

**CENTER FOR NUCLEAR WASTE
REGULATORY ANALYSES**

ADMINISTRATIVE PROCEDURE

Proc. AP-013

Revision 0

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Title: Working in Remote Areas or at Nonstandard Work Sites

EFFECTIVITY AND APPROVAL

Revision 0 of this procedure became effective on June 18, 1993. This procedure consists of the pages and changes listed below.

<u>Page No.</u>	<u>Change</u>	<u>Date Effective</u>
All	0	June 18, 1993

SUPERSEDED

Supersedes Procedure No. NONE

Approvals

Written By: *H. Lawrence McKague*
H. Lawrence McKague

Date
6/17/93

Cognizant Director:
Budhi Sagar
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Date
6/18/93

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WORKING IN REMOTE AREAS OR AT NONSTANDARD WORK SITES

1 INTRODUCTION

Working in remote and nonstandard areas can be hazardous. This administrative procedure has been written to provide guidance for safety of employees working in remote areas and nonstandard work sites. Ultimately, safety in remote areas and nonstandard work sites is the responsibility of each individual. Each individual is responsible for determining and evaluating hazardous conditions in areas in which they are going to work or visit and for developing specific plans to mitigate the conditions as described below.

2 PURPOSE AND SCOPE

This procedure establishes minimum requirements to ensure the safety of employees working in remote areas or at nonstandard work sites.

3 RESPONSIBILITY

3.1 Supervisors

All supervisors are responsible for assuring that their employees adhere to the requirements of this procedure.

For CNWRA supervisors, this includes establishing a check in/out system. This system must include means for checking in/out outside of normal working hours or days.

3.2 Employees

All CNWRA staff, as well as SwRI employees, consultants, and subcontractors are responsible for performing their work in a safe manner in accordance with this administrative procedure. Further, employees are expected to use good judgment at all times. This is especially important when working at remote locations where emergency assistance is difficult to obtain.

4 DEFINITIONS

4.1 Nonstandard Work Site

A nonstandard work site is any location where three or fewer employees will be working out of audio or visual contact with other personnel for extended periods (> 4 hours) and which is less than one hour's drive from emergency services (e.g., Crater Flat, NV).

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4.2 Remote Area

A remote area is any location that is more than one hour's drive from emergency services (e.g., Black Mountain east of Death Valley, NV and Peña Blanca, Mexico).

5 HAZARDS

The following hazards may be encountered in remote areas.

5.1 Terrain

The terrain may contain steep slopes and loose surface materials. Some areas and roads may require the use of four-wheel drive vehicles for access.

5.2 Climate

The weather conditions may be extreme with very hot (100°F+) summer days and subfreezing winter nights. Thunderstorms may produce flash-flooding without warning and snow-squalls or near blizzard conditions are sometimes encountered during winter months.

5.3 Fauna

Rattlesnakes, scorpions, and poisonous spiders are indigenous to southwestern Nevada, Mexico, and other remote areas visited by CNWRA personnel. Other areas may have similar or different, but still dangerous fauna.

5.4 Flora

Many remote sites will also have hazardous plant life such as poison ivy, cactus, poisonous fruits and berries, etc., that personnel need to avoid. Other areas may have similar or different, but still dangerous, flora.

6 REQUIREMENTS

6.1 Vehicles

All vehicles shall be suitable for the intended destination. This includes four-wheel drive, chains, and snow tires, where necessary.

Fuel, oil, and water levels along with tire inflation (including the spare tire) will be checked before leaving for a nonstandard work site or a remote area.

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Verify that the proper spare tire, jack, and lug wrench are in the vehicle and in usable condition.

6.2 First Aid

The **Multimedia** First Aid and CPR courses are **required** for all employees whose assignments involve work in remote areas or at nonstandard work sites.

6.3 Check In/Out

CNWRA personnel and consultants/subcontractors performing work for CNWRA must establish a simple check in/out system that will alert management that a worker could be missing and permit emergency support as required. Before leaving for field work, check in/check out procedures must be discussed with the Element Manager. Subcontractors/consultants should establish their own check in/out system.

6.4 Nonstandard Work Site

- The Principal Investigator must notify Element Manager of intended activities at least two weeks before leaving for field work.
- Safety procedures developed for specific work shall be discussed with Element Manager.
- When working alone in a nonstandard area individual investigators shall obtain cellular telephone communication or portable radios.
- A portable communications system shall be carried if the activities involve being away from a vehicle for an extended length of time (> 1 hour), if possible.

6.5 Remote Area

A **written safety plan** describing intended activities, personnel involved, and itinerary must be filed and discussed with the cognizant Element Manager two weeks before leaving for the field area. The written plan must contain a map indicating area(s) of work.

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The following items must be carried when working in remote area:

- Emergency Kit
 - Flashlight
 - Blanket
 - Water jug (in addition to individual canteens)
 - Trenching shovel
 - Matches
 - Knife
 - First Aid Kit
 - Orange Plastic sheet (10' X 10')
 - Mirror (Brunton compass will suffice)
- Cellular phone (when available)
- Area Map

The emergency kit may be obtained from the secretary in Building 57.

Working alone or visiting in a remote area is not allowed.

6.6 Underground Sites

When working in an established underground facility, safety rules of the cognizant organization shall apply.

When working in an abandoned underground facility or a natural underground opening, written guidelines shall be developed and approved by the cognizant Element Manager.

For all underground work, employees shall be required to wear:

- Safety glasses
- Hard hats
- Steel toed boots/or toe guard
- Ear plugs (if necessary)

6.7 Written Plans

A written plan of activities shall contain a correlated list of activities, locations, personnel, times, and dates. It is not intended to replace any other written procedures that may be required.

Some uniquely hazardous or long-term operations may require special written permission.

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Title: Working in Remote Areas or at Nonstandard Work Sites—Safety and Environmental Protection

EFFECTIVITY

Revision 1 of this procedure became effective on December 5, 2000. This procedure consists of the pages and changes listed below.

<u>Page No.</u>	<u>Change No.</u>	<u>Date Effective</u>
ALL	0	December 5, 2000

Supersedes Procedure No. Revision 0, June 1993

Approvals			
Written by <i>H. Lawrence McKague</i> H. Lawrence McKague	Date 12/5/00	Concurrence Review <i>V.S. Jain</i> <i>[Signature]</i> A. Chowdhury, V. Jain, <i>[Signature]</i> E. Percy, G. Wittmeyer <i>AW</i>	Date 12-5-2000 12/5/2000
Quality Assurance <i>[Signature]</i> Bruce Mabrito	Date 12/5/2000	Cognizant Director <i>[Signature]</i> for B. Sagar	Date 12/5/2000

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WORKING IN REMOTE AREAS OR AT NONSTANDARD WORK SITES

1 INTRODUCTION

Working in remote and nonstandard areas can be hazardous and may create the potential for environmental disturbance. This administrative procedure provides guidance for safety of employees working in remote areas and nonstandard work sites. Ultimately, safety and protection of the environment in remote areas and nonstandard work sites is the responsibility of each individual. Each individual is responsible for determining and evaluating hazardous conditions and the potential for environmental disturbance in areas where they are going to work or visit and for developing specific plans to mitigate the conditions as described below.

2 PURPOSE AND SCOPE

This procedure establishes minimum requirements to ensure the safety of employees and minimize environmental disturbance associated with working in remote areas or at nonstandard work sites.

3 RESPONSIBILITY

3.1 SUPERVISORS

All supervisors are responsible for assuring that their employees (i) are properly trained with respect to safety, (ii) are aware of environmental concerns, and (iii) adhere to the requirements of this procedure.

For CNWRA supervisors, this includes establishing a check in/out system. This system must include means for checking in/out outside of normal working hours or days. This could include after-hour calls, e-mails, or faxes to managers. The purpose is to minimize the delay in initiation of a search in the event of an accident or transportation breakdown.

For each project in a remote area or nonstandard work site, the Element Manager will confirm that there is a designated field team leader. The field team leader will be identified by the appropriate Principal Investigator or Element Manager. In addition to scientific responsibilities, the field team leader will be responsible for making all field team members aware of this procedure and of any safety plans developed, as well as implementation of these in the field. In addition, the field team leader or designee is responsible for complying with the check in/out requirement.

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3.2 EMPLOYEES

All CNWRA staff, as well as SwRI employees, consultants, and subcontractors, are responsible for performing their work in a safe and environmentally sound manner. Further, employees are expected to use good judgment at all times. This is especially important when working at remote locations where emergency assistance is difficult to obtain.

4 DEFINITIONS

4.1 NONSTANDARD WORK SITE

A nonstandard work site is any location where three or fewer employees will be working out of audio or visual contact with other personnel for extended periods (> 4 hours) and which is less than one hour's drive from emergency services (e.g., Crater Flat, Nevada).

4.2 REMOTE AREA

A remote area is any location that is more than one hour's drive from emergency services (e.g., Black Mountain east of Death Valley, Nevada, and Peña Blanca, Mexico).

4.3 YUCCA MOUNTAIN PROJECT AND VICINITY

The Yucca Mountain Project and vicinity is located in southern Nevada near the proposed repository site. Portions of this area are classified under sections 4.1 and 4.2. It is defined separately here because the DOE has established special controls that apply to all work in this area. DOE requires a work plan for work at Yucca Mountain. An outline is given in appendix A that lists the topics to be covered in the work plan.

5 HAZARDS

The following hazards may be encountered in remote areas.

5.1 TERRAIN

The terrain may contain steep slopes and loose surface materials. Some areas and roads may require the use of four-wheel drive vehicles for access. Extreme caution should be exercised when working near or under cliffs and steep embankments. Proper safety equipment must be worn in these areas, including hard hats and steel toe shoes.

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5.2 CLIMATE

The weather conditions may be extreme with very hot (100°F+) summer days and subfreezing winter nights. Thunderstorms may produce flash-flooding without warning and snow-squalls or near blizzard conditions are sometimes encountered during winter months. Lightning is a concern during thunderstorms. Dehydration is a concern in very hot climates (one gallon of water per person is the minimum for 12 hrs in the field).

5.3 FAUNA

Rattlesnakes, scorpions, and poisonous spiders are indigenous to southwestern Nevada, Mexico, and other remote areas visited by CNWRA personnel. All such fauna should be avoided. Other areas may have similar or different, but still dangerous, fauna.

5.4 FLORA

Many remote sites will also have hazardous plant life such as poison ivy, cactus, poisonous fruits and berries, etc., that personnel need to avoid. Other areas may have similar or different, but still dangerous, flora.

6 REQUIREMENTS

6.1 VEHICLES

All vehicles shall be suitable for the intended route and destination. This includes four-wheel drive, chains, and snow tires, where necessary.

Fuel, oil, and water levels along with tire inflation (including the spare tire) will be checked before leaving for a nonstandard work site or a remote area. Provision should be made for controlling or containing any spills of vehicular fluids.

Verify that the proper spare tire, jack, and lug wrench are in the vehicle and are in usable condition.

6.2 FIRST AID

The Multimedia First Aid and cardiopulmonary resuscitation (CPR) courses are required for all employees whose assignments involve work in remote areas or at nonstandard work sites.

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6.3 CHECK IN/OUT

CNWRA personnel and consultants/subcontractors performing work for CNWRA must establish an effective check in/out system that will alert management that a worker could be missing and permit emergency support, as required. Before leaving for field work, check in/out procedures must be discussed with the Element Manager. The CNWRA responsibility for check in/out system resides with the field team leader. Subcontractors/consultants will be informed of and covered by the CNWRA check in/out procedure when working in a remote area or nonstandard site with CNWRA staff. Subcontractors/consultants working independent of the CNWRA should establish their own check in/out system and notify the appropriate Element Manager of their system.

6.4 NONSTANDARD WORK SITE

- The Principal Investigator must notify the Element Manager of intended activities at least two weeks before leaving for field work.
- Safety procedures developed for specific work shall be discussed with the Element Manager.
- When working alone in a nonstandard area, individual investigators shall use cellular telephones or portable radios.
- A portable communications system shall be carried if the activities involve being away from a vehicle for an extended length of time (>1 hour), if possible.

6.5 REMOTE AREA

A written safety plan describing intended activities, personnel involved, and itinerary must be filed and discussed with the cognizant Element Manager two weeks before leaving for the field area. The written plan must contain a map indicating area(s) of work.

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The following items must be carried when working in remote areas:

- Emergency kit
 - Flashlight
 - Blanket
 - Water jug (in addition to individual canteens) (in transportation)
 - Trenching shovel (in transportation)
 - Matches
 - Knife
 - First aid kit
 - Orange plastic sheet (10' × 10')
 - Mirror (Brunton compass will suffice)
- Cellular phone (when access is available)
- Area map

The emergency kit may be obtained in SwRI Building 189, Room A264.

Working or visiting remote areas alone is not allowed.

6.6 YUCCA MOUNTAIN AND VICINITY

In addition to the requirements of sections 6.1–6.5, staff working at Yucca Mountain and vicinity must satisfy additional safety, land access, environmental compliance, and environmental protection requirements. These are outlined in DOE's AP-EM-002, Rev. 0, ICN 0 and AP-ESH-008. DOE requires a work plan that must be submitted 45 days prior to start of work. An outline listing types of information that should be included in a safety and environmental work plan is provided in appendix A.

6.7 UNDERGROUND SITES

When working in an established underground facility, safety rules of the responsible organization shall apply.

When working in an abandoned underground facility or a natural underground opening, written safety plan shall be developed by the team leader, reviewed by a mining engineer, and approved by the cognizant Element Manager.

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For all underground work, employees shall be required to wear:

- Safety glasses
- Hard hats
- Steel toed boots/or toe guard
- Ear plugs (if necessary)
- Respirator (depending on air conditions underground)
- Miners lamp/flashlight(s)
- Miner self-rescuer (when required by the responsible organization or when required by the CNWRA safety plan)

7 WRITTEN PLAN

A written plan shall contain a correlated list of activities, locations, personnel, times, and dates. This written plan is not intended to replace any other written procedures that may be required.

Some uniquely hazardous or long-term operations may require special written permission. Furthermore, work plans for the Yucca Mountain and vicinity must be coordinated with the Yucca Mountain Project.

APPENDIX A

Example of Topics to Be Included in a Work Plan Submitted to DOE

I. INTRODUCTION

- A. Principal Investigator and person in charge during time of activity, if different than PI
- B. List of individuals that could/will participate
- C. Date of work
- D. Location of work (accompanied by map showing intended work area(s) by map, if possible)
- E. Purpose of work
- F. Identification of interfaces with YMP

II. TASK STEPS

- A. Listing of individual subtasks
- B. List of required DOE Administrative Procedures for each subtask

III. SAFETY ISSUES

- A. Identification and mitigation of safety issues and hazards
- B. Identification of hazardous equipment or instrumentation
 - 1. Mechanical hazards
 - 2. Toxic hazards
 - 3. Radioactive hazards
- C. List of all DOT regulated chemicals or materials
- D. Location of safety support facilities
- E. Communication
- F. Emergency equipment, procedures, training

IV. ENVIRONMENTAL ISSUES

- A. Transportation to and within work areas
- B. Surface disturbing activities

V. LAND ACCESS

- A. Ranch
- B. NTS
- C. Other government controlled areas

VI. CHECK IN/OUT PROCEDURES

- A. CNWRA
- B. Ranch
- C. NTS