bureau of Air Quality staff, upon the presentation of credentials, will be permitted at any time:

- A. to enter upon the premises where the source is located or in which any records are required to be kept under the terms and conditions of the Permit to Construct;
- B. to have access to and copy any records required to be kept under the terms and conditions of the Permit to Construct;
- C. to inspect any equipment, operation, or method required in the Permit to Construct;
- D. to sample emissions from the source or other process materials and conditions.

4. Severability

The provisions of the Permit to Construct are severable, and if any provision of the Permit to Construct is held invalid, the remainder of the Permit to Construct will not be affected thereby.

5. Other Applicable Regulations

The owner or operator of the facility will operate in compliance with all other applicable provisions of 40 CFR Parts 60 and 61 and Nevada Administrative Code 445.430 through 445.846.

Air Pollution Equipment

The Department of Energy will operate and maintain the following air pollution controls during all times the above referenced sources are operational, in accordance with NAC 445.664, to meet the emission limits as specified in Section 7 (Emission Limits) of this Permit to Construct.

Control system consisting of water sprays

CB-1

STATE OF NEVADA  
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
DIVISION OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY  
333 WEST NYE LANE  
CARSON CITY, NEVADA 89710

NO. 3268

AIR QUALITY PERMIT TO CONSTRUCT

Issued to: U.S. DEPARTMENT OF ENERGY, YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
P.O. Box 98608, LAS VEGAS, NEVADA 89193-8608

Location: PORTABLE

Restrictions Continued:

7. Emission Limits

On and after the date of startup of the screening plant, the Department of Energy will not discharge or cause the discharge into the atmosphere from the screening plant the following pollutants in excess of the following specified limits:

- A. The discharge of PM<sub>10</sub> (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 12.60 pounds per hour.
- B. The opacity from the screening plant into the atmosphere will not exceed 10%.

8. Operating Parameters

- A. Maximum production will not exceed 350.00 tons per hour.
- B. Hours
  - (1) The screening plant will not operate in excess of 8 hours per day.
  - (2) The screening plant will not operate more than 8,760 hours total per calendar year.
- C. The specified maximum throughput, emission limit, and pollution controls only apply when the screening plant is operating as a single unit. The maximum throughput, emission limit, and pollution controls may be modified when this source is operated in conjunction with other portable or stationary sources. Any restrictions specified on a Site Specific Permit Attachment supersede those contained in this permit if more stringent.
- D. Actual production and hours of operation must be submitted in writing to the Bureau of Air Quality within 30 days of completion of each job.

9. Testing and Sampling

The Department of Energy will perform such testing and sampling as required by NAC 445.682, to verify compliance with MA 445.430 through NAC 445.846, and the restrictions contained in this Permit to Construct.

10. Noncompliance with any restrictions of the Permit to Construct (defined in Nevada Administrative Code 445.5635) will be deemed a violation of Nevada Administrative Code 445.430 through 445.846 and a Notice of Alleged Violation may be issued.
11. Fugitive dust from the handling, transporting or storing of any material will be controlled.
12. The Bureau of Air Quality will be notified in writing of commencement of construction, completion of construction, and commencement of operation in accordance with NAC 445.681.
13. This Permit to Construct does not preclude or substitute for local grading, building, health or any other required federal state or local permits, nor does it cover applicable requirements for water quality or hazardous waste permits required under Nevada statutes or regulations.
14. This Permit to Construct expires if construction of the source is not commenced and pursued diligently within one year from the date of issuance or construction of the source is delayed for one year after initiated.
15. The act of any person who:
  - A. makes any false material statement, representation, or certification in, or omits material information from, or alters contents, or fails to file or maintain any notice, application, record, report, plan, or other document required by this permit or director;
  - B. fails to notify or report as required by the permit or director;
  - C. falsifies, tampers with, renders inaccurate, or fails to install any monitoring device or method required by the permit or director;
  - D. violates any of the applicable provisions of NAC 445.430 through 445.846;will constitute a violation of this permit and may result in a revocation of this permit and/or enforcement action in accordance with NAC 445.696.

C8-2

Page 2 of 3

STATE OF NEVADA  
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
DIVISION OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY  
333 WEST NYE LANE  
CARSON CITY, NEVADA 89710

NO. 3268

AIR QUALITY PERMIT TO CONSTRUCT

Issued to: U.S. DEPARTMENT OF ENERGY, YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
P.O. BOX 98608, LAS VEGAS, NEVADA 89193-8608

Location: PORTABLE

Restrictions Continued:

17. Any relaxation of any limits contained in this permit that increases the potential to emit above the applicable PSD/NSS threshold will require a full PSD/NSS review of the facility as though construction of the new or altered equipment had not yet commenced.
18. The proposed facility is subject to and must comply with the Clean Air Act, including the provisions of the 1990 amendments and any regulations adopted by the Federal Government and/or the State of Nevada pursuant thereto.
19. The blue copy of this permit will be signed and returned to the Bureau of Air Quality postmarked within ten days of receipt. Failure to do so will result in this permit being invalidated.
20. Requests for change of location must be submitted, on the form provided, to the Bureau of Air Quality at least five working days prior to operation of the source at the new location. The request must include a \$90.00 fee and the estimated production in tons at the new location. However, operation must not commence until the Bureau of Air Quality approves the change of location.

This permit:

1. Is non-transferable in accordance with NAC 445.704.
2. Is issued on condition that the holder allows inspection of the premises by authorized representatives of the department at any time during hours of construction or operation, without prior notice.
3. Is issued on condition of acceptance of all restrictions and conditions contained on this permit as evidenced by the signing hereof by an authorized representative.

Signature Lowell H. Shifley, Jr.  
Issued by Lowell H. Shifley, Jr., P.E.  
Chief, Bureau of Air Quality

Signature Wendy R. Dixon  
Print Name Wendy R. Dixon  
Authorized Representative of

Phone 687-5065 Date October 28, 1992 Phone 794-7947 Date November 9, 1992  
U.S. Department of Energy

Initial location:  
Section 7, T13S, R50E

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APPENDIX C9

PERMIT TO APPROPRIATE PUBLIC WATERS  
OF THE STATE OF NEVADA  
NO. 52338

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APPLICATION FOR PERMIT TO APPROPRIATE THE PUBLIC WATERS OF THE STATE OF NEVADA

Date of filing in State Engineer's Office... JUL 20 1988
Returned to applicant for correction... SEP 14 1988
Corrected application filed... OCT 18 1988
Map filed... OCT 19 1988

The applicant... U.S. Department of Energy
Post Office Box 98518 of Las Vegas
Nevada 89193-9518
I hereby make application for permission to appropriate the public waters of the State of Nevada, as hereinafter stated.

- 1 The source of the proposed appropriation is... Underground
2 The amount of water applied for is... 1.2
3 The water to be used for... Other use (See No. 12) Industrial and Domestic
4 If use is for: (a) Irrigation, state number of acres to be irrigated...
(b) Stockwater, state number and kinds of animals to be watered...
(c) Other use (describe fully under No. 12. "Remarks" See No. 12.
(d) Power: (1) Horsepower developed...
(2) Point of return of water to stream...
5 The water is to be diverted from its source at the following point... NE1/4 of the SW1/4 SEC. 13, T. 12S., R. 50E. (MDBEM) at a distance of 13,298 feet from the SW corner of SEC. 31.
6 Place of use... Sections 14-18, 19-23, 26-30, and 31-35, T. 12S., R. 50E.; Sections 13-36, T. 12S., R. 49E.; Sections 13, 25-29, and 32-36, T. 12S., R. 48E.; Sections 7-9, 16-21, and 28-33, T. 13S., R. 50E.; Sections 7-16, T. 13S., R. 49E.; Sections 10-15, 22-27, and 34-36, T. 13S., R. 48E.; Sections 4-9, T. 14S., R. 50E.; Section 1-12, 15-22, and 27-34, T. 14S., R. 49E.; Sections 1-3, 10-15, 22-27, and 36, T. 14S., R. 48E.; Sections 3-6, T. 15S., R. 49E.; Section 1, T. 15S., R. 48E.
7 Use will begin about... 01/01 and end about... 12/31 of each year.
8 Description of proposed works... See attached sheet, No. 8.

- 8 Estimated cost of works Existing = \$40,000 Planned = \$100,000
- 9 Estimated time required to construct works Five months. See No. 9 for details.
- 10 Estimated time required to complete the application of water to beneficial use 1 year.
- 11 Remarks: For use other than irrigation or stock watering, state number and type of units to be served or annual consumptive use

This application is made in support of the site characterization program for Yucca Mountain, Nevada. See the attached sheet (No. 10) for water use estimates during the first 7 years of the site characterization program (No. 10). Attached to this attachment is a breakdown of the various uses to which the water will be applied.

By: s/ Frank E. Bindman  
P.O. Box 9618  
Las Vegas, Nevada 89193-0518

Compared: 12/93 12/98

Processed: 12/99 by U.S.A. National Park Service  
Pro. overruled.  
Ruling No. 1370

APPROVAL OF STATE ENGINEER

This is to certify that I have examined the foregoing application, and do hereby grant the same subject to the following limitations and conditions:

This permit is issued subject to existing rights. It is understood that the amount of water herein granted is only a temporary allowance issued under the provisions of NRS 533.371 for a finite period of time. This permit will expire on April 9, 2002 and all rights herein will revert back to the source but subject to reinstatement and extension of the permit for good cause shown. It is also understood that this right must allow for a reasonable lowering of the static water level. This well shall be equipped with a two (2) inch opening for measuring depth to water. A totalizing meter must be installed and maintained in the discharge pipeline near the point of diversion and accurate measurements must be kept of water placed to beneficial use. The totalizing meter must be installed before any use of water begins, or before the Proof of Completion of Work is filed. The State retains the right to regulate the use of the water herein granted at any and all times.

This permit does not extend the permittee the right of ingress and egress on public, private or corporate lands.

The issuance of this permit does not waive the requirements that the permit holder obtain other permits from State, Federal and local agencies.

(CONTINUED ON PAGE 2)  
The amount of water to be appropriated shall be limited to the amount which can be applied to beneficial use, and not to exceed \_\_\_\_\_ cubic feet per second, BUT NOT TO EXCEED 34.81 acre-feet annually.

Work must be prosecuted with reasonable diligence and be completed on or before April 9, 1993

Proof of completion of work shall be filed before May 9, 1993

Application of water to beneficial use shall be filed on or before April 9, 2002  
Permit Expires

Proof of the application of water to beneficial use shall be filed on or before N/A - April 9, 2002

Map in support of proof of beneficial use shall be filed on or before N.A.

Completion of work filed \_\_\_\_\_  
Proof of beneficial use filed \_\_\_\_\_  
Cultural map filed \_\_\_\_\_  
Certificate No. \_\_\_\_\_

IN TESTIMONY WHEREOF, I, MICHAEL TURNER, P.E.  
State Engineer of Nevada, have hereunto set my hand and the seal of my office, this 9th day of April  
A.D. 1993  
*[Signature]*  
State Engineer

### REQUIREMENTS TO FULFILL THE TERMS OF YOUR PERMIT

The State of Nevada has, by issuing this permit, granted your request to appropriate the public waters, subject to certain terms and conditions. It is strongly suggested that you carefully review the permit so that you will be aware of all terms, conditions, deadlines and limitations contained within the State Engineer's approval. If you fail to comply with those terms and conditions, your permit will be subject to cancellation as required under existing statutes. If you have any questions or require assistance, please do not hesitate to contact this office (702) 687-4380 or either of our branch offices located in Elko (702) 738-7211 and Las Vegas (702) 798-4505.

#### PROOF OF COMPLETION OF WORK

You have been given a deadline within which to complete your works of diversion and file the required Proof of Completion of Work. Please note this deadline under your permit. Proof must be made by submitting to the office of the State Engineer a completed and notarized form, which will be provided by this office at no cost. The proof must also be accompanied by a filing fee of \$10.00. Forms will be provided upon request, or will be enclosed with a certified notice from this office which will be mailed to you upon expiration of the deadline. Proof may be submitted at any time prior to the deadline, upon completion of your works of diversion.

In the case of a well, the well must be completely drilled and cased, with a pump and motor installed. The well driller's log must also be filed in the office of the State Engineer.

In the case of other sources, such as surface water, the diversion structure and conduits must be completed.

#### PROOF OF BENEFICIAL USE

You have also been given a deadline for placing the water to beneficial use. Please note this deadline under your permit.

Proof of beneficial use must be made by submitting a completed proof form, provided at no cost by this office, along with \$50.00 filing fee. Proof may be submitted at any time that you have made beneficial use to the full amount allowed by the permit, or to a lesser amount if the full amount is not required.

The State Engineer's approval establishes a specific limitation on the amount of water which may be used. The amount actually beneficially used within the time limitations of your permit will establish the final limit and extent of your water right.

The terms of your permit may also require the filing of a map in support of the Proof of Beneficial Use. If so, please note that this deadline corresponds with the date for filing of your proof.

Rev. 3-14-90

No estimates available beyond 7 years.

YEAR 1	15.0	gall
YEAR 2	15.0	gall
YEAR 3	15.0	gall
YEAR 4	15.0	gall
YEAR 5	15.0	gall
YEAR 6	15.0	gall
YEAR 7	15.0	gall

ESTIMATED ANNUAL WATER CONSUMPTION

Well No. 1 is an existing well on the MTS. The well is equipped with a pumping station (see specifications of well and pumping station on the drawing that accompanies this application). A 2.2-million-gallon-per-minute (MGD) discharge pipe buried 2 feet below grade extends from the well to the corner of the MTS. A booster pumping station will be installed about halfway (based on elevation) between the well and the office of use (see specifications of pumping station on the drawing that accompanies this application). The existing pipeline will be extended approximately 4,000 feet to the office of use where it will be buried into a 150,000-gallon water tank located in the NE 1/4, SEC. 14, T12N, R13E, and the water will be used throughout this same area.

This permit is issued subject to: 1) compliance with the monitoring program for the groundwater levels and spring flows in the Tucca Mountain Region of Southern Nevada and California, February 1991, United States Department of Energy, (Tucca Mountain Project Office); 2) data collected from the monitoring program shall be submitted to the State Engineer's office on a quarterly basis, within 15 days after the end of each calendar quarter; 3) the terms and conditions set forth in State Engineer's Ruling No. 1870, dated March 2, 1991. The amount of water pumped from this well shall be taken on a monthly basis at the pumpage suggested to the State Engineer's office on a quarterly basis with 15 days after the end of each calendar quarter.

PERMIT TERMS CONTINUED

105 ESTIMATED WATER REQUIREMENTS FOR SITE CHARACTERIZATION  
OF RUCCA MOUNTAIN

Activity	Millions	Acres-feet
EXPLORATORY SHAFT FACILITY		
Site Preparation	5,700,000	10.5
ESF Surface Construction	2,100,000	5.4
ES-1 Collar	1,000,000	3
Sinking of ES-1	5,400,000	13.6
ES-2 Construction	2,500,000	8
Underground Construction	2,500,000	7.7
Testing/Construction	2,100,000	5.4
Just Control	43,000,000	131.9
Contingency (10%)	6,840,000	20.4
2. SURFACE BASED TESTING		
Drilling (includes holes in unsaturated zone, water table, USW M-7, as well as geologic, volcanic, and calcite/silica holes, surface-facility holes, holes for Phase I and II of performance assessment, in situ stress holes, and holes for the southern tracer complex)	11,122,000	34
Testing (includes large- and small-plot rainfall simulation, ponding studies, and studies of in situ stress)	1,302,000	4
Just Control	45,600,000	140
<hr/>		
1. Total for ESF	73,040,000	224
2. Total for Surface Based	58,024,000	178
<b>GRAND TOTAL</b>	<b>131,064,000</b>	<b>402</b>



APPENDIX C10

PERMIT TO APPROPRIATE PUBLIC WATERS  
OF THE STATE OF NEVADA  
NO. 57373

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No. 5737

APPLICATION FOR PERMIT TO APPROPRIATE THE PUBLIC WATERS OF THE STATE OF NEVADA

Date of filing in State Engineer's Office APP 02 1992

Returned to applicant for correction

Corrected application filed

Map filed MAY 13 1992

The applicant U. S. Department of Energy, Nevada Operations Office

2753 South Highland of Las Vegas

Nevada 89109 City or Town

State and Zip Code No. hereby make application for permission to appropriate the public waters of the State of Nevada, as hereinafter stated. (If applicant is a corporation, give date and place of incorporation; if a copartnership or association, give names of members.)

1. The source of the proposed appropriation is Underground

2. The amount of water applied for is 1.0 second-feet

(a) If stored in reservoir give number of acn. feet

3. The water to be used for Industrial

4. If use is for:

(a) Irrigation, state number of acres to be irrigated

(b) Stockwater, state number and kinds of animals to be watered

(c) Other use (describe fully under No. 12. "Remarks")

(d) Power:

(1) Horsepower developed

(2) Point of return of water to stream

5. The water is to be diverted from its source at the following point SW 1/4 NE 1/4, Section 6, T.14S., R. 50E.

M.N.B.&M. at a point from which the SW corner of Section 6, said township and range, bears S. 51° 08' 04" W., a distance of 4332.31 feet.

6. Place of use... C10-1

7 Use will begin about January 1st Month and Day and end about December 31st Month and Day of each year.

8. Description of proposed works. (Under the provisions of NRS 535.010 you may be required to submit plans and specifications of your diversion or storage works, drilled well, pump and motor, water tank and distribution system.

Such material is to be submitted to the Director, L.S. Department of Fisheries, Wildlife and Parks, divided into plans, pump and motor, etc.

C10-2

1972 JUL 1 5

2025 RELEASE UNDER E.O. 14176

- 9. Estimated cost of works \$1,330,000.00
- 10. Estimated time required to construct works completed  
If well completed, construct works.
- 11. Estimated time required to complete the application of water to beneficial use 10 years

12. Remarks: For use other than irrigation or stock watering, state number and type of units to be served or annual consumptive use:  
This application 57374 and applications 57375 and 57376 shall not exceed 430.19 acre feet per annum from any and/or all sources. For the proposed use please refer to Exhibit "B". Well designation J-12.

U.S. D.O.E., Nevada Operations Office  
 By s/Wendy Dixon WENDY DIXON  
2753 South Highland  
Las Vegas, Nevada 89109

Compared hc/bc ad/se

Protested 7-23-92 by US Fish & Wildlife Service, 7-27-92 US Dept. of Interior  
National Park Se

APPROVAL OF STATE ENGINEER

This is to certify that I have examined the foregoing application, and do hereby grant the same, subject to the following limitations and conditions:

This permit is issued subject to existing rights. It is understood that the amount of water herein granted is only a temporary allowance issued under the provisions of NRS 533.371 for a finite period of time. This permit will expire on April 9, 2002 and all rights herein will revert back to the source but subject to reinstatement and extension of the permit for good cause shown. It is also understood that this right must allow for a reasonable lowering of the static water level. This well shall be equipped with a two (2) inch opening for measuring depth to water. A totalizing meter must be installed and maintained in the discharge pipeline near the point of diversion and accurate measurements must be kept of water placed to beneficial use. The totalizing meter must be installed before any use of water begins, or before the Proof of Completion of Work is filed. The State retains the right to regulate the use of the water herein granted at any and all times.

This permit does not extend the permittee the right of ingress and egress on public, private or corporate lands.  
 The issuance of this permit does not waive the requirements that the permit holder obtain other permits from State, Federal and local agencies.

(CONTINUED ON PAGE 2)  
 The amount of water to be appropriated shall be limited to the amount which can be applied to beneficial use, and not to exceed 1.0 cubic feet per second, but not to exceed 430.19 acre-feet annually.

Work must be prosecuted with reasonable diligence and be completed on or before March 9, 1993  
 Proof of completion of work shall be filed before April 9, 1993  
 Application of water to beneficial use shall be filed on or before March 9, 2002

Proof of the application of water to beneficial use shall be filed on or before April 2, 2002

Map in support of proof of beneficial use shall be filed on or before N/A

Completion of work filed \_\_\_\_\_

Proof of beneficial use filed \_\_\_\_\_

Cultural map filed \_\_\_\_\_

Certificate No. \_\_\_\_\_ Issued \_\_\_\_\_

IN TESTIMONY WHEREOF, I, R. MICHAEL TURNIPSEED, P. E.

State Engineer of Nevada, have hereunto set my hand and the seal of my

office, this 19th day of August

A. D. 1992

  
State Engineer

 100-1100-10-000

Page 2

57373

(PERMIT TERMS CONTINUED)

This permit is issued subject to: 1) Compliance with the monitoring program titled "Monitoring Program for the Groundwater Levels and Spring Flows in the Yucca Mountain Region of Southern Nevada and California, February 1991, United States Department of Energy, Yucca Mountain Project Office." 2) Data collected from said monitoring program shall be submitted to the State Engineer's office on a quarterly basis, within 30 days after the end of each calendar quarter. 3) The terms and conditions set forth in State Engineer's Ruling No. 3870, dated March 2, 1992.

Monthly records shall be kept of the amount of water pumped from this well and the records submitted to the State Engineer on a quarterly basis within 15 days after the end of each calendar quarter.

The total combined duty of water under Permits 57373, 57374 and 57376 shall not exceed 430.19 acre-feet annually.

**EXHIBIT "A"**

All T. 12 S., R. 48 E.; All T. 12 S., R. 49 E.; Sections 14 through 23 and 26 through 35. T. 12 S., R. 50 E.; All T. 13 S., R. 48 E.; All T. 13 S., R. 49 E.; Sections 7 through 9, 16 through 21 and 28 through 33. T. 13 S., R. 50 E.; Sections 1 through 3, 10 through 15, 22 through 27 and Section 36. T. 14 S., R. 48 E.; Sections 1 through 12, 15 through 22 and 27 through 34. T. 14 S., R. 49 E.; Sections 4 through 9. T. 14 S., R. 50 E.; Section 1, T. 15 S., R. 48 E.; Sections 3 through 6. T. 15 S., R. 49 E., all within M.D.B. & M. (unsurveyed)

**EXHIBIT "B"**

The Proposed Use is for road construction, dust suppression, tunneling, pad construction, scientific tests, culinary and other related site uses.

APPENDIX C11

PERMIT TO APPROPRIATE PUBLIC WATERS  
OF THE STATE OF NEVADA  
NO. 57374

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APPLICATION FOR PERMIT TO APPROPRIATE THE PUBLIC WATERS OF THE STATE OF NEVADA

Date of filing in State Engineer's Office APR 2 - 1992

Returned to applicant for correction

Corrected application filed

Map filed MAY 15 1992 UNDER 57373

The applicant U.S. Department of Energy, Nevada Operations Office

2753 South Highland

Las Vegas

Nevada 89109

herby make application for permission to appropriate the public waters of the State of Nevada, as hereinafter stated. (If applicant is a corporation, give date and place of incorporation; if a partnership or association, give names of members.)

1. The source of the proposed appropriation is Underground

2. The amount of water applied for is 2.8 second-feet

(a) If stored in reservoir give number of acre-feet

3. The water to be used for Industrial

4. If use is for:

(a) Irrigation, state number of acres to be irrigated

(b) Stockwater, state number and kinds of animals to be watered

(c) Other use (describe fully under No. 12 "Remarks")

(d) Power:

(1) Horsepower developed

(2) Point of return of water to stream

5. The water is to be diverted from its source at the following point YES SW, Section 19, T.13S.,

R.50E., N.D.R.6M., at a point from which the SW corner of Section 31, T.13S.,

R.50E., N.D.R.6M., bears S. 08° 46' 06" W., a distance of 11,298 feet.

6. Place of use SEE ATTACHED EXHIBIT "A"

7. Use will begin about January 1st and end about December 31st of each year

8. Description of proposed works. (Under the provisions of NRS 535.010 you may be required to submit plans and specifications of your diversion or storage works.) drilled well with pump and motor line

CORRECTED PERMIT

9 Estimated cost of works 21,330,000.00

10 Estimated time required to construct works Completed under #52338

11 Estimated time required to complete the application of water to beneficial use 10 years

12 Remarks: For use other than irrigation or stock watering, state number and type of units to be served or annual consumptive use:

This application 57373 and applications 57375 and 57376 shall not exceed 430.1 acre feet per annum from any and/or all sources. For the proposed use please refer to Exhibit "B". Well designation J-13.

U.S. D.O.E., Nevada Operations Office  
s/ Wendy Dixon -TROY DIXON  
By \_\_\_\_\_  
1733 South Highways  
Las Vegas, Nevada 89109

Completed ap/ 88 ap/ 88

Protest 7-21-92 By US Fish & Wildlife Service, 7-27-92 by US Dept. of Interior National Park Service  
Protest upheld, see permit terms.

APPROVAL OF STATE ENGINEER

This is to certify that I have examined the foregoing application, and do hereby grant the same, subject to the following conditions and comments:

This permit is issued subject to existing rights. It is understood that the amount of water herein granted is only a temporary allowance issued under the provisions of NRS 533.371 for a finite period of time. This permit will expire on April 9, 2002 and all rights herein will revert back to the source but subject to reinstatement and extension of the permit for good cause shown. It is also understood that this right must allow for a reasonable lowering of the static water level. This well shall be equipped with a 12 (12) inch opening for measuring depth to water. A totalizing meter must be installed and maintained in the discharge pipeline near the point of diversion and accurate measurements must be kept of water placed to beneficial use. The totalizing meter must be installed before any use of water begins, or before the Proof of Completion of Work is filed. The State retains the right to regulate the use of the water herein granted at any and all times.

This permit does not extend the permittee the right of ingress and egress on public, private or corporate lands.

The issuance of this permit does not waive the requirements that the permit holder obtain other permits from State, Federal and local agencies.

(CONTINUED ON PAGE 2)

The amount of water to be appropriated shall be limited to the amount which can be applied to beneficial use, and not to exceed 7.8 cubic feet per second, but not to exceed 430.19 acre-feet annually.

Work must be prosecuted with reasonable diligence and be completed on or before MARCH 9, 1993

Proof of completion of work shall be filed before April 9, 1993

Application of water to beneficial use shall be filed on or before MARCH 9, 2002

Proof of the application of water to beneficial use shall be filed on or before PERMIT EXPIRES April 9, 2002

Map in support of proof of beneficial use shall be filed on or before N/A

Completion of work filed \_\_\_\_\_

Proof of beneficial use filed \_\_\_\_\_

Cultural map filed \_\_\_\_\_

Condition No. \_\_\_\_\_

IN TESTIMONY WHEREOF, I, R. MICHAEL TURNIPSEED, P. E., State Engineer of Nevada, have hereunto set my hand and the seal of my office, this 2nd day of OCTOBER

A.D. 1992

*[Signature]*  
State Engineer

## REQUIREMENTS TO FULFILL THE TERMS OF YOUR PERMIT

The State of Nevada has, by issuing this permit, granted your request to appropriate the public waters, subject to certain terms and conditions. It is strongly suggested that you carefully review the permit so that you will be aware of all terms, conditions, deadlines and limitations contained within the State Engineer's approval. If you fail to comply with those terms and conditions, your permit will be subject to cancellation as required under existing statutes. If you have any questions or require assistance, please do not hesitate to contact this office (702) 687-4380 or either of our branch offices located in Elko (702) 738-7211 and Las Vegas (702) 798-4505.

### PROOF OF COMPLETION OF WORK

You have been given a deadline within which to complete your works of diversion and file the required Proof of Completion of Work. Please note this deadline under your permit. Proof must be made by submitting to the office of the State Engineer a completed and notarized form, which will be provided by this office at no cost. The proof must also be accompanied by a filing fee of \$10.00. Forms will be provided upon request, or will be enclosed with a certified notice from this office which will be mailed to you upon expiration of the deadline. Proof may be submitted at any time prior to the deadline, upon completion of your works of diversion.

In the case of a well, the well must be completely drilled and cased, with a pump and motor installed. The well driller's log must also be filed in the office of the State Engineer.

In the case of other sources, such as surface water, the diversion structure and conduits must be completed.

### PROOF OF BENEFICIAL USE

You have also been given a deadline for placing the water to beneficial use. Please note this deadline under your permit.

Proof of beneficial use must be made by submitting a completed proof form, provided at no cost by this office, along with \$50.00 filing fee. Proof may be submitted at any time that you have made beneficial use to the full amount allowed by the permit, or to a lesser amount if the full amount is not required.

The State Engineer's approval establishes a specific limitation on the amount of water which may be used. The amount actually beneficially used within the time limitations of your permit will establish the final limit and extent of your water right.

The terms of your permit may also require the filing of a map in support of the Proof of Beneficial Use. If so, please note that this deadline corresponds with the date for filing of your proof.

Rev. 3-14-90

## PERMIT TERMS CONTINUED)

This permit is issued subject to: 1) Compliance with the monitoring program titled "Monitoring Program for the Groundwater Levels and Spring Flows in the Yucca Mountain Region of Southern Nevada and California," February 1991, United States Department of Energy, Yucca Mountain Project Office." 2) Data collected from the monitoring program shall be submitted to the State Engineer's office on a quarterly basis, within 30 days after the end of each calendar quarter. 3) The terms and conditions set forth in State Engineer's Ruling No. 1870, dated March 2, 1992.

Monthly records shall be kept of the amount of water pumped from this well and the records submitted to the State Engineer on a quarterly basis within 15 days after the end of each calendar quarter.

The total combined duty of water under Permits 57373, 57374 and 57376 shall not exceed 430.19 acre-feet annually.

## EXHIBIT "A"

All T. 12 S., R. 48 E.; All T. 12 S., R. 49 E.; Sections 14 through 23 and 26 through 35, T. 12 S., R. 50 E.; All T. 13 S., R. 48 E.; All T. 13 S., R. 49 E.; Sections 7 through 9, 16 through 21 and 28 through 33, T. 13 S., R. 50 E.; Sections 1 through 3, 10 through 15, 22 through 27 and Section 36, T. 14 S., R. 48 E.; Sections 1 through 12, 15 through 22 and 27 through 34, T. 14 S., R. 49 E.; Sections 4 through 9, T. 14 S., R. 50 E.; Section 1, T. 15 S., R. 48 E.; Sections 3 through 6, T. 15 S., R. 49 E., all within M.D.B. & M. (unsurveyed)

## EXHIBIT "D"

The Proposed Use is for road construction, dust suppression, tunneling, pad construction, scientific tests, culinary and other related site uses.

No. 57374

APPLICATION FOR PERMIT TO APPROPRIATE THE PUBLIC WATERS OF THE STATE OF NEVADA

Date of filing in State Engineer's Office APR 02 1992

Returned to applicant for correction

Corrected application filed

Map filed MAY 13 1992 under 57373

The applicant U.S. Department of Energy, Nevada Operations Office

2753 South Highland

Street and No. or P.O. Box No.

of Las Vegas

City or Town

Nevada 89109

State and Zip Code No.

hereby make 5 application for permission to appropriate the public waters of the State of Nevada, as hereinafter stated. (If applicant is a corporation, give date and place of incorporation; if a copartnership or association, give names of members.)

1. The source of the proposed appropriation is Underground
Methods of stream, lake, spring, underground or other source

2. The amount of water applied for is 0.8 second-feet
Use acre-feet and express each 0.01 acre-foot per min.
(a) If stored in reservoir give number of acre-feet

3. The water to be used for Industrial
Irrigation, power, mining, manufacturing, domestic, or other use. Detail listed in item 4.

4. If use is for:
(a) Irrigation, state number of acres to be irrigated
(b) Stockwater, state number and kinds of animals to be watered
(c) Other use (describe fully under No. 12. "Remarks")
(d) Power:
(1) Horsepower developed
(2) Point of return of water to stream

5. The water is to be diverted from its source at the following point NE 1/4 SW 1/4, Section 19, T.13S., R.50E
M.D.B.&M. at a point from which the SW corner of Section 31, T.13S., R.50E..
M.D.B.&M., bears S. 08° 46' 06" W., a distance of 13,298 feet.

6. Place of use SEE ATTACHED EXHIBIT "A" C11-5

7. Use will begin about January 1st and end about December 31st of each year.  
Month and Day Month and Day

8. Description of proposed works. (Under the provisions of NRS 535.010 you may be required to submit plans and specifications of your diversion or storage works.) drilled well with pump and motor, line reservoir.  
List manner in which water is to be diverted, i.e. diversion structure, ditch and pump, stored water with pump and motor, etc.



9. Estimated cost of works \$1,330,000.00

10. Estimated time required to construct works completed under #52338  
If well completed, describe works.

11. Estimated time required to complete the application of water to beneficial use 10 years

12. Remarks: For use other than irrigation or stock watering, state number and type of units to be served or annual consumptive use:

This application 57373 and applications 57375 and 57376 shall not exceed 430.19 acre feet per annum from any and/or all sources. For the proposed use please refer to Exhibit "B". Well designation J-13.

U.S. D.O.E., Nevada Operations Office  
 By s/Wendy Dixon WENDY DIXON  
2753 South Highland  
Las Vegas, Nevada 89109

Compared bc/bc ap/se

Processed 7-23-92 by US Fish & Wildlife Service, 7-27-92 US Dept. of Interior  
National Park Service

APPROVAL OF STATE ENGINEER

This is to certify that I have examined the foregoing application, and do hereby grant the same, subject to the following limitations and conditions:

This permit is issued subject to existing rights. It is understood that the amount of water herein granted is only a temporary allowance issued under the provisions of NRS 533.371 for a finite period of time. This permit will expire on April 9, 2002 and all rights herein will revert back to the source but subject to reinstatement and extension of the permit for good cause shown. It is also understood that this right must allow for a reasonable lowering of the static water level. This well shall be equipped with a two (2) inch opening for measuring depth to water. A totalizing meter must be installed and maintained in the discharge pipeline near the point of diversion and accurate measurements must be kept of water placed to beneficial use. The totalizing meter must be installed before any use of water begins, or before the Proof of Completion of Work is filed. The State retains the right to regulate the use of the water herein granted at any and all times.

This permit does not extend the permittee the right of ingress and egress on public, private or corporate lands.

The issuance of this permit does not waive the requirements that the permit holder obtain other permits from State, Federal and local agencies.

(CONTINUED ON PAGE 2)

The amount of water to be appropriated shall be limited to the amount which can be applied to beneficial use, and not to exceed 1.0 cubic feet per second, but not to exceed 430.19 acre-feet annually.

Work must be prosecuted with reasonable diligence and be completed on or before MARCH 9, 1993

Proof of completion of work shall be filed before C11-7 April 9, 1993

Proof of the application of water to beneficial use shall be filed on or before \_\_\_\_\_ Permit Expires  
April 9, 2002

Map in support of proof of beneficial use shall be filed on or before \_\_\_\_\_ N/A

Completion of work filed \_\_\_\_\_  
Proof of beneficial use filed \_\_\_\_\_  
Cultural map filed \_\_\_\_\_  
Certificate No. \_\_\_\_\_ (issued \_\_\_\_\_)

IN TESTIMONY WHEREOF, I, B. MICHAEL TURNIPSEED, P.E.  
State Engineer of Nevada, have hereunto set my hand and the seal of my  
office, this 19th day of August  
A.D. 1992  
  
State Engineer

(PERMIT TERMS CONTINUED)

This permit is issued subject to: 1) Compliance with the monitoring program titled "Monitoring Program for the Groundwater Levels and Spring Flows in the Yucca Mountain Region of Southern Nevada and California, February 1991, United States Department of Energy, Yucca Mountain Project Office." 2) Data collected from said monitoring program shall be submitted to the State Engineer's office on a quarterly basis, within 30 days after the end of each calendar quarter. 3) The terms and conditions set forth in State Engineer's Ruling No. 3870, dated March 2, 1992.

Monthly records shall be kept of the amount of water pumped from this well and the records submitted to the State Engineer on a quarterly basis within 15 days after the end of each calendar quarter.

The total combined duty of water under Permits 57373, 57374 and 57376 shall not exceed 430.19 acre-feet annually.

EXHIBIT "A"

All T. 12 S., R. 48 E.; All T. 12 S., R. 49 E.; Sections 14 through 23 and 26 through 35, T. 12 S., R. 50 E.; All T. 13 S., R. 48 E.; All T. 13 S., R. 49 E.; Sections 7 through 9, 16 through 21 and 28 through 33, T. 13 S., R. 50 E.; Sections 1 through 3, 10 through 15, 22 through 27 and Section 36, T. 14 S., R. 48 E.; Sections 1 through 12, 15 through 22 and 27 through 34, T. 14 S., R. 49 E.; Sections 4 through 9, T. 14 S., R. 50 E.; Section 1, T. 15 S., R. 48 E.; Sections 3 through 6, T. 15 S., R. 49 E., all within M.D.B. & M. (unsurveyed)

EXHIBIT "B"

The Proposed Use is for road construction, dust suppression, tunneling, pad construction, scientific tests, culinary and other related site uses.



APPENDIX C12

PERMIT TO CHANGE POINT OF DIVERSION, MANNER  
OF USE AND PLACE OF USE OF THE PUBLIC  
WATERS OF THE STATE OF NEVADA  
NO. 57326T



PERMISSION

Serial No 573287

APPLICATION FOR PERMISSION TO CHANGE POINT OF DIVERSION, MANNER OF USE AND PLACE OF USE OF THE PUBLIC WATERS OF THE STATE OF NEVADA HERETOFORE APPROPRIATED

Date of filing in State Engineer's Office 1489 20 1992

Returned to applicant for correction

Corrected application filed

The applicant S. Department of Energy, Nevada Operations Office

2753 South Highland Las Vegas

Nevada 89109

Place of Use

If water heretofore appropriated under Permit #45984

The source of water is underground

1. The amount of water to be changed 1.0 c.f.s. 23.0 M.G.A.

2. The water to be used for Same as heretofore

3. The water heretofore permitted for Construction

4. The water is to be diverted at the following point NE 1/4 SW 1/4 Section 27, T. 13 S., R. 48 E., M.D.B.S.M. or at a point from which the SE corner of Section 36, T. 13 S., R. 48 E., M.D.B.S.M. bears S. 51° 14' 56" E., a distance of 15,160.21 feet.

5. The existing permitted point of diversion is located within unchanged

6. Proposed place of use please refer to exhibit 11

7. Existing place of use T. 12S., R. 48E.; T. 13S., R. 48E.; T. 13S., R. 49E.; T. 12S., R. 49E. all within M.D.B.S.M. (unsurveyed)

8. Use will be from January 1st to December 31st of each

9. Use was permitted from January 1st to December 31st of each

10. Description of proposed works. (Under the provisions of NRS 335.010 you may be required to submit plan specifications of your diversion or storage works.) drilled well, pump, motor, line reservoir WATER MAY BE PIPED OR TRUCKED WITHIN PLACE OF USE.

11. Estimated cost of works \$30,000.00

12. Estimated time required to construct works completed under #45984



TEMPORARY

Serial No. 56723

APPLICATION FOR PERMISSION TO CHANGE POINT OF DIVERSION, MANN  
USE OF THE PUBLIC WATERS OF THE  
DA HERETOFORE APPROPRIATED

SEP 3 1981

*[Handwritten signature]*

Map filed OCT 18 1988 under 5

NEWT. NEVADA OPERATIONS OFFICE

2753 South Highland Las Vegas

Nevada 89109 Nevada City of Reno

Place of Use Jerry Mabe application for permission to change

of water heretofore appropriated under Permit 45984

Point of diversion, change to new water source to use

of water heretofore appropriated under Permit 45984

Point of diversion, change to new water source to use

of water heretofore appropriated under Permit 45984

Point of diversion, change to new water source to use

of water heretofore appropriated under Permit 45984

Point of diversion, change to new water source to use

of water heretofore appropriated under Permit 45984

Point of diversion, change to new water source to use

of water heretofore appropriated under Permit 45984

Point of diversion, change to new water source to use

of water heretofore appropriated under Permit 45984

Point of diversion, change to new water source to use

of water heretofore appropriated under Permit 45984

Point of diversion, change to new water source to use

of water heretofore appropriated under Permit 45984

Point of diversion, change to new water source to use

of water heretofore appropriated under Permit 45984

Point of diversion, change to new water source to use

of water heretofore appropriated under Permit 45984

Point of diversion, change to new water source to use

of water heretofore appropriated under Permit 45984

Point of diversion, change to new water source to use

of water heretofore appropriated under Permit 45984

Point of diversion, change to new water source to use

of water heretofore appropriated under Permit 45984

Point of diversion, change to new water source to use

of water heretofore appropriated under Permit 45984

Point of diversion, change to new water source to use

of water heretofore appropriated under Permit 45984



2025 RELEASE UNDER E.O. 14176

4. Estimates were required to compare the application of water to beneficial use LABORATORY

5. Remarks: For use other than irrigation or stock watering, state number and type of units to be served or other appropriate use:

Water will be used for activities which include road construction, trenching and construction, canals or M.T.S., and for proposed Point of Diversion refer to map filed in support of 45984, for proposed place of use refer to map filed in support of 45984 and 52338. For existing point of diversion and place of use refer to map filed in support of 45984.

By Jack O. Ferris  
THIEL, WINCHELL & ASSOCIATES, INC.  
34 Lakes Blvd., Suite 101  
Dayton, NV 89403

Compare 7/80 7/80

Process

**APPROVAL OF STATE ENGINEER**

This is to certify that I have examined the foregoing application, and do hereby grant the same, subject to the following limitations and conditions:

This permit to change the place of use of the waters of an underground source heretofore granted under Permit 45984 is issued subject to the terms and conditions imposed in said Permit 45984 and with the understanding that no other rights on a source will be affected by the change proposed herein. The well shall be equipped with a 2-inch opening and a totalizing meter must be installed and maintained in discharge pipeline near the point of diversion and accurate measurements must be of water placed to beneficial use. The totalizing meter must be installed before use of the water begins or before the Proof of Completion of Work is filed. If well is flowing, a valve must be installed and maintained to prevent waste. State retains the right to regulate the use of the water herein granted at any all times.

This permit does not extend the permittee the right of ingress and egress public, private or corporate lands.

The issuance of this permit does not waive the requirements that the permit holder obtain other permits from State, Federal and local agencies.

A monthly report shall be submitted to the State Engineer within 10 days of the end of each month which shall include the amount of water pumped from each well and the amount of water used.

This Temporary Permit is issued pursuant to the provisions of NRS 533 Section 2 and will expire on September 13, 1992, or when action has been taken Application 52338, which ever comes first, at which time all rights herein are shall revert to the right being changed by this Temporary Permit.

The amount of water to be changed shall be limited to the amount which can be applied to beneficial use, and a

cannot 1.0 cubic feet per second, BUT NOT TO EXCEED 20.00 million gallons annually.

Work must be prosecuted with reasonable diligence and be completed on or before \_\_\_\_\_

Proof of completion of work shall be filed before \_\_\_\_\_

Application of water to beneficial use shall be made on or before \_\_\_\_\_

Proof of the application of water to beneficial use shall be filed on or before \_\_\_\_\_

Map in support of proof of beneficial use shall be filed on or before \_\_\_\_\_

Completion of work filed \_\_\_\_\_

Proof of beneficial use filed \_\_\_\_\_

Original map filed \_\_\_\_\_

Conditions file \_\_\_\_\_

IN TESTIMONY WHEREOF, I, NICHOLAS TURNER  
State Engineer of Nevada, have hereunto set my hand and the seal of the State of Nevada at Carson City, Nevada, this \_\_\_\_\_ day of \_\_\_\_\_, 1980.

Office, this 11th day of February, 1980.

A.D. 1980

*[Signature]*  
\_\_\_\_\_  
State Engineer

TEMPORARY

Serial No. 56723-7

APPLICATION FOR PERMISSION TO CHANGE POINT OF DIVERSION, MANNER  
OF USE AND PLACE OF USE OF THE PUBLIC WATERS OF THE  
STATE OF NEVADA HERETOFORE APPROPRIATED

Date of filing in State Engineer's Office SEP 3 1991

Returned to applicant for correction

Corrected application filed MAY 06 00T 1 8 1990 Under 523

The applicant U.S. DEPARTMENT OF ENERGY, NEVADA OPERATIONS OFFICE

2753 SOUTH HIGHLAND Las Vegas

Nevada 89109 Las Vegas, Nevada City or Town

Place of Use Laundry building, applications for permission to change

of water heretofore appropriated under PERMIT 45984

Kind of diversion, amount of water, nature of use  
Amount of water to be diverted, point of diversion, place of diversion, purpose of use  
Priority right or claim

1. The source of water is Underground  
Kind of source, name, description, spring or water course.
2. The amount of water to be changed 1.0 c.f.s. (20.0 M.G.D.)  
Kind, use, etc. The amount and season shall conform with
3. The water to be used for Same as heretofore  
Industry, agriculture, domestic, etc. If for stock water, state kind of animals.
4. The water heretofore permitted for Construction  
Industry, agriculture, domestic, etc. If for stock water, state kind of animals.
5. The water is to be diverted at the following point NH 6th Section 37, T.13 S., R.48 E.,  
N.D.B.M., or at a point from which the SE corner of Section 36 T.13 S., R.4  
N.D.B.M., bears S. 61° 24' 36" E., a distance of 15,360.21 feet  
Kind of point, name, etc. If for stock water, state kind of animals.
6. The existing permitted point of diversion is located within Unaltered  
Point of diversion or an existing, or no diversion.
7. Proposed plans of PLEASE REFER TO Exhibit "A"  
Plans to show location of the proposed water course or diversion.
8. Building plans of T.13 S., R.48 E., T.13 S., R.48 E., T.13 S., R.49 E. and T.  
R.49 E., all within N.D.B.M. (Unaltered)  
Kind of use or diversion, name, etc. If for stock water, state kind of animals.
9. Use will be from January 1 to December 31  
From and to
10. Use was permitted from January 1 to December 31  
From and to
11. Description of proposed works. (Under the provisions of NRS 533.010 you may be required to submit specifications of your diversion or storage works.) Drilled well, pump, motor. Also plans  
which may be filed or created witha Plans of Use.  
Kind of diversion or storage works, etc. If for stock water, state kind of animals.
12. Estimated cost of works 130,000.00
13. Estimated sums required to construct works Completed under 45984

C12-5

## EXHIBIT 'A'

All T.12 S., R.48 E.; All T.12 S., R.49 E.; Sections 14 through 23 and 26 through 33, T. 12 S., R.50 E.; All T.13 S., R.48 E.; All T.13 S., R.49 E.; Sections 7 through 9, 16 through 18, 19 through 21, 28 through 30, 31 through 33, T.13 S., R.50 E.; Sections 1 through 3, 10 through 15, 22 through 27, and Section 36, T.14 S., R.48 E.; Sections 1 through 12, 15 through 22, 27 through 34, T.14 S., R.49 E.; Section 1, T.15 S., R.48 E.; Sections 3 through 6, T.15 S., R.49 E., all within M.D.B.M. (Unsurveyed)

APPENDIX C13

PERMIT TO CHANGE POINT OF DIVERSION, MANNER  
OF USE AND PLACE OF USE OF THE PUBLIC  
WATERS OF THE STATE OF NEVADA  
NO. 57375

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APPLICATION FOR PERMISSION TO CHANGE POINT OF DIVERSION, MANNER OF USE AND PLACE OF USE OF THE PUBLIC WATERS OF THE STATE OF NEVADA HERETOFORE APPROPRIATED

Date of filing in State Engineer's Office APR 02 1992
Referred to applicant for correction
Corrected application filed May 1 1992

The applicant S. Department of Energy, Nevada Operations Office
2753 South Highland Las Vegas
Nevada 89109

Place of Use and Manner of Use
Point of diversion, manner of use, manner of use of water heretofore appropriated under Permit #45984

- 1. The source of water is Underground
2. The amount of water to be changed 1.0 c.f.s.
3. The water to be used for Industrial
4. The water heretofore permitted for Construction of roads
5. The water is to be diverted at the following point NE 1/4, Section 27, T.13S., R.48E., M.P. at a point from which the SE corner of Section 36, T.13S., R.48E., M.D.B.1 bears S. 61° 14' 56" E., a distance of 15,360.21 feet. (Insurveyed)

6. The existing permitted point of diversion is located within unchanged

7. Proposed plans of use SEE ATTACHED EXHIBIT "A"

8. Existing place of use T.12S., R.48E.; T.12S., R.49E.; T.13S., R.48E.; and T.13S., R.49E., all within M.D.B.1M.

9. Use will be from January 1st to December 31st of each year

10. Use was permitted from January 1st to December 31st of each year

11. Description of proposed works: (Under the provisions of NRS 335.010 you may be required to submit specifications of your diversion or storage works.) drilled well with pump and motor. water be piped or trucked within Place of Use.

12. Estimated cost of works \$30,000.00

13. Estimated time required to construct works completed under #45984

- 4. Estimated time required to complete the publication of water to beneficial use \_\_\_\_\_ years
- 5. Remarks: For use other than irrigation or stock watering, state number and type of units to be served or annual consumptive use:  
 Permit #45984 is limited to 20 mds. This application and applications 57373  
 57374 and 57376 shall not exceed 430.19 acre feet per annum from any and/or all  
 sources. For the proposed use please refer to Exhibit "B" well designation  
 7H-1.

U.S. GEOLOGICAL SURVEY Nevada Operations Office  
 By: s/Hendy Dixon HENDY DIXON  
 2753 SOUTH HIGHLAND  
 Las Vegas, Nevada 89109

Compared cc/bc 12/89

Processed 7-23-92 by US Fish & Wildlife Service, 7-27-92 US Dept. of Interior  
 National Park Service

Protest upheld,  
 see permit terms

APPROVAL OF STATE ENGINEER

This is to certify that I have examined the foregoing application, and do hereby grant the same, subject to the following limitations and conditions:

This permit to change the place of use and manner of use of the waters of an underground source as heretofore granted under Permit 45984 is issued subject to the terms and conditions imposed in said Permit 45984 and with the understanding that to other rights on the source will be affected by the change proposed herein.

It is also understood that this right must allow for a reasonable lowering of the static water level. This well shall be equipped with a two (2) inch opening for measuring depth to water. A totalizing meter must be installed and maintained in the discharge pipeline near the point of diversion and accurate measurements must be kept of water placed to beneficial use. The totalizing meter must be installed before any use of water begins, or before the Proof of Completion of Work is filed. The State retains the right to regulate the use of the water herein granted at any and all times.

This permit is issued subject to: 1) Compliance with the monitoring program titled "Monitoring Program for the Groundwater Levels and Spring Flow in the Yucca Mountain Region of Southern Nevada and California, February 1991, United States Department of Energy, Yucca Mountain Project Office." 2) Data collected from said (CONTINUED ON PAGE 2)

The amount of water to be changed shall be limited to the amount which can be applied to beneficial use, and not to exceed \_\_\_\_\_ 1.0 \_\_\_\_\_ cubic feet per second, but not to exceed 61.38 \_\_\_\_\_ acre-feet annually.

- Work must be prosecuted with reasonable diligence and be completed on or before March 9, 1993
- Proof of completion of work shall be filed before April 9, 1993
- Application of water to beneficial use shall be made on or before March 9, 1994
- Proof of the application of water to beneficial use shall be filed on or before April 9, 1994
- Map in support of proof of beneficial use shall be filed on or before N/A

- Completion of work filed \_\_\_\_\_
- Proof of beneficial use filed \_\_\_\_\_
- Costs paid filed \_\_\_\_\_
- Conditions file \_\_\_\_\_

IN TESTIMONY WHEREOF, I, R. MICHAEL TURNER, State Engineer of Nevada, have hereunto set my hand and the seal of my office, this 23rd day of OCTOBER A.D. 19 92.

*[Signature]*

### REQUIREMENTS TO FULFILL THE TERMS OF YOUR PERMIT

The State of Nevada has, by issuing this permit, granted your request to appropriate the public waters, subject to certain terms and conditions. It is strongly suggested that you carefully review the permit so that you will be aware of all terms, conditions, deadlines and limitations contained within the State Engineer's approval. If you fail to comply with those terms and conditions, your permit will be subject to cancellation as required under existing statutes. If you have any questions or require assistance, please do not hesitate to contact this office (702) 687-4380 or either of our branch offices located in Elko (702) 738-7211 and Las Vegas (702) 798-4505.

### PROOF OF COMPLETION OF WORK

You have been given a deadline within which to complete your works of diversion and file the required Proof of Completion of Work. Please note this deadline under your permit. Proof must be made by submitting to the office of the State Engineer a completed and notarized form, which will be provided by this office at no cost. The proof must also be accompanied by a filing fee of \$10.00. Forms will be provided upon request, or will be enclosed with a certified notice from this office which will be mailed to you upon expiration of the deadline. Proof may be submitted at any time prior to the deadline, upon completion of your works of diversion.

In the case of a well, the well must be completely drilled and cased, with a pump and motor installed. The well driller's log must also be filed in the office of the State Engineer.

In the case of other sources, such as surface water, the diversion structure and conduits must be completed.

### PROOF OF BENEFICIAL USE

You have also been given a deadline for placing the water to beneficial use. Please note this deadline under your permit.

Proof of beneficial use must be made by submitting a completed proof form, provided at no cost by this office, along with \$50.00 filing fee. Proof may be submitted at any time that you have made beneficial use to the full amount allowed by the permit, or to a lesser amount if the full amount is not required.

The State Engineer's approval establishes a specific limitation on the amount of water which may be used. The amount actually beneficially used within the time limitations of your permit will establish the final limit and extent of your water right.

The terms of your permit may also require the filing of a...

PERMIT TERMS CONTINUED:

Monitoring program shall be submitted to the State Engineer's office on a quarter basis, within 30 days after the end of each calendar quarter. The terms & conditions set forth in State Engineer's Ruling No. 1870, dated March 2, 1992.

Monthly records shall be kept of the amount of water pumped from this well & the records submitted to the State Engineer on a quarterly basis within 15 days after the end of each calendar quarter.

The total combined duty of water under Permits 57373, 57374, 57375 and 57376 shall not exceed 430.19 acre-feet annually.

The issuance of this permit expires temporary Permit 57326-T.

EXHIBIT "A"

All T. 12 S., R. 48 E.; All T. 12 S., R. 49 E.; Sections 14 through 23 and 26 through 35, T. 12 S., R. 50 E.; All T. 13 S., R. 48 E.; All T. 13 S., R. 49 E.; Sections 7 through 9, 16 through 21 and 28 through 33, T. 13 S., R. 50 E.; Sections 1 through 3, 10 through 15, 22 through 27 and Section 36, T. 14 S., R. 48 E.; Sections 1 through 12, 15 through 22 and 27 through 34, T. 14 S., R. 49 E.; Sections 4 through 9, T. 14 S., R. 50 E.; Section 1, T. 15 S., R. 48 E.; Sections 3 through 6, T. 15 S., R. 49 E., all within M.D.B. & M. (unsurveyed)

EXHIBIT "B"

The Proposed Use is for road construction, dust suppression, tunneling, pad construction, scientific tests, culinary and other related site uses.

APPENDIX C14

PERMIT TO CHANGE POINT OF DIVERSION, MANNER  
OF USE AND PLACE OF USE OF THE PUBLIC  
WATERS OF THE STATE OF NEVADA  
NO. 57376

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Serial No. 57376

**APPLICATION FOR PERMISSION TO CHANGE POINT OF DIVERSION, MANNER OF USE AND PLACE OF USE OF THE PUBLIC WATERS OF THE STATE OF NEVADA HERETOFORE APPROPRIATED**

Date of filing in State Engineer's Office APR 02 1992

Returned to applicant for correction \_\_\_\_\_

Corrected application filed \_\_\_\_\_ Map filed MAY 13 1992 under 57373

The applicant U. S. Department of Energy, Nevada Operations Office

2753 South Highland of Las Vegas

Nevada 89109 Street and No. or P.O. Box No. City or Town

State and Leg Code No. hereby make 5 application for permission to change the

Place of Use and Manner of Use

Point of diversion, manner of use, and/or place of use of water heretofore appropriated under Permit #52338

Identify existing right by Permit, Certificate, Pledge or Claim No. If Decree, give title of Decree or arbitrary right in Decree.

1. The source of water is Underground  
Name of stream, lake, underground spring or other source.

2. The amount of water to be changed 0.2 c.f.s.  
Standard feet, acre feet. One acre-foot equals 435 gallons per minute.

3. The water to be used for Industrial  
Irrigation, power, mining, industrial, etc. If for stock water number and kind of animals.

4. The water heretofore permitted for Industrial and Domestic  
Irrigation, power, mining, industrial, etc. If for stock water number and kind of animals.

5. The water is to be diverted at the following point NE 1/4 SW 1/4, Section 19, T.13S., R.50E., M.D.B. &

Describe as being within a 40-acre subdivision of public survey and by course or distance to a certain corner. If an unsurveyed land, it should be stated. at a point from which the SW corner of Section 31, T.13S., R.50E., bears S.

08° 46' 06" W., a distance of 13,298 feet.

6. The existing permitted point of diversion is located within \_\_\_\_\_  
If point of diversion is not changed, do not answer.

7. Proposed place of use SEE ATTACHED EXHIBIT "A"  
Describe by legal subdivisions. If for irrigation state number of acres to be irrigated.

C14-1

8. Existing place of use SEE ATTACHED EXHIBIT "B"  
Describe by legal subdivisions. If permit is for irrigation, state number of acres irrigated. If Decree, etc.



Number of use or irrigation permits, describe coverage to be removed from irrigation.

9. Use will be from January 1st to December 31st of each year.  
Month and Day Month and Day
10. Use was permitted from January 1st to December 31st of each year.  
Month and Day Month and Day
11. Description of proposed works. (Under the provisions of NRS 535.010 you may be required to submit plans and specifications of your diversion or storage works.) drilled well with pump and motor, water tank and distribution system.  
State manner in which water is to be diverted, i.e. diversion structure, canals, pipes and dams, or drilled well, etc.
12. Estimated cost of works \$1,330,000.00
13. Estimated time required to construct works completed under #52338.

14. Estimated time required to complete the application of water to beneficial use 10 years

15. Remarks: For use other than irrigation or stock watering, state number and type of units to be served or annual consumptive use:

This application 57373 and applications 57374 and 57375 shall not exceed 430.19 acre feet per annum from any and/or all sources. For the proposed use please refer to Exhibit "C". Well designation J-13.

U.S. D.O.E., Nevada Operations Office  
By s/Wendy Dixon WENDY DIXON  
2753 South Highland  
Las Vegas, Nevada 89109

Compared bc/bc ap/viv

Processed 7-23-92 by US Fish & Wildlife Service, 7-27-92 US Dept. of Interior  
National Park Service

APPROVAL OF STATE ENGINEER

This is to certify that I have examined the foregoing application, and do hereby grant the same, subject to the following limitations and conditions:

This permit to change the place of use and manner of use of the waters of an underground source as heretofore granted under Permit 52338 is issued subject to the terms and conditions imposed in said Permit 52338 and with the understanding that no other rights on the source will be affected by the change proposed herein.

This permit is issued subject to existing rights. It is understood that the amount of water herein granted is only a temporary allowance issued under the provisions of NRS 533.371 for a finite period of time. This permit will expire on April 9, 2002 and all rights herein will revert back to the source but subject to reinstatement and extension of the permit for good cause shown. It is also understood that this right must allow for a reasonable lowering of the static water level. This well shall be equipped with a two (2) inch opening for measuring depth to water. A totalizing meter must be installed and maintained in the discharge pipeline near the point of diversion and accurate measurements must be kept of water placed to beneficial use. The totalizing meter must be installed before any use of water begins, or before the Proof of Completion of Work is filed. The State retains the right to regulate the use of the water herein granted at any and all times.  
(CONTINUED ON PAGE 2)

The amount of water to be changed shall be limited to the amount which can be applied to beneficial use, and not to exceed 0.2 cubic feet per second, but not to exceed 94.83 acre-feet annually.

Work must be prosecuted with reasonable diligence and be completed on or before March 9, 1993

Proof of completion of work shall be filed before April 9, 1993

Application of water to beneficial use shall be made on or before March 9, 2002

Board of



FORM 7, 2002

Map in support of proof of beneficial use shall be filed on or before \_\_\_\_\_  
N/A

Completion of work filed \_\_\_\_\_

of beneficial use filed \_\_\_\_\_

Cultural map filed \_\_\_\_\_

Certificate No. \_\_\_\_\_

IN TESTIMONY WHEREOF, I, R. MICHAEL TURNIPSEED, P.E.

State Engineer of Nevada, have hereunto set my hand and the seal of my

office, this 18th day of August

A.D. 1992

  
State Engineer

(PERMIT TERMS CONTINUED)

This permit is issued subject to: 1) Compliance with the monitoring program titled "Monitoring Program for the Groundwater Levels and Spring Flows in the Yucca Mountain Region of Southern Nevada and California, February 1991, United States Department of Energy, Yucca Mountain Project Office." 2) Data collected from said monitoring program shall be submitted to the State Engineer's office on a quarterly basis, within 30 days after the end of each calendar quarter. 3) The terms and conditions set forth in State Engineer's Ruling No. 3870, dated March 2, 1992.

Monthly records shall be kept of the amount of water pumped from this well and the records submitted to the State Engineer on a quarterly basis within 15 days after the end of each calendar quarter.

The total combined duty of water under Permits 57373, 57374 and 57376 shall not exceed 430.19 acre-feet annually.

**EXHIBIT "A"**

All T. 12 S., R. 48 E.; All T. 12 S., R. 49 E.; Sections 14 through 23 and 26 through 35, T. 12 S., R. 50 E.; All T. 13 S., R. 48 E.; All T. 13 S., R. 49 E.; Sections 7 through 9, 16 through 21 and 28 through 33, T. 13 S., R. 50 E.; Sections 1 through 3, 10 through 15, 22 through 27 and Section 36, T. 14 S., R. 48 E.; Sections 1 through 12, 15 through 22 and 27 through 34, T. 14 S., R. 49 E.; Sections 4 through 9, T. 14 S., R. 50 E.; Section 1, T. 15 S., R. 48 E.; Sections 3 through 6, T. 15 S., R. 49 E., all within M.D.B. & M. (unsurveyed)

**AMENDED****EXHIBIT "B"**

Section 13, Sections 25 through 29, and 32 through 36, T. 12 S., R. 48 E.; Sections 13 through 36, T. 12 S., R. 49 E.; Sections 14 through 23, and 26 through 35, T. 12 S., R. 50 E.; Sections 10 through 15, 22 through 27, and 34 through 36, T. 13 S., R. 48 E.; All T. 13 S., R. 49 E.; Sections 7 through 9, 16 through 21, and 28 through 33, T. 13 S., R. 50 E.; Sections 1 through 3, 10 through 15, 22 through 27, and Section 36, T. 14 S., R. 48 E.; Sections 1 through 12, 15 through 22, and 27 through 34, T. 14 S., R. 49 E.; Sections 4 through 9, T. 14 S., R. 50 E.; Sections 3 through 6, T. 15 S., R. 49 E., Section 1, T. 15 S., R. 48 E., all within M.D.B. & M. (unsurveyed)

**EXHIBIT "C"**

The Proposed Use is for road construction, dust suppression, tunneling, pad construction, scientific tests, culinary and other related site uses.



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UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
FREE USE APPLICATION AND PERMIT  
VEGETATIVE OR MINERAL MATERIAL

FORM APPROVED  
OMB NO 1004-001  
EXPIRES OCTOBER 31 1987  
Permit Number: 1000000000  
Expiration Date: 1/06/2001  
Date: 1/25/1985

Name of Applicant: U.S. Department of Energy  
Address (Include Zip Code): Yucca Mountain Site Characterization Project  
P.O. Box 9298 Las Vegas, NV 89163  
Kind of Material: Sand, Gravel, Fill Material  
Give Area and Section: 6,300 cubic

TOWNSHIP	RANGE	SECTION
21.35	R.50E	18

See attached map

State of Nevada  
County of Clark

Map and Road construction for site characterization activities

I HEREBY AGREE TO COMPLY WITH THE SPECIAL CONDITIONS AS SET FORTH BELOW: I CERTIFY THAT THE (1) MATERIALS TO BE REMOVED ARE TO BE USED FOR THE PURPOSES SET FORTH IN THE MATERIALS REMOVED ARE TO BE USED OR BURNED; (2) REMOVAL OF MATERIALS CAN BEGIN ONLY WHEN PERMIT IS IN EFFECT; (3) THE SURFACE NOT SUBJECT TO THIS ORDER IS TO BE RECLAIMED TO ORIGINAL OR BETTER CONDITION OF REMOVAL.

I CERTIFY THAT I AM A CITIZEN OF THE UNITED STATES, and of the age of majority in the State in which I reside.

I FURTHER CERTIFY THAT THE STATEMENTS MADE BY ME IN THIS APPLICATION ARE TRUE, COMPLETE, AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND ARE MADE IN MY OWN INTEREST.

(Date) 1-28-92  
Signature of Applicant: Wendy R. Dixon

This 18 U.S.C. Section 1861, makes it a crime for any person knowingly and fraudulently to make any application or report of the United States and State, including any fraudulent statement or information in any matter where an application is required.

SPECIAL CONDITIONS  
PENALTY

The permit is given under the Act of July 11, 1947, as amended, and 43 U.S.C. 1701, and under the rules and regulations of the Act of May 14, 1938 (41 U.S.C. 101) and under the rules and regulations of the Act of May 14, 1938 (41 U.S.C. 101). This permit is issued under the Act of July 11, 1947, as amended, and 43 U.S.C. 1701, and under the rules and regulations of the Act of May 14, 1938 (41 U.S.C. 101). A permit report including the amount of material to be removed and the date of removal must be filed with the District Office on the anniversary date of the permit within thirty (30) days after permit expiration.

Information is contained to comply with Section 116 U.S.C. 104406 and agency Regulations (43 CFR 3511.1-101). Information is used to comply with the provisions of the agreement. A permit must be obtained to obtain a permit.

Construction practices must be carried out as provided by (43 CFR 3511.1-101), 2-101, and 2-102. Government, National Property, and Improvements must be removed within ninety (90) days after expiration date (43 CFR 3511.1-52). Any use of the surface of the lands involved in this permit shall be such as not to interfere with any mining claim subject to the provisions of Section 3 of the Act of 1955 (30 U.S.C. 813).

(Date) 5-28-92  
Signature of Approving Official: Linda D. Lickla

FREE USE STIPULATIONS

1. The rights of the Purchaser shall be subject to the regulations in 43 CFR, Group 1621, which are hereby made a part of this contract and to all other stipulations herein contained.
2. If the Purchaser violates any provisions of this contract the Authorized Officer may, through written notice, suspend any further operations of the Purchaser under this contract, except such operations as may be necessary to remedy any violations. If Purchasers fail to remedy all violations within 30 days after receipt of this suspension notice, the Authorized Officer may, by written notice, cancel this contract, and take appropriate action to recover all damages suffered by the Federal Government by reason of such violations. "Authorized Officer" means the Las Vegas District Manager or his duly appointed representative.
3. Purchaser will avoid the disturbance or removal of section corners, bench marks monuments, or other type survey markers. Where excavation or road building may require removal or relocation, the Authorized Officer will be contacted prior to such removal or relocation for special instructions.
4. Upon contract termination, the Purchaser will remove or dispose of all waste, which has accumulated in the Free Use Permit area as a result of the mining operation, in a public sanitary landfill or other proper disposal area. The term "waste", as used herein, includes, but is not limited to, garbage, human waste, trash, petroleum products and equipment.
5. The purchaser shall be liable for any damages suffered, cost, or expense incurred by the government arising out of any operations under this contract whenever such damages, costs, or expense results from any breach of contract or wrongful or negligent act of Purchaser, his contractors, subcontractors, or the employees of any of them. The Purchaser shall pay the Government for such damages, costs, or expense within thirty (30) days after a written demand therefore by the Authorized Officer. Failure to make payment within this period will result in the suspension of all free use to the Purchaser until payment is received.
6. Except for stockpiles of crushed or screened material, the pit floor will be kept reasonably level and uniform during the term of the contract. Stockpiles must be removed on or before contract termination unless additional time is approved in writing by the Authorized Officer. No material will be stockpiled within bottoms of washes.
7. When antiquities or other cultural objects of historic interest or scientific interest, including but not limited to, historic or prehistoric ruins, artifacts or vertebrate fossils, are discovered during the mining operation all operations will cease immediately. The cultural items will be left intact and immediately brought to the attention of the Authorized Officer in order that the cultural resource can be inspected, documented and/or salvaged.
8. Vertical cuts of three (3) feet or greater will be graded to a horizontal to vertical slope ratio of less than two to one (2 to 1) upon termination of the mining operation or contract.
9. Haul signs will be installed during pit use.
10. If activities expand to not previously disturbed areas or where topsoil is present, the topsoil will be salvaged and stockpiled on site to be used to spread over the recontoured pit during final reclamation.

11. The DOE will follow the terms and conditions issued to the Yucca Mountain Project by the U.S. Fish and Wildlife Service for desert tortoise in the Biological Opinion of February 1990 and revised May 1990 (attached). If the current terms and conditions are revised or a new Biological opinion issued, the DOE will follow the new terms and conditions while operating within the FUP site.
12. Final reclamation of the pit by the Department of Energy of the area of operation under the FUP will be conducted to a fashion acceptable to the Authorized Officer. Final reclamation will include recontouring of the pit area and revegetating the disturbed area. As called for in the Proposed Procedures to Protect Desert Tortoises During Site Characterization Activities and incorporated within the terms and conditions of the Biological Opinion, an effort will be made to grow forage palatable to tortoise, and to develop physical habitat features important to tortoises in reclaimed areas.

BIOLOGICAL OPINION

TERMS AND CONDITIONS

1. Preactivity tortoise surveys of specific construction or Plan activities sites shall be conducted by qualified biologists in order to locate all tortoises, burrows, dens, pallets, etc. If the particular site characterization activity (i.e. road, drill pad, etc.) can occur in an adjacent area(s) where no tortoises, burrows, dens, etc. are present, then the proposed activity shall be moved. If no suitable site is totally free of tortoises, dens, burrow, etc., then the qualified biologist shall determine which sit would cause the least impact to tortoises/habitat.
2. Preactivity surveys will consist of 100% coverage of any site(s) being considered. Every burrow and den on such site shall be thoroughly checked for presence of tortoises and may require use of a fiber optic optiscope if other methods cannot conclusively show whether tortoises are present in burrows or dens.
3. If a particular activity cannot be redesigned or relocated then any tortoise present shall be removed by a qualified biologist and relocated to another area containing suitable tortoise habitat within or adjacent to the Yucca Mountain Project area on DOE-managed land. Collection of tortoises in burrows or dens shall be accomplished by digging out each burrow or den in a manner that will not cause harm to tortoises. All tortoises so relocated will be equipped with radio transmitters and monitored regularly and often in order to provide data applicable to the overall research need for additional information regarding relocation of desert tortoises. All tortoises shall be thoroughly examined visually for upper respiratory disease symptoms. If any such symptoms are observed, the U.S. Fish and Wildlife Law Enforcement Office, Las Vegas, shall be contacted for instructions on disposition of individual animals.
4. A qualified biologist shall be available in the vicinity (able to respond and remove any tortoise located within one hour of discovery on or adjacent to the site) of the project area during land clearing and grading operations to retrieve tortoises that may not have been collected previously from the site during preactivity surveys, or that attempt to enter the site from surrounding areas. If a tortoise is observed by construction personnel or equipment operators, they will suspend their activities until a biologist removes it. All such tortoises will be handled only by a qualified biologist, and will be equipped with a radio transmitter and monitored frequently (at least twice daily) to insure that they are not threatened by ongoing activities.
5. The Service will be kept informed via monthly written reports to the Reno Field Station of all tortoises relocated and radio-tagged either during preactivity surveys or as described under Condition No. 4, above. Additionally, the Reno Field Station will be informed promptly via telephone each time any tortoise is observed entering/re-entering any project activity site. If the Service determines that fencing a site(s) is necessary because of continued attempts by tortoises to access the site(s), DOE agree to immediately construct such fencing after being notified by the Service in writing that the Service believes such fencing is necessary and appropriate in order to minimize incidental take.
6. Utility lines, towers, buildings, etc. shall be constructed/equipped using the best technology consistent with sound engineering practices to discourage use of transmission poles and other facilities by ravens. Abundance/distribution of ravens shall be monitored.

7. A worker education program shall be developed and provided to all construction foremen and crews, and to all other personnel, including engineers and scientists conducting site characterization studies, who may be present at any site(s). This program shall be approved by the Service and be implemented prior to the start of any construction to ensure that all personnel associated with site characterization activities are aware of desert tortoise issues.
8. All procedures identified in the consultation under Description of Proposed Action (referred to as Proposed Procedures to Protect Desert Tortoises during Site characterization activities) which were incorporated by reference as part of the Incidental Take statement.

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UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB NO. 1004-0001  
Expires: October 31, 1987

FREE USE APPLICATION AND PERMIT  
VEGETATIVE OR MINERAL MATERIAL

Permit Number	156844
Expiration Date	January 6, 2001
District	Las Vegas

APPLICATION

Name of applicant: Yucca Mountain Site Characterization Project

Kind of material: Sand, Gravel, Fill Material

Give area land description: Estimate quantity 400,000 cu. ft.

Address (include zip code): U.S. Department of Energy  
Yucca Mountain Site Characterization Project  
P.O. Box 98608, Las Vegas, NV 89193-8608

TOWNSHIP	RANGE	SECTION	SUBDIVISION
T.13S..	R.49E..	Section 12	E4E4SE4NE4NE4, E4E4E4SE4NE4, E4E4NE4NE4SE4, E4NE4SE4NE4SE4
T.13S..	R.50E..	Section 7	SW4NW4, S4NW4NW4, SW4SE4NW4, N4NW4SW4, NW4NE4SW4, SW4SW4NW4, NW4NW4SE4NW4, N4E4SE4SE4NW4, N4E4NE4NE4SW4, N4SW4NE4SW4, N4SW4SE4NW4

State of Nevada County of Clay

I HEREBY AGREE TO COMPLY WITH the terms and conditions set forth below. I CERTIFY THAT THE (a) MATERIALS TO BE REMOVED ARE TO BE USED FOR THE PURPOSES DESCRIBED; (b) NONE OF THE MATERIALS REMOVED ARE TO BE SOLD OR OTHERWISE; (c) REMOVAL OF MATERIALS CAN BEGIN ONLY UPON RECEIPT OF AN APPROVED COPY OF THIS PERMIT; AND, (d) IN SUBSEQUENT ORDER IS TO BE OBTAINED UPON COMPLETION OF REMOVAL.

I CERTIFY THAT I am a citizen of the United States, and of the age of majority in the State in which I reside.

I FURTHER CERTIFY THAT the statements made by me in this application are true, complete, and correct to the best of my knowledge and belief and are made in good faith.

8-28-92 (Date)

Wendy R. Jixón (Signature of Applicant)

This is U.S.C. Section 1001, which is a civil law not criminal law, and it is not to be used as a basis for criminal prosecution.

PERMIT

SPECIAL CONDITIONS

This permit is hereby issued for the materials removed for use may be construed if it appears that this permit was issued erroneously or the terms or conditions contained herein are not observed. It shall be subject to the following special conditions:

see attached stipulations

Information is contained to comply with Statutes 116 U.S.C. 604-606 and Agency Regulations 43 CFR 5311.1-1(f).

Information is used to confirm the contents of the applicant.

Applicant must respond to obtain a permit.

Conservation practices must be carried out as provided by 43 CFR 5311.1-1(b), 1-2(c), and 1-3.

Equipment, personal property, and improvements must be removed within ninety (90) days after expiration date 43 CFR 5311.3-3k.

Any use of the surface of the lands covered by this permit shall be such as not to interfere with any mining claim subject to the provisions of Section 4 of the Act of October 3, 1917 (30 U.S.C. 611).

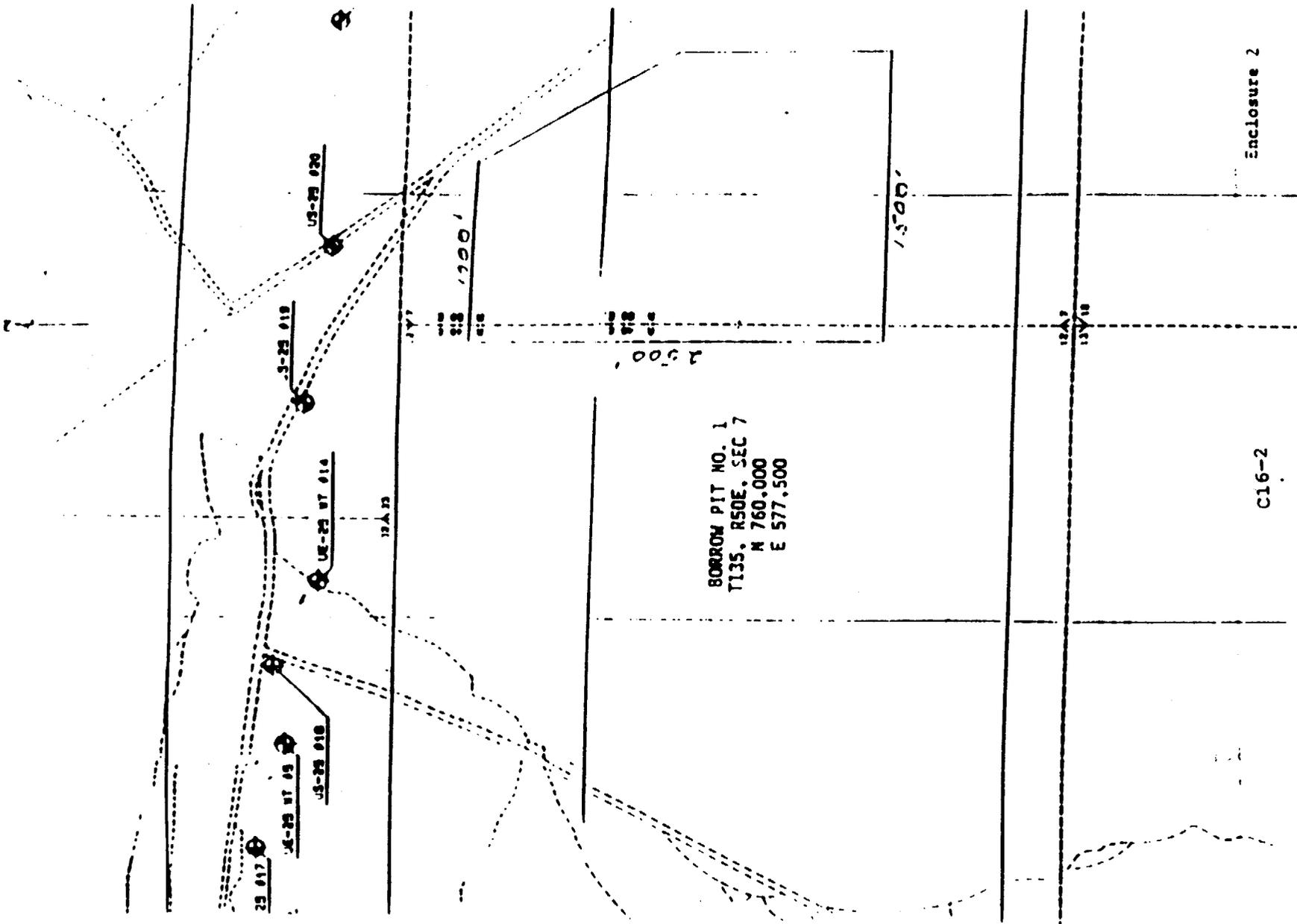
The permittee shall clean up all work areas and shall remove or dispose of refuse remaining from the permittee's operations.

This permit is issued under the Act of July 31, 1947, as amended, and 43 U.S.C. and 1201, and under the rules and provisions of the Act of May 14, 1898 (Act.

An annual report indicating the amount (cu. yds. or tons) of material removed must be filed with the District Office on the anniversary date of the permit within ninety (90) days after permit expiration.

1-7-93 (Date)

Cynthia R. Tucker (Signature of Approval Officer)



Enclosure 2

C16-2

FREE USE STIPULATIONS  
NS6844

1. The rights of the Permittee shall be subject to the regulations in 43 CFR, Group 1621, which are hereby made a part of this contract and to all other stipulations herein contained.
2. If the Permittee violates any provisions of this contract the Authorized Officer may, through written notice, suspend any further operations of the Permittee under this contract, except such operations as may be necessary to remedy any violations. If the Permittee fails to remedy all violations within 30 days after receipt of this suspension notice, the Authorized Officer may, by written notice, cancel this contract, and take appropriate action to recover all damages suffered by the Federal Government by reason of such violations. "Authorized Officer" means the Las Vegas District Manager or his duly appointed representative.
3. The Permittee will avoid the disturbance or removal of section corners, bench marks monuments, or other type survey markers. Where excavation or road building may require removal or relocation, the Authorized Officer will be contacted prior to such removal or relocation for special instructions.
4. Upon contract termination, the Permittee shall remove or dispose of all waste, which has accumulated in the Free Use Permit area as a result of the mining operation, in a public sanitary landfill or other proper disposal area. The term "waste", as used herein, includes, but is not limited to, garbage, human waste, trash, petroleum products and equipment.
5. The Permittee shall be liable for any damages suffered, cost, or expense incurred by the government arising out of any operations under this contract whenever such damages, costs, or expense results from any breach of contract or wrongful or negligent act of Permittee, his contractors, subcontractors, or the employees of any of them. The Permittee shall pay the Government for such damages, costs, or expense within thirty (30) days after a written demand therefore by the Authorized Officer. Failure to make payment within this period will result in the suspension of all free use to the Purchaser until payment is received.
6. Except for stockpiles of crushed or screened material, the pit floor shall be kept reasonably level and uniform during the term of the contract. Stockpiles must be removed on or before contract termination unless additional time is approved in writing by the Authorized Officer. No material will be stockpiled within bottoms of washes.
7. When antiquities or other cultural objects of historic interest or scientific interest, including but not limited to, historic or prehistoric ruins, artifacts or vertebrate fossils, are discovered during the mining operation all operations will cease immediately. The cultural items will be left intact and immediately brought to the attention of the Authorized Officer in order that the cultural resource can be inspected, documented and/or salvaged.
8. Vertical cuts of three (3) feet or greater will be graded to a horizontal to vertical slope ratio of less than two to one (2 to 1) upon termination of the mining operation or contract.
9. Haul signs will be installed during pit use.
10. If activities expand to not previously disturbed areas or where topsoil is present, the topsoil will be salvaged and stockpiled on site to be used to spread over the recontoured pit during final reclamation.

11. The DOE will follow the terms and conditions issued to the Yucca Mountain Project by the U.S. Fish and Wildlife Service for desert tortoise in the Biological Opinion of February 1990 and revised May 1990 (attached). If the current terms and conditions are revised or a new Biological opinion issued, the DOE will follow the new terms and conditions while operating within the FUP site.
12. Pursuant to a recommendation by the U.S. Fish and Wildlife Service, the perimeter of the Free Use Permit area shall be fenced with tortoise-proof fencing prior to the initiation of site construction activities. This tortoise proof-fencing must be acceptable to the U.S. Fish and Wildlife Service. If the DOE finds that its area of operations will not disturb the entire Free Use Permit area, the DOE will only need to fence the area where site construction, surface disturbance, and pit operations will occur.
13. The DOE must follow the applicable standard operating practices set forth within the May 1986 Yucca Mountain Site, Nevada Research and Development Area, Nevada, Environmental Assessment section 4.1.2.6. The DOE must also follow recommendations to reduce impacts to tortoises and their habitat listed within the Biological Resources Preactivity Survey Report for Borrow Pit No. 1 (#92-023b) including the Site Specific Reclamation Stipulations included within the report (attached).
14. Final reclamation of the pit by the Department of Energy of the area of operation under the FUP shall be conducted to a fashion acceptable to the Authorized Officer. Final reclamation will include recontouring of the pit area and revegetating the disturbed area. As called for in the Proposed Procedures to Protect Desert Tortoises During Site Characterization Activities and incorporated within the terms and conditions of the Biological Opinion, an effort will be made to grow forage palatable to tortoise, and to develop physical habitat features important to tortoises in reclaimed areas.

APPENDIX C17

UNDERGROUND INJECTION CONTROL PERMIT  
MODIFICATION 1  
NO. NEV89031

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PETER C. MORROS  
Director

STATE OF NEVADA  
308 MILLER  
Governor

L. H. DOGGLON  
Administrator

Administration (702) 687-4678  
Air Quality 687-6888  
Mining Regulation and Reclamation 687-4678  
Waste Management 687-6873  
Federal Facilities 687-6888



Chemical Hazard Management 687-6873  
Water Pollution Control 687-4678  
Water Quality Planning 687-4678  
FAX 687-6888

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

DIVISION OF ENVIRONMENTAL PROTECTION

133 W. Nye Lane

Carson City, Nevada 89710

*DIXON*  
*Schuck*  
*Grassmeyer*  
*BEST / Fisher*  
*McKELLY / McCANN / SCHNEIDER*  
*WACCOB / DUYTO / WIRTZ* May 14, 1992  
*Gertz / Blanchard*  
*Robison / Dyer*  
*Wilson / Barton*

NOTICE OF DECISION

PERMIT NUMBER NEV89031

DEPT. OF ENERGY, YUCCA MOUNTAIN PROJECT  
MODIFICATION 1

*BEUDER*  
*3/19/92*  
*DLK*  
*3/20/92*

The Nevada Division of Environmental Protection (Division) has decided to issue the modified Underground Injection Control Permit, Number NEV89031 to the Department of Energy (DOE), Yucca Mountain Project, P.O. Box 98608, Las Vegas, Nevada 89193. This permit authorizes the DOE to inject produced water and various tracers, including gases, into fifty-three wells located at the project site at Yucca Mountain. The applicant has provided the Division with sufficient documentation to draft the permit, and the DOE, by complying with the terms and conditions of the permit, has provided adequate assurance that degradation of water quality will not occur and that public health will be protected.

This modified permit will become effective May 27, 1992. The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to Nevada Revised Statutes (NRS) 445.274 and Nevada Administrative Code (NAC) 445.42545. Such appeal must be requested within ten (10) days of notification of this decision, and in accordance with the Administrative Rules of the Environmental Commission.

Conditions added or changed in the final permit are:

- 1) Chlorofluorocarbons and halogenated chlorofluorocarbons have been deleted from the permit.
- 2) The plugging and abandonment plan has been modified to include general plugging procedures which meet State and federal requirements for well plugging and will be applicable to all wells at the site.

Yucca Mtn. NOD

Page 2

- 3) A map of the general well location has been included in permit as Figure 1.
- 4) Part I.A.1 of the permit has been changed to specify that the exact well location, construction and tracers are to be submitted to and approved by the Division prior to construction.
- 5) Part I.A.14 was added referencing the UIC regulations with which the permittee must comply.

Attached is a response to comments received during the public comment period.

AUTHORIZATION TO INJECT

In compliance with the provisions of the Nevada Revised Statutes and the Nevada Injection Control Regulations,

U.S. Department of Energy  
Yucca Mountain Project  
P.O. Box 98608  
Las Vegas, Nevada 89193-8608

is authorized to inject into fifty-three injection wells located at:

Yucca Mountain  
NE½ Section 14, T.13S., R.49E.;  
Sec. 13, 25-29, 32-36, T.12S., R.48E.;  
Sec. 7-36, T.12S., R.49E.;  
Sec. 14-23, 26-35, T.12S., R.50E.;  
All of T.13S., R.48E.;  
All of T.13S., R.49E.;  
Sec. 7-9, 18-21, 28-33, T.13S., R.50E.;  
Sec. 1-3, 10-15, 22-27, and 36, T.14S.,  
R.48E.;  
Sec. 1-12, 15-22, 27-34, T.14S., R.49E.;  
Sec. 4-9, T.14S., R.50E.;  
Sec. 1, T.15S., R.48E.; and  
Sec. 3-6, T.15S., R.49E.,  
Nye County, Nevada

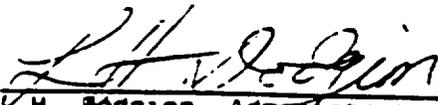
in accordance with

limitations, requirements and other conditions  
set forth in Parts I, II, and III hereof.

This permit shall become effective 5/27/92

This permit shall expire at midnight, 5/27/97

Signed this 15<sup>th</sup> day of May 1992

  
L.H. Hodgson, Administrator  
Nevada Division of Environmental Protection

MG/to:47

PART I

A. EFFLUENT LIMITATIONS, MONITORING AND OTHER REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting through the expiration date, the permittee is authorized to inject water produced from well J-13 and approved tracers into wells UE-25c #1, UE-25c #2 and UE-25c #3 located within the NE $\frac{1}{4}$  Section 14, T.13S, R.49E., and fifty other test wells to be located within the Yucca Mountain Project area (see general location map, Figure 1), Nye County, Nevada. The exact location, well construction and tracers to be used is to be submitted to the Division and written authorization to proceed granted prior to construction. The permittee is further authorized to dispose of waters produced during testing to the ground surface adjacent to each well. Waters from other wells or sources other than well J-13 that will be used for injection will require chemical analysis and written approval from the Division prior to use.
2. All wastes shall be disposed of in accordance with the rules and regulations of this Division. All spills and releases shall be reported as required by NAC 445.238 to NAC 445.241.
3. Produced fluids shall be disposed in such a manner that they do not present a hazard to livestock, wildlife or the beneficial use of the waters of the State. Surface disposal at test wells other than the C-hole complex must have written authorization from the Division prior to discharge. Chemical analysis of the formation waters and well construction details must be submitted for review in determining surface disposal authorization.
4. The following tracers are hereby approved; benzoic acid (3 trifluoromethylbenzoate), pyridone, sodium chloride, lithium bromide, fluorescent microspheres and polystyrene spheres, lithium bromide, sulfur hexafluoride, nitrogen, and "SUVA" Cold-MP (tetrafluoroethane). No chemical additives or tracers shall be added to the fluids prior to injection or disposal other than those listed.
5. Samples taken in compliance with the monitoring requirements specified in this permit shall be taken at the following locations:
  - a) At the discharge pipe or hose prior to discharge to the ground surface.

6. Samples of fluid from the location identified in Part I.A.5 shall be collected and analyzed for each time a different tracer is used. The sample must be taken during peak tracer recovery and analyzed for the following:

Total Dissolved Solids	pH	Lithium
Electrical Conductivity	Sodium	Strontium
Boron	Potassium	
Barium	Calcium	
Cadmium	Magnesium	
Chromium	Bicarbonate	
Lead	Chloride	
Selenium	Sulfate	
Silver	Nitrate	
Iron	Silica	
Manganese	Fluoride	
Copper	Arsenic	
Zinc	Mercury	
Gross Alpha	Gross Beta	

The detection limits for the constituents listed above must be at least as low as primary or secondary drinking water standards when applicable. The Division may increase or decrease the monitoring of any constituents as listed for good cause.

7. The permittee shall make quarterly reports which contain the following data:
- The results of the chemical analyses performed in that quarter.
  - Monthly summary containing the total volume of fluid produced or discharged to the ground surface (gal/month), and the date and duration of flow (hours).
  - Monthly summary containing the total volume injected (gal/month) and the amount and type of tracer injected.
  - A list of all production, injection, observation and test wells located within 2 miles of the project area and utilized by the permittee or their affiliates. Said list shall be chronological, listing the newest wells first, and shall include date of installation, depth, type of well, status (abandoned, plugged, not-in-use, etc.), well identification, schematic of well construction details, and location. All wells reported after the effective date of this permit will require submittal of a map indicating their location.

8. The permittee shall give 30 days advance notice to the Division of any planned major workover of any of the injection wells. Verbal approval may be given by the Division for such workovers. When standard or routine maintenance procedures for injection well cleanouts are developed, such procedures will be submitted to the Division for approval at least 48 hours in advance of commencement of workover.
9. The permittee is constrained to inject only those naturally produced fluids from well J-13 or other sources approved by the Division and those tracers listed in Part I.A.4.
10. The permittee shall construct all production, test and other wells in compliance with all State and federal regulations such that unauthorized releases do not occur. Following construction or reworking of production, test or other wells, the permittee shall submit plans and drawings of the completed well as constructed, including geology, and chemical analysis of the production waters that includes the constituents identified in Part I.A.6 of this permit.
11. All facilities and ancillaries encompassed by this permit shall conform to the plans and specifications filed with the Division of Environmental Protection and shall be maintained in good working order at all times.
12. The permittee shall submit an annual report by January/ 28th of each year which contains a summary of the tracer tests and a discussion of the results of the tests relative to site hydrogeologic conditions.
13. The permittee must submit the annual review and service ~~in accordance with NAC 445.42515~~ in accordance with NAC 445.42515 no later than July 1st and every year thereafter until the permit expires or is terminated.
14. The permittee shall comply with all UIC regulations pertaining to their project (NAC 445.422 thru 445.427C). This permit does not preclude the permittee from complying with any applicable State, federal or local laws or regulations.

**B. MONITORING AND REPORTING**

1. Samples and measurements taken as required herein shall be representative of the volume and/or nature of the subject of interest.

2. Test Procedures

Test Procedures for the analysis of the constituents shall conform to regulations (40 CFR, Part 136) published pursuant to Section 304(h) of the Clean Water Act, under which such procedures may be required, unless other procedures are approved by the Director. All analysis conducted pursuant to permit requirements must be completed by a State of Nevada certified laboratory.

3. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

- a. the exact place, date, and time of sampling;
- b. the dates the analyses were performed;
- c. the person(s) who performed the analyses;
- d. the analytical techniques or methods used;
- e. the results of all required analyses; and
- f. the precision and accuracy of the analytical data.

4. Reporting

Monitoring results and other requirements obtained during the previous three months shall be summarized for each month and reported no later than the 28th day of the month following the completed reporting period. The first report is due on October 28, 1991. Signed copies of these, and all other reports required herein, shall be submitted to the UIC Program Officer at the following address:

Division of Environmental Protection  
Bureau of Water Pollution Control  
333 West Nye Lane  
Capitol Complex  
Carson City, NV 89710

5. Additional Monitoring by Permittee

If the permittee monitors any constituent at the locations(s) designated herein more frequently than required by this permit, or monitors additional constituents than required by this permit, using approved analytical methods as specified above, the results of such monitoring results shall be made available to the Division upon request.

6. Records Retention

All records and information resulting from the monitoring activities required by this permit, including all records and analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation, shall be retained for a minimum of three (3) years, or longer if required by the Director.

7. Modification of Monitoring Frequency, Location and Sample Type

After considering monitoring data, stream flow, discharge flow and receiving water conditions, the Division may, for just cause, modify the monitoring frequency, location and/or sample type by issuing an Order to the permittee.

PART

A. MANAGEMENT REQUIREMENTS

1. Change in Effluents or Discharge

All effluents or discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any constituent identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated facility expansions, or treatment modifications which will result in new, different, or increased effluents or discharges must be reported by submission of a new application or, if such changes will not violate the limitations specified in this permit, by notice to the permit issuing authority of such changes. Following such notice, the permit may be modified to specify and limit any constituents not previously limited.

2. Noncompliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with the conditions, requirements and limitations specified in this permit, the permittee shall provide the Director with the following information, in writing, within five (5) days of becoming aware of such conditions:

- a. A description of the noncompliance; and,
- b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncompliance.

3. Facilities Operation

The permittee shall at all times maintain in good working order and operate as efficiently as possible, all treatment or control facilities, devices or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.

4. Adverse Impact

The permittee shall take all reasonable steps, including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying effluent or discharge, to minimize any adverse impact to waters of the State resulting from noncompliance with any limitations specified in this permit.

5. Bypassing

Any diversion from or bypass of facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited except where unavoidable to prevent loss of life or severe property damage. The Division will have the final authority in the determination of whether a discharge is deemed unavoidable. The permittee shall promptly notify the Director in writing, of each such diversion or bypass, in accordance with the procedure specified in Part II.A.2 above.

## B. RESPONSIBILITIES

### 1. Right of Entry

The permittee shall allow the Director and/or his authorized representatives, upon the presentation of credentials:

- a. To enter upon the permittee's premises where a source is located or in which any records are required to be kept under the terms and conditions of this permit; and
- b. To have access to, and to copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to perform any necessary sampling to determine compliance with this permit or to sample any effluent or discharge.

### 2. Transfer of Ownership or Control

In the event of any change in control or ownership, the permittee shall notify the succeeding owner or controller of the existence of this permit, by letter, a copy of which shall be forwarded to the Director within 10 days of such change. All transfer of permits shall be approved by the Administrator of the Division of Environmental Protection.

### 3. Availability of Reports

Except for data determined to be confidential under NRS 445.311, all reports prepared in accordance with the terms of this permit shall be available for public inspection. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in NRS 445.337.

### 4. Permit Modification, Suspension or Revocation

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

- a. Violation of any terms or conditions of this permit;

- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
  - c. A change in any condition that requires either a temporary or permanent reduction or elimination of the effluent or discharge.
5. Civil and Criminal Liability
- a. Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.
  - b. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation.
  - c. The issuance of this permit does not convey any property rights, in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

PART III

A. Schedule of Compliance

1. The permittee shall achieve compliance with the conditions, limitations and requirements of the permit at the commencement of relevant activity.
2. The Administrator may, upon the request of the permittee, and after public notice, revise or modify a schedule of compliance in an issued permit if he determines good and valid cause (such as an act of God, a strike, materials shortage or other event over which the permittee has little or no control) exists for such revision.

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APPENDIX D

AUDIT SCHEDULES

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APPENDIX D2

DAILY SCHEDULE - AUDIT PHASE

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AUDIT FY93A AGENDA  
 MONDAY, MARCH 8, 1993

7:30	Inbriefing				
8:00	Interviews	<u>Olsson</u> Leske	<u>Wiltz/Jensen</u> West	<u>Robinson</u> Records Review	<u>Schubert</u> Barker
8:30					
9:00					
9:30					
10:00		<u>Olsson</u> West	<u>Wiltz/Jensen</u> Wade		<u>Schubert</u> Review Files
10:30					
11:00					
11:30					
12:00					
12:30			<u>Wiltz/Jensen</u> Joyce		<u>Schubert</u> West Review Database
1:00		<u>Olsson</u> Wade			
1:30					
2:00					
2:30					
3:00					
3:30	Audit Team Caucus				
4:00	Day 1 Debrief				
4:30					
5:00					

D2-2

ENVIRONMENTAL COMPLIANCE AUDIT  
AUDIT FY93A

GENERAL AUDIT AGENDA

(See attachment for detailed information)

Day 2--Tuesday 3/9/93 am

- Two Audit Team members travel to YMP to begin on-site audit activities.
- Initiate audit of Regulated Materials Management.
- Initiate audit of permit stipulation compliance.
- Detailed records reviews continue at Las Vegas locations.

Day 2--Tuesday 3/9/93 pm

- On-Site Regulated Materials Management and Permit Compliance audit work continues.
- Continue review of documents, records, data bases as required at Las Vegas locations.
- On-site audit team members conduct telephone caucus with Audit Team Leader and return to Las Vegas.
- Conduct Audit Team caucus meeting
- Conduct Day 2 debriefing with REECO personnel.
- Adjust Day 2 agenda if necessary.

AUDIT FY93A AGENDA-TUESDAY, MARCH 9, 1993

D2-4

6:30	Jensen/ Robinson to Site				
8:00		<u>Olsson</u> Records	<u>Springer</u> Review Files	<u>Fogdall</u> Review Records	<u>Wirtz</u> Review Records
8:30	<u>Jensen</u> Joyce				
9:00	Reg. Mat. Mgmt.				
9:30					
10:00			<u>Springer</u> Lesson Plans Inst Quals		
10:30					
11:00					
11:30					
12:00					
12:30					
1:00					
1:30					
2:00					
2:30	Jensen/ Robinson				
3:00	TP Caucus w/ ATL				
3:30	Rtn BoFA	Caucus			
4:00		Debrief			
4:30					
5:00					

- Conduct morning activities related above.
- Conduct audit team caucus on-site.
- Conduct day 2 audit on-site.
- Advise day 4 agenda as requested.
- Audit team returns to Las Vegas.

DAY 3--Wednesday 5/10/93 PM

- All audit team members travel to LMA.
- Continue audit 3 activities: waste management, waste tank, waste communication.
- Continue audit 4 activities: permit application compliance.
- Conduct audit 5 reporting and processing activities: waste management, waste tank, waste communication, permit application, compliance, reporting and processing.
- Report to the Director and the Regional Office.

DAY 4--Wednesday 5/10/93 AM

See attachments for detailed information.

ENVIRONMENTAL COMPLIANCE AUDIT  
 AUDIT 5/93A  
 GENERAL AUDIT AGENDA

AUDIT FIDELITY AGENDA-WEDNESDAY, Dec 16, 1993

D2-6

6:00	AT LVI to site			
8:00	<u>Jensen</u> <u>Roberts</u>	<u>Robinson</u> <u>Wade</u>	<u>Springer</u> Interviews	Johnson Fogdall
8:30	Reg Mat	Carroll		<u>Wirtz</u> Joyce
9:00				
9:30				
10:00				Boyer
10:30				
11:00				
11:30				
12:00				
12:30	<u>Wirtz</u> <u>Jensen</u>			Johnson
1:00	Clifton			
1:30				Wade
2:00				
2:30		Caucus		
3:00		Debate		
3:30				
4:00		Rtn to BoFA		
4:30				
5:00				

ENVIRONMENTAL COMPLIANCE AUDIT  
AUDIT 5793A

GENERAL AUDIT AGENDA

See attachments for detailed information

Day 4--Thursday 5/11/93 am

- Three Audit Team members travel to site to continue audit process of regulated materials management, permit compliance, waste management, and hazard communication.

- Environmental training program audit continues with review of lesson plans, instructor qualifications, and follow-up on previous issues.

- Follow-up of previous issues in reporting and processing operations information, resolution of environmental concerns, and environmental appraisal/protection programs.

Day 4--Thursday 5/11/93 pm

- On-site Regulated Materials Management and Permit Compliance audit work continues.

- Continue audit and follow-up actions in training, reporting and processing, resolution of concerns, and environmental appraisal/protection programs.

- On-site audit team members conduct telephone caucus with Audit Team Leader and return to Las Vegas.

- Conduct Audit Team caucus meeting

- Conduct Day 4 debriefing with REFCO personnel.

- Adjust Day 5 agenda if necessary.

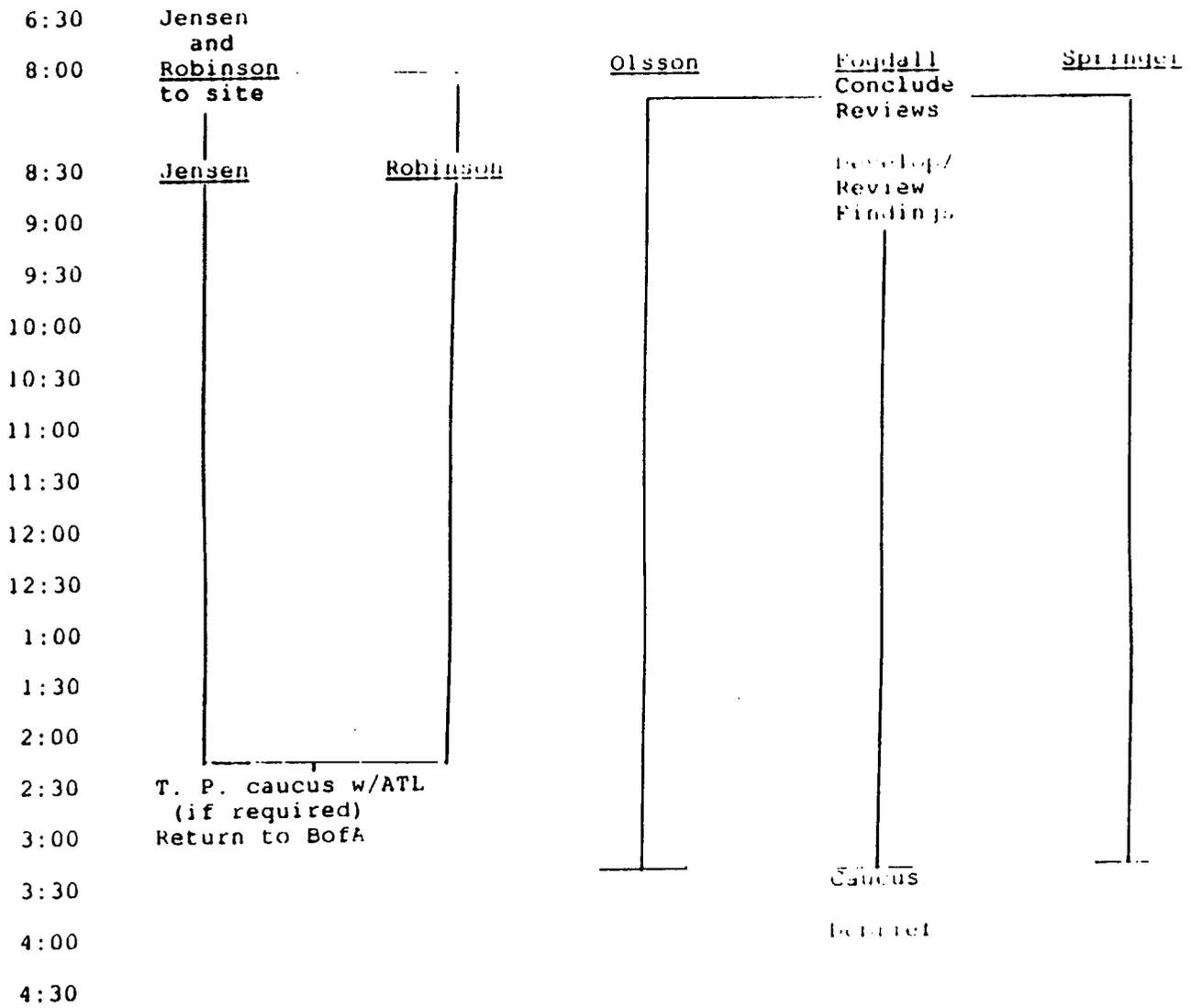
AUDIT FY93A AGENDA-THURSDAY, MARCH 11, 1993

D2-8

6:30	Wirtz Jensen			
8:00	<u>Robinson</u> to site		<u>Olsson</u> Follow-up	<u>Fordall</u> Follow-up
8:30	<u>Jensen</u> Waste	Wirtz <u>Robinson</u>		<u>Springer</u> Lsn. Plan.
9:00	Min	Permits		Inst Qual
9:30	Haz Com	Wade		Follow-up
10:00	Clingan	Catover		
10:30	Hayworth			
11:00	Holmes			
11:30				
12:00				
12:30				
1:00				
1:30				
2:00				
2:30	T.P. Caucus w/ATL			
3:00	Return to BoIA			
3:30				Caucus
4:00				Del. ref
4:30				
5:00				

AUDIT FY93A AGENDA-FRIDAY, MARCH 12, 1993

D2-10



ENVIRONMENTAL COMPLIANCE AUDIT  
AUDIT FY93A

GENERAL AUDIT AGENDA

(See attachments for related information)

Day 5--Friday 3/12/93 am

- Travel to KMP to complete investigation, as required.
- Conclude reviews of documents, records, data bases.
- Develop and review findings.

Day 5--Friday 3/12/93 pm

- Travel from KMP to Las Vegas, as required.
- Continue finding development and review.
- Begin Audit Report preparation.
- Audit Team Leader conducts one-on-one Day 5 debrief with SECO point of contact.

APPENDIX E

LIST OF AUDIT TEAM MEMBERS

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## AUDIT TEAM PERSONNEL

The names of the audit team members and their primary area of responsibility are listed below. This listing includes a brief biographical summary and years of experience for each team member.

**NAME:** Sid Dodd  
M.S. Management

**AUDIT RESPONSIBILITY:** Audit Team Leader

**YEARS OF EXPERIENCE:** 33

**BIOGRAPHICAL SUMMARY:** Mr. Dodd has broad, hands-on experience in the management of multi-discipline organizations and projects. At SAIC he has had both management and technical analyses experience in preparing environmental report documents. His USAF command experience includes responsibility for environmental compliance and protection. He is conversant with the body of environmental regulations as they apply to federal facilities.

---

**NAME:** Kent Wirtz,  
M.S. Biology/Biochemistry

**AUDIT RESPONSIBILITY:** Technical Coordinator

**YEARS OF EXPERIENCE:** 17

**BIOGRAPHICAL SUMMARY:** Mr. Wirtz is Hazardous Materials Coordinator for the Technical and Management Support Services. His expertise in hazardous waste management includes the development of associated procedures and operations programs. He oversees the Request for Authorization Program under AP 6.13 which identifies, authorizes, and tracks the use of regulated materials on the project. He performs reporting of hazardous material releases to the State and National Response Centers. He performs environmental training and oversight functions. He is a State of Nevada Certificated Environmental Manager.

NAME: Bonnie C. Fogdall  
Coursework at Arizona State University, Idaho State University, University of Idaho, Clark County Community College, Stevens Henager Business College

AUDIT RESPONSIBILITY: Reporting and Processing Operation Information

YEARS OF EXPERIENCE: 22

BIOGRAPHICAL SUMMARY: Ms. Fogdall is an Environmental Technical Specialist for the Technical and Management Support Services for the YMP. In addition to providing programmatic support for YMP environmental compliance and permitting activities, she also conducts field surveillances, is the 100 package coordinator for all environmental remediation 100 packages, and is database manager for the hazardous materials program. She has extensive experience in document control and records management, including those associated with the Idaho National Engineering Laboratory Environmental Restoration Program.

---

NAME: Kathryn Jensen  
B. A. Chemistry

AUDIT RESPONSIBILITY: Regulated Materials Management

YEARS OF EXPERIENCE: 2

BIOGRAPHICAL SUMMARY: Ms. Jensen is an Environmental Scientist for Technical and Management Support Services for the YMP. She assists in the hazardous materials and waste management programs and conducts reviews of Requests for Authorization to use regulated materials. She participates in environmental compliance audits. She identifies environmental data requirements for the YMP through review, analysis and interpretation of federal, state, and local environmental regulations.

NAME: Karen Olsson  
B. A. Aquatic Biology

AUDIT RESPONSIBILITY: Resolutions of Environmental Safety and Health Concerns: Environmental Safety and Health Appraisal; and Environmental Safety and Health Protection Program of U.S. DOE Operations.

YEARS OF EXPERIENCE: 8

BIOGRAPHICAL SUMMARY: Ms. Olsson has participated in environmental compliance audits at several U.S. Army National Guard installations in South Dakota and Louisiana. She worked as a team leader in the South Dakota audits. She has been involved in the preparation of administrative procedures dealing with hazardous waste accumulation and on environmental compliance auditing and surveillance. She is responsible for revising and updating the YMP Environmental Regulatory Compliance Plan, Environmental Management Plan and Environmental Protection Implementation Plan.

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NAME: Christine Robinson  
M.A. Sociology

AUDIT RESPONSIBILITY: Permit Agreement Compliance

YEARS OF EXPERIENCE: 2

BIOGRAPHICAL SUMMARY: Ms. Robinson oversees the implementation of YMP Administrative Procedure - 8.1, Land Access and Environmental Compliance. She is instrumental in obtaining permits, insuring compliance with permit requirements, and in processing tracer and waiver requests for YMP activities. She participates regularly in environmental surveillances of YMP field work. She serves as the permitting technical specialist for environmental audits by the T&MSS Environmental Compliance and Permitting Department.

NAME: Debra Springer  
Coursework, Sheridan Junior College

AUDIT RESPONSIBILITY: Environmental Training Program

YEARS OF EXPERIENCE: 15

BIOGRAPHICAL SUMMARY: Ms. Springer is responsible for the monitoring of department training requirements and maintenance of training records for the Technical and Management Support Services (T&MSS) Environmental Compliance and Permitting Department (ECPD). In prior work in the T&MSS Training Department, her duties involved reviews of personnel training files for completeness and for compliance with project training requirements. In addition to serving as a member of environmental compliance audit teams, she participates regularly in environmental surveillances of YMP field work.

APPENDIX F

LIST OF AUDIT CONTACTS/INTERVIEWS

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**LIST OF AUDIT CONTACTS/INTERVIEWS**

<b>AUDITOR</b>	<b>CONTACT/ INTERVIEWEE</b>	<b>POSITION</b>	<b>ORGANIZATION</b>	<b>NUMBER OF CONTACTS/ INTERVIEWS</b>
<u>S. Dodd</u>	Dong Kim	Regulatory Compliance Division, Self-Assessment Observer	Headquarters DOE	4
	Robert Pritchett	Technical Project Officer	REECo	1
	John West	Audit Point of Contact	REECo	16
<u>K. Wirtz</u>	Joe Catozzi	Superintendent of Construction Operations	REECo	1
	Cathryn Davenport	Senior Staff Assistant (Construction)	REECo	1
	Cindy Dutro	Environmental Systems Specialist	REECo	1
	Clarence Mason	Department Manager (Drilling)	REECo	1
	Cindy Napper	Secretary (Drilling)	REECo	1
	Scott Wade	Environmental Compliance Officer III	REECo	1
	John West	Hazardous Materials Coordinator	REECo	2
<u>K. Olsson</u>	James Henze	Occupational Safety Professional II	REECo	1
	Ricky Joyce	Senior Drilling Engineer	REECo	1
	Randy Leske	Safety Professional III	REECo	1
	Michael Pochowski	Industrial Hygienist II	REECo	1
	Scott Wade	Environmental Compliance Officer III	REECo	3
	John West	Division Quality Coordinator	REECo	2
<u>B. C. Fogdall</u>	James Henze	Occupational Safety Professional III	REECo	1

E-1

**LIST OF AUDIT CONTACTS/INTERVIEWS**

<b>AUDITOR</b>	<b>CONTACT/ INTERVIEWEE</b>	<b>POSITION</b>	<b>ORGANIZATION</b>	<b>NUMBER OF CONTACTS/ INTERVIEWS</b>
<u>B. C. Fogdall (continued)</u>	Ricky Joyce	Senior Drilling Engineer	REECo	1
	Michael Pochowski	Industrial Hygienist II	REECo	1
	Scott Wade	Environmental Compliance Officer III	REECo	1
	John West	Senior Staff Quality Coordinator	REECo	2
	Winn Wilson	Site Manager	YMP/DOE	1
<u>D. Springer</u>	M. Connie Barker	Training Administrator	REECo	4
	Gregg Calvird	Industrial Hygienist	REECo	1
	Joe Catozzi	Superintendent of Construction Operations	REECo	1
	Teresa Cobb	Office Assistant III	REECo	2
	Cathryn Davenport	Senior Staff Assistant (Construction)	REECo	2
	Cecil Davis	Section Chief for Administration and Technical Support	REECo	2
	Cindy Dutro	Environmental Systems Specialist	REECo	8
	Cindy Grace	Senior Staff Assistant (Drilling)	REECo	3
	Frances Hansen	Office Assistant II	REECo	1
	Alice Harmon	Training Records Supervisor	T&MSS	2
	Ricky Joyce	Senior Drilling Engineer	REECo	2
	Linda Liles	Training Records Clerk	T&MSS	1
	Sandy Lloyd	Field Training Assistant	T&MSS	1

**LIST OF AUDIT CONTACTS/INTERVIEWS**

<b>AUDITOR</b>	<b>CONTACT/ INTERVIEWEE</b>	<b>POSITION</b>	<b>ORGANIZATION</b>	<b>NUMBER OF CONTACTS/ INTERVIEWS</b>
<u>D. Springer</u> (continued)	Clarence Mason	Department Manager (Drilling)	REECo	1
	Brenda Milsap	Training Records Specialist	T&MSS	1
	Brenda Potee	Office Assistant III	REECo/YMP Project Office	3
	Robert Pritchett	Technical Project Officer	REECo	1
	Emily Reiter	Senior Quality Assurance Specialist	REECo	1
	Theresa Robotham	GET Coordinator	T&MSS	2
	Robert Rommel	Project Engineer (Construction)	REECo	1
	Bonnie Spencer	Assistant Manager Education and Training	REECo	2
	Joe Stephenson	Department Manager, Education and Training	REECo	1
	Steven Straub	Department Manager, Logistical Support	REECo	4
	Mary Swords	Administration Records Coordinator	REECo	4
	Rufus Taylor	Senior Staff Advisor (Field Test Support)	T&MSS	1
	Linda Townsend	Department Secretary (Training)	T&MSS	1
Betty Williams	Office Assistant II	REECo	2	
Dennis Vetter	Section Chief of Core Programs	REECo	2	
<u>K. Jensen</u>	John Allen	Construction Superintendent	REECo	2
	Todd Clifton	Satellite Accumulation Area Operator	REECo	1

LIST OF AUDIT CONTACTS/INTERVIEWS

AUDITOR	CONTACT/ INTERVIEWEE	POSITION	ORGANIZATION	NUMBER OF CONTACTS/ INTERVIEWS
<u>K. Jensen</u> (continued)	Ricky Joyce	Alternate Hazardous Materials Coordinator	REECo	1
	Amy Peterson	Waste Minimization Coordinator	REECo	1
	Michael Pochowski	Industrial Hygienist	REECo	1
	William Roberts	Satellite Accumulation Area Operator	REECo	1
	Juan Sanchez	Satellite Accumulation Area Operator	REECo	1
	Larry Saxon		REECo	1
	Scott Wade	Environmental Compliance Officer III	REECo	1
	John West	Hazardous Materials Coordinator	REECo	3
	Ron Baugh	Site Maintenance/Steam and Water	REECo	1
<u>C. Robinson</u>	Joe Carozzi	Superintendent of Construction Operations	REECo	1
	Larry Croft	Environmental Field Programs Division Manager	T&MISS/SAIC	1
	Ricky Joyce	Senior Drilling Engineer	REECo	1
	Michael Pochowski	Industrial Hygienist II	REECo	1
	J. Kayce Prince	Radiological Field Programs Division Manager	T&MISS/SAIC	1
	Scott Wade	Environmental Compliance Officer	REECo	5
	David Wonderly	Project Manager/Drilling	REECo	3

APPENDIX G

LIST OF DOCUMENTS REVIEWED BY THE  
AUDIT TEAM



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**LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM**

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>Sid Dodd</u>	Environmental Auditing Vol I	DOE	1/93
	Environmental Auditing Vol II	DOE	1/93
	Performance Objectives and Criteria for DOE Environmental Audits, DOE/EH-0229	DOE	
	AP-5.46, Environmental Compliance Auditing and Surveillance of Yucca Mountain Site Characterization Project Activities	YMP	8/14/92
	AP-2.9, Occurrence Reporting and Processing of Operations Information	YMP	12/26/90
	T&MSS QA Project Description	T&MSS	1/90
	DOE 5480.19, Conduct of Operations Requirements for DOE Facilities	DOE	7/90
	DOE 5400.1, General Environmental Protection Program	DOE	11/88
	DOE 5483.1A, Occupational Safety and Health Program for DOE Contractor Employees at Government Owned Contractor-Operated Facilities	DOE	06/83
	DOE 5500.2A, Emergency Notification, Reporting, and Response Levels	DOE	4/13/80
	DOE/NV 5500.2-2, Emergency Planning, Preparedness and Response for Operations	DOE	9/82
	DOE 5500.3, Reactor and Nonreactor Nuclear Facility Emergency Planning, Preparedness and Response Program for U.S. Department of Energy Operations	DOE	8/81

LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
Sid Dodd (Continued)	DOE 5500.3A, Planning and Preparedness for Operational Emergencies	DOE	2/92
	DOE/NV 5500.3, Emergency Preparedness Program and Notification Systems	DOE	3/89
	Training Management Plan	YMP	7/92
	Federal Environment-1 Inspection Handbook	DOE	10/91
	T&MSS Environmental Safety and Health Plan	T&MSS	8/92
	Hazardous Materials Coordinator Training Manual	YMP	10/92
	Environmental Auditing for Federal Facilities	Executive Enterprises, Inc.	11/90
	Environmental Audit Manual, Vol I (DOE/EH-0125)	DOE	01/90
	Environmental Audit Manual, Vol II (DOE/EH-0125)	DOE	01/90
	Environmental Audit Manual, Vol III (DOE/EH-0125)	DOE	01/90
	Environmental Protection Functional Appraisal Program Review Guide	DOE	11/88
	Conducting an Environmental Audit	Executive Enterprises, Inc.	1989
	Multi-Media Compliance Audit Procedures	U.S. EPA	07/85
	Environmental Compliance: A Simplified National Guide, Vol I	Specialty Technical Publishers	12/92
	Environmental Compliance: A Simplified National Guide, Vol II	Specialty Technical Publishers	12/92

**LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM**

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>Sid Dodd</u> (continued)	DOE Environmental Audit Program Guidance (DOE/EH-0232)	DOE	01/92
	AP-6.18, Resolutions of Environment, Safety and Health Concerns	YMP	08/91
	AP-5.38, Environmental Safety and Health Appraisal	YMP	11/92
	AP-5.43, Environmental Safety and Health Protection Program for U.S. Department of Energy Operations	YMP	09/92
	Hazardous Materials Management and Handling Plan	YMP	07/92
	AP-6.25, Operating Hazardous Waste Satellite Accumulation Areas	YMP	08/92
	YMP-FOI-3001, Yucca Mountain Field Training Program	YMP	07/91
	Environmental Regulatory Compliance Plan	YMP	07/92
	AP-6.27, Waste Assessment	YMP	02/93
	AP-6.13, Authorization for Use of Regulated Hazardous Substances and Materials	YMP	10/90
	AP-8.1, Land Access and Environmental Compliance	YMP	08/91
	SAIC Environmental Compliance Assessment System QA Project Plan	SAIC	07/92
	Environmental Restoration Waste Management 5 Year Plan	DOE	08/91
	YMP-FOI-5403, Hazard Communications Program	YMP	08/92
	SP-1.64, Chemical Hazard Communications Program	T&MSS	09/92

LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>Sid Dodd</u> (continued)	Air Quality Permit to Construct 2693	State of NV	06/91
	Air Quality Permit to Construct 2893	State of NV	11/91
	Air Quality Permit to Construct 3084	State of NV	06/92
	Air Quality Permit to Construct 3197	State of NV	09/92
	Air Quality Permit to Construct 3199	State of NV	09/92
	Air Quality Permit to Construct 3267	State of NV	01/93
	Air Quality Permit to Construct 3268	State of NV	10/92
	Underground Injection Control Permit NEV 89031	State of NV	05/92
	Waters of An Underground Source Permit 57373	State of NV	08/92
	Corrected Permit No. 57374 for the Waters of An Underground Source Permit	State of NV	10/92
	Permit to Appropriate the Public Waters of the State of Nevada - Change in Place of Use 57376	State of NV	08/92
<u>K. Olsson</u>	AP-6.18, Resolutions of Environment, Safety and Health Concerns	Yucca Mountain Site Characterization Project Procedure	8/6/91
	U.S. Department of Energy (DOE) Order 5483.1A Occupational Safety & Health Program for DOE Contractor Employees at Government-owned Contractor Operated Facilities	DOE, Washington, D.C.	6/22/83
	Nevada Occurrence Reporting System Operations Center (NORSOC)	DOE, Nevada Field Office	10/27/92

G-4

**LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM**

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
K. Olsson (continued)	Reynolds Electrical and Engineering Co., Inc. (REECo) Environmental Compliance Department Activities Report, January 1993	Frank E. Bingham/ REECo	2/10/93
	REECo Company Procedure (CP) 1.11.5, Occurrence Reporting System	REECo	1/28/93
	REECo CP 1.11.16, System Deficiency Report	REECo	2/24/92
	REECo CP 1.11.17.01, Stop Work Order	REECo	1/28/93
	REECo Memorandum transmitting Revised NTS Spill Notification Instructions	C. J. Mason/REECo	3/2/93
	REECo CP 1.8.21, Safety & Health Committee Program	REECo	2/18/93
	Letter to Edward W. McCann from Frank E. Bingham on Visual emissions at LM300 Drill Rig	F. E. Bingham/REECo/ E. W. McCann	7/31/92
	Memo to Wonderly thru Bingham from Calman on Visible Emissions at LM300 Drill Rig	E. C. Calman/REECo/ D. Wonderly	7/15/92
	Occupational Safety Code A-9, Reporting NTS Emergency 911/Mayday System	REECo	3/31/91
	Occupational Safety Code A-10, Occurrence Reporting	REECo	10/1/91
	Historical Spills - Active Sites (Spill Registry)	REECo	N/A
	"What To Do If You Have a Spill" from the "REECo Recorder," a Monthly Newsletter	REECo	N/A
	AP-5.38 Environmental Safety and Health Appraisal	Yucca Mountain Site Characterization Project Procedure	11/16/92

**LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM**

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>K. Olsson</u> (continued)	DOE/Nevada Operations Office Order NV 5482.1B-19 Environment, Safety & Health Appraisal Program	DOE/Nevada Operations Office Order	10/7/87
	REECo Management Control Procedure MC-14.1, Env. Safety & Health Internal Appraisal Program	REECo	7/14/92
	Environmental Safety & Health Internal Appraisal Program	J. W. West/REECo	12/9/92
	Environmental Compliance Office Surveillance, Inspection & Appraisal Schedule for 1st and 2nd quarters, FY 1993	T. E. Taylor/REECo	10/13/92
	REECo Company Policy 2.3.2, Environment, Safety, and Health Self-Assessment Program	REECo	12/24/91
	REECo Management Control Procedure MC-11.1, Deficiency Notices	REECo	7/14/92
	REECo Management Control Procedure MC-11.3/0, Corrective Action	REECo	4/24/92
	Safety and Health Program Functional Appraisal	Ltr to R. F. Pritchett from W. A. Wilson; W. Wilson/T&MSS/ R. F. Pritchett	3/9/93
	Environmental Compliance Office Standard Operating Procedure No. AAFzz.D.05.00, Env. Appraisals	REECo	11/16/92
	Env. Compliance Office Standard Operating Procedure No. AAFzz.D.04.00, Compliance Evaluations	REECo	11/15/92

**LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM**

<b>Auditor</b>	<b>Document Title/Description</b>	<b>Author/ Organization/Recipient</b>	<b>Document Date</b>
K. Olsson (continued)	Management of Appraisals of Environment, Safety and Health (ES&H)	Ltr from R. F. Pritchett to W R Dixon, R.F.Pritchett/REECo/ W R Dixon	9/23/92
	AP-5.43 Environmental Safety and Health Protection Program for DOE Operations	Yucca Mountain Site Characterization Project Procedure	9/22/92
	REECo CP Env. Safety and Health Section Table of Contents	REECo	12/91
	REECo Company Policy 2.3.1, Environment	REECo	3/8/91
	Organization Statement 5.30A, Environmental Compliance Office	REECo	11/22/89
	REECo CP 1.8.7, Environmental Regulations	REECo	3/16/89
	REECo CP 3.2.53, Response to Spills and Leaks of Hazardous Materials	REECo	4/30/91
	REECo CP 3.2.54, Polychlorinated Biphenyls	REECo	7/31/91
	Standard Operating Procedure DD-SOP 031, Response to Spills and/or Leaks of Hazardous Materials	REECo	1/9/90
	Yucca Mountain Project Technical Control Procedure TC-583-SP-0006 "Response to Spills"	REECo	Preliminary Draft
	Checkstuffer, REECo Employees' Rights and Responsibilities under the DOE Occupational Safety and Health Program	REECo	N/A
	Checkstuffer, Reduction of Spills at the NTS	REECo	N/A

G-7

**LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM**

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>K. Olsson</u> (continued)	Contaminated Soil and Groundwater Remediation Policy	State of Nevada/Nevada Division of Env. Protection	6/25/92
	Checkstuffer, Desert Tortoise Protection	DOE/Nevada Operations Office	N/A
	Checkstuffer, Waste Reduction and Pollution Prevention - Everyone's Job	D. Fraser/REECo	N/A
	Checkstuffer, Sightseeing on the NTS	D. Fraser/REECo	N/A
	Checkstuffer, Environmental Hotline	D. Fraser/REECo	N/A
	Checkstuffer, Natural Resources, Artifacts, Wildlife	D. Fraser/REECo	N/A
	Env. Compliance Audit Logbook, Audit FY93A - REECo	T&MSS/ECPD	3/93
	Performance Objectives and Criteria for Environmental Management	U.S. DOE Office of Env. Audit	N/A
<u>B. C. Fogdall</u>	Occurrence Report Open Item Summary One Line Update (Example)	REECo	3/2/93
	Complete Occurrence Reports (Example)	REECo	3/2/93
	Occurrence Report File 93-0002, C-Hole Spills	REECo	Various
	Occurrence Report File 92-0006, NRG-6 Hydraulic Line	REECo	Various
	Occurrence Report File 92-0002 UZ-1 Generators	REECo	Various
	Occurrence Report File 91-1001, Subdock Valve Left On	REECo	Various
	Occurrence Status Report by Occurrence Number (Example)	REECo	3/5/93

**LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM**

<b>Auditor</b>	<b>Document Title/Description</b>	<b>Author/ Organization/Recipient</b>	<b>Document Date</b>
B. C. Fogdall (continued)	Occurrence Reporting and Processing System Categorization to Final Log Report (Example)	REECo	3/5/93
	Occurrence Reporting and Processing System Categorization by 10 Day Log Numbers (Example)	REECo	3/5/93
	REECo CP 1.11.5, Occurrence Reporting System and DCN 1.11.5-01	REECo	1/28/93
	Ltr - C. Mason to Dist. 1993-0002 Occurrence Critique (copied from 93-0002 File)	C. J. Mason/REECo/Distribution	2/2/93
	Occurrence Report File 92-0004, Historical Oil Spill - Sublock	REECo	Various
	Occurrence Report File, 92-0007, Broken hydraulic Hose - Watermaster	REECo	Various
	Occurrence Report File 93-0005, Misc and Spills, NRG-6 & J-13	REECo	Various
	Occurrence Report File 93-0006, Punctured Diesel Fuel Tank Backhose	REECo	Various
	REECo memo, Visible Emission Eval for Busted Butte Fault Lines	Mike Pochowski and K. Krenzler/ REECo/T. Leonard	8/27/92
	REECo memo, IH Survey: Space Heaters for Drilling Ops - Area 25	From Mike Pochowski and H. F. Kerchner/REECo/R. F. Pritchett	1/20/92
	REECo CP 3.2.53, Response to Leaks and Spills of Hazardous Materials	K. Jensen	4/30/91

**LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM**

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>B. C. Fogdall</u> (continued)	YMP-FOI-5001, Reporting Emergencies, Unusual Occurrences, and Off-Normal Events To DOE/HQ in Accordance with DOE Order 5000.3A	YMP Site Manager/YMP/Various	8/2/92
	YMP Project Management Plan, Rev. 2	YMP	Aug 1990
	Audit Plan for Environmental Compliance Audit of REECo	S. Dodd/T&MSS-ECPD/Auditors	Mar 1993
	Environmental Regulatory Compliance Plan for YMP	YMP/YMP/92-2, Rev. 0	Aug 1992
	AP-5.46, Environmental Compliance Auditing & Surveillance of YMP	YMP	8/14/92
	REECo Monthly Spill Report - 1/93	F. Bingham/REECo/D. Elle/DOE, EPD	2/12/93
	Checklist, Reporting and Processing Checklist	S. Dodd/B. Fogdall/T&MSS-ECPD/ B. Fogdall	2/17/93
	AP-2.9, Occurrence Reporting and Processing of Ops Info	YMP	7/27/92
	Revised NTS Spill Notification Inst.	C. Mason/REECo/Distribution	3/2/93
	AP-6.18, Resolutions of ES&H	YMP	8/6/91
	DOE Order 5483 I, OSH Prog for GOCOs	DOE/HQ	6/22/83
	REECo Environmental Compliance Department Report Jan 1993	F. Bingham/REECo/Dist	2/10/93
	AP-6.18, Resolutions of Environment, Safety and Health Concerns	Yucca Mountain Site Characterization Project Procedure	8/6/91

**LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM**

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>B. C. Fogdall</u> (continued)	DOE Order 5483 1A, Occupational Safety & Health Program for DOE Contractor Employees at Government Owned Contractor-Operated Facilities	U.S. Department of Energy, Washington, DC	6/22/83
	Nevada Occurrence Reporting System Operations Center (NORSOC)	DOE Nevada Field Office	10/27/92
	REECo Environmental Compliance Department Activities Report for January 1993	Frank Bingham/REECo	2/10/93
	REECo CP 1.11.5, Occurrence Reporting system	REECo	1/28/93
	REECo CP 1.11.16, System Deficiency Report	REECo	2/24/92
	REECo CP 1.11.17 01, Stop Work Order	REECo	1/28/93
	REECo Memorandum transmitting, Revised NTS Spill Notification Instructions	C. J. Mason/REECo	3/2/93
	REECo CP 1.8.21, Safety & Health Committee Program	REECo	2/18/93
	Letter to Edward W. McCann from Frank E. Bingham on Visual Emissions at LM300 Drill Rig	F. E. Bingham/REECo/ E. W. McCann	7/31/92
	Memo to Wonderly thru Bingham from Calman on Visible Emissions at LM300 Drill Rig	E.C. Calman/REECo/D. Wonderly	7/15/92
	Occupational Safety Code A-9, Reporting NTS Emergency 911/Mayday System	REECo	3/31/91
	Occupational Safety Code A-10 Occurrence Reporting	REECo	10/1/91
	"What To Do If You Have A Spill"	REECo	N/A
	AP-5.43, Environmental Safety and Health Protection Program for DOE Operations	Yucca Mountain Site Characterization Project Procedure	9/22/92

G-11

**LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM**

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>B.C. Fogdall</u> (continued)	REECo CP Env. Safety and Health Section Table of Contents	REECo	12/1/91
	REECo Company Policy 2.3.1, Environment	REECo	3/8/91
	Organization Statement 530A, Environmental Compliance Office	REECo	11/22/89
	REECo CP 1.8.7, Environmental Regulations	REECo	3/16/89
	REECo CP 3.2.53, Response to Spills and Leaks of Hazardous Materials	REECo	4/30/91
	REECo CP 3.2.54, Polychlorinated Biphenyls	REECo	7/31/91
	Standard Operating Procedure DD-SOP-031, Response to Spills and/or Leaks of Hazardous Materials	REECo	1/9/90
	Yucca Mountain Project Technical Control Procedure TC-583-SP-0006, Response to Spill	REECo	Preliminary Draft
	Checkstuffer, REECo Employees' Rights and Responsibilities under the DOE Occupations Safety and Health Program	REECo	N/A
	Reduction of Spills at the NTS	REECo	N/A
	Contaminated Soil and Groundwater Remediation Policy	State of Nevada/Nevada Division of Env. Protection	6/25/92
<u>D. Springer</u>	MC-02.4.2/1, Personnel Qualitication and Certification	Pritchett/REECo	08/24/92
	MC-02.4, Training & Qualification	Pritchett/REECo	02/14/92
	MC-02.4.3, Required Reading	Pritchett/REECo	06/26/92

LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
D. Springer (continued)	MC-02.4.5, Developing a Training Course	Pritchett/REECo	02/16/93
	MC-02.4.4, Classroom Training	Pritchett/REECo	02/16/93
	MC-02.4.1/2, YMP Indoctrination and Training	Pritchett/REECo	02/16/93
	REECo/YMP Controlled Document Center, Master Index Revision 52	M.D. Moulder/REECo	03/01/93
	REECo/YMP Management Control Procedures, Rev 31	M.D. Moulder/REECo	03/01/93
	YMP/91-35, Hazardous Materials Management and Handling Plan	YMP	7/1992
	Mandatory Training Matrix	Training Matrix Revision Task Group/REECo	4/1992
	AP-6.25, Operating Hazardous Waste Satellite Accumulation Areas	YMP	08/17/92
	YMP-FOI-5601, Yucca Mountain Personnel and Visitors Control Procedures	YMP	11/08/90
	YMP-FOI-4705, YMP Work Site and Area Access and Controls	YMP	11/08/91
	YMP-FOI-3001, 3001 Yucca Mountain Field Training Program	YMP	07/01/91
	General Employee Training, Environmental Requirements Training Program	YMP	9/1991
	General Employee Training, Safety and Health Indoctrination Handbook	YMP	N/A

**LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM**

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>D. Springer</u> (continued)	Oscar C. Fogel, Training Matrix	C. Davenport/Computer Printout/ REECo	03/10/93
	Linda F. Singleton (Norris), Training Matrix	C. Davenport/Computer Printout/ REECo	03/10/93
	Emilio R. Skeete, Training Matrix	C. Davenport/Computer Printout/ REECo	03/10/93
	Clawson W. Ruth, Training Matrix	C. Davenport/Computer Printout/ REECo	03/10/93
	Construction Department Organizational Chart	S. Straub/REECo	03/09/93
	Drilling Department Organizational Chart	S. Straub/REECo	03/09/93
	Organizational Chart	REECo	10/1992
	D. J. Finney, Training History	Computer Generated Printout/ REECo Training Department (CGPO/RTD)	03/08/92
	M. L. Pochowski, Training History	CGPO/RTD	03/08/93
	C. J. Mason, Training History	CGPO/RTD	03/08/93
	G. F. Ewell, Training History	CGPO/RTD	03/08/93
	D. B. Dusdal, Training History	CGPO/RTD	03/08/93
	G. L. Daugherty, Training History	CGPO/RTD	03/08/93
	W. B. Beam, Training History	CGPO/RTD	03/08/93
	J. M. Arnold, Training History	CGPO/RTD	03/08/93

LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
D. Springer (continued)	J. A. Carozzi, Training History	CGPO/RTD	03/08/93
	E. W. Kendall, Training History	CGPO/RTD	03/08/93
	H. W. Dickson, Training History	CGPO/RTD	03/08/93
	T. M. Leonard, Training History	CGPO/RTD	03/08/93
	F. E. Bingham, Training History	CGPO/RTD	03/08/93
	A. E. Bicker, Training History	CGPO/RTD	03/08/93
	A. H. Burlingame, Training History	CGPO/RTD	03/08/93
	T. M. Clifton, Training History	CGPO/RTD	03/08/93
	M. G. Kos, Training History	CGPO/RTD	03/08/93
	S. A. Bobo, Training History	CGPO/RTD	03/08/93
	J. W. Harvey, Training History	CGPO/RTD	03/08/93
	J. V. DeLong, Training History	CGPO/RTD	03/08/93
	L. F. Singleton, Training History	CGPO/RTD	03/08/93
	B. F. Nichols, Training History	CGPO/RTD	03/08/93
	D. M. Fore, Training History	CGPO/RTD	03/08/93
	R. V. Cruise, Training History	CGPO/RTD	03/08/93
	D. A. Smith, Training History	CGPO/RTD	03/08/93
	J. P. Meeker, Training History	CGPO/RTD	03/08/93
	L. F. Saxon, Training History	CGPO/RTD	03/08/93

**LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM**

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>D. Springer (continued)</u>	D. B. Stipp, Training History	CGPO/RTD	03/08/93
	F. S. Velasquez, Training History	CGPO/RTD	03/08/93
	S. A. Wade, Training History	CGPO/RTD	03/08/93
	General Employee Training (GET) Notification for Past Due Personnel	S. Straub/REECo/Donahoe	02/23/93
	General Employee Radiological Training (GERT)	Genz/DOE/Distribution (YMP:ECR-1911)	01/20/93
	Training Documentation Form	S. Straub/REECo	03/01/93
	Training Documentation Form	S. Straub/REECo	03/09/93
	Training Documentation Form	S. Straub/REECo	03/09/93
	Yucca Mountain Site Characterization Project (YMP) Training Attendance Records	McCarthy/T&MSS/Distribution (RAM.LGL.L93-021)	02/16/93
	YMP Training Attendance Records	McCarthy/T&MSS/Distribution (RAM.LGL.L93-027)	03/02/93
	Visitor Control	Visitor Control/Handbook at FOC	N/A
	General Employee Training Sign-up Sheet	B. Milsap/T&MSS Training Dept	02/16/93
	General Employee Training Sign-up Sheet	B. Milsap/T&MSS Training Dept	03/16/93
	YMP Training Attendance Record (General Employee Radiological Training)	J. Karasik/T&MSS Training Dept	03/02/93
	YMP Training Attendance Record - 1 ea. General Employee Radiological Training (GERT), General Employee Training (GET) 1.2, GET 1.3, GET 1.4	J. Anderson/T&MSS Training Dept	02/16/93

LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
D. Springer (continued)	YMP Training Attendance Record - 1 ea. GERT, GEF 1.2, GEF 1.3, GEF 1.4	J Karask/T&MSS Training Dept	02/05/93
	General Employee Training Notification	C. Gracy/REEC/o/D. Supp	12/02/92
	General Employee Training 1.5 Refresher Exam Notification	C. Mason/REEC/o/Distribution/REEC/o	01/01/93
	General Employee Training Notification of Annual Refresher Training for the Month of April	S. Steady/REEC/o/Distribution	03/09/93
	General Employee Training Notification of Annual Refresher Training for the Month of February	S. Steady/REEC/o/Distribution	01/11/93
	Follow-up Notification of Scheduled Training	C. Gracy/REEC/o/B. Williams	10/30/92
	Last Day for Training	Enclosure from T&MSS Notification of 30-60-90 Day Per Connie Baker/REEC/o	03/01/93
	Request for Matrix Support Services	T. Leonard/D. Sharpe/R. Pancher	02/11/93
	Waste Management for Generator (Class)	Computer Generated Printout from C. Gracy/REEC/o	02/05/93
	General Employee Training Completion Status Report (pages 1-9)	Report generated for Tracking Status/T&MSS Training Dept	03/04/93
	General Employee Training (Internal Tracking Tool) Company Private	Computer Generated Printout/T&MSS Training Dept	02/09/93
	General Employee Training 1.5 Update to REEC/o Training Representative (10 pages)	Computer Generated Printout/T&MSS Training Dept	03/01/93

**LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM**

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>D. Springer</u> (continued)	Yucca Mountain Project Division Employee Roster by Cost Center (7 pages)	YMP/REECO Employee Roster	03/08/93
	NV-18 Form	REECO Record of REECO NV Training	12/90
	RADSTAR Training Codes (5 pages)	Coding key to Computer Training/ Tracking Information Data Base (REECO Training Dept)	N/A
	REECO Training Record, Adv. Safety Train Supervisor, Pgs 47, 308, 423, 1231, 1248, 1263, 1289, 1304	Computer Generated Printout/ REECO Training Dept (CGPO/RTD)	03/05/93
	REECO Training Record, Air Purifying Respirator Training, Pgs 278, 301, 303, 421, 1230, 1246, 1286, 1301	CGPO/RTD	03/05/93
	REECO Training Record, AP Respirator Supervisor Training, Pgs. 344, 1227, 1319	CGPO/RTD	03/05/93
	REECO Training Record, Asbestos Awareness, Page 299	CGPO/RTD	03/05/93
	REECO Training Record, Asbestos Inspector (Pgs 300, 1284)	CGPO/RTD	03/05/93
	REECO Training Record, Asbestos Management/Planned (Pgs 301, 1285)	CGPO/RTD	03/05/93
	REECO Training Record, Asbestos Supervisor/Contractor (Pgs. 307, 1288, 1303)	CGPO/RTD	03/05/93
	REECO Training Record, Basic Safety Training Supervisor, (Pgs. 48, 270, 280, 309, 424, 1232, 1249, 1264, 1290, 1305)	CGPO/RTD	03/05/93

G-18

LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>D. Springer</u> (continued)	REECO Training Record, CP Hard Core Group, (Pgs. 285, 317, 1309)	CGPO/RTD	03/05/93
	REECO Training Record, Desert Tortoise Training, (Pgs. 271, 281, 310, 311, 312, 425, 782, 1233, 1250, 1265, 1291, 1306)	CGPO/RTD	03/05/93
	REECO Training Record, Emergency Response Training, (Pgs. 49, 283, 313, 426, 1307)	CGPO/RTD	03/05/93
	REECO Training Record, Fork Lift Operators Course (Pg 314)	CGPO/RTD	03/05/93
	REECO Training Record, FOS/Fire Fighter (Pg 427)	CGPO/RTD	03/05/93
	REECO Training Record, General Employee Radiological Training (Pgs. 279, 305, 422, 1247, 1262)	CGPO/RTD	03/05/93
	REECO Training Record, Haz Com: Chemical Safety (Pgs. 329, 1239)	CGPO/RTD	03/05/93
	REECO Training Record, Haz Com: Controlling Hazards (Pg. 436)	CGPO/RTD	03/05/93
	REECO Training Record, Haz-Com: Exposure Limits (Pgs. 434, 1255)	CGPO/RTD	03/05/93
	REECO Training Record, Haz-Com: Health Haz/Garcin (Pgs. 326, 1254, 1313, 1314)	CGPO/RTD	03/05/93
	REECO Training Record, Haz-Com: Interpreting Labels (Pgs. 328, 435)	CGPO/RTD	03/05/93
	REECO Training Record, Haz-Com: Need to Know (Pgs 334, 433, 437, 1224, 1238, 1268, 1269, 1296)	CGPO/RTD	03/05/93

**LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM**

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>D. Springer</u> (continued)	REECO Training Record, Haz-Com: Physical Haz/ Chem., (Pg. 330)	CGPO/RTD	03/05/93
	REECO Training Record, Haz-Com: Physical Haz/ Explos., (Pgs. 327, 333)	CGPO/RTD	03/05/93
	REECO Training Record, Hazard Communication - Extended (Pg. 336)	CGPO/RTD	03/05/93
	REECO Training Record, Hazard Communication Refresher, (Pgs. 52, 274, 291, 1225)	CGPO/RTD	03/05/93
	REECO Training Record, Hazard Communication Standard (Pgs. 290, 331, 332, 335)	CGPO/RTD	03/05/93
	REECO Training Record, Hazard Recognition (Pgs. 51, 273, 288, 322, 323, 324, 431, 1223, 1236, 1253, 1267, 1294, 1311)	CGPO/RTD	03/05/93
	REECO Training Record, Haz Waste Site General Worker (Pgs. 289, 325, 432, 1237, 1295, 1312)	CGPO/RTD	03/05/93
	REECO Training Record, Hearing Conservation (Pgs. 50, 272, 286, 287, 318, 319, 320, 429, 430, 1235, 1252, 1266, 1293, 1310)	CGPO/RTD	03/05/93
	REECO Training Record, Health Protection Technician (Pg. 321)	CGPO/RTD	03/05/93
	REECO Training Record, Intro to NVO 325-NTS WAC (Pgs. 275, 340, 341, 347, 439, 1240, 1256)	CGPO/RTD	03/05/93
	REECO Training Record, Mine Rescue/SCBA Int. Trng (Pgs. 53, 292, 338, 438, 1316)	CGPO/RTD	03/05/93

**LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM**

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
D. Springer (continued)	REECO Training Record, Mine Rescue/SCBA Refresher (Pg. 293)	CGPO/RTD	03/05/93
	REECO Training Record, Mine Rescue Team/Adv. Refresher (Pgs. 337, 1315)	CGPO/RTD	03/05/93
	REECO Training Record, Mine Rescue/SCBA Refresher (Pg. 339)	CGPO/RTD	03/05/93
	REECO Training Record, SCBA Open Circuit (Pgs. 345, 443, 1320)	CGPO/RTD	03/25/93
	REECO Training Record, Safety/Security Briefing (Pgs. 55, 207, 295, 346, 444, 1228, 1242, 1258, 1271, 1298, 1321)	CGPO/RTD	03/05/93
	REECO Training Record, Tag and Lockout for Managers (Pgs. 56, 296, 1229)	CGPO/RTD	03/05/93
	REECO Training Record, Tag and Lockout (Pgs. 347, 445, 1243, 1259, 1322)	CGPO/RTD	03/05/93
	REECO Training Record, Underground Worker's Safety Training (Pgs. 297, 348, 349, 446, 447, 1244, 1260, 1299, 1323)	CGPO/RTD	03/05/93
	REECO Training Record, Waste Management for Generator (Pgs. 298, 350, 1245, 1261, 1300, 1324)	CGPO/RTD	03/05/93
	REECO/Project Support and Documentation Office Roster	Computer Generated Roster for Internal tracking/T&MSS-ECPD	N/A
	RADSTAR Training Report, Waste Management for Generator (Pages 1-8)	CGPO/RTD, Active Personnel Roster	03/12/93

G-21

**LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM**

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>D. Springer</u> (continued)	RADSTAR Training Report, Inactive Pers: Archives Data Waste Management for Generator (3 pages including FAX Coversheet)	CGPO/RTD, inactive Personnel Roster	03/12/93
	Audit Plan	Audit Team Leader/T&MSS-ECPD	03/01/93
	Audit Checklist	Audit Team Leader/T&MSS-ECPD	03/01/93
	Master List of Controlled Documents	Document Control Center/T&MSS	01/15/93
	AP-5.46, Environmental Compliance and Surveillance of Yucca Mountain Site characterization Project Activities	YMP	08/14/92
	YMP/92-2, Rev. 0, Environmental Regulatory Compliance Plan	YMP	08/12/92
	YMP/91-27, Rev. 0, Training Management Plan	YMP	07/21/92
	Waste Management for Generator, Lesson Plan (Rev 1)	REECo Education & Training Dept	12/15/92
	Waste Management for Generator Course Handout	REECo Environmental Training Dept	N/A
	YMP/88-2, Rev. 2, YMP Project Management Plan	YMP	8/90
	Materials Reporting and Handling Plan. Policies and Directives, Revision 3	REECo	5/1992
	REECo Training Record, NVO-325 (Pg. 1317)	CGPO/RTD	03/05/93
	REECo Training Record, OSHA 1910, General Compliance (Pgs 54, 276, 294, 343, 440, 1226, 1241, 1257, 1270, 1297, 1318)	CGPO/RTD	03/05/93
	REECo Training Record, Powder Actuated Tool Training 350 (Pgs. 441, 442)	CGPO/RTD	03/05/93

LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM

Document	Date	Author/ Organization/Recipient	Document Title/Description	Auditor
	03/05/93	CGPO/RTD	REECO Training Record, Radiation Worker (Pgs. 40-269, 1287, 1302)	D. Springer (continued)
	03/05/93	CGPO/RTD	REECO Training Record, Respirator Fit Testing (Pgs. 284, 315, 316, 428, 1234, 1251, 1292, 1308)	
	12/15/92	Andy Dano/REECO	MDT-137 FAX Inspector Sign-off Sheet for Waste Management for Generator Lesson Plan	K. Jensen
	1990	OSHA	29 CFR 1910.1200, Hazard Communication	
	00/15/92	Howell Training Company	Haz. Com Reports 1-10, Haz. Com Training	D. Springer (continued)
	00/15/92	REECO	Table of Contents, REECO ES&H Hazard Communication Train-the Trainer	
	10/11/92	REECO	REECO CP 1.8.14, Revision 1, Hazard Communication Program	D. Springer (continued)
	02/08/93	YAIPO	AP-6.27, Waste Assessment	
	06/29/90	DOE	DOE Order 5400.1, Change 1	D. Springer (continued)
	8/7/91	REECO	REECO CP 3.2.51, Hazardous Material Control	
	09/18/91	REECO	REECO CP 4.2.1, Hazardous Waste Management for the NTS	

LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
K. Jensen (continued)	Safety and Health Committee Program, REECo CP 1.8.21, Rev. 2	REECo	02/01/93
	Management of Hazardous Material and Hazard Wastes, US DOE-SOP (NTS)-5409)	DOE	06/15/89
	AP 6.13, Authorization for the Use of Regulated Hazardous Substances and Materials	YMPO	10/19/90
	AP 6.25, Operating Hazardous Waste Satellite Accumulation Areas	YMPO	08/17/92
	YMP Hazardous Materials Management & Handling Plan	YMPO	July 1992
	REECo Materials Reporting & Handling Plan, Rev. 3	REECo	May 1992
	Request for Authorization to Use Regulated Materials, T&MSS-91-01 through T&MSS-91-09	REECo	01/07/91
	Request for Authorization to Use Regulated Materials, T&MSS-91-17	REECo	03/25/91
	Request for Authorization to Use Regulated Materials, T&MSS-91-18	REECo	08/22/91
	Request for Authorization to Use Regulated Materials, T&MSS-91-19	REECo	08/21/91
	Request for Authorization to Use Regulated Materials, T&MSS-92-21	REECo	01/13/92
	Request for Authorization to Use Regulated Materials, T&MSS-92-25	REECo	01/13/92

**LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM**

<b>Auditor</b>	<b>Document Title/Description</b>	<b>Author/ Organization/Recipient</b>	<b>Document Date</b>
<u>K. Jensen</u> (continued)	Request for Authorization to Use Regulated Materials, T&MSS-92-26	REECo	01/13/92
	Request for Authorization to Use Regulated Materials, T&MSS-92-27	REECo	01/13/92
	Request for Authorization to Use Regulated Materials, T&MSS-92-29	REECo	04/08/92
	Request for Authorization to Use Regulated Materials, T&MSS-92-30 through T&MSS-92-38	REECo	04/07/92
	Request for Authorization to Use Regulated Materials, T&MSS-92-39 through T&MSS-92-41	REECo	04/21/92
	Request for Authorization to Use Regulated Materials, T&MSS-92-42	REECo	04/21/92
	Request for Authorization to Use Regulated Materials, T&MSS-92-42A	REECo	04/28/92
	Request for Authorization to Use Regulated Materials, T&MSS-92-43 through T&MSS-92-45	REECo	05/19/92
	Request for Authorization to Use Regulated Materials, T&MSS-92-46	REECo	06/19/92
	Request for Authorization to Use Regulated Materials, T&MSS-92-47 through T&MSS-92-49	REECo	06/19/92
	Request for Authorization to Use Regulated Materials, T&MSS-92-55	REECo	09/22/92
	Request for Authorization to Use Regulated Materials, T&MSS-92-56 through T&MSS-92-59	REECo	09/18/92

**LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM**

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>K. Jensen</u> (continued)	Wastestream Identification Numbers and Log	Kent Wutz/T&MSS-ECPD	03/01/93
	Uniform Hazardous Waste Manifest LAA 3102443 RE-01-D008-92-07(01), RE-01-D008-92-07(02)	Kent Wutz/T&MSS-ECPD	01/13/93
	Uniform Hazardous Waste Manifest LAA 3102444 Acrylic Bonding Polymer - No SAA	Kent Wutz/T&MSS-ECPD	01/13/92
	Uniform Hazardous Waste Manifest 00096228 RE-01-F003-92-05(01)	Kent Wutz/T&MSS-ECPD	01/13/93
	Uniform Hazardous Waste Manifest LAA 3094546 RE-01-D008-92-01, RE-01-11210-92-02	Kent Wutz/T&MSS-ECPD	07/08/92
	REECo Letter from Pritchett to Gertz on Declaration of Hazardous Wastes at REECo SAAs	R F Pritchett/REECo/YMP TPO	04/27/92
	AP-6.25, Establishing & Operating SAAs, Attachment I Hazardous Wastestream Identification	Kent Wutz/T&MSS-ECPD	---
	REECo YMP Division SAA Weekly Inspection Format	W.C. Roberts/REECo	07/06/92
	REECo YMP Division SAA Weekly Inspection Format	W.C. Roberts/REECo	07/16/92
	REECo YMP Division SAA Weekly Inspection Format Toluene	W.C. Roberts/REECo	07/06/92
	REECo YMP Division SAA Weekly Inspection Format Toluene	W.C. Roberts/REECo	07/16/92
	REECo YMP Division SAA Weekly Inspection Format Toluene	W.C. Roberts/REECo	07/23/92
	REECo YMP Division SAA Weekly Inspection Format Toluene	W.C. Roberts/REECo	07/30/92

**LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM**

<b>Auditor</b>	<b>Document Title/Description</b>	<b>Author/ Organization/Recipient</b>	<b>Document Date</b>
<u>K. Jensen</u> (continued)	REECO YMP Division SAA Weekly Inspection Format - Toluene	W.C. Roberts/REECO	08/06/92
	REECO YMP Division SAA Weekly Inspection Format - Toluene	W.C. Roberts/REECO	08/13/92
	REECO YMP Division SAA Weekly Inspection Format - Toluene	W.C. Roberts/REECO	08/28/92
	REECO YMP Division SAA Weekly Inspection Format - Toluene	W.C. Roberts/REECO	09/03/92
	REECO YMP Division SAA Weekly Inspection Format - Toluene	W.C. Roberts/REECO	09/08/92
	REECO YMP Division SAA Weekly Inspection Format - Toluene	W.C. Roberts/REECO	09/17/92
	REECO YMP Division SAA Weekly Inspection Format - Toluene	W.C. Roberts/REECO	09/17/92
	REECO YMP Division SAA Weekly Inspection Format - Toluene	W.C. Roberts/REECO	10/01/92
	REECO YMP Division SAA Weekly Inspection Format - Toluene	W.C. Roberts/REECO	10/08/92
	REECO YMP Division SAA Weekly Inspection Format - Toluene	W.C. Roberts/REECO	10/15/92
	REECO YMP Division SAA Weekly Inspection Format - Toluene	W.C. Roberts/REECO	10/22/92
	REECO YMP Division SAA Weekly Inspection Format - Toluene	W.C. Roberts/REECO	10/29/92

**LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM**

<b>Auditor</b>	<b>Document Title/Description</b>	<b>Author/ Organization/Recipient</b>	<b>Document Date</b>
<u>K. Jensen</u> (continued)	REECO YMP Division SAA Weekly Inspection Format Toluene	W C Roberts/REECo	11/05/92
	REECO YMP Division SAA Weekly Inspection Format Toluene	W C Roberts/REECo	11/13/92
	REECO YMP Division SAA Weekly Inspection Format Toluene	W C Roberts/REECo	11/20/92
	REECO YMP Division SAA Weekly Inspection Format Toluene	W C Roberts/REECo	11/25/92
	REECO YMP Division SAA Weekly Inspection Format Toluene	W C Roberts/REECo	12/01/92
	REECO YMP Division SAA Weekly Inspection Format Toluene	W C Roberts/REECo	12/10/92
	REECO YMP Division SAA Weekly Inspection Format Toluene	W C Roberts/REECo	12/17/92
	REECO YMP Division SAA Weekly Inspection Format Toluene	W C Roberts/REECo	01/08/93
	REECO YMP Division SAA Weekly Inspection Format, Hazardous Waste Aerosol Cans	W C Roberts/REECo	01/15/93
	REECO YMP Division SAA Weekly Inspection Format, Hazardous Waste Aerosol Cans	W C Roberts/REECo	01/22/93
	REECO YMP Division SAA Weekly Inspection Format, Hazardous Waste Aerosol Cans	W C Roberts/REECo	01/29/93
	REECO YMP Division SAA Weekly Inspection Format, Hazardous Waste Aerosol Cans	W C Roberts/REECo	02/01/93

**LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM**

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
K. Jensen (continued)	REECo YMP Division SAA Weekly Inspection Format, Hazardous Waste Aerosol Cans	Dan Metler/REECo	02/11/93
	REECo YMP Division SAA Weekly Inspection Format, Hazardous Waste Aerosol Cans	W. C. Roberts/REECo	02/18/93
	REECo YMP Division SAA Weekly Inspection Format, Hazardous Waste Aerosol Cans	W. C. Roberts/REECo	02/26/93
	REECo YMP Division SAA Weekly Inspection Format, Hazardous Waste Aerosol Cans	W. C. Roberts/REECo	03/04/93
	REECo Hazardous Waste Container Log for Subdock SAAs	W. C. Roberts/REECo	05/15/92 to 01/14/93
	REECo Hazardous Waste Stream Identification - Subdock	W. C. Roberts/REECo	
	Hazardous Material List - Subdock	Ricky Joyce/REECo	03/04/93
	Material Safety Data Sheets Index	W. C. Roberts/REECo	09/17/92
	MSDS: F-181 Bolt Anchor Sulfaset	Randustrial Corporation	08/01/87
	MSDS: Crater 2X Gear Oil	Texaco	12/05/90
	Hazardous Material List: LM-300	Ricky Joyce/REECo	03/09/93
	Hazardous Material List: NRG 3	Ricky Joyce/REECo	03/04/93
	Hazardous Material List: UZ-N62	Ricky Joyce/REECo	03/09/93
	REECo Memorandum: Guidelines for Completing Monthly Inventories	C. G. Postle thru E.P. Davis/REECo	07/16/92
	Hazardous Material List: J-13	Ron Johnson/REECo	---

**LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM**

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>K. Jensen</u> (continued)	Hazardous Material List for J-13 and Mechanic Trucks	Ron Johnson/REECo	10/11/92
	Hazardous Material List: Old Subdock and Work Trucks (Construction Dept)	John Allen/REECo	03/03/92
	Hazardous Material List: Storage Shed, Old Subdock @ NTS (Construction Dept)	John Allen/REECo	05/20/92
	MSDS: Super 77 Adhesive	JM/General Offices	04/10/86
	REECo Memorandum: Work Area Inventories for Hazardous Materials	D. L. Fraser/REECo	05/13/92
	Operations Equipment Department Weekly Inspection Requirements, Well J-13: RE-05-F003-93-02	Ron Johnson/REECo	03/01/93
	Hazardous Waste Container Log: LM-300	REECo	07/02/92
	Safety and Fire Protection Inspection Checklist. RE-7664	REECo	
	REECo YMP Division SAA Weekly Inspection Format - 1,1,1-Trichloroethane	Rick Lee/REECo	07/14/92
	REECo YMP Division SAA Weekly Inspection Format - 1,1,1-Trichloroethane	Rick Lee/REECo	07/21/92
	REECo YMP Division SAA Weekly Inspection Format - Trichloroethane	Rick Lee/REECo	07/29/92
	REECo YMP Division SAA Weekly Inspection Format - 1,1,1-Trichloroethane	Rick Lee/REECo	08/05/92
	REECo YMP Division SAA Weekly Inspection Format - 1,1,1-Trichloroethane	Rick Lee/REECo	08/12/92

LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
K. Jensen (continued)	REECO YMP Division SAA Weekly Inspection Format 1.1.1-Trichloroethane	Rick Lee/REECO	08/17/92
	REECO YMP Division SAA Weekly Inspection Format 1.1.1-Trichloroethane	Rick Lee/REECO	08/27/92
	REECO YMP Division SAA Weekly Inspection Format 1.1.1-Trichloroethane	Rick Lee/REECO	09/02/92
	REECO YMP Division SAA Weekly Inspection Format Trichloroethane	Rick Lee/REECO	09/09/92
	REECO YMP Division SAA Weekly Inspection Format Trichloroethane	Rick Lee/REECO	09/16/92
	REECO YMP Division SAA Weekly Inspection Format Trichloroethane	Rick Lee/REECO	09/23/92
	REECO YMP Division SAA Weekly Inspection Format Trichloroethane	Rick Lee/REECO	10/01/92
	REECO YMP Division SAA Weekly Inspection Format Trichloroethane	Rick Lee/REECO	10/09/92
	REECO YMP Division SAA Weekly Inspection Format Trichloroethane	Rick Lee/REECO	10/14/92
	REECO YMP Division SAA Weekly Inspection Format 1.1.1-Trichloroethane	Rick Lee/REECO	10/26/92
	REECO YMP Division SAA Weekly Inspection Format 1.1.1-Trichloroethane	Juan Sanchez/REECO	11/13/92
	REECO YMP Division SAA Weekly Inspection Format 1.1.1-Trichloroethane	Juan Sanchez/REECO	11/20/92

**LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM**

<b>Auditor</b>	<b>Document Title/Description</b>	<b>Author/ Organization/Recipient</b>	<b>Document Date</b>
<u>K. Jensen</u> (continued)	REECo YMP Division SAA Weekly Inspection Format - 1,1,1-Trichloroethane	Juan Sanchez/REECo	12/01/92
	REECo YMP Division SAA Weekly Inspection Format - 1,1,1-Trichloroethane	Juan Sanchez/REECo	12/18/92
	REECo YMP Division SAA Weekly Inspection Format - 1,1,1-Trichloroethane	Juan Sanchez/REECo	01/08/93
	REECo YMP Division SAA Weekly Inspection Format - 1,1,1-Trichloroethane	Juan Sanchez/REECo	01/15/93
	REECo YMP Division SAA Weekly Inspection Format - 1,1,1-Trichloroethane	Juan Sanchez/REECo	01/22/93
	REECo YMP Division SAA Weekly Inspection Format - 1,1,1-Trichloroethane	Juan Sanchez/REECo	01/29/93
	REECo YMP Division SAA Weekly Inspection Format - 1,1,1-Trichloroethane	Juan Sanchez/REECo	02/05/93
	REECo YMP Division SAA Weekly Inspection Format - 1,1,1-Trichloroethane	Juan Sanchez/REECo	02/12/93
	REECo YMP Division SAA Weekly Inspection Format - 1,1,1-Trichloroethane	Juan Sanchez/REECo	02/26/93
	Letter from Edward McCann to Carl Gertz. Review of REECo Hazardous Materials Reporting and Handling Plan Per AP-6.13	Edward McCann/E&MSS /CPD	06/07/91
	Letter from Carl Gertz to Robert Pritchett, Materials Reporting and Handling Plan Per AP-6.13	Carl P. Gertz/YMPO	06/18/91

G-32

**LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM**

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>K. Jensen</u> (continued)	Letter from Edward McCann to Carl Gertz, Review of REECo MRHP Revision 1 and 2 per AP-6.13	Edward McCann/T&MS-ECPD	09/11/91
	Letter from Carl Gertz to Robert Pritchett, Approval of REECo MRHP, Revisions 1 and 2, per AP-6.13	Carl Gertz/YMPO	09/23/91
	Audit Plan for the Environmental Compliance Audit	Sid Dodd/T&MSS-ECPD	March 1993
	AP-5.46, Environmental Compliance Auditing and Surveillance of YMP activities	YMPO	08/14/92
	Checklists for the Environmental Compliance Audit, RMM-140A, RMM-140B, RMM-140C-1	Sid Dodd and Kathy Jensen/ T&MSS-ECPD	
	REECo Regulated Materials that are approved per AP-6.13, Checklist Attachment 1	Kathy Jensen/T&MSS-ECPD	03/93
	REECo Regulated Materials that are Non-Approved by the POCD for YMP Use, Checklist Attachment 2	Kathy Jensen/T&MSS-ECPD	03/17/93
	REECo Regulated Materials that are Verbally Approved for Use, Checklist Attachment 3	Kathy Jensen/T&MSS-ECPD	03/17/93
	Audit Logbook for Kathy Jensen	Sid Dodd/T&MSS-ECPD	
	Verbal Authorization/Approval	Kent Wirtz/T&MSS-ECPD	11/20/92
<u>C. Robinson</u>	Air Quality Permit to Construct - 2693	State of Nevada/ Bureau of Air Quality (BAQ)/DOE	6/12/91
	Air Quality Permit to Construct - 2893	State of Nevada/BAQ/DOE	11/4/91
	Air Quality Permit to Construct - 3084	State of Nevada/BAQ/DOE	6/8/92
	Air Quality Permit to Construct - 3197	State of Nevada/BAQ/DOE	9/21/92

G-33

**LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM**

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>C. Robinson</u> (continued)	Air Quality Permit to Construct - 3198	State of Nevada/BAQ/DOE	9/24/92
	Air Quality Permit to Construct - 3199	State of Nevada/BAQ/DOE	9/24/92
	Air Quality Permit to Construct - 3267	State of Nevada/BAQ/DOE	Rev. 1-28-93
	Air Quality Permit to Construct - 3268	State of Nevada/BAQ/DOE	10/28/92
	Underground Injection Control Permit - NEV89031	State of Nevada/Dept. of Conservation and Natural Resources/DOI	5/11/92
	Waters of An Underground Source Permit 57375	State of Nevada/Dept. of Conservation and Natural Resources/DOI	10/23/92
	Permit to Appropriate the Public Waters of the State of Nevada - 57373	State of Nevada/Dept. of Conservation and Natural Resources/DOI	08/18/92
	Corrected Permit No. 57374 for the Waters of an Underground Source	State of Nevada/Dept. of Conservation and Natural Resources/DOI	10/2/92
	Permit to Appropriate the Public Waters of the State of Nevada - Change in Place of Use 57376	State of Nevada/Dept. of Conservation and Natural Resources/DOI	08/18/92
	Permit to Appropriate the Public Waters of the State of Nevada - 52338	State of Nevada/Dept. of Conservation and Natural Resources/DOI	04/09/92
	Temporary Permit No. 57326-T for the Waters of an Underground Source	State of Nevada/Dept. of Conservation and Natural Resources/DOI	04/13/91
	Waiver M/O-501 Drillhole UE-25 UZ16	State of Nevada/Dept. of Conservation and Natural Resources/DOI	10/24/91 12/7/92
	Free Use Permit - N56844	United States/Dept. of the Interior/DOE	01/07/93

G-34

**LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM**

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
C. Robinson (continued)	Free Use Permit N55574	United States/Dept. of the Interior/DOE	05/20/92
	Free Use Permit N51530	United States/Dept. of the Interior/DOE	10/26/90
	Nationwide General Permit N26	Corps of Engineers/Dept. of Water Resources/DOE	07/17/90
	Audit Plan	S. Dodd/SAIC/C. Robinson	2/93
	Audit checklist	S. Dodd/SAIC/C. Robinson	2/93
	Audit Log Book	S. Dodd/SAIC/C. Robinson	2/93
	Environmental Management & Program Objective Criteria	U.S. DOE/Office of Env. Audit	N/A
	Right-of-Way Reservation 48602	State of Nev./BLM/DOE	10/10/89
	Right-of-Way Reservation 47748	State of Nev./BLM/DOE	01/13/88
	Biological Opinion	T&MSS/ECPO/SAIC/Fish & Wildlife Service	02/09/90
	Land Access & Environmental Compliance AP-81	YMP	08/07/91
	Environmental Compliance Auditing & Surveillance of Yucca Mountain Site Characterization Activities	YMP	07/12/91
	Ambient Air Monitoring Report and Associated Correspondence	U.S. DOE/U.S. DOE/State of Nevada, Department of Conservation and Natural Resources	2/16/93

G-35

**NOTE: Permit reviews included all correspondence associated with each permit**

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APPENDIX B

REGULATED MATERIALS LISTINGS



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APPENDIX H1

RECO REGULATED MATERIALS THAT ARE  
APPROVED PER AP-6.13



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RECo Regulated Materials that are  
approved per AP-6.13

1. Diesel Fuel No. 2	T&MSS 91-01	Ultramar Refining
2. Prestone II Antifreeze/Coolant	T&MSS 91-02	First Brands Corporation
3. CITGO C-500 Motor Oil SAE 30	T&MSS 91-03	CITGO Petroleum Corporation
4. UNOCAL Guardol Motor Oil SAE15W/40	T&MSS 91-04	UNOCAL Refining and Marketing Division
5. UNOCAL MP Gear Lube LS 80W/90	T&MSS 91-05	UNOCAL
6. UNOCAL C-3 Fluid 10W ATF	T&MSS 91-06	UNOCAL
7. Chevron DuraLith Grease EP 2	T&MSS 91-07	Chevron Environmental Health Center
8. Witco Hydraulic R&O AW ISO 32	T&MSS 91-08	Kendall Refining Company
9. Unleaded Premium Gasoline	T&MSS 91-09	Gasco Gasoline, Inc.
10. Wagner Premium Brake Fluid H-110	T&MSS 91-17	Wagner Division- Cooper Industries
11. MOLUB-ALLOY 297 Rock Drill Oil	T&MSS 91-18	TRIBOL
12. 104 G Thread Sealant	T&MSS 91-19	Oil Center Research, Inc.
* 13. Sulfur Hexafluoride	T&MSS 92-21	Air Products and Chemicals
14. Nitrogen	T&MSS 92-25	Liquid Air Corporation
15. Suva Cold-MP	T&MSS 92-26	Du Pont Chemicals
16. Lithium Bromide, Anhydrous	T&MSS 92-27	Lithium Corp. of America
17. #200 Silver Streak Multi-Lube Light Grease	T&MSS 92-29	Schaeffer Mfg., Company
18. Oxygen	T&MSS 92-30	Liquid Air Corporation
19. PF Degreaser	T&MSS 92-31	P-T Technologies, Inc.
20. Silco Starting Fluid	T&MSS 92-32	CRC Industries, Inc.
21. Permatex Engine Starting Fluid	T&MSS 92-32	Loctite Corporation
22. Multifak EP 2 Grease	T&MSS 92-33	Texaco Lubricants Co.
23. EP Lithium Grease NLG 1 Grade 2	T&MSS 92-34	Lubricating Specialties, Co.
24. LPS 1 Greaseless Lubricant	T&MSS 92-35	LPS Laboratories, Inc.
25. Weld-on Solvent Cement	T&MSS 92-36	IPS Corporation
26. Weld-on Primer	T&MSS 92-37	IPS Corporation
27. E.C.G. Marine Cleaning Compound	T&MSS 92-38	Goode Chemical Co., Inc.
28. Acetylene	T&MSS 92-39	Air Products and Chemicals
29. Hard Hat Primers and Topcoats	T&MSS 92-40	Rust-Oleum Corporation
30. Hard Hat Fluorescent Topcoats	T&MSS 92-40	Rust-Oleum Corporation
31. Hard Hat Silver Aluminum Coating	T&MSS 92-40	Rust-Oleum Corporation
32. Krylon Plum Safety Purple Spray Paint	T&MSS 92-41	Sherwin-Williams Company
33. Krylon American Beauty Red Spray Paint	T&MSS 92-41	Sherwin-Williams Company
34. Krylon Bright Silver Spray Paint	T&MSS 92-41	Sherwin-Williams Company
35. Krylon High Heat Red Aerosol Spray Paint	T&MSS 92-41	Sherwin-Williams Company
36. Propane	T&MSS 92-42	Proflame, Inc.
37. Dry-moly Lube 955 aerosol Spray Lubricant	T&MSS 92-42A	Chemical Packaging Corporation

\* Circled materials are not in the MRHP.

38	Hi-Tech Gloss Red Aerosol Paint	T&MSS 92-43	Seymour of Sycamore, Inc.
39	Hi-Tech Gloss Yellow Aerosol Paint	T&MSS 92-43	Seymour of Sycamore, Inc.
40	Hi-Tech Gloss Black Aerosol Paint	T&MSS 92-43	Seymour of Sycamore, Inc.
41	SDI Organosilicone Fluid Emulsion	T&MSS 92-44	Baroid Drilling fluids, Inc.
42	R.D.O. 302 ES. Nonhazardous Rock Drill Oil	T&MSS 92-45	Control Chemical Corporation
43	Iredyne Non-Nitroglycerin Dynamites and Blasting Agents	T&MSS 92-46	Ireco Incorporated
44	Hercudet Commercial Detonator Caps	T&MSS 92-47	Ireco Incorporated
45	Primacord Detonating Cord	T&MSS 92-48	The Ensign-Bickford Co.
46	Primadet Nonelectric Detonators	T&MSS 92-49	The Ensign-Bickford Co.
47	Permabond 910 Adhesive	T&MSS 92-55	National Starch and Chemical Company
48	Monobath	T&MSS 92-56	
49	All Natural Cleaner/Degreaser	T&MSS 92-57	Rust-Oleum Corp.
50	LPS Heavy-Duty Silicone Lubricant	T&MSS 92-58	LPS Laboratories, Inc.
51	201 ES Tool Joint Compound	T&MSS 92-59	Oil Center Research, Inc.

\* Circled materials are not in the MRHP.



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Back Log

VERBAL AUTHORIZATION  
APPROVAL

11/22/92

Safety Concern -

Don't dig - back logs - someone might slip  
Some parts - New kids - it wants to  
use. I told him he had an  
authorization for the new parts.  
He will provide RFA - Later.

A. O. Wiley

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APPENDIX H3

REECO REGULATED MATERIALS THAT ARE  
VERBALLY APPROVED FOR YMP USE

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REECO Regulated Materials that are  
Verbally Approved for YMP Use:

3-36 (Aerosol)

F-181 Bolt Anchor Selfset

Magnaglo Prepared Bath

Firm Foot Aerosol

CRC Natural Degreaser

Kerosene

CRC Chemicals

Randustrial Corporation

Magnaflux

Forrest Paint Company

CRC Chemicals

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REECO Regulated Materials that are  
Non-Approved by the POCD for YMP Use:

Subdock:

Automatic Torque Fluid C-2 (5 gallons)	Texaco
Gear Lube - EL90 (120 pounds)	Agway
Gear Shield Lubriplate 15106 (6 pounds)	Fiske Brothers Refining
Grease - Chevron Heavy Duty 2 (bulk)	Haycock Distributing Co.
Grease - Crater 2X (Bulk-35lbs.)	Texaco
Lithium Chloride [(anhydrous): (8 drums)]	Lithium Corp. of America
Lubricant - Dri-Mol 1050 (35 Spray Cans)	ARKA Labs
Oil - Mineral Oil [(SAE 50): (10 gallons)]	Texaco
Rock Drill Oil Mobil Fluid 300 (1 drum)	Mobil Oil Corporation
W-16 All Purpose Fluid (2 gallons)	Martin Decker
W-60 Gypsum Cement (140 sacks)	US Gypsum Company

LM-300-REECO Maintenance Truck:

Thread Sealing Lubricating Compound	Bakerseal
Long-life Grease	
Anti-Seize Compound	Caterpillar
High Tack Adhesive Sealant	Permatex
Cooling System Treatment	

NRG-3:

Inverted Tip Marker	Seymour
7165 Safety Red Marking Paint	Krylon
Quick-Start Starting Fluid	Quick Start Products, Ltd.

Exploratory Studies Facility--Construction Department:

Siloo Ice-Off	Siloo
7165 Safety Red Marking Paint (68 cans)	Krylon
3M Spray Adhesive, Super 77	General Offices/3M
Fluorescent Red Spray Paint	Aervoe



ADDITIONAL REPORT FY93A ACRONYMS

AP	Administrative Procedure
APM	Assistant Project Manager
ASL	Activity and Site Listings
BLM	Bureau of Land Management
BMPF	Best Management Practice Finding
CF	Compliance Finding
CFR	Code of Federal Regulations
CP	Company Procedure
DOE	U.S. Department of Energy
ECPD	Environmental Compliance and Permitting Department
EPP	Environmental, Safety and Health Protection Program for U.S.
ESA	Department of Energy Operations
EST	Environmental Safety and Health Appraisal
ETR	Exploratory Studies Facility
	Environmental Training Program
FOC	Field Operations Center
GET	General Employee Training
HAC	Hazard Communication
HMC	Hazardous Materials Coordinator
HMBP	Hazardous Materials Management and Handling Plan
MC	Management Control (procedure)
MCA	Environmental Management-Culture and Attitude
MOT	Environmental Management-Staff Development and Training
MIC	Environmental Management-Internal Communications
MREP	Materials Reporting and Handling Plan
MDS	Material Safety Data Sheet
N/A	Not Applicable
NAC	Nevada Administrative Code
NDEP	Nevada Division of Environmental Protection
NFP	Noteworthy Practice Finding
NTS	Nevada Test Site
PAC	Permit Agreement Compliance
POCD	Project and Operations Control Division
PM	Project Manager
RAP	Reporting and Processing of Operations Information
RCRA	Resource Conservation and Recovery Act
REC	Resolutions of Environment, Safety and Health Concerns
RESCO	Reynolds Electrical and Engineering Co., Inc.
RFA	Request for Authorization
RMM	Regulated Materials Management
RMS	Request for Matrix Support Services (form)
SAIC	Science Applications International Corporation
SAA	Satellite Accumulation Area
SM	Site Manager
TAMS	Technical and Management Support Services
TPO	Technical Project Officer
USAF	United States Air Force
USFWS	United States Fish and Wildlife Service
WMM	Waste Minimization
YMP	Yucca Mountain Site Characterization Project
YMPO	Yucca Mountain Site Characterization Project Office
YMSO	Yucca Mountain Site Office

**DRAFT**

**SCHEDULE OF POST-AUDIT ACTIVITIES REMAINING  
AFTER POCD APPROVES AUDIT REPORT**

<u>Post-Audit Activity</u>	<u>Action By</u>	<u>Date(s)</u>
Issue Audit Report		POCD May 13
Develop Corrective Action Plan	REECo	May 13-June 11
Approve Corrective Action Plan	POCD	June 14-18
Implement Corrective Action Plan	REECo	June 21-July 6
Verify Corrective Action Plan	T&MSS	July 7-9
Close Audit	POCD	July 12

ENCLOSURE 2