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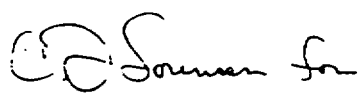
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QA: N/A

May 7, 1993

Carl P. Gertz, Project Manager
ATTN: Wendy R. Dixon
U.S. Department of Energy
Yucca Mountain Site Characterization
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P.O. Box 98608
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AUDIT REPORT: ENVIRONMENTAL COMPLIANCE AUDIT OF REYNOLDS ELECTRICAL AND ENGINEERING COMPANY, INC. (REEC₀) 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 REEC₀ 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

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Part 1



Wendy R. Dixon

-2-

May 7, 1993

cc w/o encl:

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DOCUMENTATION STATEMENT FOR ILLEGIBLE PAGES IN RECORD

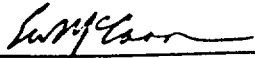
"I have reviewed this record and the illegible information that appears in Appendices C9, C12, and C13 does not impact future, in-process, or completed work. The examples of permits in these appendices are adequate for their intended purpose."

Sid Dodd

Record Source Name (print or type)



Record Source Signature



Record Source's Manager

U.S. DEPARTMENT OF ENERGY

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**YUCCA MOUNTAIN
SITE CHARACTERIZATION
PROJECT**

DRAFT

AUDIT REPORT:

ENVIRONMENTAL COMPLIANCE AUDIT

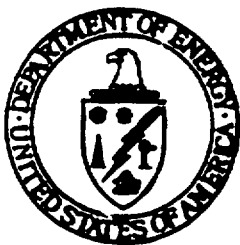
OF

REYNOLDS
ELECTRICAL AND ENGINEERING
COMPANY, INCORPORATED (REEC_o)

AT THE

YUCCA MOUNTAIN SITE
CHARACTERIZATION PROJECT

MARCH 1993



DRAFT

UNITED STATES DEPARTMENT OF ENERGY
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE

ENCLOSURE 1

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.

ENVIRONMENTAL COMPLIANCE AUDIT REPORT

**REYNOLDS ELECTRICAL AND ENGINEERING
COMPANY, INCORPORATED (REECo)
AT THE
YUCCA MOUNTAIN SITE
CHARACTERIZATION PROJECT**

Prepared for:

U.S. Department of Energy
Yucca Mountain Site Characterization Project Office
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Prepared by:

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MARCH 1993



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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.

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.

ES-4

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		REEC _o 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 REEC _o Procedure MC-14.1 (Environmental, Safety and Health Internal Appraisal Program). REEC _o conducts informal internal ES&H appraisals.
Environmental, Safety and Health Protection Program for U.S. DOE Operations (AP-5.43).	2			REEC _o 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 km²). 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 Pahrump 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 RFA 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 Drillrig 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 POCD 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

conducted in a manner consistent with the intent of DOE Order 5400.1. The four NPFs are categorized in three environmental management sub-areas which are: environmental management formality of programs (MFP); environmental management internal communications (MIC); and environmental management staff development and training (MDT). No compliance findings or best management practice findings were identified.

4.10.2 Environmental Management Noteworthy Practice Findings (NPF)

Finding Number: MFP/NPF-1

Finding Title: "Work Aids" Development

Regulatory Requirement: DOE Order 5480.19, Conduct of Operations Requirements for DOE Facilities, states that operations at DOE facilities should be managed with a consistent set of standards and also addresses the use of procedures to control operations.

Finding: Work aids are being developed for Drilling Department personnel.

Discussion: REECo is selectively "proceduralizing" drilling tasks that need to have clear, concise procedures for the Drilling Department to follow. According to REECo's Senior Drilling Engineer, the process involves development of "Work Aids" that both incorporate upper tier requirements and "personalize" the things an individual needs to know to do his/her job. This process is supported by REECo upper management and is in accordance with DOE Order 5480.19 which establishes general requirements for the formality of operations at DOE facilities. According to the Senior Drilling Engineer, Drilling Department personnel receive 3 days of training.

Finding Number: MIC/NPF-1

Finding Title: Distribution of Environmental Information to REECo Employees

Regulatory Requirement: N/A

Finding: Environmental articles are published in a monthly newsletter.

Discussion: According to the Environmental Compliance Officer III, the REECo Environmental Compliance Office writes articles such as "What To Do If You Have A Spill" which provides REECo employees with pertinent environmental compliance information. Articles such as this appear on a regular basis in "The REECo Recorder", a monthly newsletter.

Finding Number: MIC/NPF-2

Finding Title: Distribution of Environmental Information to REECo Employees

Regulatory Requirement: N/A

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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APPENDIX B1

AP-2.9

OCCURRENCE REPORTING AND
PROCESSING OF OPERATIONS
INFORMATION

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

NO. **AE-2.1**
10
 Non O

APPROVAL

PROJECT MANAGER: Carl P. Hertz 7/12/91
 Signature Date
 DIRECTOR OF QUALITY ASSURANCE: W. Velazquez and D. J. Horton 7/12/90
 Signature Date
N/A N/A N/A
 (OTHER, AS REQUIRED) Signature Date

REVISION 0 EFFECTIVE DATE: 7/26/90

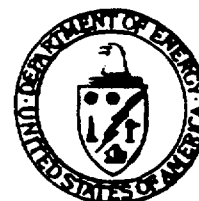
REVISIONS

INITIAL AND DATE

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

Complete
Revision

INFORMATION COPY



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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
 TRAINING OFFICER/TRAINING MANAGER 7/12/92
 DATE

YMP-053-R0
7/12/91

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: 5272.3

OCURRENCE REPORTING AND PROCESSING OF OPERATIONS
OBSERVATION

Revision:

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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 up 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

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No: AE-2.3

OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS
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programmatic in nature than an event (e.g., an error in engineering analysis or calculation, an anomaly associated with design or performance, or an item indicating a weakness in the management process).

3.3 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.

3.4 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 to the appropriate Program Senior Official and YMP Project Manager for implementing the requirements of this procedure. The FR may delegate these responsibilities to a designee.

3.5 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.

3.6 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.

3.7 REPORTABLE OCCURRENCE

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

3.8 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.

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

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

4.0 RESPONSIBLE PARTIES

1.0 UNUSUAL OCCURRENCE

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

2.0 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, environment, or health protection performance of a facility.

3.0 NEVADA OCCURRENCE REPORTING SYSTEM OPERATIONS CENTER

Nevada Occurrence Reporting System Operations Center (NORSOC) is the trained operations center in which all DOE/NV occurrences are initially reported, and through which subsequent reporting requirements are coordinated.

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YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE			

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>
FACILITY OCCURRENCE PROCEDURE IMPLEMENTATION		
TPO/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

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

FM

with Administrative Procedure (AP)
AP-1.10, Issuance and Maintenance of
Controlled Documents.

REPORTABLE OCCURRENCE HANDLING

YMP Project Manager/SX

10. Report any occurrence involving YMP
Participants to the FOC regardless of
geographic location.

All YMP Personnel

11. Notify the FOC Director if 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 FM and
appropriate FR.

13. Verbally report the initial occurrence
and any significant changes to the
FOC/FR.

FM

14. Perform preliminary categorization in
accordance with DOE Order 5000.3A.
Contact FOC 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 5000.3A. 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.

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YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AE-2.2

OCURRENCE REPORTING AND PROCESSING OF OPERATIONS
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<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
FM	15.	An off-normal occurrence, notify in writing within 24 hours of categorization.
	16.	Make a follow-up verbal notification for each of the following conditions: <ol style="list-style-type: none">Any further degradation in the level of safety, or worsening conditions, including those that require declaring an emergency action level.Any change from one categorization level to another.Termination of an emergency.
FM 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.
SM	20.	Notify the DOE/NV NORSOC.
FM	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 5000.3A.
TPO and/or FM	22.	Record and archive all information pertaining to such occurrences.

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YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-2.3

ACCIDENT REPORTING AND PROCESSING OF OPERATIONS
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6.0 REFERENCES

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

6.1 REFERENCE DOCUMENTS

DOE Order 5100.1A, Accident Reporting and Processing of Operation Information

DOE Order 5134.1, Environmental Protection, Safety, and Health Protection Information Reporting Requirements

NV Order 5100.1A, Accident Reporting and Processing of Operations Information

YMP Safety and Health Plan, YMP/91-17, Rev. 1

6.2 INTERFACE DOCUMENTS

Project Glossary, YMP/89-15

AP-1.50, Issuance and Maintenance of Controlled Documents

7.0 FIGURES AND ATTACHMENTS

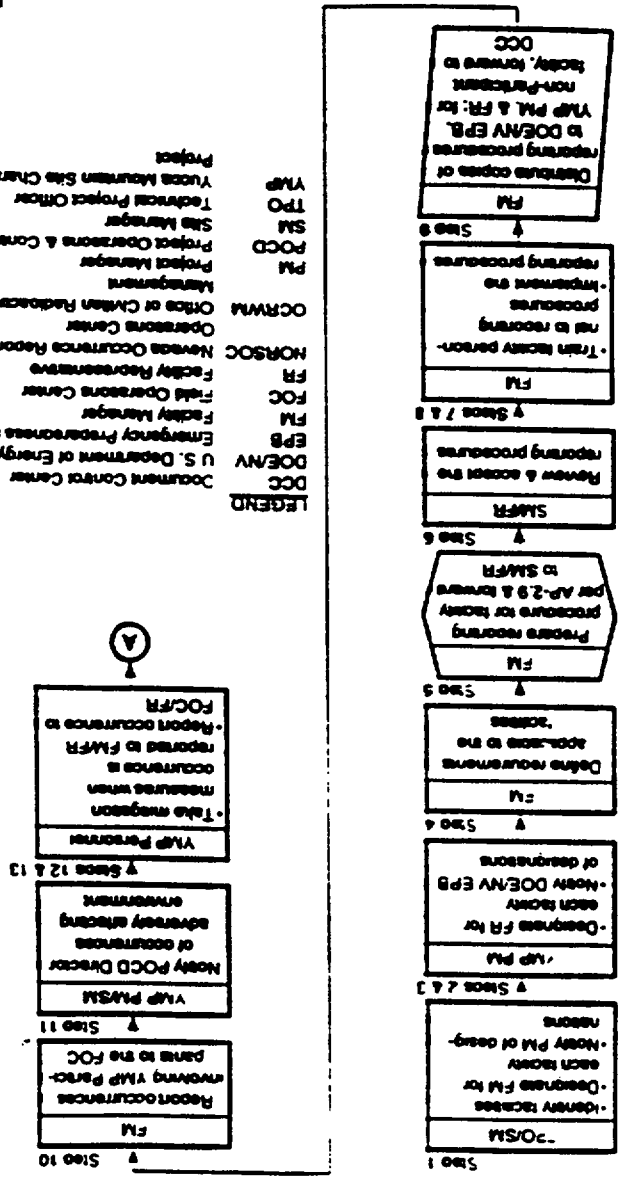
Figure 1, AP-2.3 Flowchart

8.0 RECORDS

Records are retained in the NORSCC system.

Figure 1 - AP-2.9 FLOWCHART

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- LEGEND
- DCC U.S. Department of Energy/Nevada
 - EPB Emergency Preparedness Branch
 - FM Facility Manager
 - FOC Facility Representative
 - NORSOC Nevada Occurrence Reporting System
 - OCRWMA Office of Civilian Radioactive Waste Management
 - PM Project Manager
 - POCD Project Oversight & Control Division
 - SM Site Manager
 - TPO Technical Project Officer
 - YMP Yucca Mountain Site Characterization Project

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

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

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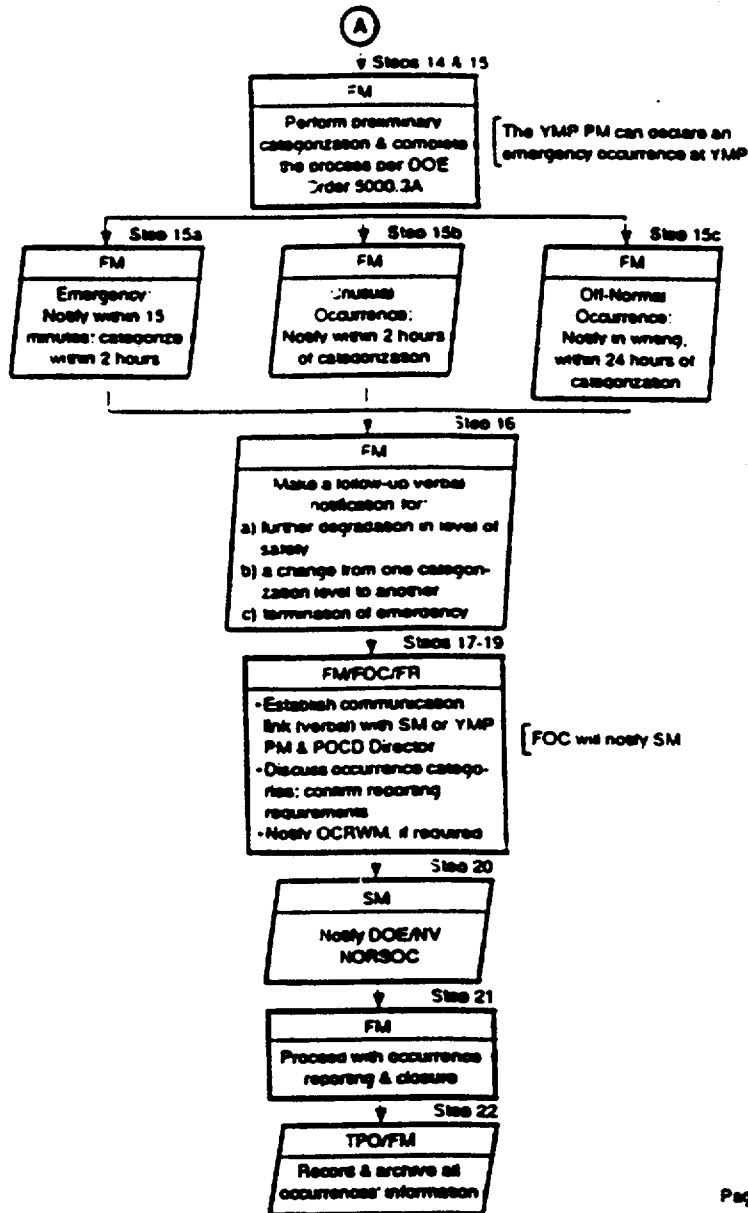


Figure 1 - AP-2.9 Flowchart (continued)

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YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT



PROCEDURE

Title:

ENVIRONMENTAL SAFETY AND HEALTH APPRAISAL

Procedure No.:
AP-S.38

Revision: 1

ICN: 0

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Approval: *W. A. Wilson*
W.A. Wilson

Date: 10/28/92

Approval: N/A

Date:

Approval: N/A

Date:

Concurrence:
R.E. Spence

Date:

R.E. Spence 10/27/92

REVISION HISTORY

<u>Rev. No.</u>	<u>ICN No.</u>	<u>Effective Date</u>	<u>Description of Revision/ICN</u>
0	0	03/11/91	Initial issue.
1	0	11/16/92	Complete revision to standardize the process for conducting environmental safety and health appraisals.

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YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

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

Revision:

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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 of 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)

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**YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
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Procedure No.: AP-5.38
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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

1. Determine Participant to be appraised.
2. Notify Participant Technical Project Officer (TPO), or equivalent individual, or organization's selection for appraisal.
3. Select Appraisal Team and determine scope of the appraisal. Go to Step 7.

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
Participant Management

6. Determine need for internal appraisal, select Appraisal Team, and determine scope of the appraisal. Go to Step 7.



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

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ENVIRONMENTAL SAFETY AND HEALTH APPRAISAL

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<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).

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ENVIRONMENTAL SAFETY AND HEALTH APPRAISAL

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<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.

<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
DD/SM/POCD or YMP Participant Management		a. If the appraisal and corrective action(s) is satisfactory go to Step 18. b. If the appraisal or corrective action(s) is unsatisfactory go to Step 8.
	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 13 of this procedure.
	18.	Formally close appraisal. Inform, in writing, the appropriate manager(s) of appraisal closeout.
	NOTE:	Initiating management shall review internal appraisals for adequacy of performance at least every three (3) years.

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:

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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:

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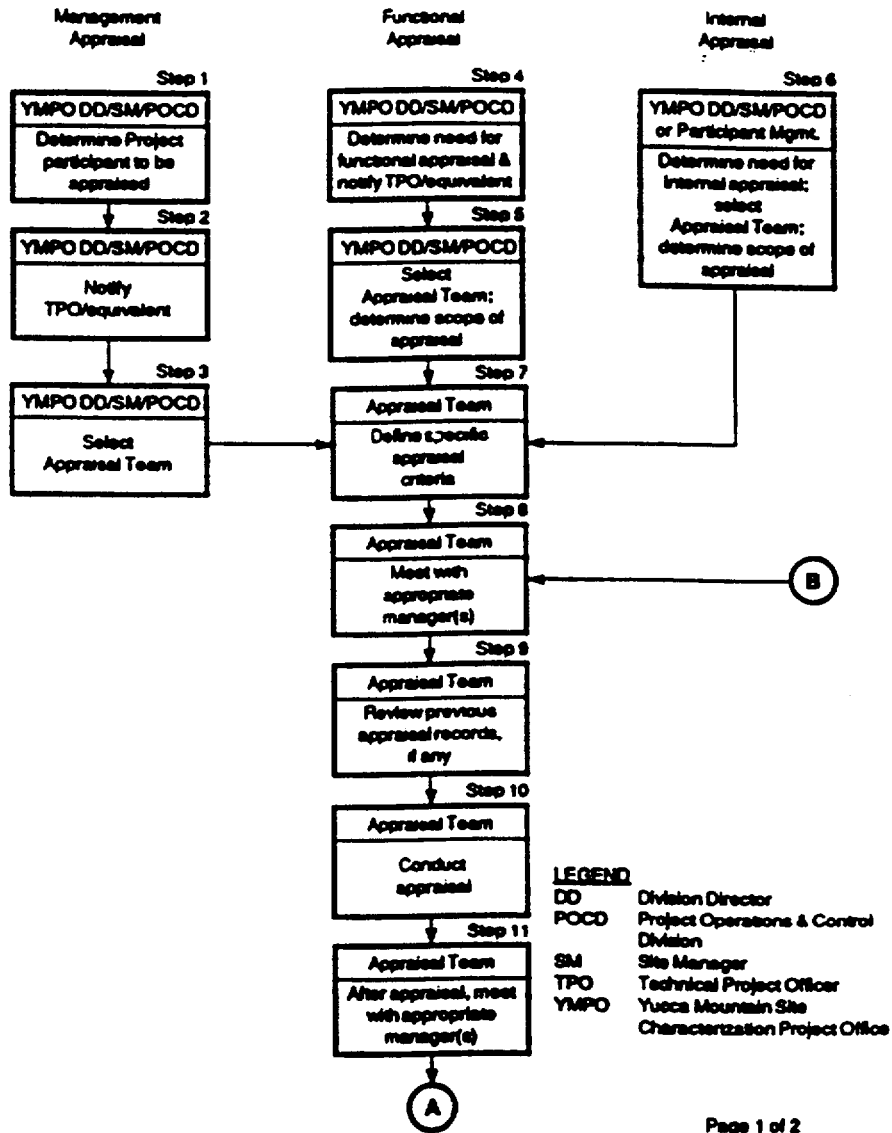


Figure 1 - AP-5.38 Flowchart

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

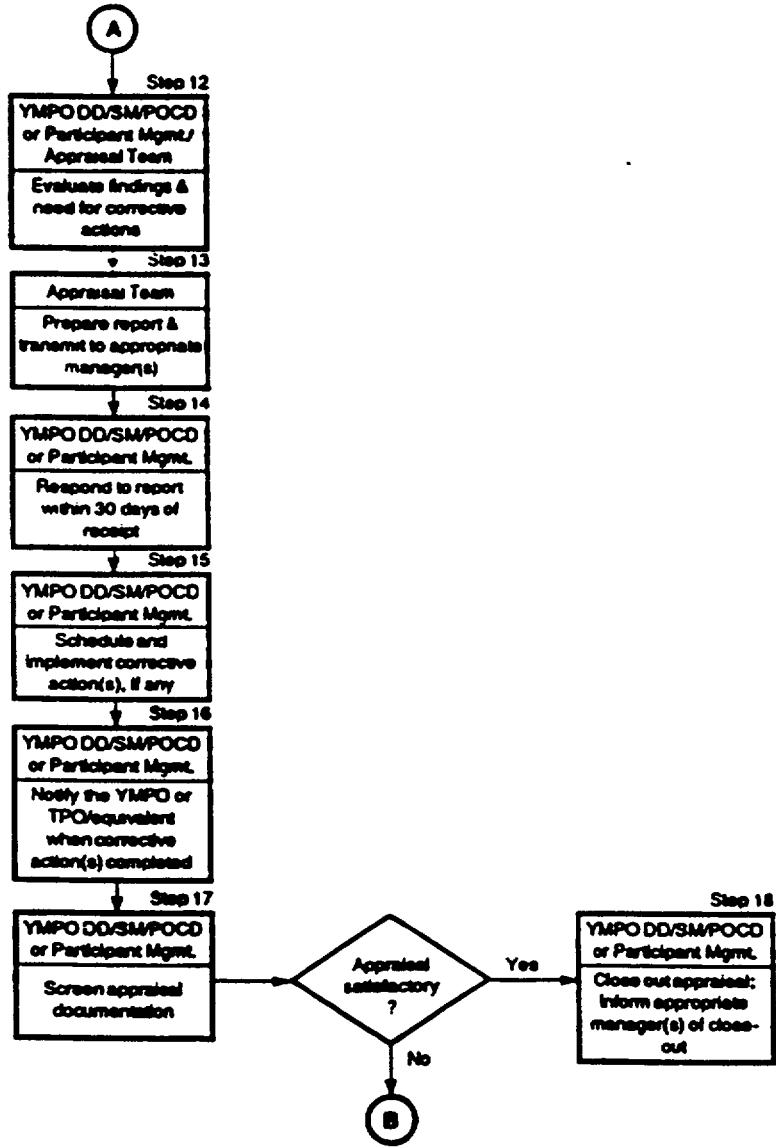


Figure 1 - AP-5.38 Flowchart (continued)

APPENDIX B3

AP-5.43

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

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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. AF-5.10
 (10
 X Non O

APPROVAL

PROJECT MANAGER:	N/A	N/A
	Signature	Date
DIRECTOR OF QUALITY ASSURANCE:	N/A	N/A
	Signature	Date
S & H Compliance Manager :	<i>Alanna Malina</i>	9/16/92
	Signature	Date
EOC Manager (OTHER, AS REQUIRED)	<i>Winifred A. Wilson</i>	9-15-92
	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. McCarthy, 6-9-92 for 9/18/92*

Tom C. C. [Signature]
 TRAINING OFFICER/TRAINING MANAGER DATE 9-18-92

YMP-053-R0
7/12/91

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No: YMP-053-R0
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 preservation 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: AF-5.13
ENVIRONMENTAL SAFETY AND HEALTH PROTECTION
PROGRAM FOR THE DEPARTMENT OF ENERGY RESERVATIONS

Revision:

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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.

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7/12/91

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No ENVIRONMENTAL SAFETY AND HEALTH PROTECTION DEPARTMENT OF ENERGY	Revision	Page 1 of 1
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RESPONSIBLE PARTY	ISSUE	PROCEDURE
Director, ESH	1.	Conduct internal environmental, safety and health appraisals. Prepare written reports and send to EM. Send a copy of safety and health appraisals to DOE SH. Send a copy of environmental appraisals to Director, ESH.
Director, ESH/DOE SH	2.	Conduct appraisals of environmental, safety and health programs, plans, and facilities. Provide overview of environmental, safety and health activities.
ESH	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-9006

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.

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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**

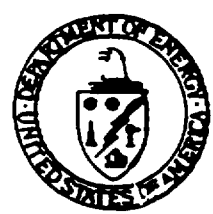
Title: ENVIRONMENTAL COMPLIANCE AUDITING AND SURVEILLANCE OF YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT ACTIVITIES
NO. AP-0.46
10
X Non O

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
N/A (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 MP 8-10-92
[Signature] 9/10/92
TRAINING OFFICER/TRAINING MANAGER DATE
B4-1

1.0 PURPOSE AND SCOPE

PURPOSE

The purpose of this procedure is to assign responsibilities and establish a process for the Yucca Mountain Site Characterization Project (YMP) to audit and ensure Yucca Mountain Site Characterization (YMSC) environmental compliance activities. The purpose is to ensure that YMP activities are being performed in compliance with applicable environmental regulatory, monitoring, and mitigation requirements, permit conditions and stipulations, and applicable environmental portions of YMP requirements documents.

This procedure implements the requirements of the Environmental Regulatory Compliance Plan (YMP-053-R0) Section 4.4 ENVIRONMENTAL COMPLIANCE MONITORING (YMP-053-R0).

SCOPE

The scope of this procedure covers all site characterization field activities and all YMP 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.

2.0 APPLICABILITY

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

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.

ENVIRONMENTAL COMPLIANCE AUDIT

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.

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

ECPD

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

PREPARING FOR THE AUDIT

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

5.0 PROCEDURE

1. YMP Project and Operations Control Division (ECCD)
2. Technical and Management Support Services (TMSSE) 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 Office (YPTO)

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

4.0 RESPONSIBLE PARTIES

A corrective action to a residual taken to satisfy conditions that are in compliance with environmental requirements.

3.0 CORRECTIVE ACTION

An environmental compliance surveillance is a routine, announced "check" during normal and activities. When non-emergency events or situations occur, surveillance shall be performed periodically as determined by the ECPD. The ECPD shall investigate during an environmental compliance audit.

2.0 ENVIRONMENTAL COMPLIANCE SURVEILLANCE

Procedure No. 10-0140	ENVIRONMENTAL COMPLIANCE AUDITING AND SURVEILLANCE OF YMP PROJECT AND OPERATIONS CONTROL DIVISION	Revision:	Page 1 of 10
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7/12/91

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-5.40

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

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RESPONSIBLE PARTY

STEPS

PROCEDURE

ECDD

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

1. Assign an ATL.

ATL

2. 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.

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-5.46

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

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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 PCCD for approval.

PCCD

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.

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.

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YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-5.16

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

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<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
Audit Team	13.	Conduct the audit following approved audit plan by completing the audit checklist as instructed by the ATL.
	14.	Submit the completed checklist to the ATL for compilation.
ATL	15.	Compile the completed checklists from Audit Team Members and receive clarification from them, if necessary.
	16.	Notify the MSP, TSO, Site Manager, and POCB of any deficient practices or conditions identified.
FSP	17.	Take immediate action to resolve deficiencies, including stopping work, if necessary.
	18.	Notify ATL of immediate corrective action taken.
FSP and ATL	19.	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.

REPORTING

- | | | |
|-----|-----|--|
| ATL | 20. | Document audit results in a report that contains, as a minimum, the following elements: <ul style="list-style-type: none">a. Date of auditb. Description of the activity or item auditedc. The requirements governing the activity |
|-----|-----|--|

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

ATE

1. Persons conducting the audit
2. Persons contacted during the audit
3. Audit results/observations
4. Deficiencies identified during the audit (see Step 16)
5. Summary of any immediate corrective action taken (see Step 19)
6. Recommendations for future corrective action
7. Effectiveness of environmental compliance implementation

21. Sign and submit the audit report to the TSMSS ECPD Manager.

ECPD

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 30 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.

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YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-3.46

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

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RESPONSIBLE PARTY	STEPS	PROCEDURE
PCCD	27.	Instruct the ECPD to verify that corrective action is complete and adequate.
ECPD	28.	If adequate corrective action was taken, notify the PCCD. If not, return to Step 24.
PCCD	29.	Send written confirmation to the TPO and ATL that adequate corrective action was taken, and officially close the audit.

PREPARING FOR THE SURVEILLANCE

ECPD

30. Assign an STL.

NOTE: Surveillance is unannounced.

STL

31. Review existing/available 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 following the process described in AP-8.1
- b. Environmental requirements specified in any requirements documents (e.g., APs, IMMHP, and ERCP) written for or about 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

**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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RESPONSIBLE PARTY STEPS PROCEDURE

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 PCOD 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.

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YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-5.46

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

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-1.13Q, 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

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YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-5.46

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

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AP-6.25, Operating Hazardous Waste Satellite Accumulation Areas

AP-8.1, Land Access and Environmental Compliance

Hazardous Materials Management and Handling Plan (HMMHP), YMP/91-35

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

Project Glossary, YMP/89-15

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).

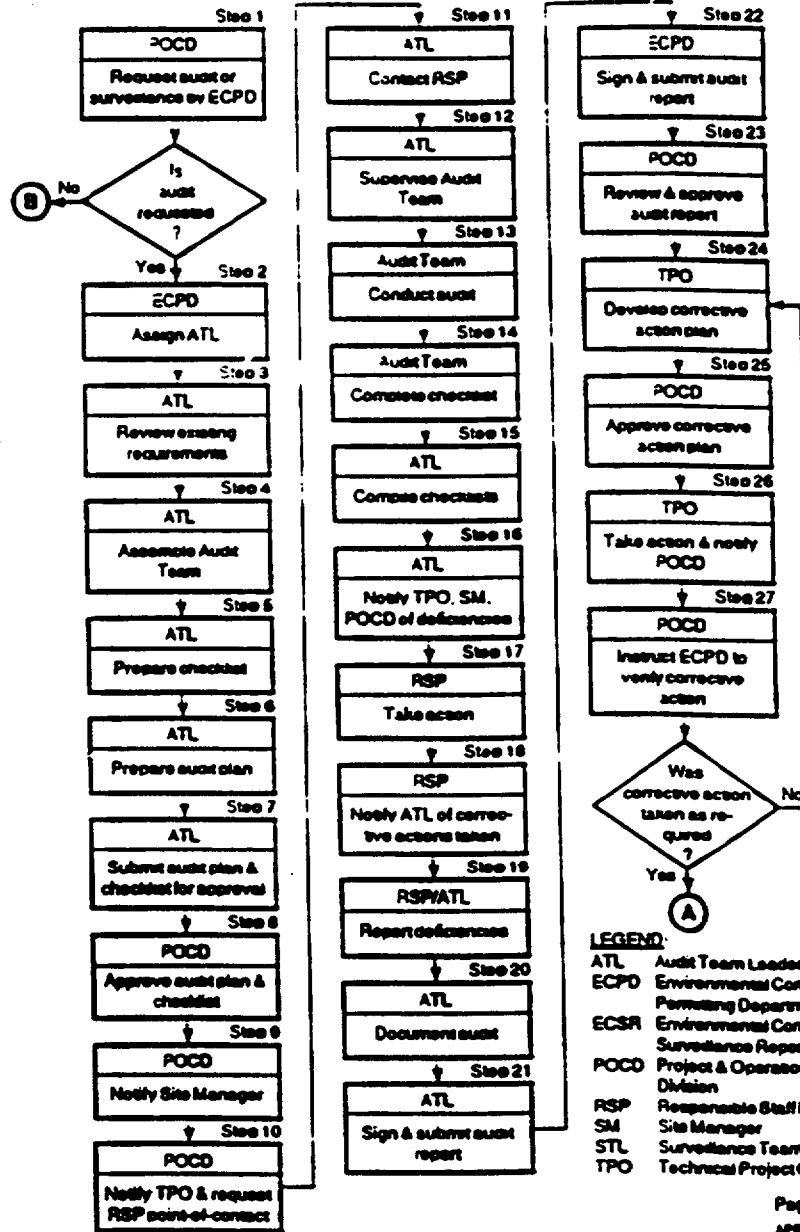
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-5.46

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

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LEGEND:
 ATL Audit Team Leader
 ECPD Environmental Compliance & Permitting Department
 ECSR Environmental Compliance Surveillance Report
 POCD Project & Operations Control Division
 RSP Responsible Staff Person
 SM Site Manager
 STL Surveillance Team Leader
 TPO Technical Project Officer

Figure 1 - AP-5.46 Flowchart

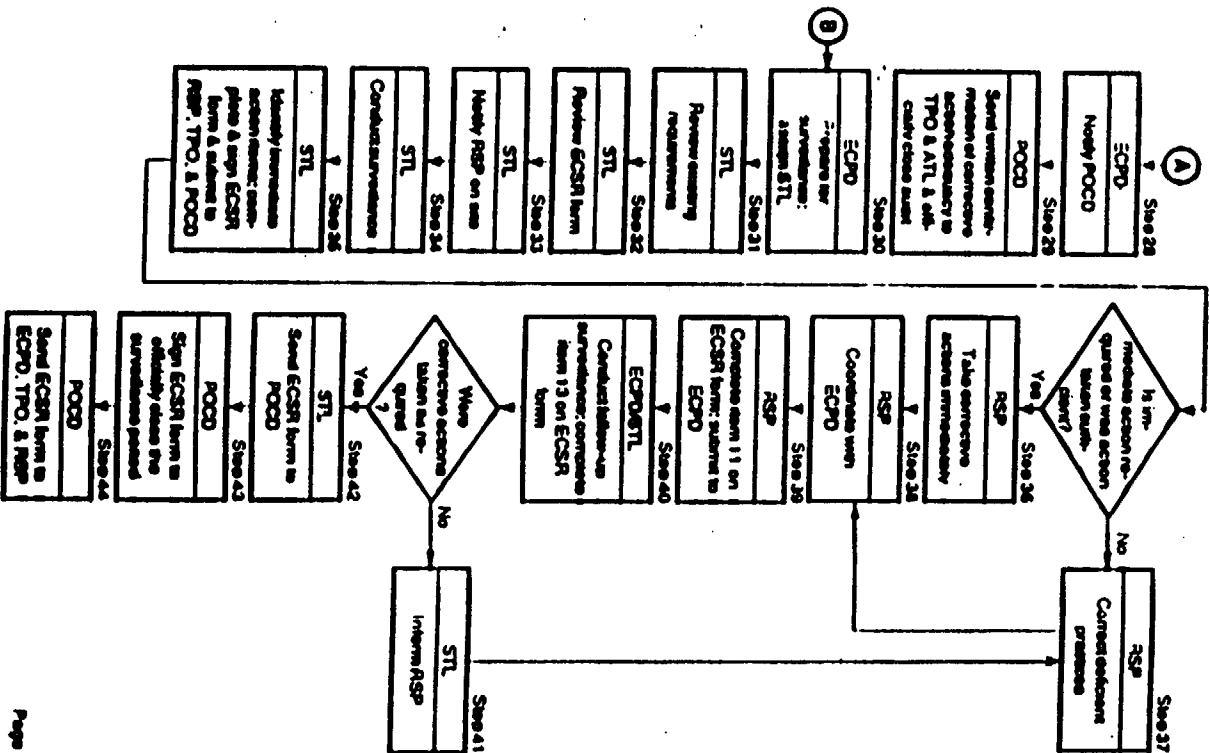


Figure 1 - AP-5.46 Flowchart (continued)

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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

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- 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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- Had all personnel working at the site received environmental awareness training?
 - Had archaeological resources been discovered?
 - Was erosion noticeable?
 - 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.
- Had an air quality permit been received?
 - Were permit conditions being satisfied?
 - Was dust being controlled properly?
 - 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).
- Had necessary discharge or construction permits been received?
 - Were permit conditions being satisfied?
 - Were effluent streams being properly monitored?
 - Were tracers used? Had approval to use the tracer been received?
 - Were activities occurring in the 100-year floodplain?
 - Was runoff being controlled to minimize erosion?
 - 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-6.13

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

Revision:

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4. Groundwater affecting activities: This category includes activities that impinge upon the saturated zone and that affect the quantity or quality of that water. They 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

Procedure No.: AP-5.46

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

Revision:

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- o Was a Contingency Plan in place?
- o Was an Emergency Preparedness Plan in place?
- o Were personnel properly trained?
- o Were records correct and properly filed?
- o Were the procedures for the operation of the Project Accumulation Area (AP-6.24, Operating the Hazardous Waste Project Accumulation Area Facility) being followed?
- o Were waste minimization practices established and being followed, in accordance with the Hazardous Materials Management and Handling Plan (HMMHP), Appendix C, Waste Reduction and Minimization?

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

- o Were non-hazardous wastes being disposed of properly?
- o 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)?
- o Did uncovered trash containers exist?
- o Was there evidence of hazardous wastes being disposed of with the non-hazardous wastes?

VII. RECOMMENDED CORRECTIVE ACTION:

Audit Team Member/Date

Audit Team Leader/Date

Attachment 1 - Example Environmental Compliance Audit Checklist (continued)

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:

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YMP-100-R0 8/14/92		YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT ENVIRONMENTAL COMPLIANCE SURVEILLANCE REPORT		Report No.: _____
1. <u>Client:</u> _____		2. <u>Action:</u> _____		3. <u>Organization:</u> _____
4. <u>Location:</u> _____		5. <u>Personal Contact/ Organization Title:</u> _____		
		6. <u>Surveillance Team/ Organization Title:</u> _____		

7. <u>Items Investigated:</u>		<u>Ref. No.</u>	<u>Comments</u>	
___ Site Condition				
___ Archeological/Biological				
___ Regulated Material Use				
___ Effluents				
___ Reclamation				
___ Other				
8. <u>Findings/Recommendations:</u>		9. <u>IMMEDIATE ACTION REQUIRED?</u> 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

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

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

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
[10'
X Non O

APPROVAL

PROJECT MANAGER:

[Signature]

Signature

10/19/90

Date

DIRECTOR OF QUALITY ASSURANCE:

N/A [Signature]

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

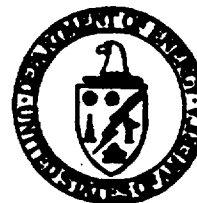
PROJECT MANAGER:

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.

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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. |
|--|----|---|

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YUCCA MOUNTAIN PROJECT PROCEDURE

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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 POCD and the TSMSS 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 POCD for review and approval and proceed to Step 8.

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**YUCCA MOUNTAIN PROJECT
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ADMINISTRATIVE PROCEDURE: AUTHORIZATION FOR USE OF REGULATED MATERIALS

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

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 HMHP.

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.

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**YUCCA MOUNTAIN PROJECT
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ADMINISTRATIVE PROCEDURE: AUTHORIZATION FOR USE OF REGULATED MATERIALS

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

EMERGENCY AUTHORIZATION

Participant	17.	Request an emergency authorization by contacting the Project Office POCD and providing the following: <ul style="list-style-type: none"> a. Information required to complete the Request Form b. Justification for requesting an emergency authorization c. Commitment for submittal of the information required for a routine request
Project POCD	18.	Review request for emergency authorization.
	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.
	23.	Submit revised MRHP and Request Form to POCD within 7 days. Proceed to Step 8.

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YUCCA MOUNTAIN PROJECT PROCEDURE

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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), 1998. 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.

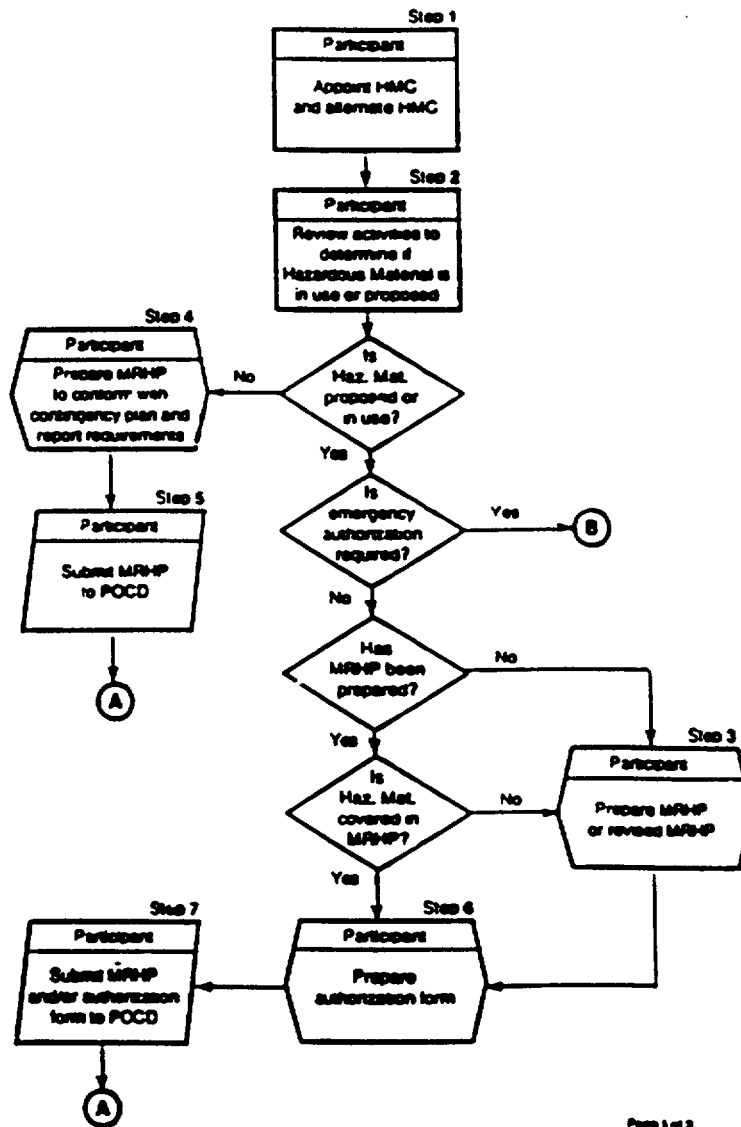
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YUCCA MOUNTAIN PROJECT PROCEDURE

Y-AD-001
4/90

Title

ADMINISTRATIVE PROCEDURE: AUTHORIZATION FOR USE OF REGULATED MATERIALS



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AP-6.13B-0-00

Figure 1 - AP-6.13 Flowchart

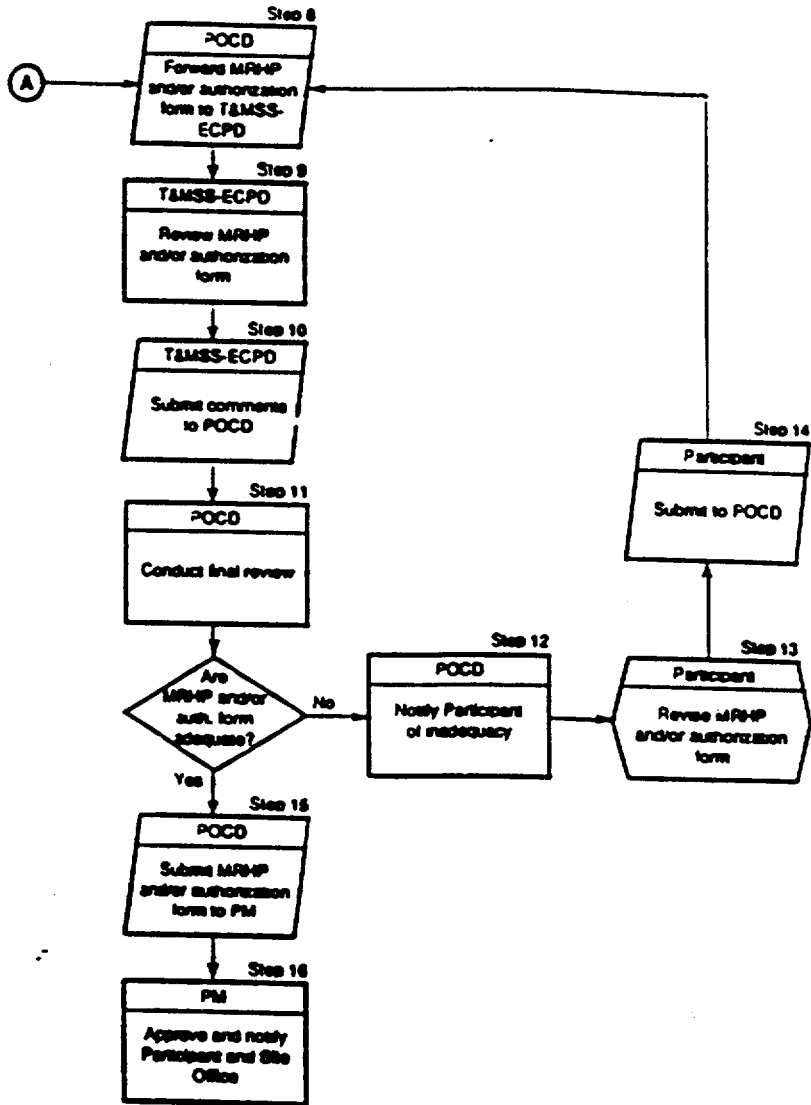
Effective Date	Revision	Supersedes	Page	No.
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ADMINISTRATIVE PROCEDURE: AUTHORIZATION FOR USE OF REGULATED MATERIALS



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AP-6.13 04/19/90

Figure 1 - AP-6.13 Flowchart (continued)

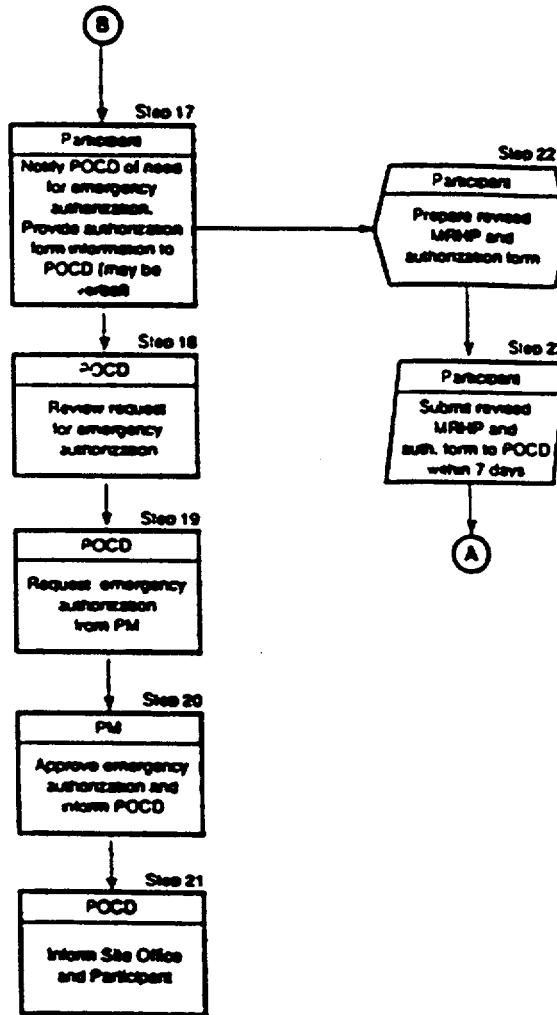
Effective Date	Revision	Supersedes	Page	No.
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YUCCA MOUNTAIN PROJECT PROCEDURE

Y-AD-001
4/90

Title

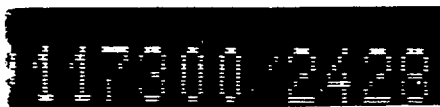
ADMINISTRATIVE PROCEDURE: AUTHORIZATION FOR USE OF REGULATED MATERIALS



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AP-6.13.00/10.3.90

Figure 1 - AP-6.13 Flowchart (continued)

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**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 makeup, 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

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YUCCA MOUNTAIN PROJECT PROCEDURE

Title ADMINISTRATIVE PROCEDURE: AUTHORIZATION FOR USE OF REGULATED MATERIALS

REQUEST FOR AUTHORIZATION TO USE REGULATED MATERIALS CONTINUATION PAGE

1 DATE OF RECEIVED: _____
2 DATE ENTERED INTO HMF: _____

3 MATERIAL REGULATED STATUS: _____

CASN# _____ RCMA# _____ 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: _____
Project Manager

7 RELEASE: _____

INITIALED: _____

8 RECOMMEND ACTION ON CHEMICAL REQUEST/USE: (APPROVED _____ DISAPPROVED _____)

Signature: _____
Project Manager

9 CHEMICAL REQUEST/USE REQUEST: (APPROVED _____ DISAPPROVED _____)

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

APPENDIX B6

AP-6.18

RESOLUTIONS OF ENVIRONMENT,
SAFETY AND HEALTH CONCERNS

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

Title: RESOLUTIONS OF ENVIRONMENT, SAFETY AND HEALTH CONCERNS
 NO. _____ NO. AP-6118
 REGIS A [] 103
 STAMP [] 1440

APPROVAL

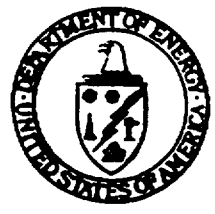
PROJECT MANAGER: Original signed by Maxwell Blanchard for C. P. Gertz 1/15/91
 Signature Date
 DIRECTOR OF QUALITY ASSURANCE: N/A DGH 1/15/91 N/A
 Signature Date
 Site Manager Winfred A. Wilson 1/14/91
 (OTHER, AS REQUIRED) Signature Date

REVISION 0 EFFECTIVE DATE: 2/1/91

REVISIONS

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

INFORMATION COPY



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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

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 a 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

**YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
PROCEDURE**

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

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- 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):

- 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>
INITIAL ACTIONS		
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.

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<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.

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<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.

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

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<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. <ul style="list-style-type: none"> 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

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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.

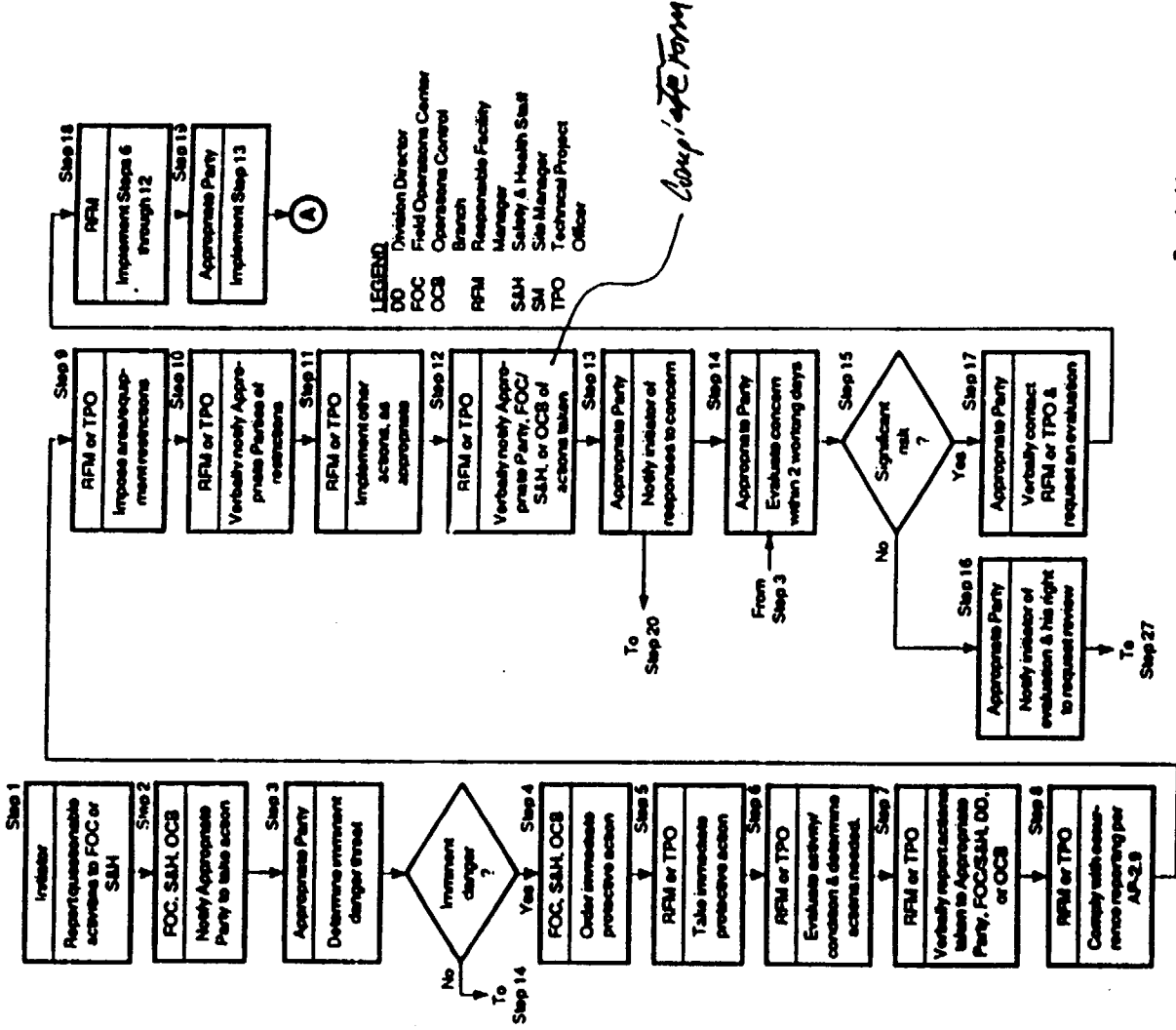
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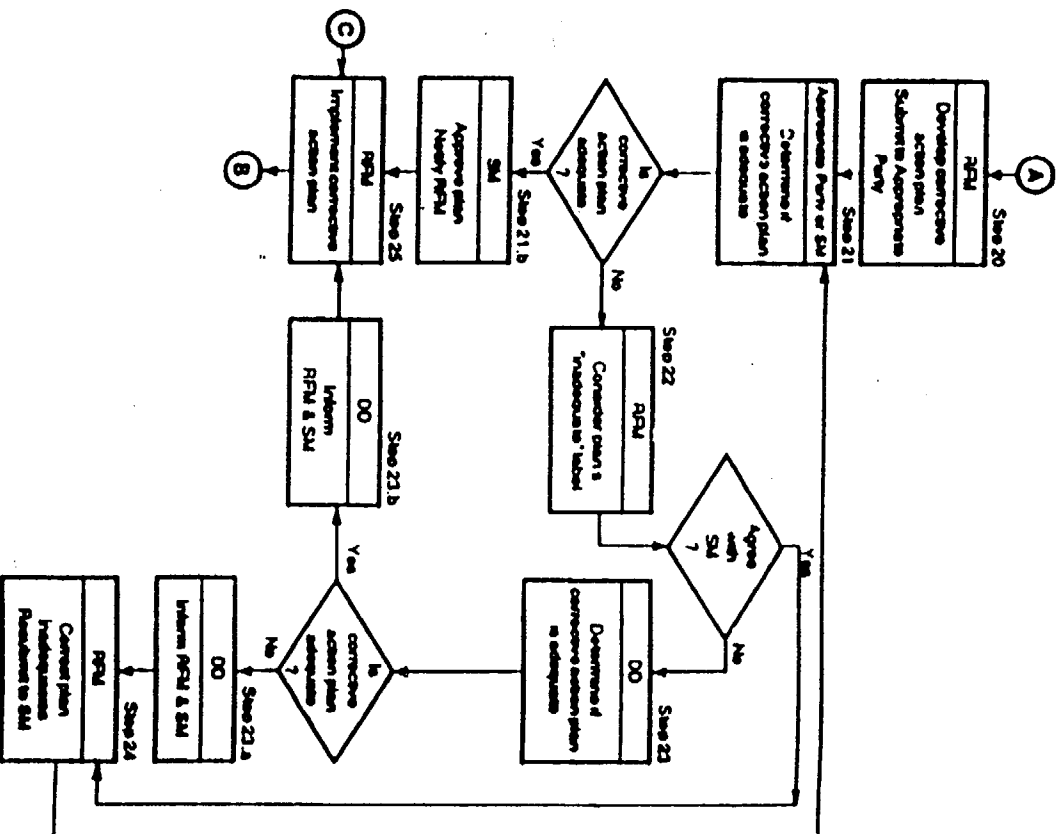
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Figure 1 - AP-6.18 Initial Actions Flowchart

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PROCEDURE



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Figure 2. AP-6.18 Problem Resolution Flowchart

Figure 2 - AP-6.18 Problem Resolution Flowchart

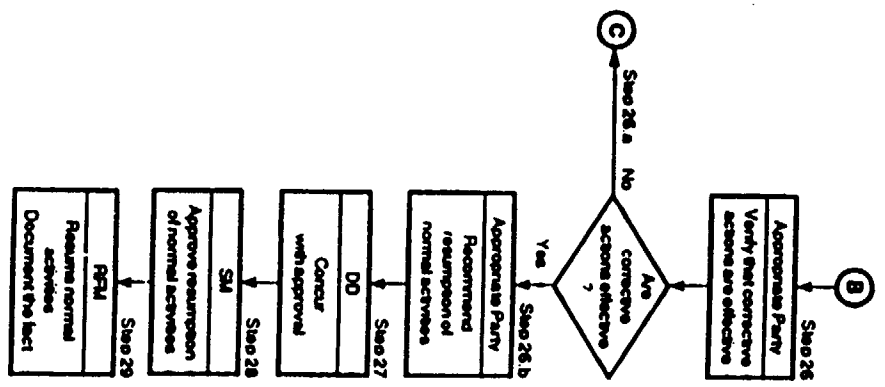


Figure 2. AP-6.18 Problem Resolution Flowchart (continued).

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

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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.

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Office of Civilian Radioactive Waste Management

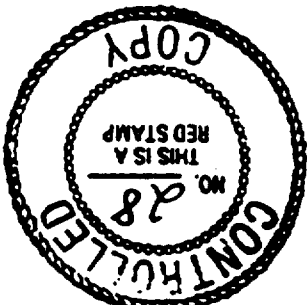
Prepared for:

JULY 1992

REVISION 0

TRAINING MANAGEMENT PLAN

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT



INFORMATION COPY

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 these YMP organizations that provide, or are dependent upon, a program of employee qualification, orientation, indoctrination, and other training.

Approved by:

Maxwell B. Blanchard 7-21-92
 Maxwell B. Blanchard, Project Manager
 Yucca Mountain Site Characterization
 Project Office Date

Maxwell B. Blanchard 7-21-92
 Maxwell B. Blanchard, Deputy Project Manager
 Yucca Mountain Site Characterization
 Project Office Date

E. Carol Senkop 7/21/92
 E. Carol Senkop, Training Officer
 Yucca Mountain Site Characterization
 Project Office Date

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6-1 Quality Assurance Qualification Records 6-1

6-1 Instructor Qualification Records 6-1

6-1 Employee Orientation, Induction, and Training Records 6-1

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

6-1 TRAINING DOCUMENTATION 6-1

6-2 Training Remedial Actions 6-2

6-1 Training Compliance 6-1

6-1 Training Effectiveness 6-1

6-1 Training Assessment 6-1

6-1 TRAINING MEASUREMENT CRITERIA 6-1

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Management of the training development process is the responsibility of the Yucca Mountain Site Characterization Project Office (YMP) Training Officer and reports to the YMP Deputy Project Manager. Figure 1-1 illustrates the relationships of the YMP 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 job tasks in a complex and highly regulated work environment. The TMP requires establishment of 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.

1.3 TRAINING MANAGEMENT PLAN OVERVIEW

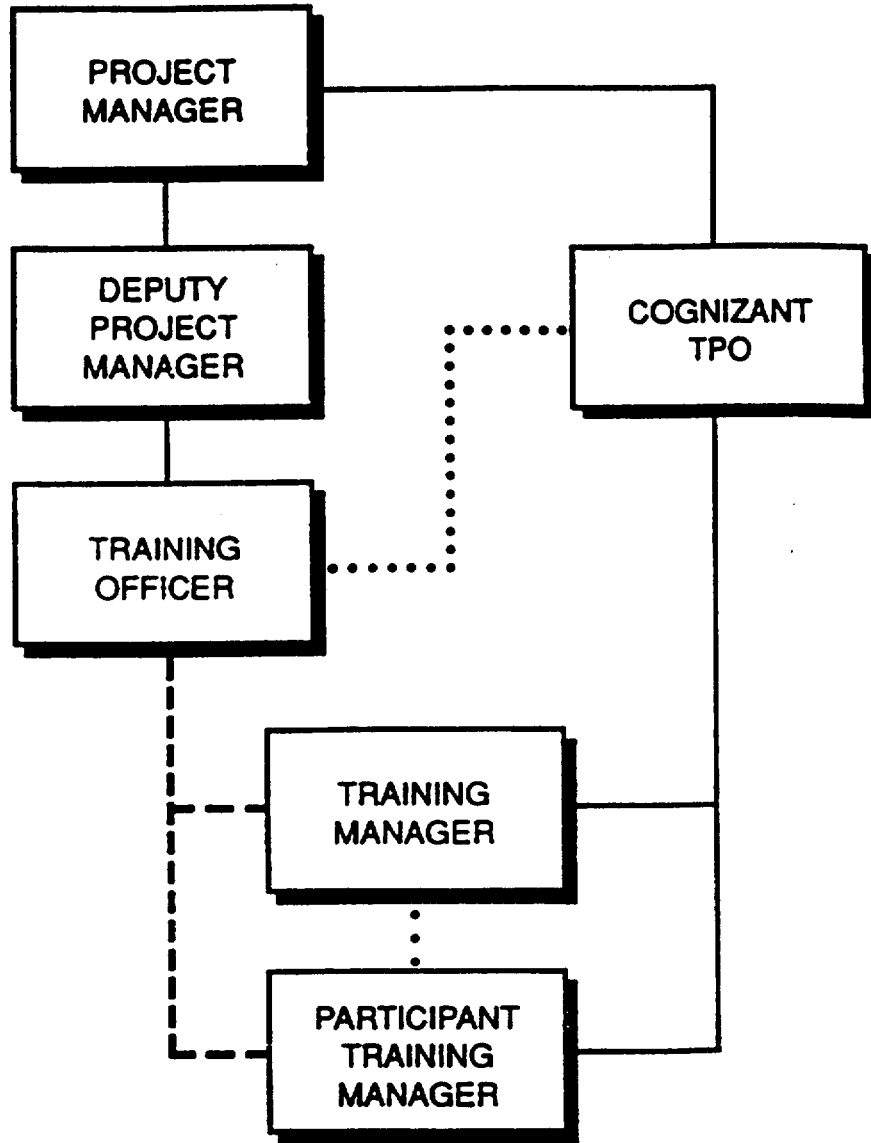
The training mission is to support the YMP commitment to excellence with a training program that provides for indoctrination and training of personnel to ensure that suitable proficiency is achieved and maintained.

1.2 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.067/6-30-82

Figure 1-1. Training Organization

KEY TRAINING MANAGEMENT POSITIONS**Project Manager**

The YMPO 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 YMPO Deputy Project Manager and YMPO Training Officer, has oversight of the training mission. Direction is provided through plans, policies, and procedures, and written directives of the YMPO Project Manager or his designee.

Training Officer

The YMPO Training Officer reports to the YMPO Deputy Project Manager and is the U.S. Department of Energy (DOE) YMPO 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 YMPO DOE goals.

Training Manager

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

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

Participant Training Managers

The Technical Project Officer (TPO) 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 TPO for the development and implementation of a training program that (1) meets the guidelines set forth by the YMPO Training Officer for a SAT within the participant organization, and (2) complies with Federal, State, QA, and regulatory requirements and DOE goals.

1.5 TRAINING MANAGEMENT PLAN DOCUMENTATION

Documentation includes appropriate objective evidence of (1) individual qualification 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.

1.6 TRAINING DEVELOPMENT PROCESS DEFINITIONS

Analysis - 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 is the employee's training assignments that are required to be maintained as assigned documents or activities are revised or changed.

Briefing - A method of documented instruction, 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 analysis 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 trainee entry-level skills and knowledges, 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 tryout and revision of course material.

Evaluation - The phase of the SAT in which indicators (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.

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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.

Orientation - 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.

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

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

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

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

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

Laboratory Training (Workshop) - A method of instruction in which the trainee receives application of course material by the trainee in a hands-on environment.

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

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.

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

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.

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 - Those 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 baselined 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 6.5).
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 TMP 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-6.05
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[X] Non O

APPROVAL

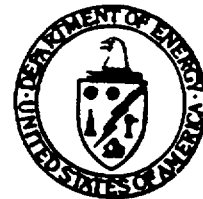
PROJECT MANAGER: Alvin J. Stewart 7-7-92
Signature Date
DIRECTOR OF QUALITY ASSURANCE: N/A N/A
Signature Date
Director POCD
(OTHER, AS REQUIRED) [Signature] 8-5-92
Signature Date

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



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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 Olson 10:43a 8-10-92 or 8-10-92

James A. Manser for RAM 8/17/92
TRAINING OFFICER/TRAINING MANAGER DATE

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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.

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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 characteristic 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 (HMMMP) 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.

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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)
9. REECO Occupational Medicine Department (OMD)

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- 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 PCCC 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.

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<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
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Participant	1.	Sample and analyze unknown or unidentified wastes to determine if they are hazardous. Contact POCD or ECPD for assistance in determining if hazardous wastes are being generated.
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ESTABLISH SATELLITE ACCUMULATION AREA

Participant HMC	3.	Appoint an SAA Operator for each point of generation where hazardous wastes will be accumulated until transfer to the FAA (see Step 28).
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	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.
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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 POCD, Facility Manager, and Facility Custodian to ensure consistency with all other planning activities.
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ECPD	7.	Provide and document training of SAA Operator(s) per requirements identified in Section 6.0 of the HMMHP.
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Participant HMC/ SAA Operator	8.	Select an SAA site near the point of generation of the hazardous waste streams. (Coordinate as in Step 5.)
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RESPONSIBLE PARTY

STEPS

PROCEDURE

Participant HMC/
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.

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

ECPD	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.
	NOTE:	Selection of hazardous waste containers shall be compatible with the type of waste generated. Department of Transportation (DOT) regulations in 49 CFR Part 178, 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">The words "Hazardous Waste"The common name of the materialThe DOT hazardous classification of material (e.g., flammable, toxic, caustic, or reactive)

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<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
SAA Operator	16.	The Waste Stream ID Number (see Step 10). 16. Do not record start accumulation date or container accumulation time starts when container is full and ready to be picked up for transport to the PAA).
ECOPD	17.	Ensure proper container labels have been affixed. NOTE: Additional labeling and marking information is provided in 49 CFR 172.300 Support D, 49 CFR 172.400 Support 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 DOE and TSMSS S&H (who should, in turn, coordinate with other entities such as PEECs HPD and OMD) regarding proper PPE for wastes being accumulated.
Participant HMC	18.	Conduct and document SAA employee training, as necessary, to ensure wastes are handled properly and that appropriate PPE is worn when handling wastes.
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. 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.

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).
ECPD	22.	Inspect SAA weekly for leaks and spills, and formally document inspections with SAA Inspection Checklist (an example is included as Attachment C).
NOTE:		As a standard operating procedure, SAs should be visually inspected daily during site characterization activities.
23.		Notify the SM, ECPD, and PCDD via phone if a non-compliance condition is found (e.g., damaged container, leak, or spill). Also provide written notification, if necessary, follow AP-2.9, Occurrence Reporting and Processing of Operations Information.
PCDD	24.	Prepare recommendations for corrective actions resulting from non-compliance condition at SAA. Submit corrective action recommendations to PCDD for approval.
SAA Operator	25.	Approve recommended corrective action(s) and provide recommendations to SAA Operator for implementation.
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 PCDD and take actions described in SAA Contingency Plan.

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RESPONSIBLE PARTY STEPS PROCEDURE

TRANSPORT OF HAZARDOUS WASTES TO PROJECT ACCUMULATION AREA

- | | | |
|--------------|-------|--|
| SAA Operator | 28. | Notify ECPD that waste containers need to be picked up for transport to the PAA. Notification should be given <u>5 days prior to the container being full. 15 is needed if abandoning a particular work area.</u> |
| ECPD | 29. | Notify REECO WMD that a hazardous waste pickup is necessary at the SAA. Notification shall be by phone followed within 3 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. |

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<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" on 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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<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 FAA.
	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.

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<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-1.18Q, 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 Materials

AP-6.24, Operation of the Hazardous Waste Project Accumulation Area Facility

Records of record packages of documentation generated as a result of this procedure shall be assembled and submitted to the LRC in accordance with AF-11180.

Responsible parties will maintain records generated by or associated with this AP for a minimum of 7 years, with the exception of the TSMSS EOPD. The TSMSS EOPD will maintain records for 3 years and then forward those records to the LRC for storage and archival for an additional 4 years at 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 TSMSS EOPD will also submit relevant (as determined by RCDD) records/documentation to the RCDD as informational copies.

All other responsible parties (other than TSMSS EOPD) will submit records to the YMP CRF after 7 years of document retention.

8.0 RECORDS

- Attachment 1: Hazardous Waste Stream Identification Form
- Attachment 2: Satellite Accumulation Area Inspection Checklist
- Attachment 3: On-site Manifest
- Attachment 4: Satellite Accumulation Area Accumulation Log

7.0 FIGURES AND ATTACHMENTS

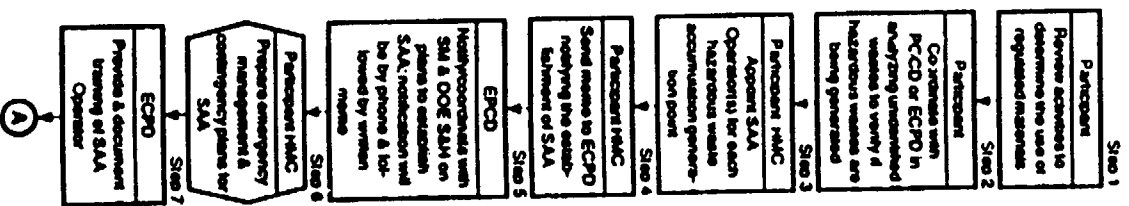
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- LEGEND**
- CRF Central Records Facility
 - DOE SAAH Department of Energy Safety & Health Division
 - ECPD Environmental Compliance & Permitting Department
 - H41C Hazardous Materials Coordinator
 - ID Identification
 - UPC Local Records Center
 - MSDS Material Safety Data Sheet
 - PAA Project Accumulation Area
 - PCDD Project & Operations Central Division
 - RECO HPO Reynolds Electrical & Engineering Co., Inc. Health Physics Division
 - RECO WHID Reynolds Electrical & Engineering Co., Inc. Waste Management Division
 - SAA Satellite Accumulation Area
 - SAM Site Manager
 - YMP Yucca Mountain Site Characterization Project

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Figure 1 - AP-6.25 Flowchart

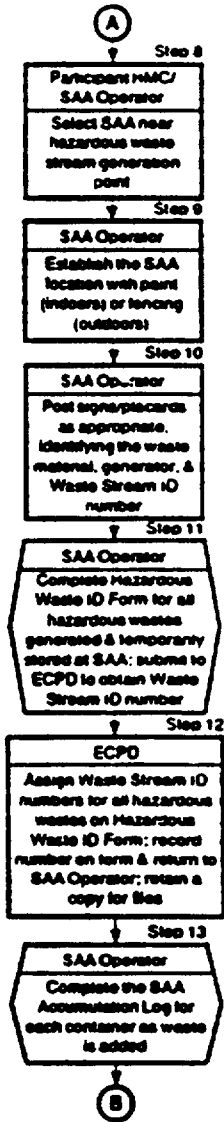


Figure 1 - AP-6.25 Flowchart (continued)

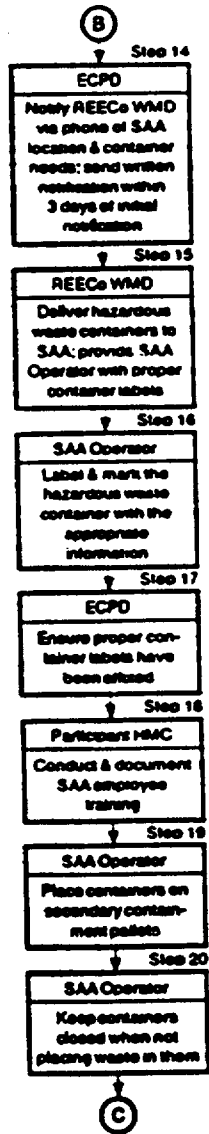


Figure 1 - AP-6.25 Flowchart (continued)

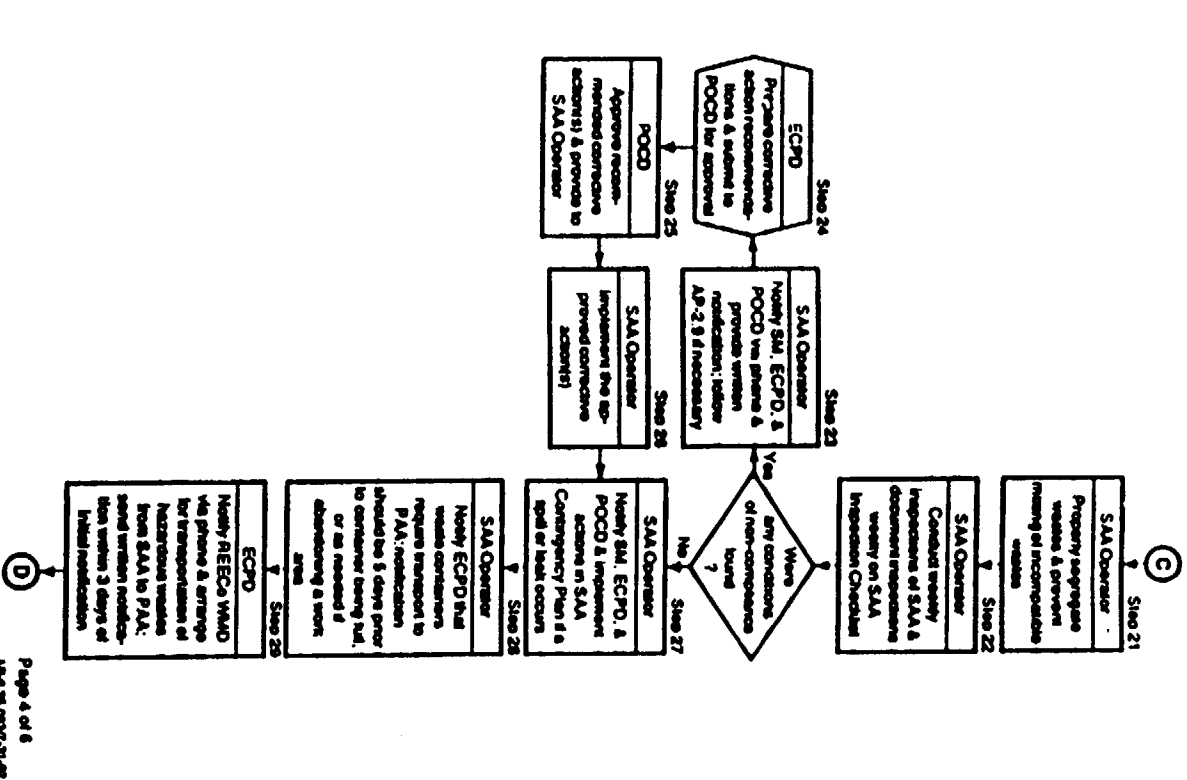
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OPERATING HAZARDOUS WASTE SAFETY APPAS

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Figure 1 - AP-6.25 Flowchart (continued)

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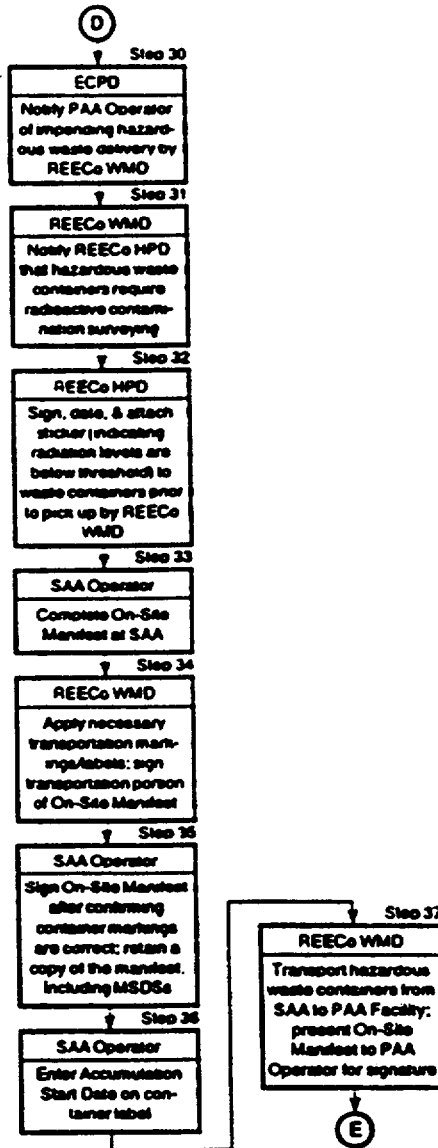
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YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

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Figure 1 - AP-6.25 Flowchart (continued)

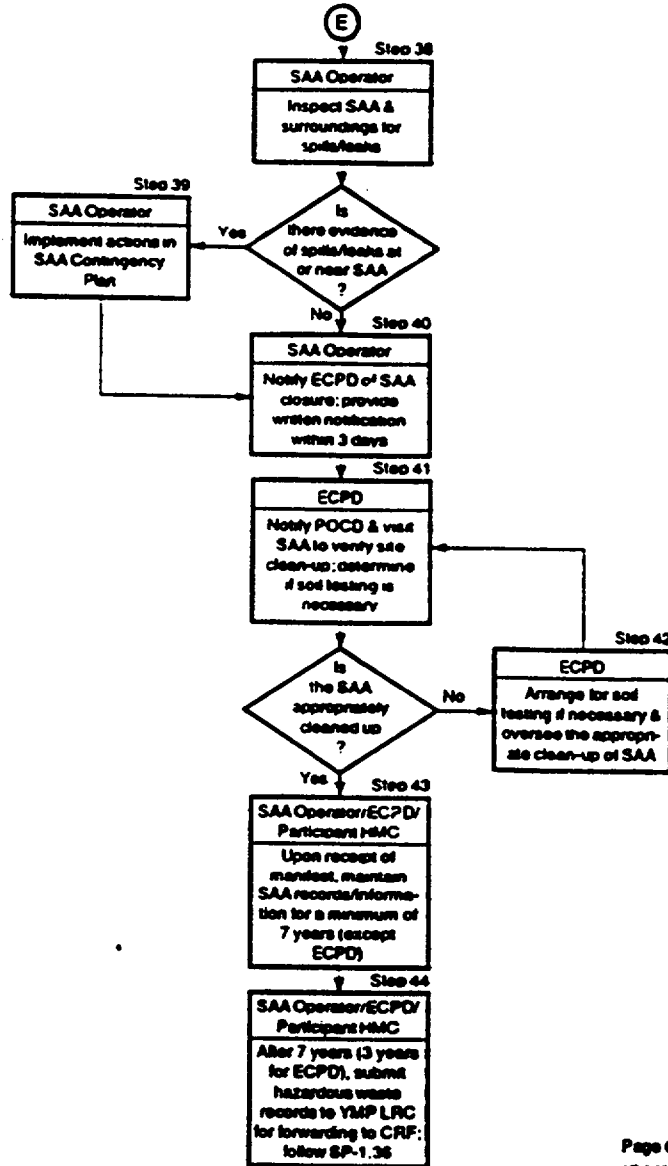


Figure 1 - AP-6.25 Flowchart (continued)

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YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

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YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT SAA INSPECTION CHECKLIST

QA: N/A

SAA Location: _____ Participants: _____

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 |
| * 3-day rule in effect ** | Yes | No |
| 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. Manifests/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: _____

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Attachment 2 - Satellite Accumulation Area Inspection Checklist

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YMP-115-R0 8/17/92		YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT ON-SITE WASTE TRANSPORT MANIFEST		MANIFEST DOCUMENT NO. _____	
1. GENERATOR'S NAME, ORGANIZATION, AND LOCATION OF RECD. INCLUDE DEPT. NO. (PLEASE PRINT) GENERATOR'S PHONE # _____		2. DATE OF ACCUMULATION OR TRANSPORT _____			
3a. TRANSPORTER NAME (PLEASE PRINT)		3b. 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		5. CONTAINERS		6. TOTAL QUANTITY	7. UNIT WT/AOL
		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	

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Attachment 3 - On-site Manifest

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YMP-115-R0 8/17/92		YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT ON-SITE WASTE TRANSPORT MANIFEST		MANIFEST DOCUMENT NO.
14 GENERATOR'S NAME, ORGANIZATION AND LOCATION (IF RES. INCLUDE DEPT NO.) (PLEASE PRINT)		15 DATE OF ACCUMULATION OR TRANSPORT		
GENERATOR'S PHONE:				
16 TRANSPORTER NAME (PLEASE PRINT)				
17 U.S. DOT DESCRIPTION (INCLUDES PROPER SHIPPING NAME, HAZARD CLASS AND ID NUMBER, EPA WASTE CODE, AND WASTE STREAM AND PACKAGE IDENTIFICATION NUMBERS)	18 CONTAINERS		19 TOTAL	20 UNIT
	NO.	TYPE	QUANTITY	WT/ADL
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				

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Attachment 3 - On-site Manifest (continued)

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APPENDIX B9

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WASTE ASSESSMENT

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YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT



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PROCEDURE

Title:

WASTE ASSESSMENT

Procedure No.:
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ICN: 0

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Approval:

Date:

Approval:

Date:

W R. Dixon

1-22-98

N/A

Approval:

Date:

Concurrence:

Date:

N/A

R.E. Spence

11/21/93

REVISION HISTORY

<u>Rev. No.</u>	<u>SN No.</u>	<u>Effective Date</u>	<u>Description of Revision/ICN</u>
0		02/08/93	Initial Issue

INFORMATION COPY

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YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-6.13

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WASTE ASSESSMENT

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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.

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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 Officers/Organizational Equivalent, and Technical and Management Support Services Environmental Compliance and Permitting Department (ECPD).

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WASTE ASSESSMENT

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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

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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

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