

Yucca Mountain Site Characterization Project

***REGULATED MATERIALS MANAGEMENT
PLAN***

YMP/91-35

Revision 1

March 1996

*U.S. Department of Energy
Office of Civilian Radioactive Waste Management
Las Vegas, NV 89109*

CHANGE HISTORY

<u>REV. NO.</u>	<u>ICN NO.</u>	<u>EFFECTIVE DATE</u>	<u>DESCRIPTION OF CHANGE</u>
0		8/3/92	Initial Issue
1		03/01/96	Complete revision in response to reorganization of the Yucca Mountain Site Characterization Office.



Wendy R. Dixon
Assistant Manager for Environment, Safety, and Health
Yucca Mountain Site Characterization Office

1-30-96

Date

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1.0 INTRODUCTION

1.1 BACKGROUND AND PURPOSE

With passage of the Nuclear Waste Policy Amendments Act in 1987, Congress directed the U.S. Department of Energy (DOE), through its Office of Civilian Radioactive Waste Management, to evaluate the suitability of Yucca Mountain in Nevada for the permanent disposal of the nation's commercial spent nuclear fuel and high-level radioactive waste. In 1988, the DOE issued the *Site Characterization Plan*, DOE/RW-0199, which described the various studies to be conducted at and near Yucca Mountain.

The site characterization studies being conducted and planned at Yucca Mountain include a variety of geological, mechanical, thermal, chemical, and hydrological tests, as well as environmental studies, that will determine whether the site has the conditions necessary to isolate nuclear waste from the environment. Numerous studies will be conducted within a large-diameter tunnel that will extend many miles into Yucca Mountain (the Exploratory Studies Facility [ESF]). In addition, the DOE operates a sample-management facility at Yucca Mountain; conducts small-scale hydrological, ecological, and archaeological field studies; and monitors the meteorological, radiological, and air-quality conditions at Yucca Mountain.

Many site characterization activities require the use of materials, and the disposal of wastes, that are regulated by federal, state, and local laws, as well as policies and procedures developed by the Yucca Mountain Site Characterization Project (YMP). The DOE is committed to conducting site characterization in an environmentally safe and sound manner through compliance with the letter and spirit of all environmental regulations that are applicable to the YMP. Toward this goal, the DOE's Yucca Mountain Site Characterization Office (YMSCO) developed an *Environmental Management Plan* (EMP), YMP/93-04, which describes the overall environmental program for the YMP. One component of the YMP environmental program is this *Regulated Materials Management Plan* (RMMP) which describes how the YMSCO handles and manages regulated materials. Although the use of certain regulated materials cannot be avoided, and the generation of some waste is inevitable, the YMP has implemented a projectwide program to prevent pollution to the extent possible and to minimize the generation of wastes. This program is described in the *Waste Minimization and Pollution Prevention Awareness Plan*, YMP/95-01, and summarized in Section 5.0 of this document.

1.2 DEFINITIONS

Regulated materials, as defined in this RMMP, include hazardous materials, hazardous wastes, and nonhazardous materials and nonhazardous wastes, as follows:

- (a) Hazardous materials whose use is regulated by the *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA), as amended by the *Superfund Amendments and Reauthorization Act* (SARA), 42 USC 9601 et seq., and further amended by the *Emergency Planning and Community Right-to-Know Act* (EPCRA), 40 CFR 355; regulations of the Occupational Safety and Health Administration (OSHA); regulations of the U.S. Department of Transportation; and regulations of the State of Nevada.

- (b) Hazardous wastes regulated under the *Resource Conservation and Recovery Act* (RCRA), 42 USC 6901 et seq. Hazardous wastes include solid materials, which because of quantity, concentration, or physical, chemical, or infectious characteristics, may (a) cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness, or (b) pose a significant present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of, or otherwise managed.
- (c) Nonhazardous materials and nonhazardous wastes. This category includes all nonhazardous materials and wastes whose use and/or disposal is controlled by federal, state, and local laws, or YMP policy. This category includes, but is not limited to, such things as hydrocarbon-related wastes; empty aerosol cans; fluorescent tubes; spent batteries; empty explosives boxes; construction debris; trash; and sewage.

As used in this RMMP, regulated materials do not include radioactive materials or radioactive wastes.

YMP Organizations, as defined in this RMMP, include the YMSCO; the Management and Operating Contractor (M&O) for the YMP in Las Vegas (the M&O is composed of numerous engineering and environmental firms); and any other contractors and firms that work in facilities in Las Vegas and at Yucca Mountain that are operated exclusively for the YMP.

1.3 APPLICABILITY

This RMMP is applicable to all YMP Organizations that handle and/or dispose of regulated materials. It is applicable to all YMP activities at Yucca Mountain, Area 25 of the Nevada Test Site (NTS), and YMP activities in Las Vegas, Nevada. This RMMP is not applicable to contractor-owned and leased facilities in Las Vegas and elsewhere that are not dedicated exclusively to work on the YMP. These facilities, however, must still comply with federal and state regulations governing the use and disposal of regulated materials.

1.4 REVISIONS TO THIS RMMP

This RMMP may be revised to reflect changes in the site characterization program or changes in federal, state, and local laws and YMP policy concerning the use and disposal of regulated materials.

2.0 REGULATORY REQUIREMENTS

The federal and state laws and regulations listed below control the use of hazardous materials and the disposal of hazardous wastes. YMSCO procedures to comply with the requirements of these laws are described in the *Environmental Regulatory Compliance Plan (ERCP)*, YMP/92-2, and summarized in the *Environmental Management Plan*, YMP/93-04.

- RCRA
- CERCLA, as amended by SARA
- EPCRA
- OSHA
- *Federal Water Pollution Control Act, as amended by the Clean Water Act, 33 USC 1251-1376*
- *Safe Drinking Water Act, 42 USC 300f et seq.*
- *Hazardous Materials Transportation Act, 49 USC 1801-1812*
- Nevada Administrative Code and Statutes concerning hazardous materials and hazardous wastes
- *Pollution Prevention Act, 42 USC 13010*

In response to the laws and regulations listed above, the DOE has issued numerous Departmental Orders that describe the actions that are required to comply with these laws and regulations. These DOE Orders are identified in subsequent chapters of this RMMP, and described in the ERCP.

3.0 RESPONSIBILITIES

The YMSCO has overall responsibility for the proper management of regulated materials on the YMP. The M&O's Environmental Programs Department (M&O/EPD) and Safety and Health (M&O/SH) administer the regulated materials management program for the YMSCO according to this RMMP. The Environmental Safety and Health Compliance Department (M&O/ESHCD) has programmatic oversight responsibilities. The specific responsibilities of the YMSCO, the M&O/EPD, and M&O/SH are described below, along with the general responsibilities of all YMP Organizations with regard to the handling and/or disposal of regulated materials on the YMP.

3.1 YMSCO

The DOE's Project Manager of the YMP is the head of the YMSCO and is responsible for the proper management of all regulated materials. The YMSCO's Assistant Manager for Environment, Safety, and Health (AMESH) is responsible for ensuring that YMP activities are conducted in compliance with all laws and regulations that are applicable to regulated materials.

3.2 M&O/EPD

The M&O/EPD is responsible for the overall management of the regulated materials program for the YMSCO, as well as the operation of a central project accumulation area for the temporary accumulation of hazardous wastes (discussed in Section 4.0). The M&O/EPD reviews all requests from YMP Organizations to use hazardous materials. The M&O/EPD tracks the use of these materials, and coordinates the establishment of temporary accumulation areas for hazardous wastes and on-site and off-site transport of these wastes. The M&O/EPD also conducts field surveillances to make certain that all YMP activities related to the storage and use of hazardous materials and the temporary accumulation and transport of hazardous wastes are being conducted according to law and established YMP procedures.

3.3 M&O/SH

In conjunction with the M&O/EPD, the M&O/SH also reviews requests to use hazardous materials and, if approved, develops safety and health guidelines for their use. The M&O/SH approves the selection of personal-protective and emergency equipment for use at all waste accumulation areas, conducts inspections of safety equipment and systems, and provides support to the M&O/EPD with regard to any health and safety issues and emergency-response actions.

3.4 GENERAL RESPONSIBILITIES OF ALL YMP ORGANIZATIONS

Each YMP Organization, or group within a YMP Organization, that uses or disposes of regulated materials, is responsible for the proper management of these materials and wastes. At sites where hazardous materials are stored or used, each organization must maintain an inventory of these materials and Material Safety Data Sheets (MSDSs) provided by the manufacturer that describe such things as the material's toxicity, handling and storage methods, first aid procedures, and emergency procedures in the event of an accident. MSDSs must be located in an area that is clearly visible and easily accessible by employees.

If determined to be necessary by the M&O/EPD, YMP Organizations will be directed to develop detailed work instructions for handling certain regulated materials. These work instructions are in addition to the Yucca Mountain procedures described in Section 4.0. The process for preparing a work instruction is described in Nevada Line Procedure NLP 5-1, *Preparation of M&O Nevada Work Instructions*. The work instruction should include the following elements, as appropriate:

- A description of the waste-generating activity
- A flow diagram of the activity
- A list of key positions involved in the activity
- A list of the materials used
- A description of how hazardous materials are stored and handled and how hazardous wastes are managed
- A description of regulatory compliance requirements
- A description of any analytical procedures involved in the activity

Each YMP Organization also is responsible for maintaining facility/process-specific data that are used by the M&O/EPD to compile reports that are required periodically by federal and state regulations (reporting requirements are described in Section 6.2).

Failure to comply with the statutes and regulations identified in this RMMP can result in civil and criminal penalties against the person(s) involved. As defined in 40 CFR 260, *Hazardous Waste Management System*, the term "person(s)" includes individuals, federal agencies, and government corporations.

4.0 MANAGEMENT OF REGULATED MATERIALS

Each YMP Organization is required to identify all hazardous materials that it intends to use on the YMP and to identify and characterize hazardous wastes that are generated during site characterization. This section describes the YMP process for managing regulated materials.

4.1 HAZARDOUS MATERIALS

YAP-30.10, *Authorization to Use Regulated Hazardous Substances and Materials*, governs the procurement of hazardous materials. YAP-30.10 requires that all YMP personnel submit a request for authorization (RFA) to the M&O/EPD prior to purchasing any hazardous material. If it is not known whether the material is hazardous, the requestor should contact the M&O/EPD for guidance or send the M&O/EPD an MSDS for the material. Upon receipt of an RFA, the M&O/EPD determines if the material is regulated. Materials containing Class I ozone-depleting compounds or chlorinated solvents above established thresholds will not be approved for use. The use of hazardous materials for which adequate nonhazardous substitutes exist also will be denied. If, in conjunction with the M&O/SH, the requested material is approved for purchase and use, the requestor is informed of proper use, storage, safety, and disposal requirements. The M&O/EPD maintains an inventory of hazardous materials used on the YMP, and tracks them on a semi-annual and annual basis to meet reporting requirements in EPCRA and OSHA.

Nonregulated materials are exempt from RFA submittals. These materials pose no specific health risks or are considered common consumer items as defined in 29 CFR 1910.1200. Because the identification of nonregulated or common consumer items is not always apparent, it is YMP policy to maintain MSDSs for all materials used on the YMP, except when specifically exempted by the M&O/EPD in consultation with the M&O/SII.

4.2 HAZARDOUS WASTES

Hazardous wastes are defined in 40 CFR 261, *Identification and Listing of Hazardous Waste*. YMP hazardous wastes are managed separately from hazardous wastes generated by operations at the NTS. Hazardous wastes and contamination at Yucca Mountain from non-YMP activities are the responsibility of the NTS, as specified in the Management Agreement between the DOE Nevada Operations Office and the YMSCO (signed by both parties on September 1, 1994).

Under RCRA, facilities that generate between 220 and 2,200 pounds per month of RCRA-defined hazardous wastes are considered *small-quantity generators*. Facilities that generate more than 2,200 pounds per month of hazardous wastes are *large-quantity generators* and are subject to stringent regulatory requirements. The YMP falls within the small-quantity-generator classification. This classification requires that the YMP obtain an identification number from the U.S. Environmental Protection Agency (EPA) to conduct activities that generate hazardous wastes. The YMP's RCRA Generator ID Number is NV7890090023. This number is used to track site-generated hazardous wastes from their point of generation to their final off-site treatment or disposal at a treatment, storage, and disposal (TSD) facility.

4.2.1 Waste Characterization

It is the responsibility of each YMP Organization, with assistance from the M&O/EPD, to characterize all wastes that it generates according to NAP-EP-001, *Material Characterization and Evaluation*. Wastes can be characterized through either process knowledge, which requires knowledge of the chemical and physical properties of the ingredients used in the process and how these ingredients are altered by the process, or sampling and analysis of the material using EPA-approved test methods. Sampling and analysis are always required if the constituents of the material are unknown.

4.2.2 Satellite Accumulation Areas

If a YMP Organization expects to generate hazardous wastes, a satellite accumulation area (SAA) must be established for each waste type near its point of generation to temporarily store the wastes according to the procedures in YAP-30.15, *Operating Hazardous Waste Satellite Accumulation Areas*. The YMP Organization must, among other things, receive approval from the M&O/EPD to establish the SAA, and submit a list to the M&O/EPD of the types of waste (or waste streams) that will be accumulated at each SAA. The M&O/EPD then assigns a waste stream identification number (WIN) to each type of waste or waste stream to be accumulated. In practice, a WIN is assigned to a single container of waste. The waste containers are then tracked by WIN as they are transported from each SAA to a central project accumulation area (PAA) at Yucca Mountain (discussed in Subsection 4.2.3), and/or transported off-site to a TSD facility (discussed in Subsection 4.2.4).

Each YMP Organization that generates waste is responsible for obtaining appropriate waste containers and waste labels in accordance with 49 CFR 172.101, *Purpose and Use of Hazardous Materials Table*; 49 CFR 173, *Shippers - General Requirements for Shipments and Packages*; and 49 CFR 178, *Specifications for Packagings*. The operator of each SAA is responsible for the proper handling of wastes, and specific record-keeping tasks, according to YAP-30.15. Each SAA operator also must conduct weekly inspections of the SAA and report any noncompliance conditions to the M&O/EPD. The M&O/EPD also conducts field surveillances of the SAAs to make certain that operations are conducted according to established procedures. Noncompliance conditions are corrected by the SAA operator in consultation with the M&O/EPD.

When a waste container stored at an SAA is 85-90 percent full, the SAA operator notifies the M&O/EPD that transport is necessary. The M&O/EPD informs the PAA operator of the pending shipment and arranges transport of the container to the PAA or, in some cases, arranges transport directly to an off-site TSD facility. Prior to shipping a waste container to the PAA, the M&O/EPD initiates a variety of actions (described in YAP-30.15), and prepares and sends to the SAA operator an on-site shipping manifest. The SAA operator signs the manifest after conducting required inspections of each waste container (see details in YAP-30.15), retains a copy of the manifest, enters an accumulation start date on the label of each waste container, and gives the remaining parts of the manifest to the waste transporter.

4.2.3 Project Accumulation Area

The M&O/EPD operates the PAA at Yucca Mountain in accordance with the procedures in YAP-30.14, *Operating the Hazardous Waste Project Accumulation Area Facility*. The PAA consists of four stand-alone, fire-resistant metal units capable of storing containerized hazardous wastes. Waste containers can be stored up to 180 days at the PAA or 270 days if

the wastes are to be transported to a TSD facility more than 200 miles away (as specified in 40 CFR 262, *Standards Applicable to Generators of Hazardous Waste*).

Upon arrival at the PAA, the hazardous-waste transporter presents the on-site manifest to the PAA operator for signature. The PAA operator inspects each container for such things as proper labeling and the condition of the containers; any deficiencies are corrected following the procedures in YAP-30.14. The PAA operator signs the manifest and places the containers in compatible locations within the PAA. One copy of the manifest is placed in files at the PAA, one copy is sent to the SAA operator, and one copy is sent to the M&O/EPD. The PAA operator is responsible for weekly inspections of the PAA, and reporting any noncompliance conditions to the M&O/EPD.

4.2.4 Off-Site Transport of Hazardous Wastes

Transport of wastes to a TSD facility is arranged by the M&O/EPD. The transporter and the operator of the TSD facility are notified by the M&O/EPD that a shipment of hazardous wastes from the PAA is required. The PAA operator inspects the waste containers and prepares a uniform hazardous waste manifest (UHWM) for off-site transport. The transporter signs the UHWM indicating acceptance of the wastes, which is then signed by the PAA operator. A copy of the UHWM is retained by the PAA operator and another copy is sent to the M&O/EPD. The M&O/EPD retains a copy of the UHWM in a suspense file until a copy of the UHWM is returned to the M&O/EPD, signed by the operator of the TSD facility, indicating that the wastes have been accepted. YAP-30.14 describes in detail the procedures to be followed for transporting wastes to a TSD facility, as well as the procedures to be followed in the event that receipt by the M&O/EPD of a signed UHWM from the TSD facility operator is delayed.

4.3 NONHAZARDOUS MATERIALS AND NONHAZARDOUS WASTES

4.3.1 Hydrocarbon-Related Wastes

This category of wastes includes hydrocarbon-contaminated soils; used oil, oil/water mixtures, and used antifreeze; and hydrocarbon-contaminated rags, plastic, and equipment hoses.

4.3.1.1 Hydrocarbon-Contaminated Soils

Nevada Administrative Code (NAC) 445A.347, *Notice Required*, and NAC 459.9973, *Action by Division when Excessive Petroleum is Present in Soil*, require that releases of petroleum products exceeding 25 gallons, or discovered on or in groundwater, or in at least three cubic feet of soil in a concentration exceeding 100 parts per million, be reported within one day to the Nevada Division of Environmental Protection, the Nevada Division of Emergency Management, and if applicable, the National Response Center. The notification procedure followed by the M&O/EPD is described in NWI-EPD-002, *Release Reporting and Response Actions*, and the procedures for managing the contaminated soils are contained in NAP-EP-002, *Management of Hydrocarbon-Contaminated Soils*. If the releases or discoveries are reportable to the State of Nevada, the contamination will be either remediated on-site or shipped to an off-site facility for remediation. Hydrocarbon-contaminated soils at Yucca Mountain from non-YMP activities or from pre-YMP activities will either be transported to a hydrocarbon disposal unit at the NTS or remediated at some other facility if it is determined that remediation is required.

4.3.1.2 Used Oil, Oil/Water Mixtures, and Used Antifreeze

Used oil, oil/water mixtures, and used antifreeze are temporarily accumulated in DOT-approved containers and placed on spill pallets according to the procedures in NAP-EP-003, *Management of Used Oil, Oily Water, and Used Antifreeze*. Used oil and antifreeze are recycled under an existing subcontract. Oil/water mixtures are separated and recycled under an existing subcontract.

4.3.1.3 Hydrocarbon-Contaminated Rags, Plastic, and Equipment Hoses

The State of Nevada regards rags, plastic, and equipment hoses that are contaminated with hydrocarbons (but not with free liquids) to be nonhazardous; these materials are disposed of at an NTS solid-waste disposal site or offsite at an industrial landfill. If liquid hydrocarbons drip from the rags, plastic, and equipment hoses, or if liquid hydrocarbons can be squeezed from these materials, the hydrocarbons must be managed as used oil according to the procedures in NAP-EP-003, *Management of Used Oil, Oily Water, and Used Antifreeze*.

4.3.2 Empty Aerosol Cans

Empty aerosol cans, providing they contain less than 3 percent by weight of the total capacity of the container and providing the internal pressure approaches ambient atmospheric pressure, are accumulated prior to disposal. The cans are punctured and recycled. Non-empty aerosol cans that are no longer needed are accumulated and managed as hazardous waste in accordance with YAP-30.15.

4.3.3 Fluorescent Tubes

Fluorescent tubes, high-pressure sodium lamps, mercury-vapor lamps, and metal-halide lamps can be disposed of in waste dumpsters.

4.3.4 Spent Batteries

Spent lead-acid batteries are temporarily accumulated on spill pallets and recycled under an existing NTS subcontract. Spent alkaline batteries can be disposed of in waste dumpsters. Spent high-mercury alkaline batteries, lithium batteries, and nickel-cadmium batteries are hazardous wastes and are disposed of in accordance with YAP-30.15.

4.3.5 Empty Explosives Boxes

Empty boxes that are free of explosives residues are managed as nonhazardous solid waste. All labels identifying the contents as "explosives" must be removed from the boxes and the boxes must be dismantled prior to disposal in dumpsters.

4.3.6 Construction Debris

Construction debris is disposed of at solid-waste disposal sites on the NTS.

4.3.7 Trash

Trash is disposed of at solid-waste disposal sites on the NTS.

4.3.8 Sewage

Sewage is either discharged directly to sewage-lagoon systems on the NTS or transported by truck to NTS sewage-lagoon systems.

4.3.9 Other Materials and Wastes

YMP Organizations should contact the M&O/EPD with regard to the proper use and/or disposal of regulated materials not mentioned in this RMMP.

5.0 WASTE MINIMIZATION AND POLLUTION PREVENTION

In accordance with DOE Order 5400.1, *General Environmental Protection Program*, the YMP has developed the *Waste Minimization and Pollution Prevention Awareness Plan*, YMP/95-01, to reduce the volume and toxicity of wastes produced during the YMP and to prevent pollution whenever possible. Important elements of the plan include (1) employee training to increase pollution-prevention awareness and the ways that pollution can be avoided or minimized, (2) waste-minimization techniques that reduce, recycle, reclaim, or reuse waste materials to the extent possible, and (3) Pollution Prevention Opportunity Assessments that identify ways to minimize or avoid the use of hazardous materials, following the procedures in YAP-30.54, *Pollution Prevention Opportunity Assessment*.

The preferred method of waste reduction is at the source. Source reduction includes any activity that precludes or diminishes the generation of wastes, with an emphasis on avoiding the generation of hazardous wastes. Toward this goal, each YMP Organization is encouraged to avoid the use of hazardous materials when a substitute, nonhazardous material is available (see the RFA process in Section 4.1). The M&O/EPD has implemented a hazardous-waste and charge-tracking system where costs of each YMP Organization's disposal efforts, including management and transport of wastes off-site to a TSD facility, are recorded. This program creates a management incentive to minimize waste generation.

If source reduction is not an option, or if the volume of waste has been reduced to the extent possible, recycling is then invoked. Recycling involves the reclamation, reuse, or alternate use of the material (for example, recycling lead from spent automobile batteries). All YMP Organizations are to investigate opportunities for recycling unused or spent materials, as well as hazardous and nonhazardous wastes.

After source-reduction and recycling techniques have been applied, the remaining wastes are either repackaged to reduce their volume and toxicity or disposed of directly at a TSD facility.

6.0 RECORDS AND REPORTS

The handling and management of regulated materials require careful maintenance of records, as well as the periodic compilation of reports for regulatory agencies. This section describes these records and reports.

6.1 RECORDS

All records associated with hazardous materials and hazardous wastes are maintained in accordance with YAP-17.1Q, *Records Management Requirements and Responsibilities*; 40 CFR 262, *Standards Applicable to Generators of Hazardous Waste*; DOE Order 5000.3, *Occurrence Reporting and Processing of Operations Information*; and DOE Order 5484.1, *Environmental Protection, Safety, and Health Protection Information Reporting Requirements*. Record-keeping requirements are described briefly in the following paragraph and in detail in YAP-30.14 and YAP-30.15.

The AMESH maintains a copy of the EPA approval to conduct hazardous-waste activities at Yucca Mountain (I.D. No. NV7890090023). All RFAs, and copies of the correspondence associated with the RFA process, are maintained by the YMP Organization that originates the RFA and by the M&O/EPD. Records associated with SAAs include waste accumulation logs, weekly SAA inspection checklists, WIN forms, personnel training, and on-site manifests; these records are maintained by the M&O/EPD in accordance with YAP-30.15. Records associated with the PAA include copies of the hazardous-waste-container checklist, weekly PAA inspection checklists, personnel training, and on-site and off-site manifests; these records also are maintained by the M&O/EPD in accordance with YAP-30.14. All records associated with the SAAs, the PAA, and waste transport to a TSD facility are maintained for at least three years and are archived for an additional four years in the YMP Records Processing Center. Records related to waste minimization efforts are maintained by the M&O/EPD.

6.2 REPORTS

A variety of periodic reports are required by regulatory agencies on the management of hazardous materials and hazardous wastes. These reports are identified and described briefly in the following subsections.

6.2.1 RCRA Reports

A biennial Hazardous Waste Disposal Report is required by the State of Nevada. This report summarizes the types and volumes of wastes that were disposed of during the reporting period. If required, Exception Reports concerning the transport of hazardous wastes to TSD facilities are prepared in accordance with YAP-30.14.

6.2.2 OSHA Reports

Twice a year the YMSCO must prepare for OSHA an inventory on the storage of hazardous materials pursuant to 29 CFR 1910, *Occupational Safety and Health Standards*, Section 1200; and 29 CFR 1926, *Safety and Health Regulations for Construction*, Section 59.

6.2.3 Emergency Planning and Community Right-to-Know Act (EPCRA) Reports

Several annual reports are required under EPCRA by the State of Nevada and the EPA. Section 302 requires a report on the storage of extremely hazardous substances above reportable quantities; Section 313 requires a report on the use of EPCRA-listed materials in a calendar year; Section 312 requires a report on the storage of hazardous and extremely hazardous substances; and Section 311 requires an inventory of all materials that require MSDSs under OSHA.

6.2.4 Waste Minimization Reports

An *Annual Report of Waste Generation and Waste Minimization Progress* is prepared by the YMSCO for submittal to the Secretary of Energy. The report describes past accomplishments regarding waste reduction and sets goals for the next reporting period.

6.2.5 Reports Pursuant to Nevada Regulations

NAC 445A.347 requires that releases of hazardous materials and petroleum products in specified amounts must be reported within one day to the Nevada Division of Environmental Protection, the Nevada Division of Emergency Management, and if applicable, the National Response Center (the notification procedure is described in NWI-EPD-002, *Release Reporting and Response Actions*). Within 45 days of State confirmation of initial notification of the spill, the YMSCO must submit a 45-Day Report of the incident to the State of Nevada with plans for remediation of the site. After acceptance of the report by the State of Nevada, and completion of remediation, a Final Closure Report must be submitted to the State of Nevada.

NRS 477.045 requires that the YMSCO submit a report to the Nevada State Fire Marshal on hazardous materials that are stored in excess of volume/weight thresholds established by the State of Nevada. The report is prepared annually by the YMSCO to renew the YMP's Nevada Hazardous Materials Storage Permit.

In addition to the reports described in the preceding paragraphs, copies of shipping reports/manifests to TSD facilities are sent to the Nevada Division of Environmental Protection.

7.0 TRAINING

RCRA, as well as OSHA regulations, contain training requirements for all personnel who work with hazardous materials and hazardous wastes. RCRA regulation 40 CFR 262.34 (c)(iii), *Accumulation Time*, requires that "the [waste] generator must ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies." (Emergency preparedness and response are discussed in Section 8.0) In addition, 40 CFR 265.16, *Personnel Training*, specifies that unless training has been provided, an employee cannot work without supervision. Furthermore, it requires annual refresher training and maintenance of training records. Each YMP Organization must have sufficient training to meet the basic requirements of YMP policy and federal and state requirements. The M&O/EPD can be consulted with regard to the training requirements for YMP employees.

The training requirements cited in the preceding paragraphs have been incorporated into the YMP as follows:

- Each YMP employee requiring unescorted access to the site must attend a General Employee Training course which includes basic training in the handling and management of hazardous wastes (FOI-3001, *Yucca Mountain Field Training Program*).
- YAP-30.15 specifies the minimum training requirements for SAA operators.
- YAP-30.14 specifies the minimum training requirements for the PAA operator.
- Through documented training assignments, the manager of each YMP Organization or group that handles hazardous materials or hazardous wastes must read and understand YAP-30.10 and this RMMP. The operator of each SAA, and the operator of the PAA, must read and understand YAP-30.15, and receive appropriate training.

8.0 EMERGENCY PREPAREDNESS AND RESPONSE

In the event of a fire, explosion, or other emergency at a facility or location where hazardous materials are stored and used, or where hazardous wastes are accumulated, YMP personnel would respond according to prescribed emergency procedures. These procedures are intended to minimize or mitigate the impact of the emergency on the health and safety of employees, the public, and the environment. This section of this RMMP, along with the *Safety and Health Plan*, YMP/90-37; the *Emergency Management Plan*, YMP/92-38; *YMP Operational Control and Emergency Preparedness*, FOI-5501; and *Emergency Preparedness and Contingency Actions for the Project Accumulation Area*, YMP FOI-5504; satisfy the emergency-preparedness sections of environmental requirements found in federal and state laws and DOE Orders. If needed, these requirements can be supplemented with YMP-specific work instructions for further guidance.

8.1 EQUIPMENT PREPAREDNESS AND OFF-SITE SUPPORT

All work areas where hazardous materials are stored and used, and places where hazardous wastes are generated or accumulated, must have safety equipment and capabilities to respond to emergency situations. Work-area managers and SAA/PAA operators are responsible for ensuring that emergency equipment is periodically inspected and tested to ensure proper operation in times of emergency.

Emergency-service offices at the NTS also can provide support and assistance to the PAA, SAAs, and areas where hazardous materials are stored. These offices include the Fire Department, hazardous-materials response personnel, a medical facility with a doctor and registered nurse, and the Nye County Sheriff's Department. In addition, a fully equipped ambulance is stationed at the medical facility at the NTS and at facilities near Yucca Mountain, and paramedics are available during work hours.

Emergency services available at DOE and contractor facilities in Las Vegas include all city/county emergency-response agencies, which can be notified through the 911 emergency telephone system.

8.2 PERSONNEL PREPAREDNESS

All personnel who manage and/or handle hazardous materials or hazardous wastes must be trained in emergency preparedness and the use of emergency equipment. Training requirements are described in Section 7.0 of this RMMP.

8.3 EVACUATION PLANS

Evacuation of personnel from the PAA, SAAs, and work areas where hazardous materials are stored and/or used, may be necessary during a fire, an explosion, or a spill of hazardous materials/wastes. The following procedures will be followed during an emergency:

- If the emergency is on-site, the Field Operations Center at Yucca Mountain will be notified. If the emergency is at a facility in Las Vegas, the Security Attendant at the building will be notified and emergency procedures will be followed.

- Evacuations will be signaled by alarms or verbally. The degree of evacuation depends upon whether materials involved in the emergency are known, and what distance is required to prevent contact or intake of vapors, gases, or fumes. This decision will be made by individuals such as the facility manager at the emergency site, or through telephone/radio instructions.

8.4 EMERGENCY ACTIONS AND RESPONSE

Guidance for the reporting of emergencies is contained in YMP/92-38; YAP-30.1, *Occurrence Reporting and Processing of Operations Information*, and NWI-EPD-002. Although emergencies vary by type and severity, certain actions are always required, as follows:

- Take immediate action to minimize hazards to human health and restrict access to the area if necessary.
- Cease all operations in the affected area.
- Determine the cause of the emergency if such an action does not further endanger people; if appropriate, monitor the area to determine if conditions are likely to deteriorate.
- Implement the notification procedures in YAP-30.1 and, in the event of a spill in reportable quantities, the notification requirements in NWI-EPD-002.
- Personnel who discover the occurrence should remain at the scene, upwind, and at a safe distance in order to provide first-hand information about the situation to aid emergency personnel and the reporting process.

8.5 POST-EMERGENCY PROCEDURES

After emergency actions and responses are completed, the M&O/EPD, the M&O/SH, and responsible managers must ensure that the following actions are initiated and/or completed:

- Begin site remediation and treatment. Hazardous materials must be handled, accumulated, and disposed of in accordance with applicable regulations.
- Ensure that hazardous materials or hazardous wastes that are incompatible with the released material are not located near the released material until cleanup procedures have been completed.
- Clean and inspect all emergency equipment before operations are resumed.
- Notify the AMESH that the facility is in compliance with the above requirements. M&O/EPD will coordinate with the AMESH to notify the EPA and the State of Nevada with follow-up reports and correspondence.

- After appropriate notifications have been made and investigations have been completed in accordance with DOE Order 5484.1, *Environmental Protection, Safety, and Health Protection Information Reporting Requirements*, the AMESII, or the building manager for each facility in Las Vegas, must approve the resumption of operations in the affected area.
- Ensure that follow-up reporting required by YAP-30.1 and NWI-EPD-002 is completed.

9.0 QUALITY ASSURANCE (QA)

The quality of work conducted on the YMP is guided by the *Quality Assurance Requirements and Description (QARD)*, DOE/RW-0333P. The QARD contains QA criteria applicable either partly or completely to YMP activities, depending on the type of work being conducted. Work that has the potential to affect the DOE's determination of the suitability of the Yucca Mountain site to isolate nuclear wastes from the environment is referred to as quality-affecting work. Quality-affecting work is subject to the most stringent requirements of the QARD.

Activities associated with the RMMP are non-quality affecting; they do not affect the determination of site suitability and do not produce QA records. Parts of the QARD, however, are applicable to activities associated with the RMMP. In general, all RMMP technical and administrative activities must be conducted in accordance with applicable YMP procedures, as well as with accepted industry and scientific practices and procedures with regard to monitoring, sampling, and data analysis. Use of these practices and procedures ensures that RMMP activities produce valid, traceable, and defensible results. In addition, the RMMP is prepared and issued in accordance with YAP-6.2Q, *Distribution, Maintenance, and Use of Controlled and Managed Documents*.

The "quality" of the program is monitored through a formal process of independent audits, surveillances, and management assessments to ensure proper implementation.

APPENDIX A

REFERENCES

APPENDIX A

REFERENCES

NOTE: Unless otherwise stated, refer to the latest revision or interim change of the referenced document.

<u>Identifier</u>	<u>Title</u>
33 USC 1251-1376	Federal Water Pollution Control Act, as amended by the Clean Water Act
42 USC 300f et seq.	Safe Drinking Water Act
42 USC 6901 et seq.	Resource Conservation and Recovery Act
42 USC 9601 et seq.	Comprehensive Environmental Response, Compensation, and Liability Act, as amended by the Superfund Amendments and Reauthorization Act
49 USC 1801-1812	Hazardous Materials Transportation Act
42 USC 13010	Pollution Prevention Act
29 CFR 1910.1200	Hazard Communication
40 CFR 260	Hazardous Waste Management System
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 265.16	Personnel Training
49 CFR 172.101	Purpose and Use of Hazardous Materials Table
49 CFR 173	Shippers - General Requirements for Shipment and Packagings
49 CFR 178	Specifications for Packagings
DOE Order 5000.3B	Occurrence Reporting and Processing of Operations Information
DOE Order 5400.1	General Environmental Protection Program
DOE Order 5484.1	Environmental Protection, Safety, and Health Protection Information Reporting Requirements
DOE/RW-0199	Site Characterization Plan
DOE/RW-0333P	Quality Assurance Requirement and Description

<u>Identifier</u>	<u>Title</u>
NAP-EP-001	Material Characterization and Evaluation
NAP-EP-002	Management of Hydrocarbon Contaminated Soils
NAP-EP-003	Management of Used Oil, Oily Water, and Used Antifreeze
NLP 5-1	Preparation of M&O Nevada Work Instructions
YAP-6.2Q	Distribution, Maintenance, and Use of Controlled and Managed Documents
YAP-17.1Q	Records Management Requirements and Responsibilities
YAP-30.1	Occurrence Reporting and Processing of Operations Information
YAP-30.10	Authorization to Use Regulated Hazardous Substances and Materials
YAP-30.14	Operating the Hazardous Waste Project Accumulation Area Facility
YAP-30.15	Operating Hazardous Waste Satellite Accumulation Areas
YAP-30.54	Pollution Prevention Opportunity Assessment
YMP/90-37	Safety and Health Plan
YMP/92-2	Environmental Regulatory Compliance Plan
YMP/92-38	Emergency Management Plan
YMP/93-04	Environment Management Plan
YMP/95-01	Waste Minimization and Pollution Prevention Awareness Plan
NAC 445A.347	Notice Required
NAC 459.9973	Action by Division When Excessive Petroleum is Present in Soil
FOI-3001	Yucca Mountain Field Training Program
FOI-5501	YMP Operational Control and Emergency Preparedness
FOI-5504	Contingency Actions for the Project Accumulation Area
NWI-EPD-002	Release Reporting and Response Actions
NRS 477.045	Hazardous Materials

APPENDIX B

ACRONYMS AND ABBREVIATIONS

APPENDIX B

ACRONYMS AND ABBREVIATIONS

AMESH	Assistant Manager for Environment, Safety, and Health
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
EMP	Environmental Management Plan
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
EPD	Environmental Programs Department
ERCP	Environmental Regulatory Compliance Plan
ESHCD	Environmental Safety and Health Compliance Department
M&O	Management and Operating Contractor
MSDS	Material Safety Data Sheet
NAC	Nevada Administrative Code
NTS	Nevada Test Site
NWI	Nevada Work Instruction
OSHA	Occupational Safety and Health Administration
PAA	Project Accumulation Area
QA	Quality Assurance
QARD	Quality Assurance Requirements and Description
RCRA	Resource Conservation and Recovery Act
RFA	Request for Authorization
RMMP	Regulated Materials Management Plan
SAA	Satellite Accumulation Area
SARA	Superfund Amendments and Reauthorization Act
SH	Safety and Health
TSD	Treatment, Storage, and Disposal Facility
UHWM	Uniform Hazardous Waste Manifest
WIN	Waste Tracking Inventory Number
YMP	Yucca Mountain Site Characterization Project
YMSCO	Yucca Mountain Site Characterization Office