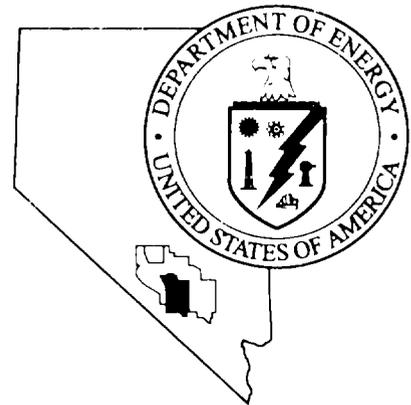


Nevada
Environmental
Restoration
Project

DOE/NV--616



Corrective Action Plan for
Corrective Action Unit 135:
Area 25 Underground Storage
Tanks,
Nevada Test Site, Nevada

UNCONTROLLED

Controlled Copy No.: _____

Revision: 0

July 2000

Environmental Restoration
Division

U.S. Department of Energy
Nevada Operations Office

DISCLAIMER STATEMENT

Reverence herein to any specific commercial product, process, or service by trade name, Trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the U.S. Government or any agency thereof or its contractors or subcontractors.

AVAILABILITY STATEMENT

Available for sale to the public from:

U.S. Department of Commerce
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161-0002
Telephone: 800-553-6847 or 703-605-6000
Fax: 703-605-6900
E-mail: orders@ntis.fedworld.gov
Online ordering: <http://www.ntis.gov/ordering.htm>

Available electronically at <http://www.doc.gov/bridge>

Available for a processing fee to U.S. Department of Energy and its contractors, in paper, from:

U.S. Department of Energy
Office of Scientific and Technical Information
P.O. Box 62
Oak Ridge, TN 37831-0062
Telephone: 865-576-8401
Fax: 865-576-5728
E-mail: reports@adonis.osti.gov

DOE/NV--616

**CORRECTIVE ACTION PLAN FOR
CORRECTIVE ACTION UNIT 135:
AREA 25 UNDERGROUND STORAGE TANKS,
NEVADA TEST SITE, NEVADA**

Controlled Copy No.: _____

UNCONTROLLED

Revision 0

July 2000

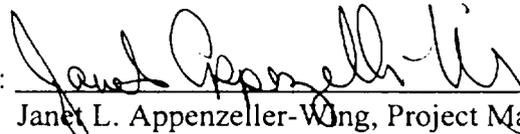
**Prepared for the U.S. Department of Energy
Nevada Operations Office
under Contract No. DE-AC08-96NV11718**

2000

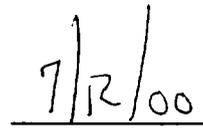
THIS PAGE INTENTIONALLY LEFT BLANK

**CORRECTIVE ACTION PLAN FOR
CORRECTIVE ACTION UNIT 135:
AREA 25 UNDERGROUND STORAGE TANKS,
NEVADA TEST SITE, NEVADA**

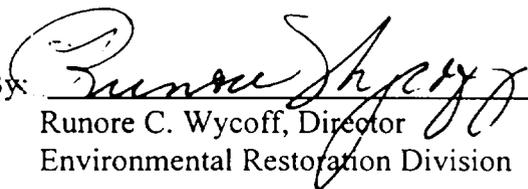
Approved By:


Janet L. Appenzeller-Wong, Project Manager
Industrial Sites Project

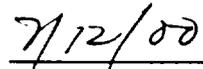
Date:


7/12/00

Approved By:


Runore C. Wycoff, Director
Environmental Restoration Division

Date:


7/12/00

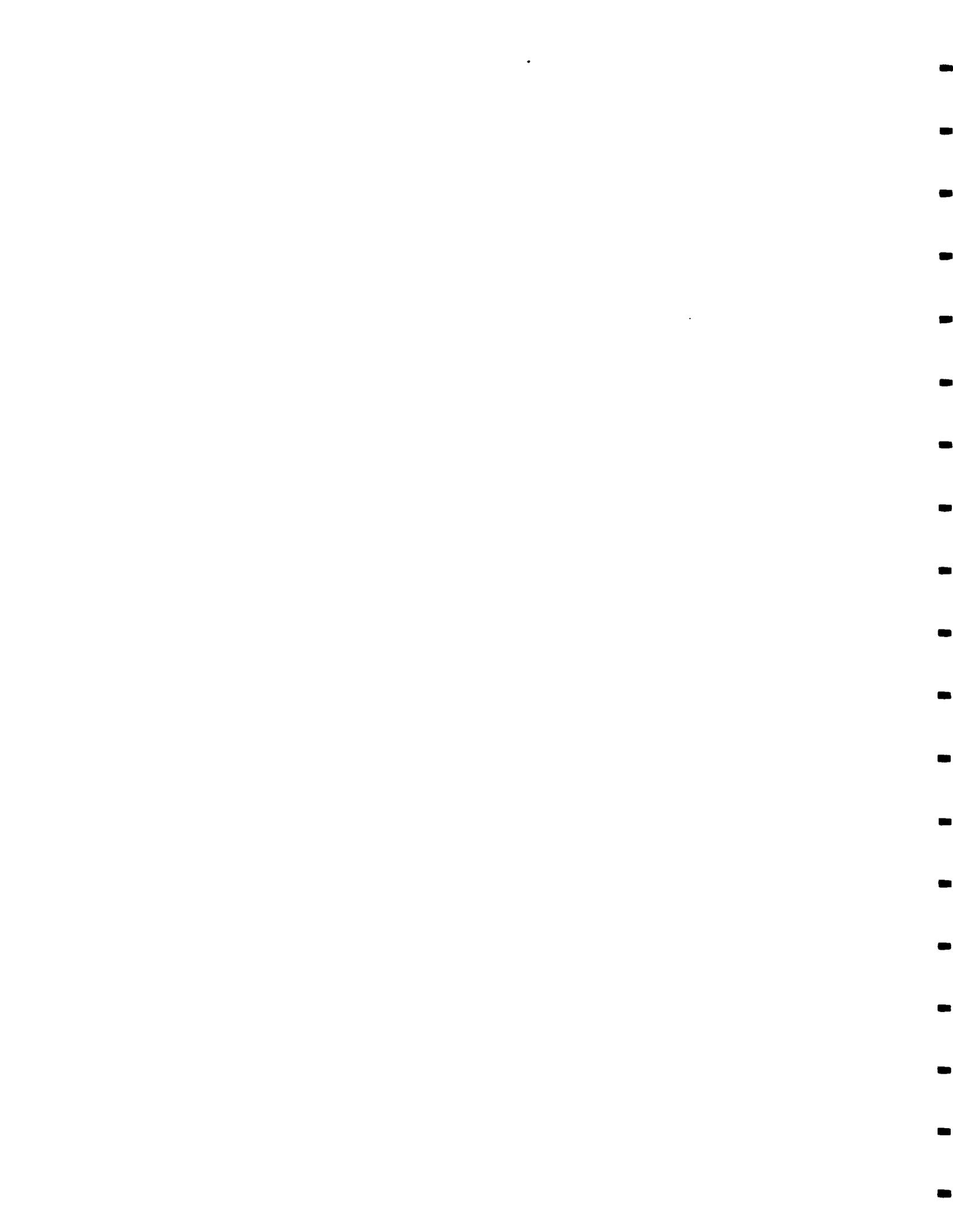


TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS	vii
Executive Summary	ix
1.0 INTRODUCTION	1
1.1 Purpose	4
1.2 Scope	5
1.3 Corrective Action Plan Contents	6
2.0 DETAILED STATEMENT OF WORK	7
2.1 Approved Alternative Implementation	7
2.1.1 Preplanning and Site Preparation	7
2.1.1.1 Site-Specific Health and Safety Plan / Hazard Analysis	7
2.1.1.2 Field Management Plan	8
2.1.2 Field Activities	8
2.1.2.1 Field Activities Performed Prior to Entry	8
2.1.2.2 Decontamination Activities and Pump Sump Removal	8
2.1.2.3 Field Activities Performed After Entry	8
2.1.2.4 Decontamination of Equipment	8
2.1.2.5 Repair of Vault	9
2.2 Construction Quality Assurance / Quality Control	9
2.3 Waste Management	9
2.3.1 Nonhazardous Waste	9
2.3.2 Radioactive Waste (LLW)	11
2.3.3 Mixed Waste	11
2.3.4 Container Management	12
2.3.5 Site Control	12
2.3.6 Preparedness and Prevention	14
2.3.7 Contingency Plan	14
2.3.8 Personnel Training	15
2.3.9 Inspections	15
2.3.10 Waste Minimization	15
2.4 Clean-Up Verification	16
2.4.1 Verification Sampling	16
2.5 Permits	16
3.0 SCHEDULE	17
3.1 Project Schedule	17
3.2 Field Work Closure Schedule	17

TABLE OF CONTENTS (continued)

4.0 POST-CLOSURE PLAN	19
4.1 Inspections	19
4.2 Monitoring	19
4.3 Maintenance and Repair	19
5.0 REFERENCES	21

FIGURES

Figure 1- CAU 135 Site Location Map	2
Figure 2- CAU 135 Site Layout	13

TABLES

Table 1- Management Summary of Waste Types Anticipated to be Generated	10
--	----

APPENDICES

- A1. Project Organization
- A2. Comment Resolution Documentation

ACRONYMS AND ABBREVIATIONS

BN	Bechtel Nevada
CADD	Corrective Action Decision Document
CAIP	Corrective Action Investigation Plan
CAS	Corrective Action Site
CAU	Corrective Action Unit
CFR	Code of Federal Regulations
cm	Centimeter(s)
DOE	U.S. Department of Energy
DOE/NV	U.S. Department of Energy, Nevada Operations Office
E-MAD	Engine-Maintenance Assembly and Disassembly
EPA	U.S. Environmental Protection Agency
FFACO	Federal Facility Agreement and Consent Order
gal	Gallon(s)
HA	Hazard Assessment
in	Inch(s)
L	Liter(s)
NDEP	Nevada Division of Environmental Protection
NTS	Nevada Test Site

ACRONYMS AND ABBREVIATIONS (continued)

PAL	Preliminary Action Levels
PCB	Polychlorinated biphenyl(s)
PPE	Personal Protective Equipment
RCRA	Resource Conservation and Recovery Act
REOP	Real Estate Operations Permit
RWMS	Radioactive Waste Management Site
SSHASP	Site-Specific Health and Safety Plan
TPH	Total Petroleum Hydrocarbons

EXECUTIVE SUMMARY

The Area 25 Underground Storage Tanks site Corrective Action Unit (CAU) 135 will be closed by unrestricted release decontamination and verification survey, in accordance with the Federal Facility Agreement and Consent Order (FFACO, 1996). The CAU includes one Corrective Action Site (CAS).

The Area 25 Underground Storage Tanks, (CAS 25-02-01), referred to as the Engine-Maintenance Assembly and Disassembly (E-MAD) Waste Holdup Tanks and Vault, were used to receive liquid waste from all of the radioactive drains at the E-MAD Facility.

Based on the results of the Corrective Action Investigation conducted in June 1999 discussed in the Corrective Action Investigation Plan for Corrective Action Unit 135: Area 25 Underground Storage Tanks, Nevada Test Site, Nevada (DOE/NV, 1999a), one sample from the radiological survey of the concrete vault interior exceeded radionuclide preliminary action levels. The analytes from the sediment samples that exceeded the preliminary action levels are polychlorinated biphenyls, Resource Conservation and Recovery Act metals, total petroleum hydrocarbons as diesel-range organics, and radionuclides.

Unrestricted release decontamination and verification involves removal of concrete and the cement-lined pump sump from the vault. After verification that the contamination has been removed, the vault will be repaired with concrete, as necessary. The radiological- and chemical-contaminated pump sump and concrete removed from the vault would be disposed of at the Area 5 Radioactive Waste Management Site. The vault interior will be field surveyed following removal of contaminated material to verify that unrestricted release criteria have been achieved.

THIS PAGE INTENTIONALLY LEFT BLANK

1.0 INTRODUCTION

The Area 25 Underground Storage Tanks site is located in Area 25 of the Nevada Test Site (NTS) (Figure 1). The site is listed in the Federal Facility Agreement and Consent Order (FFACO, 1996) as Corrective Action Unit (CAU) 135 and includes the following Corrective Action Site (CAS):

- 25-02-01- Area 25 Underground Storage Tanks, referred to as the Engine-Maintenance Assembly and Disassembly (E-MAD) Waste Holdup Tanks and Vault.

The site history for this CAS is provided in the Corrective Action Investigation Plan (CAIP) U.S. Department of Energy, Nevada Operations Office (DOE/NV, 1999a). The Area 25 Underground Storage Tanks (CAS 25-02-01) were used to receive liquid waste from all of the radioactive drains at the E-MAD Facility. Process wastewater was occasionally routed to the tanks to dilute radioactive contaminated effluent. Liquids were generated from disassembly and analysis of test units as well as from the decontamination of personnel and equipment.

The tanks received liquid waste from about 1966, when E-MAD became operational, to about 1987, when E-MAD was abandoned (Space Nuclear Propulsion Office, 1970). The tanks were used for the final decontamination activities at E-MAD. Liquids were pumped from the holdup tanks into a Reynolds Electrical & Engineering Company, Inc. radiological waste liquid transport tanker for low-level liquid disposal. The outlet valves from the waste holdup tanks to the associated leachfield were shut off but not capped when the Nuclear Engine Rocket for Vehicular Application program ended in 1973. However, the inlet valve was left open from 1973 to 1987 for various operations that took place at the E-MAD Facility.

A site corrective action investigation was conducted at the E-MAD Waste Holdup Tanks and Vault in June 1999 in two phases following the CAIP (DOE/NV, 1999a). In the first phase of work the following was done:

- Grouted the process wastewater drains inside the E-MAD Building that drained into the vault.
- Disconnected piping to the trailers which was connected to the radioactive waste drain system, cut the piping flush with the ground surface, and grouted the piping.
- Performed a preliminary inspection of the vault including vault lid removal, air monitoring, a radiological survey of selected locations inside the vault, and a visual inspection of the tank interiors after removal of the existing access covers.

- Inserted a wet tap into the influent piping inside the vault in order to remove free-standing liquid contained inside the pipes. Approximately six gallons of liquid was collected from the two influent pipes. The free liquids were sampled and analyzed per a sampling and analysis plan. The results of the analysis are presented in the Final Corrective Action Decision Document (CADD) for CAU 135 (DOE/NV--581, 1999b, Appendix C). The free liquids will be solidified prior to disposal as low-level radioactive waste.
- Unbolted or saw-cut flange bolts and small diameter pipes and removed them from the vault.
- Removed two 5,677 liters (L)(1,500-gallons [gal]) waste holdup tanks from the vault.
- Cut the remaining ancillary pipes and valves with welding equipment. The piping was stubbed and capped near the vault interior surface.
- Removed the sump pump inside the vault. There was no liquid in the sump or the sump pump when it was removed.
- Swept up debris that accumulated on top of the concrete floor during the tank and pipe removal activities as well as the existing sediment.
- Transported the vault contents to the Area 6 Decontamination Facility for waste characterization and appropriate disposal.
- Welded closed the isolation valves from the stacks and the train decontamination pad.
- Inspected and grouted E-MAD floor drains, as necessary.

The following was done in the second phase of work:

- Sectioned the concrete vault interior into predetermined-sized grid squares in order to conduct a radiological survey.
- Performed a radiological survey for the purpose of identifying the extent and quantity of the fixed and removable contamination inside the vault.
- Collected a sediment sample from the sump inside the vault.

Sediment sample results concluded the following:

- For the radiological survey of the vault interior, only one direct frisk measurement from a pipe exceeded the U.S. Department of Energy (DOE) allowable values for total residual surface contamination. Review of the swipe sample results did not identify any samples with removable activity in excess of the removable limits listed in the "NV/YMP Radiological Control (RADCON) Manual" (DOE/NV, 1999).
- Two sediment samples collected from the sump had radionuclide concentrations exceeding background (U.S. Ecology and Atlan-Tech, 1992; McArthur and Miller, 1989).
- All volatile organic compound and semivolatile organic compound results for the sediment samples were below the preliminary action levels (PALs) outlined in the CAIP (DOE/NV, 1999a).
- Total petroleum hydrocarbons (TPH) as diesel range organics in the sediment samples exceeded the Nevada Division of Environmental Protection (NDEP) action level of 100 milligrams per kilogram.
- For the sediment samples, the Resource Conservation and Recovery Act (RCRA) metal concentrations for arsenic and lead exceeded the established PALs in the CAIP (DOE/NV, 1999a).
- Two polychlorinated biphenyls (PCBs) were detected in the sediment samples and were determined to exceed the PALs outlined in the CAIP (DOE/NV, 1999a).

1.1 PURPOSE

The purpose of this Corrective Action Plan is to provide the strategy and methodology to close the Area 25 Underground Storage Tanks.

1.2 SCOPE

The approved corrective action alternative was chosen in the Corrective Action Decision Document (CADD) (DOE/NV, 1999b).

The recommended alternative is unrestricted release decontamination and verification survey.

The scope of the approved corrective action alternative consists of the following activities:

- Preplanning and site preparation, including the preparation of all plans and permits, delineation of excavation boundaries, and mobilization of equipment to the site.
- Decontamination activities of all surface contamination greater than free release levels, including a 15.24 centimeters (cm) (6 inch[in]) diameter area around one vault wall inlet pipe and removal of the cement-lined pump sump.
- Closure verification field survey to verify that the unrestricted release criteria are achieved.
- Disposal of radiological- and chemical-contaminated concrete and pump sump at the Area 5 Radioactive Waste Management Site, following applicable federal, state, and DOE regulations in accordance with Section 2.3 of this Closure Report.
- Decontamination of equipment.
- Repair the vault with concrete as necessary.
- The piping upstream of the vault at CAU 135 will be addressed with CAU 114: E-MAD Facility, and piping downstream of the vault will be addressed with CAU 262: Septic Systems and Underground Discharge Point (formerly CAU 264).

1.3 CORRECTIVE ACTION PLAN CONTENTS

This document is divided into the following sections in accordance with the approved FFACO Corrective Action Plan outline:

- Section 1.0 - Introduction
- Section 2.0 - Detailed Statement of Work
- Section 3.0 - Schedule
- Section 4.0 - Post-Closure Care
- Section 5.0 - References

2.0 DETAILED STATEMENT OF WORK

2.1 APPROVED ALTERNATIVE IMPLEMENTATION

This section describes how the approved corrective action alternative will be implemented. The recommended alternative is unrestricted release decontamination and verification survey. The scope of the approved corrective action alternative consists of the following activities:

Decontamination activities of all surface contamination greater than free release levels, including a 15.24-cm (6 in) diameter area around one vault wall inlet pipe and removal of the cement-lined pump sump, verification field survey, and repair of the vault. In addition to field activities, planning and site preparation are also required.

2.1.1 Preplanning and Site Preparation

Prior to beginning corrective action activities, the following planning and preparation activities must be accomplished:

- Preparation of planning documents such as the Site-Specific Health and Safety Plan (SSHASP), Real Estate/Operations Permit (REOP), and the Field Management Plan.
- Site preparation including utility clearance, work permits, and delineation of excavation (removal of the pump sump) boundaries. The project will involve a confined space entry into the vault. Confined space entry requirements will be discussed in more detail in the SSHASP for this project.

2.1.1.1 Site-Specific Health and Safety Plan/Hazard Assessment

A SSHASP and Hazard Assessment (HA) will be prepared. A copy of the documents will be kept on file in the Bechtel Nevada (BN) Environmental Restoration and the BN Environment, Safety, and Health Division offices in Mercury, Nevada. The original document will be kept by the construction supervisor at the work site. The SSHASP and HA will be available on-site for review and signature by all workers prior to beginning work at the site. The SSHASP will provide a detailed, job-specific plan covering protection against accidents or exposure of workers to contamination. It will also discuss weather/air monitoring, accident reporting, emergency procedures, and physical and environmental hazards. The work will also be performed following the BN Environment, Safety, and Health Manual (BN, 1997). In addition, the material safety data sheets file will be maintained by the Health and Safety Officer and will also be available on-site.

2.1.1.2 Field Management Plan

A Field Management Plan will be prepared for the closure activities. The plan will outline how the work will be accomplished and provide a detailed schedule for the project. In addition, it will identify the responsible parties for each aspect of the project and determine how decisions will be made. A copy of the Field Management Plan will be placed on file at the BN Environmental Restoration Offices in Mercury, Nevada, and a copy will also be available at the project field site.

2.1.2 Field Activities

2.1.2.1 Field Activities Performed Prior to Entry

A preliminary survey of the vault will be performed including vault lid removal, air monitoring, a radiological survey of the locations identified in the CADD (DOE/NV, 1999b) to confirm concentrations, and a visual inspection of the vault interior.

2.1.2.2 Decontamination Activities and Pump Sump Removal

Decontamination activities of all surface contamination greater than free release levels, including a 6-in diameter area around one vault wall inlet pipe and removal of the cement-lined pump sump. The radiologically contaminated concrete will be removed by scabbling. Scabbling involves the use of a small electric jack hammer, and by using a variety of attachments, can be applied to vertical and irregular surfaces. The cement-lined pump sump will be removed by excavation.

2.1.2.3 Field Activities Performed After Entry

A closure verification field survey will be conducted to verify that unrestricted release criteria are achieved. Verification sampling will be done after all impacted concrete and the pump sump have been removed.

2.1.2.4 Decontamination of Equipment

Any equipment that becomes contaminated during the excavation process will be decontaminated on-site. For larger pieces of equipment that cannot be decontaminated over a 208-L (55-gal) drum, a decontamination pad will be established by lining a bermed area large enough to hold a piece of heavy equipment. The equipment will be driven onto the pad and steam cleaned. Hand-held equipment will be cleaned with a solution of AlconoxTM and water, and rinsed with clean water. Rinsate will be held in the bermed area and allowed to evaporate unless it is in excess of what the bermed area can hold. Excess rinsate will be pumped into drums. Any remaining rinsate at the time of final site housekeeping will be placed in containers

and disposed following Section 2.3 of this Closure Plan. The plastic liner will be placed in containers as compactable waste and disposed in accordance with Section 2.3.

2.1.2.5 Repair of Vault

The hole created by the sump removal will be filled with clean soil and covered with cement. The concrete wall of the vault will be repaired as necessary.

2.2 CONSTRUCTION QUALITY ASSURANCE/QUALITY CONTROL

Construction activities primarily consist of vault access, concrete decontamination, pump sump removal, and vault repair. Permeability and compaction testing will not be necessary. As a result, no construction quality assurance/quality control is required. Section A1, "Engineering Specifications and Drawings", of the approved Nevada Division of Environmental Protection (NDEP) outline is not applicable and not included as part of this plan.

2.3 WASTE MANAGEMENT

Waste streams generated at CAU 135 will include radiologically impacted wall concrete, the mixed waste impacted sump concrete contaminated with petroleum hydrocarbons, arsenic, lead, PCBs, the hazardous waste liquid generated from decontamination activities, hazardous personal protective equipment (PPE), and nonhazardous sanitary trash.

Table 1 summarizes waste management practices that will be used during closure activities at CAU 135. Waste will be managed in accordance with state and federal regulations, DOE orders, and BN procedures. Nonhazardous waste will be handled following DOE Standard Operating Procedure ERD-05-210, Management and Minimization of Nonhazardous Waste at the Nevada Test Site for the Nevada Environmental Restoration Project (DOE/NV, 1994). Radioactive and mixed waste will be handled in accordance with BN Procedure OP-2151.304, Radioactive Waste Tracking, Handling, and Management at The NTS (BN, 1998).

2.3.1 Nonhazardous Waste

Nonhazardous PPE and sanitary trash will be placed into plastic bags and transported to the Area 23 Sanitary Waste Landfill. Other nonhazardous waste, such as the lined berm and possible miscellaneous construction debris, will also be disposed of in the Area 23 Sanitary Waste Landfill.

TABLE 1. MANAGEMENT SUMMARY OF WASTE TYPES ANTICIPATED TO BE GENERATED.

MEDIA	WASTE TYPE	MANAGEMENT PRACTICE
Radiologically Impacted Wall Concrete	Low-Level Radioactive ¹	Radiologically impacted wall concrete will be placed into a 55-gal drum for disposal and shipped to Area 5 Radioactive Waste Management Site.
Mixed Waste-Impacted Pump Sump	Mixed ¹	Mixed waste-impacted sump concrete will be containerized in a 55-gal drum for disposal and shipped to Area 5 Radioactive Waste Management Site.
Mixed Waste Decontamination Rinsate and Liner	Mixed waste decontamination rinsate and liner ¹	Decontamination rinsate from heavy equipment decontamination (Alconox TM and water) that remains in the lined berm at the close of the project will be placed into a 208-L (55-gal) drum and placed in the 90-day hazardous waste accumulation area located at the work site. The rinsate will be sampled and the drum will be marked as awaiting pending analysis. Upon receipt of sample results, the rinsate will be solidified and disposed of as hazardous waste or it will be removed from the 90-day hazardous waste accumulation area and disposed of in the Area 23 Sewage Lagoon. The decontamination liner will be placed in a 208-L (55-gal) drum, along with other mixed waste-impacted PPE that will be located in the 90-day hazardous accumulation area.
PPE and Trash	Nonhazardous PPE and trash	Nonhazardous PPE and trash will be disposed of in the Area 23 Sanitary Waste Landfill.
	Mixed waste-impacted PPE and trash ¹	Mixed waste-impacted PPE and trash will be placed into 208-L (55-gal) drums prior to disposal at an off-site Treatment Storage and Disposal Facility. Drums will be stored in a 90-day hazardous waste accumulation area inside of the exclusion zone.

¹BN Procedure OP-2151.304, "Radioactive Waste Tracking, Handling, and Management at the NTS" (BN, 1998).

2.3.2 Radioactive Waste (LLW)

Less than one 208-L (55-gal) drum of radiologically impacted wall concrete is estimated to be generated during closure activities. The waste will be placed directly into a 208-L (55-gal) drum prior to being transported to the Area 5 RWMS. Equipment impacted with radioactive waste will be decontaminated with AlconoxTM and water over a lined berm. At the end of the day's activities, rinsate remaining in the lined berm will be removed and placed into a 208-L (55-gal) drum. The drum will be marked as "Radioactive Waste, Decontamination Rinsate, Pending Analysis" or equivalent. Upon sampling results, the rinsate will be disposed of as radioactive waste or removed from the 90-day Hazardous Waste Accumulation Area and disposed of as nonhazardous waste. The berm lining, along with PPE that may have contacted radioactive materials, will be transported to Area 5 RWMS.

PPE and materials suspected of contacting radiological materials will be placed into 208-L (55-gal) drums and disposed of as radioactive waste. All radioactive wastes generated during closure activities will be disposed at the Area 5 RWMS.

2.3.3 Mixed Waste

Approximately one 208-L (55-gal) drum of mixed waste impacted sump concrete will be generated during closure activities. The waste will be placed directly into a 208-L (55-gal) drum prior to being transported to Area 5 RWMS. Equipment impacted with mixed waste will be decontaminated with AlconoxTM and water over a lined berm. At the end of the day's activities, rinsate remaining in the lined berm will be removed and placed into a 208-L (55-gal) drum. The drum will be marked as "Mixed Waste, Decontamination Rinsate, Pending Analysis" or equivalent. Upon sampling results, the rinsate will be disposed of as radioactive waste or removed from the 90-day Hazardous Accumulation Area and disposed of as nonhazardous waste. The berm lining, along with PPE that may have contacted radioactive materials, will be transported to Area 5 RWMS.

PPE and materials suspected of mixed waste materials will be placed into 208-L (55-gal) drums and disposed of as mixed waste. All mixed wastes generated during closure activities will be transported to Area 5 RWMS.

2.3.4 Container Management

All containers will be handled following Title 40 Code of Federal Regulations (CFR) 262.34 (U.S. Environmental Protection Agency [EPA], 1996a) and Subpart I of Title 40 CFR 265 (EPA, 1996b) which specifies the use and management of containers. All containers will be in good condition (no significant rust or dents) and will be filled to 7/8 of the container's maximum capacity. If a container begins to leak, the contents will be transferred to an appropriate container for the material to be stored, that is in good condition. The containers will be lined or made of a material that will not react with the waste. The containers will be closed while stored on-site, unless waste is added, removed, or examined. Drums will be handled in a manner that will not jeopardize the integrity of the container. All drum containers will be locked before the end of each work day.

Appropriate labels and relevant information will be marked on each container with an indelible marker or equivalent. The information will be legible and clearly visible for inspections. Pertinent data may be written on duct tape or a blank adhesive label affixed to the side of the container. The containers will be labeled with information such as:

- Waste-tracking label, if applicable.
- Type of waste in the container.
- Location waste was derived from.
- Date of accumulation.
- Awaiting/pending analysis if sampling is required (decontamination rinsate).

2.3.5 Site Control

Dust may be generated during field activities. Where appropriate, temporary barricades will be constructed around the exclusion zone and work areas. Warning signs will be posted. Only properly trained personnel wearing appropriate PPE will enter the exclusion zone. Field equipment and materials will not be left on-site unattended. Waste management areas and lined decontamination berms will be located inside of the exclusion zone. The proposed waste management areas and proposed exclusion zone are provided in Figure 2.

2.3.6 Preparedness and Prevention

Waste stored at CAU 135 will consist of:

- Radiologically impacted wall concrete stored in 208-L (55-gal) drums.
- Mixed waste impacted sump concrete stored in 208-L (55-gal) drums.
- Decontamination rinsate stored in 208-L (55-gal) drums. Hazardous decontamination rinsate will be stored in a 90-day hazardous waste accumulation area.
- PPE will be stored in 208-L (55-gal) drums prior to disposal.

Hazards posed by wastes stored at CAU 135, and the containers in which they will be stored, do not require a specific kind of equipment; however, fire extinguishers will be available on-site. Material Safety Data Sheets and two-way radios (hand-held and field vehicle) will be available. NTS emergency response teams, the NTS Fire Department, and the Nye County Sheriff's office will be provided a site summary and map of the location prior to commencing field activities. They will also be notified when field activities begin.

Mercury Medical will be informed of the type of injury or illness that could result from fires, explosions, or releases at the facility. The nearest emergency support service is located at the Area 25 Aid Station, Yucca Mountain Support Facility and will be noted in the SSHASP that will be signed by all workers prior to the start of field activities.

Aisle space between containers will be sufficient to allow for unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of the facility in the event of an emergency.

2.3.7 Contingency Plan

A contingency plan will be designed to minimize hazards to human health and/or the environment in the event of fire, explosion, and/or any unplanned or non-sudden release of hazardous waste constituents. The provisions of the plan must be carried out immediately after such an event and provide actions that facility personnel will take.

A copy of the contingency plan and all revisions will be maintained at the facility and provided to the NTS Fire Department, medical facilities, and emergency response teams. There will be at least one employee, either on the facility premises or on-call, at all times. This person will have the authority to commit the resources needed to carry out the contingency plan.

The emergency coordinator will have a thorough knowledge of all aspects of the contingency plan, all operations and activities at the facility, the location and characteristics of the waste handled, the location facility records, and the facility layout.

2.3.8 Personnel Training

Training for all personnel working at a hazardous waste facility is required. The program may be classroom instruction or on-the-job training. On-the-job training must be designed so that personnel are able to respond effectively to emergencies by familiarizing themselves with emergency procedures, equipment, and systems. The facility operators will maintain the training records at the facility until closure has been completed.

Title 29 CFR 1910.120 (OSHA, 1996) details the occupational safety and health requirements that will be followed for personnel supporting excavation activities. All personnel will be required to read, understand, and sign the SSHASP prior to working at the site. A tailgate safety briefing will be conducted every morning and as needed as activities or circumstances change.

2.3.9 Inspections

An inspection of the areas in which hazardous waste containers are stored will be conducted weekly. The purpose is to identify leaking or deteriorating containers due to corrosion or other factors. Unusual circumstances will be reported immediately so that corrective measures can be taken. Completed inspection forms will be maintained in the project files.

2.3.10 Waste Minimization

For the duration of the project, site workers will adhere to the BN Waste Minimization and Pollution Prevention Program. Care will be taken to segregate waste from non-waste materials, when possible, to avoid the generation of additional hazardous waste.

2.4 CLEAN-UP VERIFICATION

2.4.1 Verification Sampling

Verification sampling is required for a RCRA unrestricted release decontamination and verification survey closure. A verification program must support the field decision that any remaining constituents of concern are less than remediation standards, are below the free release criteria, and provide the regulator with confidence that sufficient samples have been collected to verify that the site has been remediated and decontaminated.

Therefore, the verification samples will be analyzed for TPH, RCRA metals, PCBs, and radionuclides. Two samples will be required: one composite sample will be analyzed for verification once the sump has been removed and one sample will be analyzed for waste characterization for disposal of the sump. A three-week analytical turnaround time will be requested for all samples.

2.5 Permits

Two permits will be required for this project; a Confined Space Entry Permit and a REOP. An approved Confined Space Entry Permit will be obtained prior to any entry into the vault. The permit contains a justification for the entry, anticipated hazards, entrants, and special requirements. The REOP establishes a mechanism that provides effective DOE/NV authorization and control of real estate and the operations conducted under DOE/NV's purview. A copy of these permits will be kept at the project site by the technical lead.

THIS PAGE INTENTIONALLY LEFT BLANK

4.0 POST-CLOSURE PLAN

Closure of this site when completed in accordance with this plan, will meet the requirements for clean closure by removal.

4.1 INSPECTIONS

Because this is a clean closure by removal, all constituents of concern will have been removed to the approved clean-up levels. No inspections will be required following closure and the land can be released for unrestricted use.

4.2 MONITORING

Because this is a clean closure by removal, no post-closure monitoring is required at the Underground Storage Tanks site as all constituents of concern will have been removed to the approved clean-up levels. The land can be released for unrestricted use.

4.3 MAINTENANCE AND REPAIR

No construction is planned as part of the clean closure of the Underground Storage Tanks site. As a result, maintenance or repairs will not be necessary at the site following closure.

THIS PAGE INTENTIONALLY LEFT BLANK

5.0 REFERENCES

Bechtel Nevada, 1999, Environment, Safety, and Health Manual, O-A100, Las Vegas, NV.

Bechtel Nevada, 1998, Radioactive Waste Tracking, Handling, and Management at the NTS, OP-2151.304, Las Vegas, NV.

DOE/NV, see U.S. Department of Energy, Nevada Operations Office

EPA, see U.S. Environmental Protection Agency

Federal Facility Agreement and Consent Order, 1996, Agreed to by the Nevada Division of Environmental Protection, the U.S. Department of Energy, and the U.S. Department of Defense.

NAC, see Nevada Administrative Code.

Nevada Administrative Code, 1996, NAC 445A.2272, "Contamination of Soil: Establishment of Action Levels." As adopted by the Nevada Environmental Commission, September, Carson City, NV.

NV/YMP Radiological Control (RADCON) Manual, DOE/NV, 1999.

Occupational Safety and Health Administration, 1996, Title 29 Code of Federal Regulations 1910.120, Hazardous Waste Operations and Emergency Response, Washington, D.C.

Space Nuclear Propulsion Office. 1970. NRDS Master Plan 1969-1970, Nuclear Rocket Development Station, Jackass Flats, Nevada. Las Vegas, NV.

U.S. Department of Energy, Nevada Operations Office, 1994, Standard Operating Procedure, Management and Minimization of Nonhazardous Waste at the Nevada Test Site for the Nevada Environmental Restoration Project, ERD-05-210, Las Vegas, NV.

U.S. Department of Energy, 1999a, Corrective Action Investigation Plan for Corrective Action Unit 135: Area 25 Underground Storage Tanks, Nevada Test Site, Nevada, DOE/NV--543, Las Vegas, NV.

U.S. Department of Energy, 1999b, Corrective Action Decision Document for Corrective Action Unit 135: Area 25 Underground Storage Tanks, Nevada Test Site, Nevada, Rev. 0, DOE/NV--581, Las Vegas, NV.

5.0 REFERENCES (continued)

U.S. Environmental Protection Agency, 1996a, Title 40 Code of Federal Regulations 262.34,
"Accumulation Time," Washington, D.C.

U.S. Environmental Protection Agency, 1996b, Title 40 Code of Federal Regulations 265,
"Container Management," Washington, D.C.

APPENDIX A1
PROJECT ORGANIZATION

THIS PAGE INTENTIONALLY LEFT BLANK

The following are the DOE/NV project contacts:

Runore C. Wycoff
Division Director
Nevada Environmental Restoration Project
U.S. Department of Energy, Nevada Operations Office
P.O. Box 98518
Las Vegas, NV 89193-8518
(702) 295-0250

Janet L. Appenzeller-Wing
Project Manager
Industrial Sites Project
U.S. Department of Energy, Nevada Operations Office
P.O. Box 98518
Las Vegas, NV 89193-8518
(702) 295-0461

The identification of the project Health and Safety Officer and the Quality Assurance Officer can be found in the appropriate DOE plan. However, personnel are subject to change and it is suggested that the Project Manager be contacted for further information. The Task Manager will be identified in the FFACO Biweekly Activity Report prior to the start of field activities.

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX A2
COMMENT RESPONSE DOCUMENTATION

THIS PAGE INTENTIONALLY LEFT BLANK

DOCUMENT REVIEW SHEET

1. Document Title Number: Corrective Action Plan for Corrective Action Unit 135: Area 25 Underground Storage Tanks, Nevada Test Site, Nevada
2. Document Date: April 2000
3. Revision Number: 0
4. Originator Organization: BN
5. Date Comments Due:
6. Reviewer Organization: NDEP

DOCUMENT REVIEW SHEET

7. Comment Number/ Location	8. Type ^a	9. Comment	10. Comment Response	14. Accept
1. Final CADD, Appendix E, Response to Comment #4	M	<p>NDEP's comment related to the analysis and characterization of the six gallons of water removed from the inlet piping to the vault. DOE's response to this comment indicated, "...the waste determination and final disposition of the material removed during Phase I activities is pending and will be documented in the CAP..." This material was not addressed in the draft CAP. Additionally, emphasis should be placed on the degree of contamination remaining in place in the piping. This comment must be addressed in the Final CAP for CAU 135.</p>	<p>The free liquids were sampled and analyzed per a sampling and analysis plan. The results of the analysis are presented in the Final Corrective Action Decision Document for CAU 135 (DOE/NV--581, Appendix C). The free liquids will be solidified prior to disposal as low-level radioactive waste.</p> <p>The piping upstream of the vault at CAU 135 will be addressed with CAU 114; E-MAD Facility, and piping downstream of the vault will be addressed with CAU 262; Septic Systems and Underground Discharge Point (formerly CAU 264).</p> <p>This comment response has been incorporated into the Final CAP for CAU 135.</p>	Y
2. Page 3, 7th bullet	M	Replace Area 65 with Area 6.	The typographical error was corrected to read "Area 6"	Y

DOCUMENT REVIEW SHEET

7. Comment Number/ Location	8. Type ^a	9. Comment	10. Comment Response	14. Accept
3. Page 4, Section 1.2	M	"recontamination" should be "decontamination".	The typographical error was corrected to read "decontamination"	Y
4. Page 11, Sections 2.3.2 and 2.3.3, 4th line	M	"...over a lined berm 208-L (55-gal drum)...". NDEP is unsure whether reference is being made to a berm or drum (or both).	The sentence was corrected to read "Equipment impacted with radioactive waste will be decontaminated with Alconox and water over a lined berm."	Y
5. Page 13, 1st paragraph after bullet	M	"CAU 235" should be "CAU 135).	The typographical error was corrected to read "CAU 135"	Y

THIS PAGE INTENTIONALLY LEFT BLANK

DISTRIBUTION LIST

* Provide copy of initial distribution or Revision 0; remainder of list gets Revision 0 if approved without changes. The entire list receives Revision 1, if issued.

Nevada Department of Environmental Protection

Paul Liebendorfer
Bureau of Federal Facilities
Division of Environmental Protection
333 W. Nye Lane, Room 138
Carson City, NV 89706-0851

2 (Controlled)*

Mike McKinnon, Las Vegas Office
Bureau of Federal Facilities
Division of Environmental Protection
555 E. Washington, Suite 4300
Las Vegas, NV 89101-1049

1 (Controlled)*

U.S. Department of Energy

Janet Appenzeller-Wing
Environmental Restoration Division
U.S. Department of Energy, Nevada Operations Office
P.O. Box 98518 M/S 505
Las Vegas, NV 89193-8518

1 (Uncontrolled)*

Kevin Cabble
Environmental Restoration Division
U.S. Department of Energy, Nevada Operations Office
P.O. Box 98518 M/S 505
Las Vegas, NV 89193-8518

1 (Uncontrolled)*

Sabrina Lawrence
Environmental Restoration Division
U.S. Department of Energy, Nevada Operations Office
P.O. Box 98518 M/S 505
Las Vegas, NV 89193-8518

1 (Controlled)*

U.S. Department of Energy
Office of Scientific and Technical Information
P.O. Box 62
Oak Ridge, TN 37831-0062

1 (Uncontrolled
electronic copy)

DISTRIBUTION LIST (Continued)

U.S. Department of Energy (continued)

U.S. Department of Energy 1 (Uncontrolled)
Nevada Operations Office
Technical Information Resource Center
P.O. Box 98518 M/S 505
Las Vegas, NV 89193-8518

Manager, Southern Nevada 1 (Controlled) &
FFACO Public Reading Room 1 (Uncontrolled)
P.O. Box 98521 M/S NLV 040
Las Vegas, NV 89193-8521

Manager, Northern Nevada 1 (Uncontrolled)
FFACO Public Reading Room
Nevada State Library and Archives Federal Publications
100 North Stewart Street
Carson City, NV 89701-4285

Bechtel Nevada

Correspondence Control 1 (Uncontrolled)*
Bechtel Nevada
P.O. Box 98521 M/S NLV008
Las Vegas, NV 89193-8521

Environmental Management Library 1 (Uncontrolled)*
Bechtel Nevada
P.O. Box 98521 M/S NLV080
Las Vegas, NV 89193-8521

Ken Ortego 1 (Uncontrolled)*
Bechtel Nevada
P.O. Box 98521 M/S NLV082
Las Vegas, NV 89193-8521

Ann Heidma 1 (Uncontrolled)*
Bechtel Nevada
P.O. Box 98521 M/S NLV022
Las Vegas, NV 89193-8521

DISTRIBUTION LIST (Continued)

Bechtel Nevada (continued)

Wayne Johnson 1 (Uncontrolled)*
Bechtel Nevada
P.O. Box 98521 M/S NTS306
Las Vegas, NV 89193-8521

Steve Nacht 1 (Uncontrolled)*
Bechtel Nevada
P.O. Box 98521 M/S NTS306
Las Vegas, NV 89193-8521

Jerel Nelson 1 (Uncontrolled)*
Bechtel Nevada
P.O. Box 98521 M/S NTS306
Las Vegas, NV 89193-8521

Dennis Gustafson 1 (Uncontrolled)*
Bechtel Nevada
P.O. Box 98521 M/S NTS306
Las Vegas, NV 89193-8521

Don Cox 1 (Uncontrolled)*
Bechtel Nevada
P.O. Box 98521 M/S NTS306
Las Vegas, NV 89193-8521

DISTRIBUTION LIST (Continued)

IT Corporation

Brad Jackson
IT Corporation
P.O. Box 93838 M/S 439
Las Vegas, NV 89193-3838

1 (Uncontrolled)*

Jeff Johnson
IT Corporation
P.O. Box 93838 M/S 439
Las Vegas, NV 89193-3838

1 (Uncontrolled)*

IT FFACO Support Office
IT Corporation
P.O. Box 93838 M/S 439
Las Vegas, NV 89193-3838

1 (Controlled)