United States Department of the Interior
Bureau of Land Management
Las Vegas Field Office

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Bureau of Land Management
Las Vegas Field Office
4701 North Torrey Pines Drive
Las Vegas, Nevada 89130

Environmental Assessment
NV-2006-292

Reid Gardner Facility
Pond and Landfill Expansion Project

Moapa, Nevada

DRAFT

Case File # N-82003

EXECUTIVE SUMMARY

Nevada Power Company (NPC) operates the Reid Gardner Generating Facility (Facility) in Moapa, Nevada. The Facility is a coal-fired electric generation station producing nominally 557 megawatts (MW) of total electrical output. NPC is requesting a right-of-way (ROW) grant from the U.S. Department of Interior, Bureau of Land Management (BLM), Las Vegas Field Office to construct, maintain and operate new evaporation ponds and a new solid waste landfill for combustion wastes produced at the plant (Proposed Action). The purpose of the Proposed Action is to maintain the effective management of the wastewater evaporation process, and to provide adequate landfill space for fly ash, bottom ash and solids from the evaporation ponds in order to allow the Facility to continue to supply power to customers in Southern Nevada. The Proposed Action would occur within a 560-acre project area and would result in disturbance of approximately 444 acres within this project area.

This Environmental Assessment (EA) analyzes the environmental effects of the Reid Gardner Expansion Project. Numerous agencies were invited to participate in the EA process as cooperating agencies; to date these agencies have declined to participate as a cooperating agency for this project. To support preparation of this EA, the BLM solicited input from the public to help identify issues and concerns that should be addressed in the document. As part of the scoping process, the BLM conducted two public meetings and attended one meeting with the Moapa Band of Paiutes. Approximately 55 comment letters and forms were received as a result of public scoping. The primary concerns raised were over air quality and public health and safety. In most instances health concerns were related to effects from emissions from the existing Facility rather than effects of the Proposed Action.

The EA considers several alternatives, including the No Action Alternative. Alternatives considered but not carried forward for analysis in the EA include fly ash sales, covering the ponds, building deeper ponds and fly ash landfill, underground injection of wastewater, construction of a slurry disposal reservoir, use of scrubber waste to make gypsum board, locating the Proposed Action south of the existing Facility in Sections 16, 17, and 18, locating the Proposed Action north of the existing Facility, utilizing Section 5 for ponds and Section 8 for landfill, finding an alternative location for the landfill and continue to use existing ponds, and transporting solids off-site.

As part of the Proposed Action, NPC has incorporated environmental protection measures and management practices into the Proposed Action. The implementation of environmental protection measures and management practices, along with the implementation of protocols and measures mandated by the BLM and Nevada Department of Wildlife (NDOW), have minimized potential impacts to the environment.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Following Page

LIST OF APPENDICES

LIST OF ACRONYMS & ABBREVIATIONS

ACEC	Areas of Critical Environmental Concern
ACOE	U.S. Army Corps of Engineers
APE	Area of Potential Effect
ASTM	American Society of Testing and Materials
BAPC	Bureau of Air Pollution Control
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BMP	Best Management Practice
CAA	Clean Air Act, as amended in 1990
CFR	Code of Federal Regulations
cfs	Cubic Feet Per Second
CWA	Clean Water Act
DAQEM	Clark County Department of Air Quality and Environmental Management
DPS	Distinct Population Segment
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FEMA	Flood Insurance Rate Map
gpm	Gallons Per Minute
HDPE	High Density Polyethylene
I-15	Interstate 15
KOP	Key Observation Point
LOI	Loss on Ignition
LVFO	Las Vegas Field Office
mg/L	Milligrams Per Liter
MW	Megawatt
NAC	Nevada Administrative Code
NAAQS	National Ambient Air Quality Standards

LIST OF ACRONYMS & ABBREVIATIONS (continued)

ND	Non Detect
NEPA	National Environmental Policy Act
NDEP	Nevada Division of Environmental Protection
NDOW	Nevada Department of Wildlife
NDWR	Nevada Division of Water Resources
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act of 1966
NNHP	Nevada Natural Heritage Program
NPC	Nevada Power Company
NRHP	National Register of Historic Places
PM_{10}	Particulate matter smaller than 10 microns
$PM_{2.5}$	Particulate matter smaller than 2.5 Microns
POD	Plan of Development
Project Area	560-acre project area
PSD	Federal Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act
Reservation	Moapa River Indian Reservation
RMP	Las Vegas Resource Management Plan
ROW	Right-of-Way
SHPO	State Historic Preservation Office
SNHD	Southern Nevada Health District
TCLP	Toxic Characteristics Leaching Procedure
UIC	Underground Injection Control
U.S.	United States
USFWS	U.S. Fish and Wildlife Service
VOC	Volatile Organic Compounds
Weed Plan	Noxious Weed Plan Las Vegas Field Office

CHAPTER 1 INTRODUCTION/PURPOSE AND NEED

1.1 INTRODUCTION

Nevada Power Company (NPC) operates the Reid Gardner Generating Facility (Facility) in Clark County at 501 Wally Kay Way in Moapa, Nevada. The Facility is approximately 45 miles northeast of Las Vegas, Nevada, two miles west of Interstate 15 (I-15) Hidden Valley exit (Figure 1).

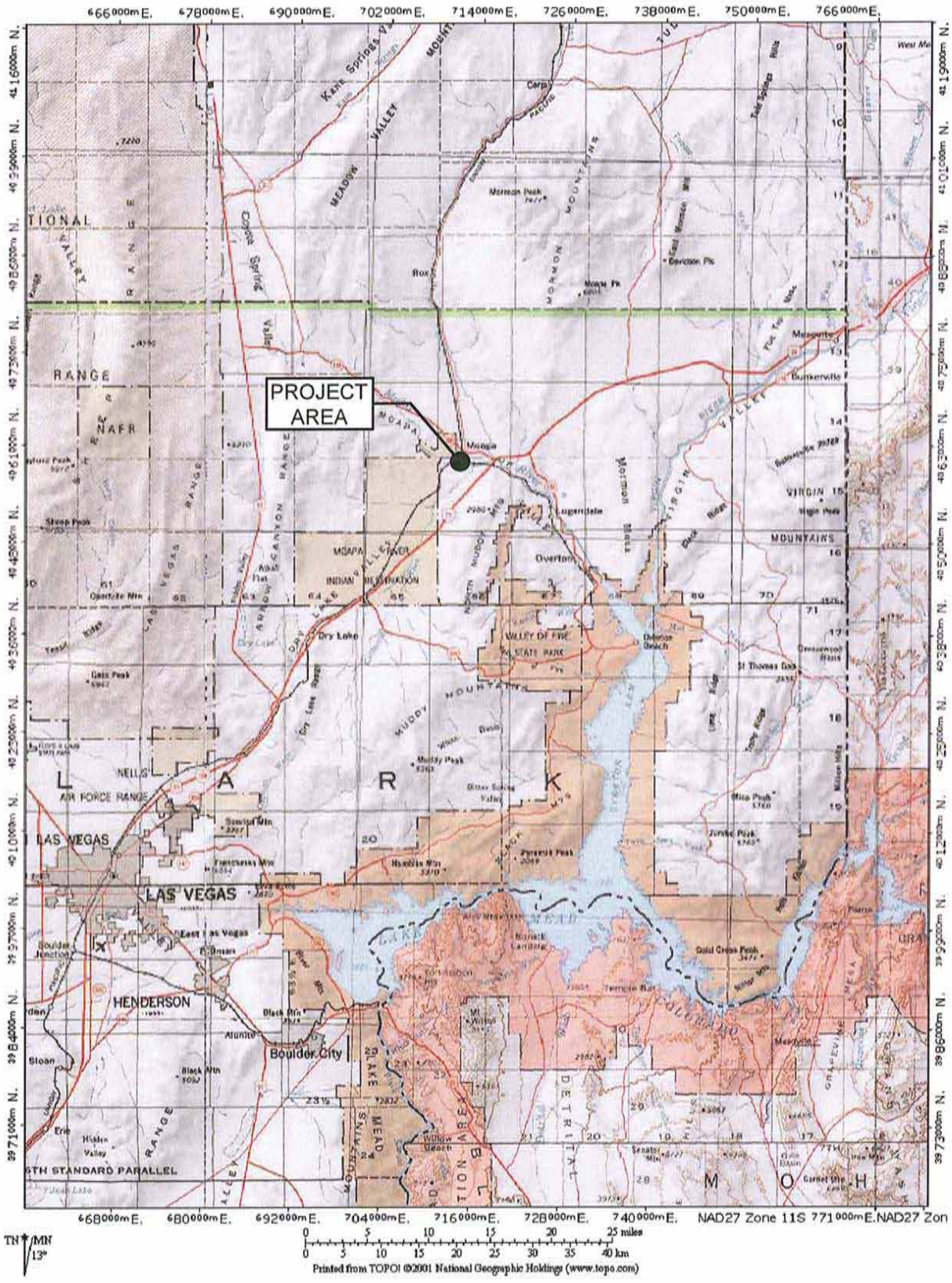
The Facility is a coal-fired electric generation station producing nominally 557 megawatt (MW) of total electrical output from four boiler-turbine units as follows:

Unit 1 – 100 MW capacity, commissioned 1965
Unit 2 – 100 MW capacity, commissioned 1968
Unit 3 – 100 MW capacity, commissioned 1976
Unit 4 – 257 MW capacity, commissioned 1983

Electric power is generated by burning coal to produce steam to power the turbines which rotate the electric generators. The steam is condensed after it passes through the turbine and recirculated back to the boiler. The cooling water used to condense the steam is a closed cycle cooling system which recirculates the cooling water between the condenser and the cooling tower. The Facility also includes evaporation ponds; fly ash, bottom ash and solids landfills; roads; and other ancillary systems (Figure 2). Coal is delivered by rail to one of three separate stockpile areas at the generation facility.

As the coal is burned, flue gas, fly ash and bottom ash exit the boiler. The fly ash in Units 1, 2, and 3 is removed by mechanical collectors and wet scrubbers. In Unit 4, fly ash is removed by a fabric filter baghouse collector. Bottom ash, particles that are too large to be carried in the flue gases, exits the boilers in Units 1, 2, 3, and 4 via a bottom ash hopper for hydraulic transport to dewatering bins. Sulfur dioxide contained in the flue gas is removed by the wet scrubbers which use a sodium bicarbonate solution and produce a sodium sulfite waste stream.

The Facility is a zero discharge facility. All fluids associated with the process are contained in engineered facilities. Cooling water used to condense the steam in the boiler is continuously recycled through the cooling towers until dissolved solids in the cooling water reach a designated level and it is added to the flue gas scrubber make up water. The waste water from the flue gas scrubbers and the cooling tower and service water blowdown streams are piped to permitted lined decant ponds to settle suspended solids from the wastewater streams. The clarified



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NEVADA POWER
REID GARDNER EXPANSION PROJECT

FIGURE 1
GENERAL PROJECT LOCATION

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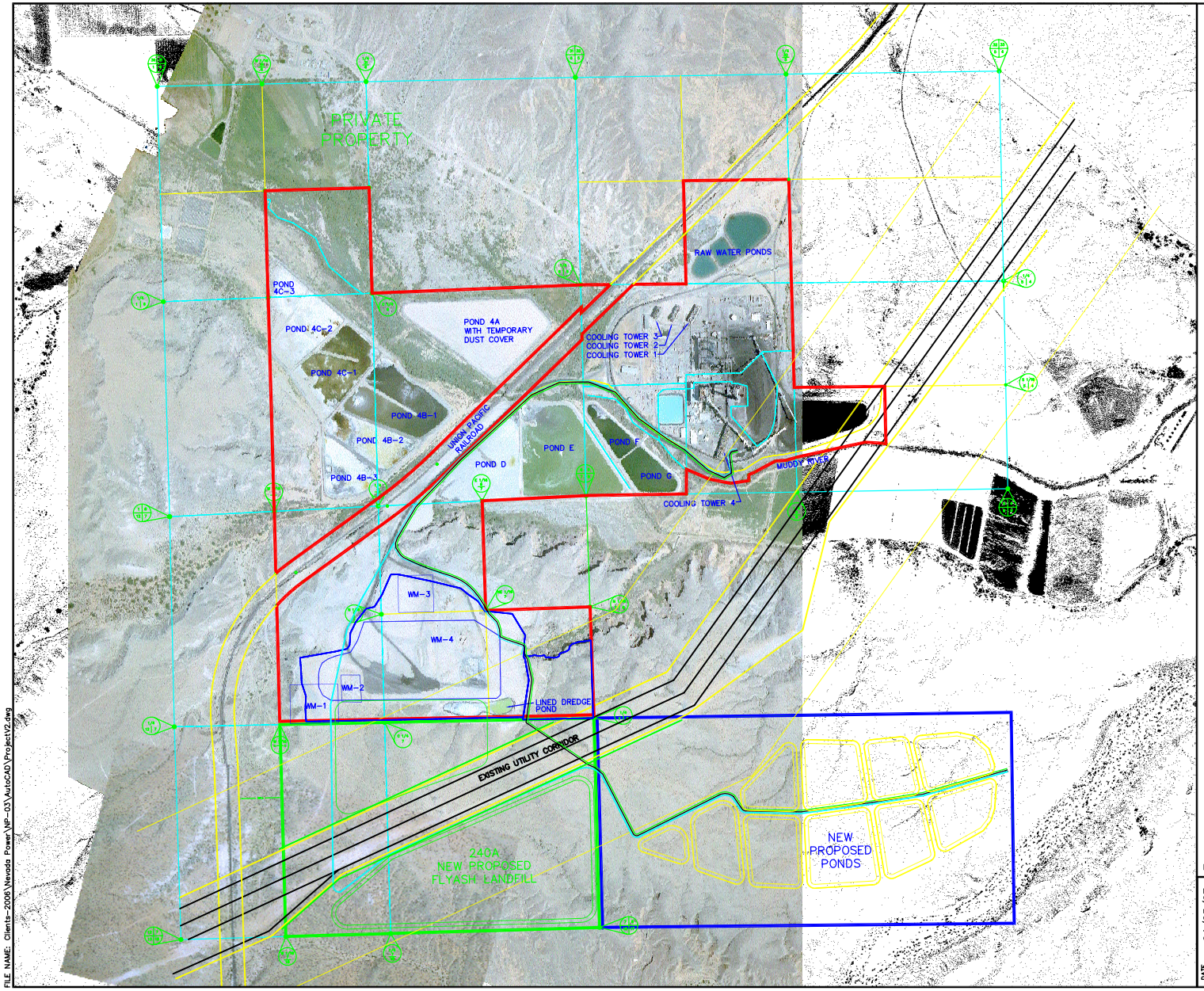

LEGEND

	NPC PROPERTY LIMITS
	NPC 240 ACRE
	NPC 320 ACRE
	HAUL AND SERVICE ROADS
WM-1	CLOSED SOLID WASTE LANDFILL
WM-2	ASBESTOS MONO LANDFILL
WM-3	UNIT 4 COOLING TOWER DEBRIS SLUDGE FROM PONDS F & G, DISPOSAL AREA
WM-4	APPROXIMATE LOCATION OF FLYASH LANDFILL

N

1250 0 1250 FEET

BASE IMAGE: AERIAL PHOTO PROVIDED BY KENNEDY/JENKS CONSULTANTS

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NEVADA POWER
REID GARDNER EXPANSION PROJECT

FIGURE 2
OVERALL SITE PLAN

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wastewater with dissolved solids is then piped to permitted-lined-evaporation ponds. There is no discharge of wastewater to the Waters of the State of Nevada or Waters of the United States (U.S.). All ponds are permitted by the Nevada Division of Environmental Protection (NDEP) under an Authority to Discharge Permit.

Fly ash solids from the mechanical collectors on Units 1 – 3, the Unit 4 baghouse, bottom ash from Units 1, 2, 3, and 4 and dredged solid material from decant and evaporation ponds are transported to an onsite solid waste landfills. The Southern Nevada Health District (SNHD) regulates landfills in Clark County. The Reid Gardner landfill is routinely inspected by the SNHD and currently maintains full compliance with all regulations.

1.2 PURPOSE AND NEED OF THE PROPOSED ACTION

NPC is requesting a right-of-way (ROW) grant from the U.S. Department of Interior, Bureau of Land Management (BLM), Las Vegas Field Office (LVFO) to construct, maintain and operate new evaporation ponds and a new solid waste landfill (Proposed Action). The purpose of the Proposed Action is to maintain the effective management of the wastewater evaporation process, and to provide adequate landfill space for fly ash, bottom ash and solids from the evaporation ponds in order to allow the Facility to continue to supply power to customers in Southern Nevada.

The need for the Proposed Action is to secure adequate evaporation pond and landfill areas because the existing facilities on NPC's fee-owned property are nearing capacity and additional land is needed to construct new evaporation pond and landfill facilities. No other land at the Facility site is available for these activities. In addition, future plans include the relocation of existing evaporation ponds from their current location in the floodplain along the Muddy River where ponds are susceptible to potential flooding. The construction and operation of the evaporation ponds and landfill areas are needed for the continuing operations of all power plant activities with no interruptions or outages so that NPC continues to deliver safe, reliable and cost effective power to its customers.

1.3 NEED FOR AGENCY ACTION

The BLM has the need to respond to applications for ROWs and activities proposed on public lands under their jurisdiction.

1.4 CONFORMANCE WITH RESOURCE MANAGEMENT PLAN

The Proposed Action is subject to the BLM *Las Vegas Resource Management Plan* (RMP), approved October 5, 1998 (BLM 1998). The plan has been reviewed and it is determined that the Proposed Action is in conformance with the Las Vegas RMP, specifically ROWs Management Authorization RW-1 for major utility transmission lines and associated facilities.

1.5 OTHER REGULATORY ACTIONS REQUIRED

The Proposed Action would also be required to be in conformance with all other federal, state, and local statutes, regulations, and plans. Table 1-1 documents all federal, state, and local agency environmental approvals, reviews, and permitting required for implementation of the Proposed Action.

Table 1-1 Permits Required for Proposed Facilities

Regulatory Agency	Authorizing Action/ Permit
U. S. Bureau of Land Management	ROW Grant – Transportation and Utility Systems and Facilities on Federal Lands
U.S. Army Corps of Engineers[1]	Section 404 (of the Clean Water Act) Individual Permit
U.S. Fish and Wildlife Service	Section 7 Endangered Species Act Incidental Take Permit
Nevada State Historic Preservation Office and Advisory Council on Historic Preservation	Compliance with Section 106 National Historic Preservation Act
Nevada Division of Wildlife	Industrial Artificial Pond Permit
Nevada Division of Water Resources	Dam Safety Permits – Ponds
Nevada Division of Environmental Protection Bureau of Water Quality Planning	401 Water Quality Certification
Nevada Division of Environmental Protection Bureau of Water Pollution Control	National Pollution Discharge Elimination System (NPDES) - Storm Water Permit - Amendment to Discharge Permit NEV91022, Operations Manual and Sampling Plan
Clark County Department of Air Quality and Environmental Management	Dust Control Permit
Clark County Department of Comprehensive Planning	Special Use Permit
Southern Nevada Health District	Solid Waste Disposal Site Permit and Operations Manual

[1]Permit requirements pending review from U.S. Army Corps of Engineers.

1.6 PUBLIC SCOPING PROCESS

A primary principle of the National Environmental Policy Act (NEPA) process is a full public disclosure and open public participation in the decision-making process. To support preparation of this Environmental Assessment (EA), the BLM solicited input from the public to help identify issues and concerns that should be addressed in the document. As part of the scoping process, the BLM conducted two public meetings, one in Moapa and the other in Overton, and attended a meeting of the Moapa Band of Southern Paiute. General Council to provide information on the Proposed Action and to solicit comments on issues related to the project.

1.6.1 SCOPING AND ISSUE IDENTIFICATION

Resources to be included in the environmental analysis were identified through input gathered through public meetings; contact with the Moapa Band of Southern Paiute and Las Vegas Band of Southern Paiute; neighboring grant holders; local, state, and federal resource/regulatory agencies; and internal reviews by resource specialists at the BLM LVFO. Section 6.1 provides a

list of agencies and organizations consulted for this project. A list of BLM personnel involved in the project is presented in Section 5.2 and cooperating agencies are identified in Section 5.3.

1.6.2 NATIVE AMERICAN CONSULTATION

Native American Consultation is a government-to-government consultation where BLM seeks involvement of affected Native Americans in the identification of traditional cultural and other values, issues, and concerns. Native American Consultation associated with the National Historic Preservation Act of 1966 (NHPA) and NEPA process was initiated by the BLM. Specifically, on July 12, 2006, the BLM sent letters to both the Moapa Band of Southern Paiute and the Las Vegas Band of Southern Paiute. The consultation process is still on-going. On August 8, 2006, both the BLM and NPC attended a Moapa Band of Southern Paiute Tribal Council meeting to describe the Proposed Action. During the Tribal Council meeting, the Moapa Band of Southern Paiute raised concerns over air quality and health issues and suggested various alternatives for evaluation. The Moapa Band of Southern Paiute requested that the BLM seek the Bureau of Indian Affairs (BIA) involvement in the NEPA process to ensure their interests would be adequately represented. The Moapa Band of Southern Paiute also responded with a letter indicating the presence of desert tortoise and cultural resources within the Project Area. On May 9, 2007, BLM staff met with Darren Daboda, Tribal Chair of the Moapa Band of Paiutes to view an area of concern for tribal members. This area is located within the boundary of archaeological site 26Ck1142, which was recorded as a dispersed lithic scatter and determined not eligible to the National Register of Historic Places (NRHP). The BLM responded to the tribe in a letter dated June 18, 2007 that stated the BLM will develop site specific terms and conditions stipulating that under no circumstances will NPC's right-of-way use areas be allowed to encroach on the area of concern. This will ensure that the area of concern within the boundary of 25Ck1142 will not be impacted by NPC's proposed project.

1.6.3 COOPERATING AGENCIES

The BLM invited NDEP, Clark County Department of Air Quality and Environmental Management (DAQEM), BIA, and SNHD to participate as cooperating agencies. These agencies were invited to assist in developing alternatives and in the review of the administrative Draft EA prior to its circulation to the public. To date, all agencies have declined to participate as a cooperating agency for this project.

1.6.4 PUBLIC SCOPING MEETING

The BLM conducted the first public scoping meeting in Moapa on August 24, 2006. Three weeks prior to the meeting, letters soliciting participation for the meeting were sent to adjacent property owners, adjacent BLM grant holders, and to the BLM mailing list that included interested parties, local agencies, and the BIA. The *Moapa Valley Progress*, the local newspaper

published in Overton, printed the legal notice on August 9 and August 23, 2006. Twenty attendees signed the sign-in sheet, excluding NPC and BLM employees.

The BLM, in cooperation with NPC, conducted a second public scoping meeting using an open house format in Overton on October 26, 2006. Invitation letters soliciting participation for the meeting were sent three weeks prior to the meeting to an updated mailing list. In response to a request that more project information be available to the public, the public notices included website and library addresses where the Plan of Development (POD) and ROW application could be viewed. The *Moapa Valley Progress* printed legal notices on three consecutive Wednesdays prior to the meeting, October 11, 18, and 25, 2006. The open house format consisted of informational stations: Purpose and Need; Existing Operations; NEPA Process; and Project Benefits. Fourteen attendees signed the sign-in sheet, excluding NPC and BLM employees. A court reporter was available to take verbal comments. Scoping meeting notices and mailing lists are contained in Appendix A.

1.6.5 SUMMARY OF SCOPING ISSUES

Approximately 55 comment letters and forms from the Moapa Band of Southern Paiute, individuals, businesses, organizations, and agencies were received; and an additional 5 verbal comments were recorded by a stenographer at the October open house. The primary concerns raised were over air quality and public health and safety. In most instances health concerns were related to effects from emissions from the existing Facility rather than effects of the Proposed Action. The connection between these health concerns and the existing plant emissions has not been studied or proven. Responding to these concerns, the BLM contacted the SNHD and asked for their help in evaluating the stated health concerns. SNHD responded that a study of these health concerns at the local population level would be difficult and time consuming due to the lack of data. They said the existing database was too small to draw any statistically meaningful conclusions (Appendix L). BLM management recommended that, given that no concrete or definitive health related data was provided during scoping, and since there is no practical way to separate out impacts of power plant operations in general from impacts (if any) from the ponds and landfill, the BLM did not think they needed to conduct health surveys, assessments or epidemiological studies as part of this EA. This EA therefore focuses on the direct, indirect and cumulative environmental impacts from the Proposed Action and alternatives. Public and agency comments are summarized in Appendix B.

CHAPTER 2 ALTERNATIVES INCLUDING THE PROPOSED ACTION

2.1 PROPOSED ACTION

NPC proposes to construct and operate a new solid waste landfill and new evaporation ponds within the 560-acre project area (Project Area). The landfill would be located within a 240-acre site (portion of Section 7, Township 15 South, Range 66 East [T15S, R66E]); however, because portions of the site are unusable for the landfill, actual disturbance would be approximately 180 acres. A total of nine evaporation ponds would be constructed. The ponds would be within a 320-acre site (a portion within Section 8, T15S, R66E); however, because some portions of the site are unusable for the ponds, actual disturbance would be approximately 264 acres. Total project-related disturbance would be approximately 444 acres. The proposed landfill and ponds (Proposed Action) are shown in proximity to the existing Reid Gardner Facility on Figure 2.

The existing solid waste landfill has limited capacity and would not provide the necessary capacity for future long-term operations at the Facility. The existing evaporation ponds were located years ago in the Muddy River floodplain and NPC would like to relocate these ponds away from the river. The Proposed Action allows for the relocation of the evaporation ponds away from the Muddy River and the subsequent reclamation of the existing evaporation ponds. The construction and operation of the new evaporation pond system and solid waste landfill would provide the necessary capacity for continued operation of the Facility for an estimated 30 years.

Non-hazardous waste includes all solid waste that does not meet the Environmental Protection Agency (EPA) definition of hazardous waste. Hazardous waste is regulated under the Resource Conservation and Recovery Act (RCRA) Subtitle C. In regulatory terms, a RCRA hazardous waste is a waste that appears on one of the four hazardous wastes lists (F-list, K-list, P-list, or U-list), or exhibits at least one of four characteristics—ignitability, corrosivity, reactivity, or toxicity.

2.1.1 LANDFILL

The Facility burns approximately 60 railroad cars, or approximately 6,000 tons, of coal daily at full load. The coal contains approximately 10 percent non-combustible ash material by weight, which becomes solid waste. The waste to be placed in the proposed landfill consists of fly ash from the Facility's particulate collection systems, bottom ash from the Facility's boilers, and flue gas desulfurization solids (scrubber wastes) from the decant and evaporation ponds.

A typical analysis of ash from this Facility shows that it consists of silicon (50 percent), aluminum (15 percent), and calcium (15 percent) with minor amounts of magnesium, sodium,

and iron. A Toxic Characteristics Leaching Procedure (TCLP) analysis of the ash indicates that the ash is characterized as non-hazardous (as shown in Table 2-1).

Table 2-1 TCLP Analysis of Ash

Analysis Parameter	Concentration (mg/L)	Regulatory Limit (mg/L) [1]
Arsenic	ND	5.0
Barium	0.58	100.0
Cadmium	ND	1.0
Chromium	0.053	5.0
Lead	ND	5.0
Selenium	0.014	1.0
Silver	ND	5.0
Mercury	ND	0.2

mg/L = milligrams per liter
ND = Non Detect
[1] Resource Conservation and Recovery Act, 42 U.S.C. 321 et. seq. 1976.

The evaporation pond solids consist mostly of sodium sulfate with some calcium sulfate and magnesium sulfate. A TCLP analysis of the pond solids indicates that the solids are characterized as non-hazardous (as shown in Table 2-2).

Table 2-2 TCLP Analysis of Effluent Solids

Analysis Parameter	Concentration (mg/L)	Regulatory Limit (mg/L) [1]
Arsenic	ND	5.0
Barium	0.16	100.0
Cadmium	ND	1.0
Chromium	ND	5.0
Lead	ND	5.0
Selenium	0.064	1.0
Silver	ND	5.0
Mercury	ND	0.2

[1] Resource Conservation and Recovery Act, 42 U.S.C. 321 et. seq. 1976.

In addition to being characterized as non-hazardous, power generation solid wastes are excluded from state and federal hazardous waste regulation as noted in 40 CFR 261.4(b)(4).

Solids to be disposed in the landfill would be hauled from the Facility in trucks, with a capacity of approximately 37 cubic yards. Twenty truck-loads per day would be transported four days per week (Monday through Thursday). Haul roads between the Facility and the landfill would be watered to control fugitive dust emissions.

The landfill area would be constructed partially within the limits of BLM's designated utility corridor in the Project Area. The utility corridor is currently occupied by existing authorized ROWs (i.e. gas, transmission, etc.). Approximately 117 acres of the proposed landfill encroaches within the utility corridor's 2,640-foot width. Operation of the landfill would be

coordinated with future plans for additional transmission lines or pipelines as necessary so they could be built up and over completed sections of the landfill. Landfill operations would be planned so the portions closest to the utility corridor would be utilized first. The landfill would have the ultimate design capacity of 10.2 million cubic yards, which would accommodate solids for 30 years of operation. Table 2-3 includes the estimate of the amount of solids that would be landfilled from 2009 to 2039. It is estimated that 10.2 million cubic yards of solids would be generated in this time period.

Table 2-3 Estimate of Solids Generated from Reid Gardner Facility Operation 2009-2039

Reid Gardner Project Solid Waste Projections per Year in Cubic Yards					
Year	**Total Plant Fly Ash[1]**	**Total Plant Bottom Ash[1]**	**Total Plant Scrubber Solids[2]**	**Total Plant Solid Wastes**	**Cumulative Total Plant Solids**
2009	135,094	57,898	546,585	739,577	739,577
2010	138,772	59,474	116,154	314,400	1,053,977
2011	137,062	58,741	0	195,803	1,249,780
2012	135,871	58,231	12,208	206,310	1,456,090
2013	65,829	28,212	9,904	103,944	1,560,034
2014	61,551	26,379	42,636	130,566	1,690,600
2015	66,236	28,387	134,926	229,549	1,920,149
2016	66,236	28,387	0	94,623	2,014,771
2017	224,923	96,396	130,657	451,976	2,466,747
2018	224,923	96,396	4,939	326,258	2,793,006
2019	224,144	96,062	49,733	369,939	3,162,945
2020	219,495	94,069		313,565	3,476,509
2021	223,808	95,918		319,726	3,796,235
2022	223,437	95,759		319,195	4,115,430
2023	223,065	95,599		318,664	4,434,094
2024	222,749	95,464		318,212	4,752,307
2025	222,749	95,464		318,212	5,070,519
2026	222,749	95,464		318,212	5,388,731
2027	239,716	102,735		342,452	5,731,182
2028	239,716	102,735		342,452	6,073,634
2029	239,716	102,735		342,452	6,416,085
2030	239,716	102,735		342,452	6,758,537
2031	239,716	102,735		342,452	7,100,988
2032	239,716	102,735		342,452	7,443,440
2033	239,716	102,735		342,452	7,785,892
2034	239,716	102,735		342,452	8,128,343
2035	239,716	102,735		342,452	8,470,795
2036	239,716	102,735		342,452	8,813,246
2037	239,716	102,735		342,452	9,155,698
2038	239,716	102,735		342,452	9,498,149
2039	239,716	102,735		342,452	9,840,601

[1] The estimates for the fly ash and bottom ash are based on the capacity factor of each unit for the next 30 years. It is assumed that Units 1, 2, and 3 would be retired at the end of 2012. This also assumes a new unit would be built and in operation in 2017. Design and permitting for this new unit would be a future project.

[2] The amount of scrubber solids is based on when the evaporation ponds are filled with solids, cleaned and then relined.

The initial construction of the landfill would include grading the site to its final perimeter elevation. A chain-link and tortoise-proof fence would be installed following perimeter grading activities.

All cut and fill material would be obtained from the BLM land included in the ROW grant. In the north portion of the landfill, a cut volume of approximately 94,000 cubic yards of material would be excavated within the landfill perimeter, for use as fill and landfill cover. Approximately 3,100 cubic yards of cover material would be stored on-site at any one time during the operation of the north portion of the landfill. It is estimated that the north portion of the landfill would provide sufficient solids capacity for approximately 10 years of Facility operations. In the south portion of the landfill, a cut volume of approximately 231,000 cubic yards of material would be excavated within the landfill perimeter, for use as fill and landfill cover. Approximately 7,700 cubic yards of cover material would be stored on-site at any one time during the operation of the south portion of the landfill. It is estimated that the south portion of the landfill would provide sufficient solids capacity for approximately 20 years of Facility operations.

A design of a typical landfill construction is shown in Figures 3 and 4.

The base of the landfill would be lined with a 60-mil high density polyethylene (HDPE) membrane liner to prevent release of leachate into the subsurface and protect groundwater quality. Solid waste would be deposited in lifts and compacted. Each lift would be constructed by unloading solids at the furthest edge of the active lift and using earthmoving equipment to push solids up the active slopes. Solids would be spread and compacted to progressively extend the fill area. Following placement, bulldozers and compactors would compact the solids to 90 percent of maximum dry density as determined by American Society for Testing and Materials (ASTM) D1557. Density tests of the compacted material would be conducted weekly. The compacted fly ash would form a relatively impermeable mass, which would minimize the leaching of meteoric water (water infiltration from precipitation) into the solid waste. The lifts would be built at a four percent slope until the final height of 50 feet is achieved.

During facility operation, special attention would be given to the moisture content and compaction of the temporary roads and landfill slopes used by the equipment in order to minimize dust generation and erosion. The moisture content of the active surface of the solid waste solids would be maintained at 10 percent to 15 percent to control dust emissions. Water would be hauled with water trucks and applied as necessary to maintain the proper moisture on the haul roads and active portions of the landfill and control dust emissions. The water for dust suppression would be obtained from the decant water in the bottom ash transport system and

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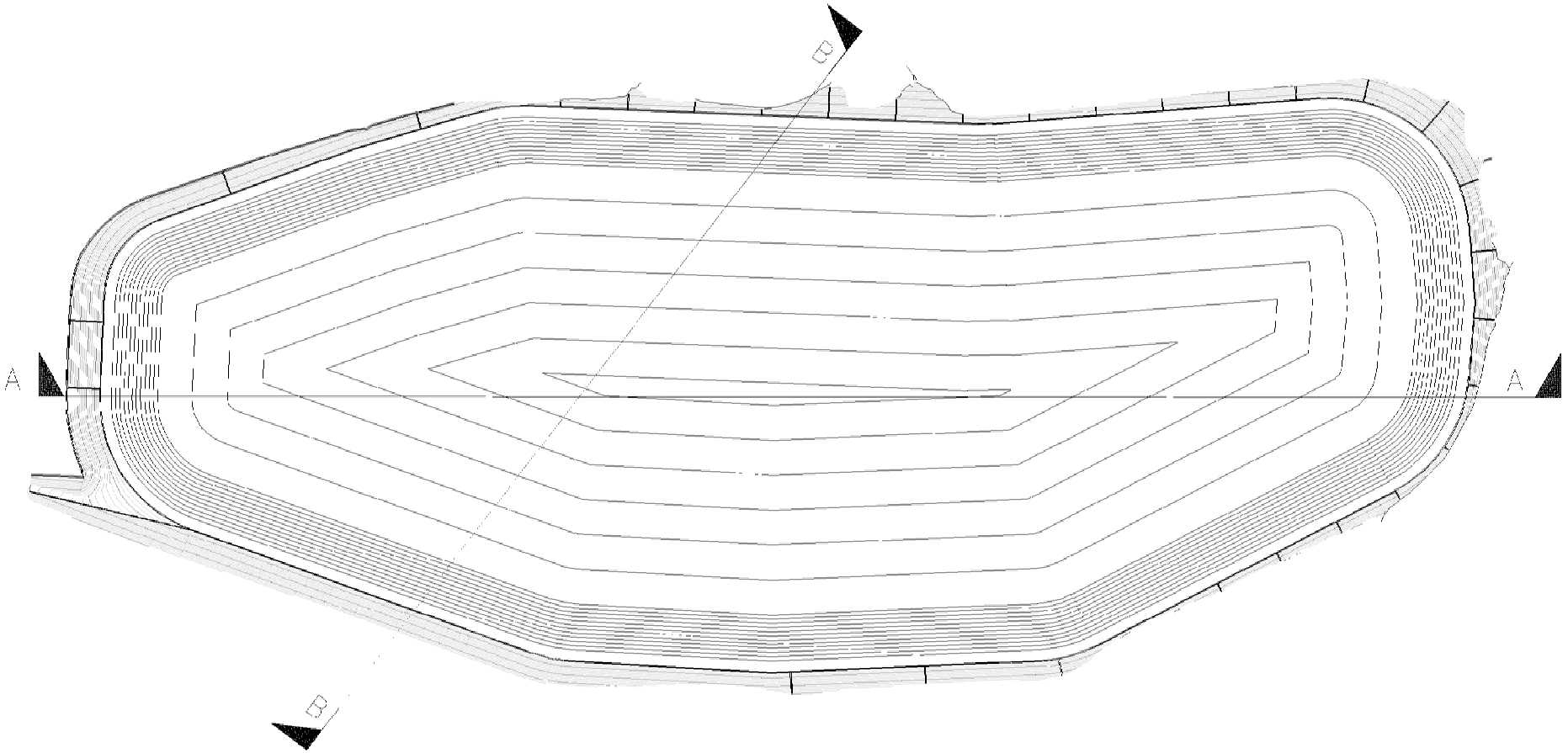

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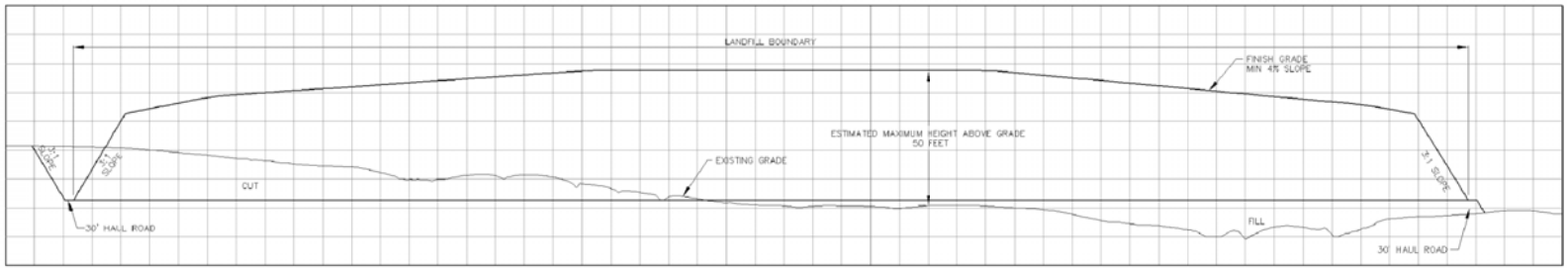
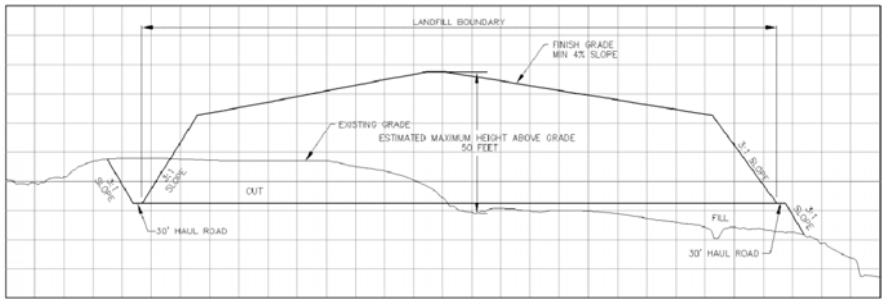
NEVADA POWER
REID GARDNER EXPANSION PROJECT

FIGURE 3
LANDFILL TYPICAL PLAN VIEW



TYPICAL LANDFILL SECTION A-A



TYPICAL LANDFILL SECTION B-B

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FIGURE 4
LANDFILL TYPICAL SECTION VIEW

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well water. Dust suppressants could and would be used on the project area if determined to be acceptable by BLM.

All exposed inactive waste areas of the landfill would be covered on a weekly basis with native earth and compacted to prevent contaminating storm water run-off, all storm water run-on would be diverted around the landfill area. The storm water diversion system for the landfill would be an extension of the existing landfill drainage control system at the Facility. The total run-on peak flow is estimated to be 97.7 cubic feet per second (cfs) for a 100-year event. A 48-inch pipe would be used to convey this run-on around the facility to its natural drainage area. Storm drains are designed to collect the combined run-off from the proposed and existing landfill sites. All storm water run-off from within the landfill would be captured and routed to evaporation ponds and would not be discharged. The final location and design of the storm water system would be provided in the final engineering to be included in the revised POD.

The haul roads used for the proposed landfill would be an extension of the existing landfill haul roads. The following criteria would be used in the design of the haul roads:

- The haul road width would be 30 feet, which includes 24 feet of gravel roadway and a shoulder width of three feet.
- The typical side slope of the haul road would be one percent to six percent, sloping away from the landfill where the road is adjacent to these facilities.
- Drainage from run-off (on-site drainage) would collect in a 12-inch drainage ditch along the road and flow to low points along the haul road and drain off the haul road by means of down drains that would drain towards the storm drain collection piping with a system of paved swales and storm drain inlets and returned to the evaporation ponds.

An access road would be constructed within the boundaries of the proposed landfill and would be constructed to a standard that would accommodate the ash hauling trucks. Figure 5 shows a typical haul road design. The final location and design of the roads would be provided in the final engineering to be included in the revised POD.

Closure of the landfill would begin when the solids reach their final elevation in the active landfill phase, and would continue progressively as each disposal area is filled to final elevation. The surface of the landfill solids would first be compacted to 90 percent of maximum density as determined by ASTM D1557 to restrict the amount of water that can infiltrate into the solids. Water trucks would aid in controlling dust and compaction equipment would be used to achieve the necessary compaction. The final closure cap of native earth would fill from the haul road toward the landfill side and fill in the space between the landfill rising up at 3H:1V (Horizontal to Vertical) slope. The final grades of the landfill would direct run-off to the natural drainage

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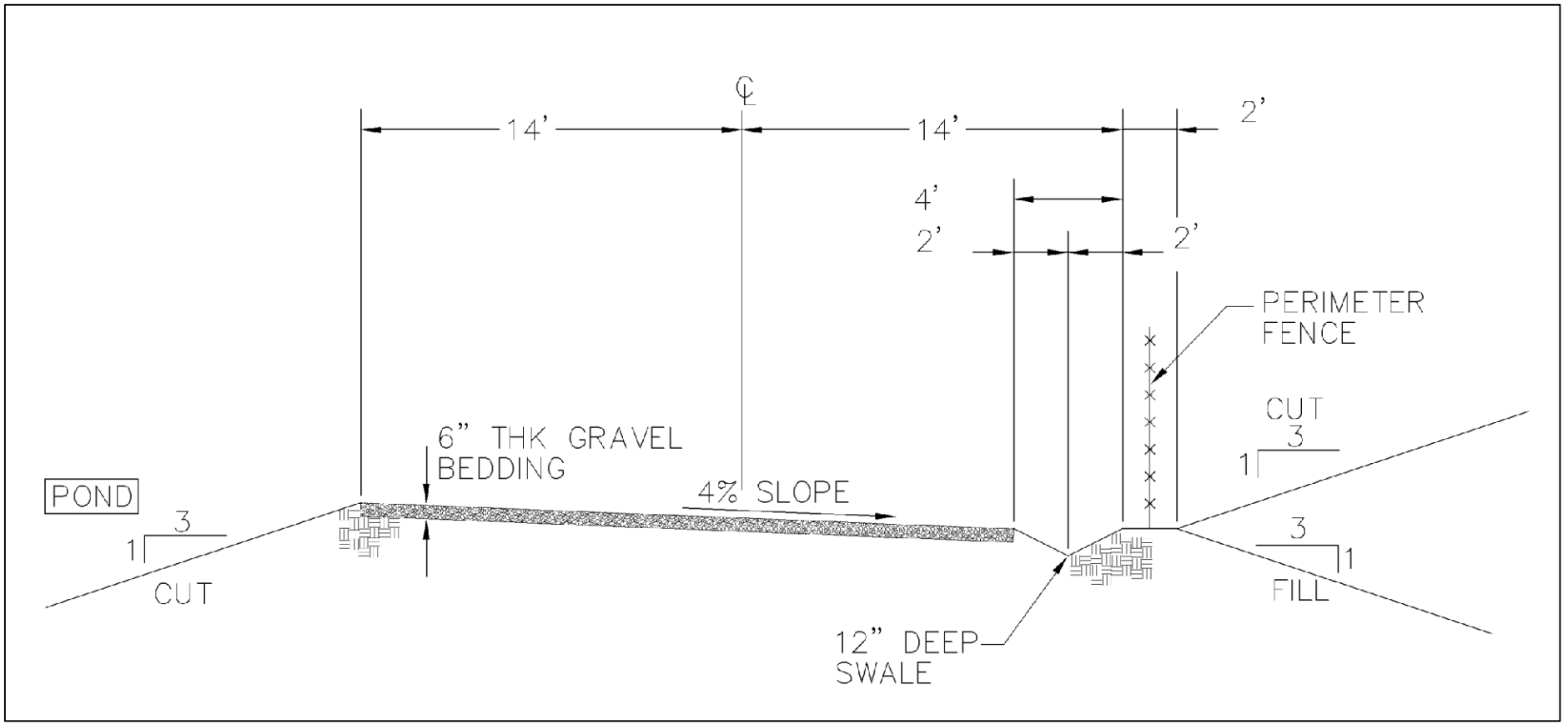

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FIGURE 5

HAUL ROAD TYPICAL SECTION VIEW

pattern that surrounds the disposal facility, which would also minimize erosion of the reclaimed facility. To reduce the potential for standing water, the landfill surface would be graded to a minimum slope of 0.25 percent. Side slopes would have a maximum slope of 4H:1V in order to reduce erosion. The final step in closure of any area of the landfill would be placement of the final cover, where the graded and compacted landfill area would be covered with natural earth obtained from on-site. The landfill cover would be designed and constructed in accordance with the requirements of Nevada Administrative Code (NAC) 444.6891 – Requirements for Design and Construction of System for Final Cover. The final graded areas would be covered with a minimum of 18 inches of coarse grained earth compacted to 90 percent of maximum density as determined by ASTM D1557 to reclaim the area. Once the cover is placed and revegetated, that phase of the landfill would be considered complete. Successive landfill phases would be closed in the same manner as they are completed.

The final cover for completed phases would be inspected on a recurring basis for cracks, erosion, settlement, undesired vegetation, and also animal use (e.g., burrowing). Corrective action would be performed if deficiencies were observed. The drainage structures would be inspected to ensure that they are operating as designed. The site would be maintained as necessary to prevent erosion or washing of the fill, and graded as necessary to drain rainwater from the fill area and to prevent standing water. The run-on and run-off control systems would be maintained to original design capacity. Access to the facility and the landfill is restricted to prevent unauthorized traffic and illegal dumping.

If required, prior to the monitoring results of the inspection and maintenance program would be reported to BLM on an annual basis. Landfill monitoring reports would also be maintained as required to the SNHD.

2.1.2 EVAPORATION PONDS

The Facility produces approximately 340 gallons per minute (gpm) of wastewater resulting from the production of sodium-based, flue gas desulfurization (scrubber) blowdown, cooling system blowdown, and bottom ash conveyance water. The annual average evaporation rate of sodium-based wastewater is 2.76 gpm per acre. Approximately 179 million gallons of process wastewater annually would be pumped from the power plant to the proposed evaporation ponds over the 30-year design life of the ponds. Based upon the local evaporation rate, this would require a minimum of 123 acres of evaporation surface area to maintain the process balance.

The Proposed Action would provide approximately 124 acres of new pond surface area as shown in Figure 2. The evaporation ponds would be constructed completely outside the limits of BLM's designated utility corridor. The surface area would provide for the evaporation needed to maintain the process balance. The average pond depth would be 24 feet. Each pond would be

double-lined using 60-mil HDPE membrane with a leak detection system installed between the two liners. The ponds would be constructed in stages. As the current ponds are filled they would be closed, cleaned, and replaced by new ponds on the BLM leased land. A design of a typical evaporation pond is shown in Figure 6 and Figure 7. The pond design would prohibit discharge of process water to either surface water or groundwater.

A pipeline from the power plant to the proposed evaporation ponds would be constructed of 10-inch HDPE piping and routed generally along the haul road. The final location and design of the piping system and access roads would be provided in the final engineering to be included in the final POD. In the unlikely occurrence of a leak in the pipeline, the system would be shut down, the leak repaired, and any standing process water waste would be recaptured.

All storm water run-off from within the ponds area would be captured and treated in evaporation ponds and would not be discharged. There would be no stormwater run-on based on the design of the ponds in their proposed location.

The access road to the ponds would begin at the north side of the new haul road for the landfill and proceed between the two rows of evaporation ponds. A 10-inch water line and electric power lines would be buried adjacent to the road. This access road would be built to a lower standard as the traffic to the evaporation ponds and utilities would be minimal. The access road would be 12 feet wide with 4-foot drainage slopes on each side.

About 10 percent of the wastewater sent to the evaporation ponds would consist of solids, which remain in the ponds after evaporation of the water. In 1 year, approximately 912,000 cubic yards of solids would accumulate in the evaporation ponds. The solids consist mostly of sodium sulfate with some calcium sulfate and magnesium sulfate. These solids are considered non-hazardous waste (see Table 2-2).

When a pond reaches its solids capacity, the water would be decanted and the solids would be placed in the landfill. This removal activity damages the liner; therefore the pond would then be re-lined with a 60-mil HDPE double liner and leak detection system and placed back into service.

The use of sodium bicarbonate reagent in the flue gas desulfurization system of the power plant is effective in controlling sulfur dioxide air emissions and capturing the sulfur compounds in the scrubber effluent. This low alkalinity sulfate sludge can provide a sub-aqueous growth environment for naturally occurring, sulfur-reducing bacteria. These bacteria thrive in conditions lacking in oxygen (anaerobic) and cause chemical reduction of the sulfate in the sludge due to sulfides, including hydrogen sulfide, which is a gas. This hydrogen sulfide can be

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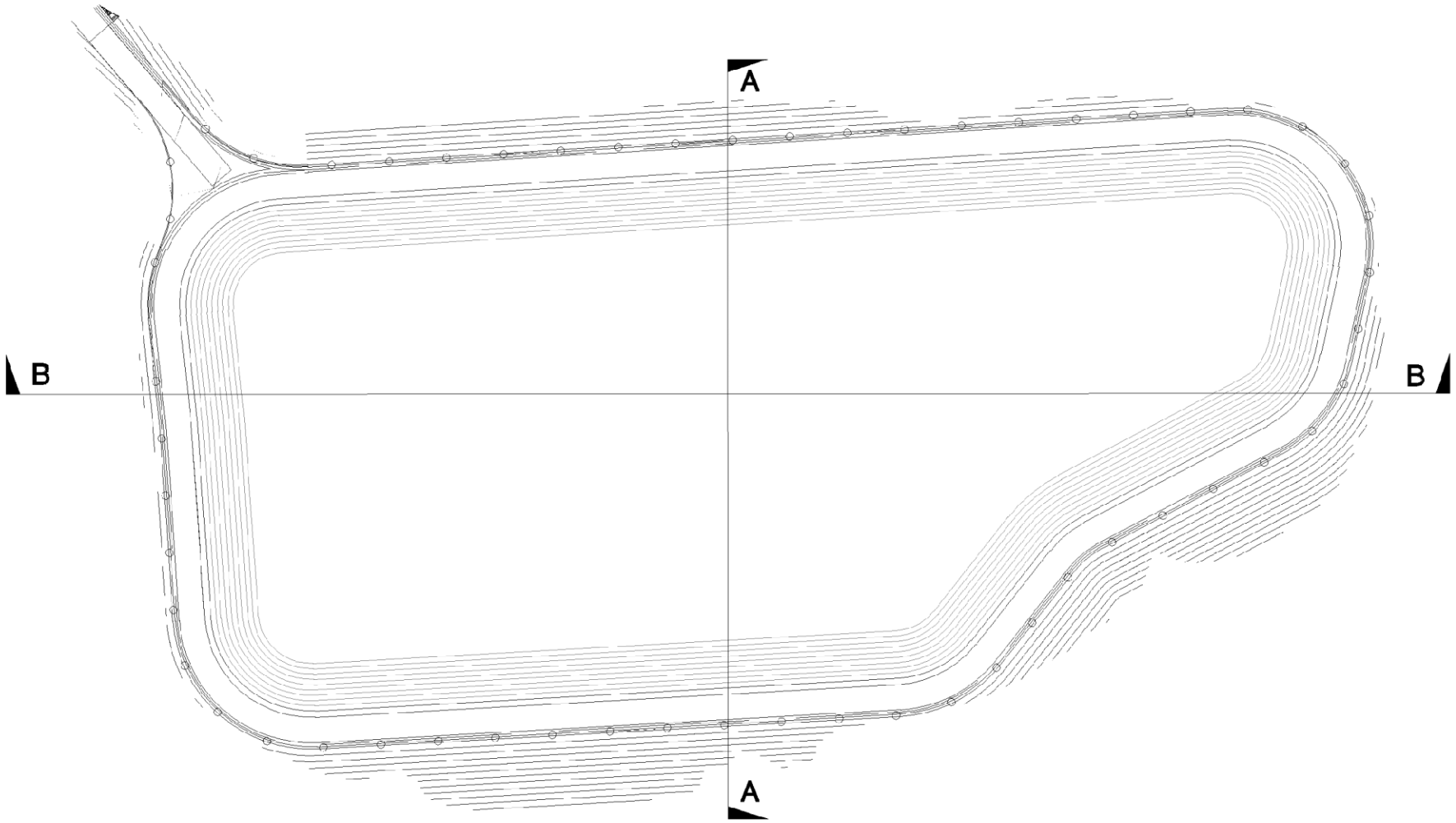

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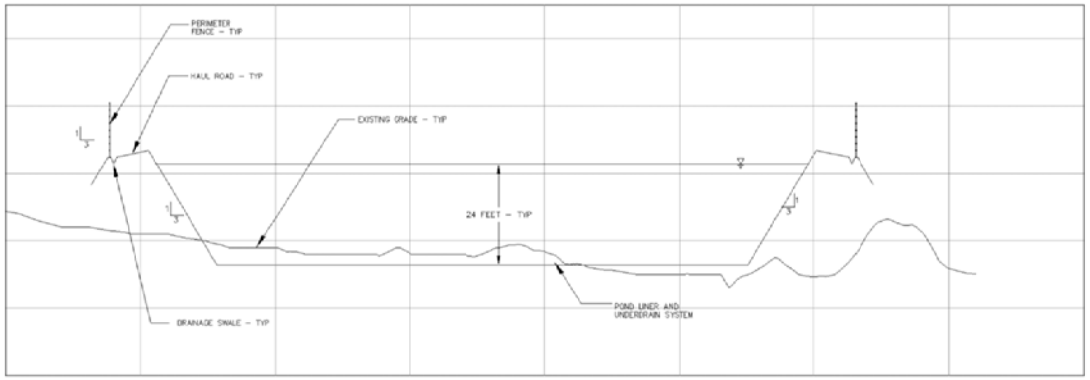
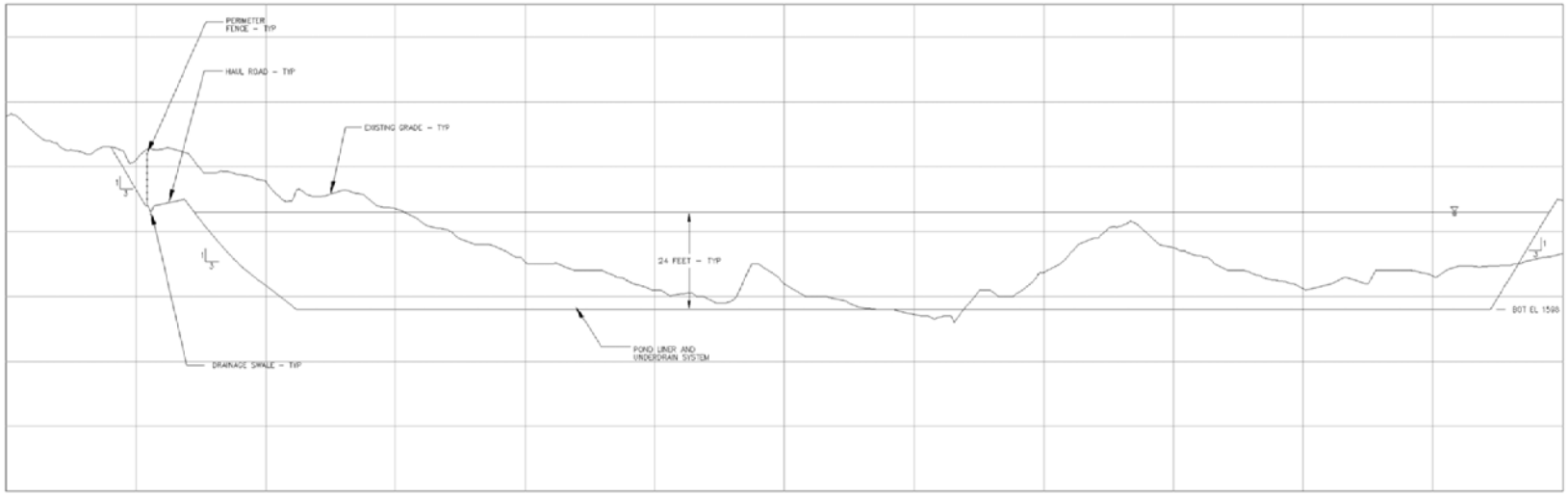
FIGURE 6

POND TYPICAL PLAN VIEW



TYPICAL POND SECTION A-A
NOT TO SCALE



TYPICAL POND SECTION B-B

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FIGURE 7
POND TYPICAL SECTION VIEW

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released into the local atmosphere from the surface of the ponds. Low concentrations of hydrogen sulfide can cause noticeable odor while higher concentrations can be irritating to some people. The Facility staff currently monitors hydrogen sulfide at various locations around the existing ponds to demonstrate to date that the concentration of the gas does not exceed applicable health-based safety standards. This monitoring system would be expanded to include the new ponds.

Hydrogen sulfide generation in the ponds is controlled by maintaining sufficient oxygen concentrations in the ponds, which controls the growth of sulfate reducing bacteria. The new ponds would be equipped with aerators and agitators which have been demonstrated on some of the existing evaporation ponds to minimize the anaerobic conditions that can lead to the formation of hydrogen sulfide. The water chemistry of the ponds would be monitored to detect conditions that indicate the possible formation of hydrogen sulfide. A hydrogen peroxide injection system would also be available for each pond to further minimize any anaerobic conditions in the ponds by adding this strong oxidizing reagent to the pond water when the chemistry monitoring indicates the need.

The results of the pond inspection and maintenance program, as well as the groundwater monitoring program (as described on page 17), would be reported on an annual basis as required to the BLM. Reporting would also be done to comply with the NDEP permitting requirements.

As the new ponds are placed in operation, it is anticipated that the existing evaporation ponds would no longer be needed. As each existing pond is retired, they would be allowed to dry, then the solids and liners would be removed and placed in the landfill and the existing ponds will be restored to a natural state.

The closure of the existing evaporation ponds would comply with the requirements of the NDEP. When new ponds are no longer needed as a result of the ultimate retirement of the Facility, all remaining ponds would be closed in place filled with evaporation pond solids, at which time these ponds would become landfills. A landfill permit would be secured from the SNHD, and the closure process would follow the landfill closure procedure described previously for the solid waste landfill. Closure process would follow the closure procedure described below.

Closure of the ponds would begin when solids reach the final elevation in the ponds and would continue progressively as each pond is filled to final elevation. The surface of the pond solids would first be compacted to 90 percent of maximum density as determined by ASTM D1557 to restrict the amount of water that can seep into the pond solids. Water trucks would aid in controlling dust. The final top surface of the pond solids would be graded to direct run-off to the natural drainage pattern that surrounds the ponds, which would also minimize erosion of the

reclaimed ponds. To minimize the potential for standing water, the final pond solids surface would be graded to a minimum slope of 0.25 percent. Side slopes would have a maximum slope of 4H:1V in order to minimize erosion. The final step in closure would be reclamation, where the regraded pond solids would be covered with site overburden materials. The final pond covers would be designed and constructed in accordance with the requirements of NAC 444.6891 – Requirements for Design and Construction of System for Final Cover. The final pond solids surface would be covered with a minimum of 18 inches of coarse-grained earth compacted to 90 percent of maximum density as determined by ASTM D1557. Once the cover is placed and the site is revegetated, the pond closure would be considered to be complete. Successive ponds would be closed as they are completed.

In accordance with NAC 444.6894, a closed pond inspection program would be implemented for a maximum of 30 years. The length of the inspection program may be decreased by the SNHD if, at the time of closure, it is adequately demonstrated that the reduced period is sufficient to protect public health and safety and the environment. The groundwater monitoring network would be decommissioned after the post-closure monitoring is deemed complete. For the decommissioning, the well casings would be removed by over-drilling and the remaining boreholes would be grouted to the surface. The inspection program would initially be conducted on a semiannual basis, until a reduced inspection frequency (i.e., annual frequency) is considered to protect public health and safety and environment.

The final pond covers would be inspected for cracks, erosion, settlement, undesired vegetation, and also animal use (e.g., burrowing) and corrective action would be performed if deficiencies are observed. The drainage structures would be inspected to ensure that they are operating as designed. The site would be maintained as necessary to prevent erosion or washing of the cover, and grade as necessary to drain rainwater from the cover area and to prevent standing water. The run-on and run-off control systems would be maintained as necessary to original design capacity. Access to the Facility, landfill and ponds is restricted to prevent unauthorized traffic and illegal dumping.

2.1.3 Environmental Protection Measures

As part of the Proposed Action, NPC has incorporated environmental protection measures and management practices into the Proposed Action. These measures are summarized in Table 2-4 for relevant resource areas.

Table 2-4 Environmental Protection Measures and Management Practices

Resource	Environmental Protection Measures / Management Practices
Air – Odor	NPC would equip ponds with aerators, agitators, and hydrogen peroxide injection systems.
	NPC would prepare a Pond Odor Management Plan for the new ponds.
	NPC would ensure that air quality monitoring for hydrogen sulfide is adequate for the proposed action.
	The existing hydrogen sulfide early warning system (equipment and documentation) would be upgraded to incorporate the new evaporation ponds as they are constructed.
Air – Particulate Matter	Haul roads would be watered during construction and active hauling operations.
	NPC would obtain a construction air quality permit from the DAQEM. The plan prepared in support of this permit would establish Best Management Practices (BMPs) for control of fugitive dust during the construction period.
	NPC would maintain a moisture-content of active haul roads and landfill solids at 10 percent to 15 percent.
	Landfill solids would be compacted to 90 percent in accordance with ASTM D1557.
	Inactive landfill areas would be covered with earth. Completed areas would be covered with Native material and revegetated.
Land Use	Ponds would be constructed outside of the ROWs of existing grant holders.
	NPC would allow future overhead utilities to be placed around the northwest perimeter of the existing plant.
	To ensure minimal conflicts with the construction of the Holly Energy Partners pipeline, NPC would coordinate with Holly Energy Partners to allow prior or concurrent construction of the pipeline.
	To minimize impacts to existing grant holders within the utility corridor, NPC would (prior to construction of the Proposed Action) develop a written communication protocol acceptable to each affected grant holder and the BLM. The communication protocol would outline communication, noticing, access, construction, maintenance, and monitoring requirements within the utility corridor.
	NPC would provide all existing grant holders at least 48 hours notice before any construction activities would occur within or in the vicinity of the utility corridor.
	The location of the crossing over the Kern River gas pipeline would be mutually agreed upon by both NPC and Kern River Gas Transmission Co.
	NPC would develop and implement an inspection program to ensure that damage from NPC operations does not occur to existing utilities. NPC would be responsible to ensure the crossing (of the utility corridor) has adequate cover and is maintained at all times. Should damage occur to any utilities, as a result of NPC operations, NPC would be responsible for implementing immediate corrective repairs.
Soils	NPC would stockpile native soils and use them to reclaim areas of disturbance at the end of their operational life.
Cultural Resources	Any suspected cultural object or site (historic or prehistoric) discovered by NPC or its contractors would be immediately reported to the BLM by telephone, and with written confirmation. All Project activities associated with the undertaking would be halted while a protective buffer would be delineated around these cultural resources within which disturbance would be avoided until the BLM Authorized Officer issues a notice to proceed. BLM would notify and consult with SHPO and appropriate Tribes on eligibility and suitable treatment options.
	If human remains are encountered during the project operations, all Project activities associated with the undertaking would be halted while a protective buffer would be delineated around the site of the remains within which disturbance would be avoided and the remains would be protected until the BLM Authorized Officer issues a notice to proceed. If human remains are located, the SHPO and the BLM must be notified immediately.

Resource	Environmental Protection Measures / Management Practices
Cultural Resources cont'd	NPC would not encroach upon the two-acre area of concern located within the boundary of archaeological site 26Ck1142.
Vegetation – Noxious Weeds	NPC would incorporate mitigation measures for control of noxious weeds as determined by BLM under the Las Vegas Field Office Noxious Weed Plan approved on December 18, 2006.
	NPC would perform post project monitoring of reclaimed surfaces.
	NPC would complete a Risk Assessment form for Noxious/Invasive weeds prior to construction. The completed Risk Assessment would be submitted to the BLM for signature by the Noxious Weed Coordinator. NPC shall coordinate project activities with the BLM Weed Coordinator regarding any proposed herbicide treatment. NPC shall prepare, submit, obtain and maintain a Pesticide Use Proposal (PUP) for the proposed action.
Vegetation – Cactus/Yucca	Cacti in the ROW would be flagged and avoided during construction wherever possible. Cacti that cannot be avoided during construction would be salvaged and transplanted outside the disturbance area following BLM guidance for Salvage. All cacti would be stockpiled and transplanting prior to initiation of construction.
	No listed, proposed, candidate or BLM sensitive plants are known to be present in the Project Area. In the event that special status plants are discovered in the future, NPC, in coordination with its botanical consultant and BLM, would clearly mark areas where the plants are located. This area would be marked with flagging or "caution tape" prior to start of project construction. NPC would require that the construction contractor inform the construction crews about the importance of avoiding any disturbance beyond the road surface in general and most importantly in the marked area
Wildlife	NPC would obtain an Industrial Artificial Pond Permit from NDOW to operate the new ponds and would operate the new facilities in accordance with the permit.
	NPC would continue to investigate various means of preventing avian mortalities in the ponds while maintaining the necessary high rates of evaporation.
	Project construction is scheduled to occur outside of the migratory bird nesting season. In the event that an unforeseen delay in construction would require disturbance to vegetation or habitat during the migratory bird nesting season (generally March 15 through July 30 in upland desert habitats such as the Project Area), areas to be disturbed would be surveyed by a qualified biologist prior to disturbance. If active nests are located, a protective buffer would be delineated around these nests within which disturbance would be avoided until the young have fledged. The size of the protective buffer would be determined in coordination with BLM and based upon specific species requirements.
Special Status Animals	Tortoise-proof fencing would be installed around perimeter of landfill.
	NPC would incorporate mitigation measures for the desert tortoise as determined by BLM under the project's Biological Opinion.
	A protocol for minimizing effects to Gila monsters and chuckwallas would be employed; the construction crew would be educated regarding the protocol.
	If ground disturbing activity were scheduled to begin during the burrowing owl breeding season (approximately mid-March through August), any burrows, holes, crevices, or other cavities on the construction site would be collapsed (after being cleared by a qualified biologist) prior to start of construction. This action should discourage burrowing owls from attempting to breed in the Project Area. If construction begins after the start of the breeding season and burrowing owls are observed in the Project Area, a qualified biologist would determine their breeding status. Disturbance to any active nests would be avoided by restricting activity around the nest within a distance specified by the BLM.
	Immediately report any observations of a Gila monster or chuckwalla in the fenced Project Area to NDOW at (702) 486-5127.
	NPC will comply with the Gila monster handling protocol issued by NDOW.

Resource	Environmental Protection Measures / Management Practices
Water Resources – Groundwater	NPC would construct the landfill a minimum of 100 feet above the aquifer and would line the landfill with a 60-mil HDPE liner.
	NPC would double line the ponds with 60-mil HDPE liners with leak detection systems.
	NPC would compact fly ash to 90 percent in accordance with ASTM D1557 to restrict leaching.
	NPC would inspect the ponds and landfill and implement groundwater monitoring during life of the project in accordance with applicable permits.
	NPC would perform post project groundwater monitoring and reporting as required by applicable permits.
	A landfill groundwater monitoring plan was prepared to comply with requirements stipulated in the SNHD Draft Class III Landfill Application Guide [SNHD 2006]. Specifically, for solid waste disposal facilities, SNHD requires a Plan for Monitoring Water, per NAC 444.741, to be implemented during the operation, closure, and post-closure periods for such facilities. Groundwater monitoring is currently performed at the Reid Gardner facility in accordance with requirements stipulated in the Nevada Division of Environmental Protection (NDEP) Discharge Permit No. NEV91022. The existing Reid Gardner Fly Ash Landfill Groundwater Monitoring Plan provides specific groundwater sampling and analysis procedures that meet the requirements of the Discharge Permit. This monitoring plan for the fly ash landfill facility will follow relevant portions of the existing groundwater monitoring program at Reid Gardner, with minor modifications to account for construction of the lateral landfill expansion. Because surface water bodies will not be affected, the plan contains provisions only for groundwater monitoring in the vicinity of the Reid Gardner fly ash landfill. There are nine monitoring wells that are used as monitoring points for the Reid Gardner fly ash landfill. The monitoring wells were constructed of two-inch or four-inch diameter, flush-threaded, Schedule 40 Polyvinyl Chloride (PVC) casing and 0.020-inch factory-slotted Schedule 40 PVC well screen. The monitoring wells were completed according to State of Nevada Division of Water Resources protocol. Each wellhead is equipped with a locking well cover for security. The footprint of the proposed lateral landfill expansion will extend beyond the locations of two existing monitoring wells (LMW-2 and LMW-8). Consequently, the two monitoring wells will be abandoned and relocated farther to the east just outside of the extents of the expanded landfill.
Water Resources – Surface Water	Run-on would be diverted around ponds and the landfill.
	Runoff from ponds and landfill areas would be collected and disposed in evaporation ponds. There would be no discharge of this run-off to surface streams.
	NPC or their construction contractor would obtain a Construction Storm Water Permit from NDEP, which would include preparation of a Storm Water Pollution Prevention Plan. This plan would include established BMPs for crossing of any ephemeral channels to minimize effects to surface waters.
Water Resources – Waters of the U.S.	If required, NPC would obtain a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers and would implement mitigation measures and BMPs specified in the Section 404 permit.

2.2 PROCESS OF ALTERNATIVES DEVELOPMENT

Project alternatives were formulated to address significant issues identified through the scoping process. Potential alternatives were evaluated using the following criteria in order to determine reasonable alternatives to analyze in the EA:

- Does the alternative meet the project purpose and need?
- Is the alternative logistically feasible?
- Is the alternative technically feasible?
- How does the alternative compare economically to the Proposed Action?
- Does the alternative cause unreasonable environmental risks to air, soil and water?

Potential alternatives included on-site and off-site locations and alternate disposal methods. Reasonable alternatives considered include the No Action Alternative, which is discussed below. The implementation of the No Action Alternative would require hauling solid wastes to a permitted off-site disposal facility. Alternatives that were considered but eliminated from detailed analysis are discussed in Section 2.4.

2.3 NO-ACTION ALTERNATIVE

The no-action alternative would result in the BLM not issuing the ROW grant, or NPC with-drawing its request for a grant. This action would require the continued operation of the existing evaporation ponds in their current location. The existing ponds would continue in operation, cleaned of solids when full, re-lined and returned to operation, as needed. This action would not allow for the closure of these ponds within the floodplain.

In addition, upon filling of the current solid waste landfill area, all solid wastes and pond solids would have to be disposed of off-site as described further in the Transport of Solids Off-Site Alternative (see Section 2.4.11) with the exception that under the No Action Alternative, the new evaporation ponds would not be built on the mesa, and the existing ponds would continue to be used.

2.4 OTHER ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD

2.4.1 FLY ASH SALES

The use of coal fly ash in concrete is common and even required in the construction industry if it meets the ASTM requirements under Designation C 618 – 03, "Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete." For the coal used at the Facility, fly ash must meet the Class F requirements. The chemical requirements for Class F fly ash are as follows:

Silicon dioxide plus aluminum oxide plus iron oxide (minimum)	70 percent
Sulfur trioxide (maximum)	5 percent
Moisture content (minimum)	3 percent
Loss on ignition (LOI) (maximum)	8 percent

The current market in the Nevada, California, Arizona, and Utah areas require fly ash to be used in concrete to have an LOI of 6 percent or less and be of a light grey color to assure desired strength and prevent discoloration of the concrete.

Currently, the fly ash from Facility Units 1, 2, and 3 have LOI values above 8 percent, and Unit 4 can exceed 16 percent. As a result, the fly ash from the Facility does not currently meet the market criteria for sales in the area on a consistent basis. Therefore, for the reasons above, this alternative is considered to be technically infeasible.

In addition, the sale of fly ash does not address the need for evaporation ponds or disposal of bottom ash and evaporation pond solids so it does not meet the purpose and need for the project. This alternative was eliminated from further review in the EA.

2.4.2 COVER PONDS

This alternative responds to scoping comments requesting that the evaporation ponds be covered to eliminate odor emissions. The existing evaporation pond area at the Facility is about 125 acres. If a large roof with interior support columns would be built, there would be numerous locations where the support columns would need to penetrate through the pond linings to the column foundations. Each of these column locations would be difficult to join the liner to the column with a watertight seal. Finally, the purpose of the ponds is to evaporate water. Covering them with a roof would reduce or eliminate evaporation depending on how much the building was vented to the outside atmosphere.

Instead of building roofs, the ponds could be covered with impermeable, floating covers, which would eliminate the need for a roof structure. However, this also would negate the purpose of the ponds, which is to evaporate water. For the ponds to evaporate water, the water surface itself must be exposed to the atmosphere. Covering the ponds with an impermeable cover would eliminate evaporation. Additionally, the covers would need to be removed occasionally to remove settled solids from the ponds, and the covers would not prevent odors emitted at these times.

This alternative is considered to be technically and economically infeasible and does not meet the purpose and need. Therefore, this alternative was eliminated from further review in the EA.

2.4.3 Build Deeper Ponds and Fly Ash Landfill

This alternative responds to comments received during public scoping. The recommended concept was that deeper ponds and landfill facility would require less surface area. The evaporation ponds are designed with a particular surface area sufficient to evaporate the annual amount of wastewater produced at the Facility. Deepening the ponds would increase their water and solids holding capacity but such deepening could not reduce the surface area of the ponds. This is because the proposed surface area is required to evaporate the Facility wastewater at the local evaporation rate.

The existing landfill facility is not built with a significant excavation to hold ash. Most of the ash is placed in compacted lifts above grade. The storage capacity of the proposed landfill facility is limited by the height the ash can be placed and still maintain side slopes no greater than designed. Placing the ash higher than this would require steeper side slopes that would be more prone to erosion and instability.

This alternative is considered to be technically infeasible and does not meet purpose and need. Therefore, this alternative was eliminated from further review in the EA.

2.4.4 Underground Injection

This alternative responds to internal scoping input recommending that Facility wastewater and possibly sludge be disposed of through underground injection at or near the Facility. Underground injection of saline wastewater is a technology commonly employed in the oil and gas production industry.

Injection of industrial wastewater of the type produced by the Facility would be considered a Class I Underground Injection Well by Nevada Underground Injection Control (UIC) regulations. Class I UIC wells are prohibited in the State of Nevada.

This alternative is considered to be technically and legally infeasible. Therefore, this alternative was eliminated from further evaluation in the EA.

2.4.5 Slurry Disposal Reservoir

The Slurry Disposal Reservoir Alternative responds to scoping input recommending alternative methods to relocate fluids and ash. The alternative consists of mixing fly ash, bottom ash, and Facility wastewater to form slurry and pump it to a nearby slurry disposal reservoir. The ash in the reservoir would settle out and the wastewater would evaporate. The reservoir would be constructed by building an earth-fill dam across a low area such as an existing drainage, rerouting the natural watershed around the dam, and lining the reservoir area. A slurry-mixing

facility and pumping station would need to be built at the power plant in addition to a road and pipeline ROW from the plant to the reservoir.

As the slurry separates in the reservoir, the settled solids would achieve a bulk density that is less than the compacted density of the dry solids in the existing and proposed landfill facilities at the Facility. This would consequently require a larger storage volume for solids in the reservoir than in the dry land storage mode. The current landfill facilities are constructed with steeper outer slopes than would be present in the slurry reservoir with its natural topography. The combination of the lower settled density and flatter slopes would require a larger area for the slurry reservoir than the proposed dry landfill. A greater area of surface environmental disturbance would be required for the slurry reservoir than the proposed landfill.

Hydrogen sulfide is generated in the existing evaporation ponds when anaerobic conditions occur in sludge in the bottoms of the ponds. Pond chemistry is currently monitored to anticipate conditions leading to generation of hydrogen sulfide and the pond water is oxidized with mechanical aerators and/or hydrogen peroxide to limit generation of the gas. In a slurry disposal reservoir, a significant quantity of water would be trapped in the settled solids where anaerobic conditions could develop. This trapped water would not be treatable with aeration or peroxide. Additionally, the larger surface area and soft bottom of the slurry reservoir would limit location of aeration equipment to the margins of the reservoir making aeration of all the water in the reservoir problematic. The combination of these factors would likely lead to increased hydrogen sulfide generation in a slurry disposal reservoir compared to the current or proposed evaporation ponds.

Industrial wastewater disposal ponds are required to be lined to prevent leakage of wastewater from the ponds. The proposed evaporation ponds would be built with double liners and leak detection systems. If a leak were detected, it would be possible to eventually empty a single evaporation pond and fix the leak while the other ponds continued to operate. In a slurry disposal reservoir, the area to be lined would be much larger than any of the proposed evaporation ponds so the construction cost would be higher and the potential for leakage would be greater. More significantly, in a single slurry disposal reservoir, it may not be possible to empty the reservoir enough to fix a leaking liner. In addition, the settled solids overlying the liner would make locating the leak more difficult than in an evaporation pond.

Locating a slurry disposal reservoir in a local topographically low area would bring the contents of the pond closer to the water table than evaporation ponds and ash landfills located on top of the mesa. Additionally, surface runoff through the topographic low area would need to be permanently rerouted around the reservoir. Any future failure of this runoff diversion could

potentially threaten the stability of the reservoir dam, and potentially result in release of ash and wastewater downstream of the reservoir.

This alternative would obviously have greater environmental impacts than the Proposed Action or other alternatives that include use of evaporation ponds and dry landfill facilities on the mesa. It was therefore eliminated from further evaluation in the EA.

2.4.6 USE SCRUBBER WASTE TO MAKE GYPSUM BOARD

This alternative responds to scoping input recommending that the volume of scrubber waste be reduced by recycling it for manufacture of gypsum wallboard. This might be possible if the scrubber waste contained calcium sulfate (gypsum) and this would be produced in the scrubbers if the scrubbing reagent were calcium oxide like some power plants. However the Facility uses a sodium hydroxide scrubbing reagent thus the scrubber waste does not contain any significant amount of gypsum.

This alternative is technically infeasible. It was eliminated from further evaluation in the EA.

2.4.7 LOCATE PROPOSED FACILITIES SOUTH OF FACILITY (SECTIONS 16, 17, 18)

Public land within Sections 16, 17, and 18 of T15S, R66E, south of the Project Area (Alternative B area on Figure 8) was evaluated as a possible alternate site for the evaporation ponds and solid waste landfill. Although no wells or boreholes have been completed within Sections 16 through 18, extrapolation from well logs in Sections 7 and 8 indicate that locations above California Wash would be expected to exhibit at least a 100 foot vertical separation from groundwater. However, California Wash and several tributary washes traverse Sections 17 and 18 and topography in these areas is dissected, making it much less favorable for siting of the ponds and ash/solids landfill than the proposed mesa location in Sections 7 and 8. Also, per State of Nevada regulations (NAC 444.735) Class III solid waste facilities such as the proposed landfill cannot be located within 1,000 feet of any surface water. I-15 approximately diagonally bisects Section 16, and a 30-acre Nevada Department of Transportation materials site is approximately centrally located in the portion of Section 16 north of the Interstate. These considerations make siting of the evaporation ponds and ash/solids landfill, which together require approximately 444 acres, within Section 16 logistically difficult. Also, the ponds and landfill would be much more visible in this location from I-15 than the proposed location.

Operation of the ponds and landfill at this alternate location would be more costly than for the proposed location, based on the greater haul distance for the ash and solids. Based on all of the above, this alternate site was considered to be technically infeasible and obviously would have greater environmental impacts than the Proposed Action so it was eliminated from further consideration.

2.4.8 LOCATE PROPOSED FACILITIES NORTHEAST OF FACILITY

Private Land in Sections 3 and 4

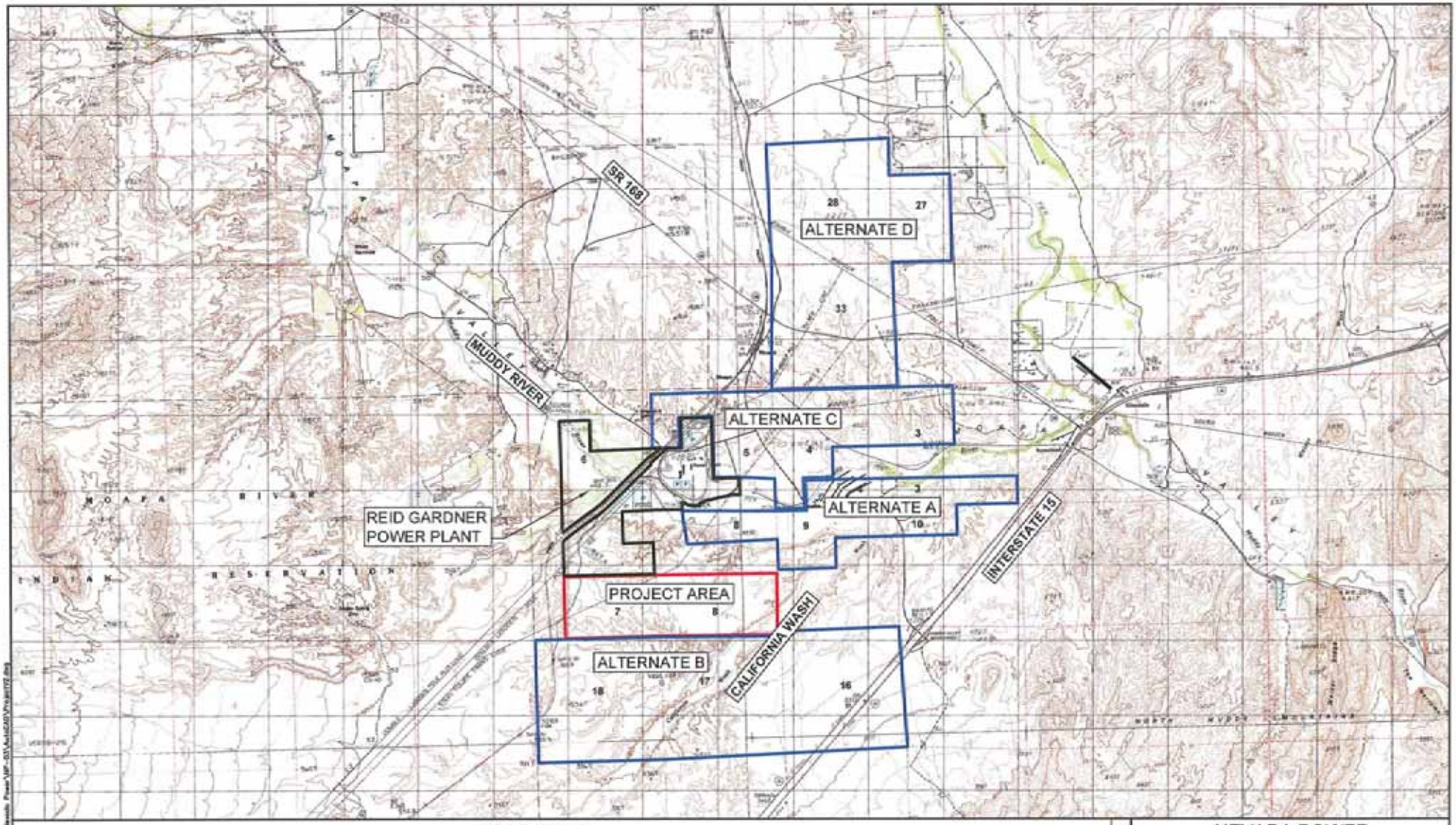
Private land in Sections 4 and 3 of T15S, R66E, east of the Facility (Alternative A area on Figure 8) was evaluated as a potential alternate location for new evaporation ponds and the solid waste landfill. This private land, formerly a dairy, is owned by a developer, who is in the preliminary planning stages of residential development. Selection of this alternative would require purchase of this land by NPC. The property is located near the floodplain of the Muddy River. While detailed site studies have not been completed, based on monitoring well data within the same floodplain on the Facility property, it is likely that groundwater depth is less than 100 feet from the surface, based on the location of the floodplain. The proposed solid waste landfill must meet the design and siting requirements for a Class III solid waste facility under State of Nevada regulations. These require a vertical separation of at least 100 feet from the uppermost aquifer (NAC 444.735). Therefore, State regulations would preclude location of the landfill at this location. Additionally, constructing evaporation ponds on the property would not meet NPC's long-term goal to relocate their evaporation ponds away from the Muddy River. This alternative was considered to be technically and legally infeasible and did not meet the Purpose and Need for the project. For these reasons, this alternate site was eliminated from further consideration.

Public Land in Sections 4 and 5

Public land within Sections 4 and 5 of T15S, R66E, north and east of the Facility site (Alternative C area shown on Figure 8) was also evaluated as a possible alternate site for the evaporation ponds and ash/solids landfill. Although there is no site specific information about groundwater from this area, being close to the Muddy River floodplain, it is expected that groundwater could be less than 100 feet from the ground surface, making this location unsuitable for the solid waste landfill, which must meet Nevada requirements for a Class III solid waste facility. Also, based on a review of BLM Master Title Plats, there are numerous existing ROWs that traverse Sections 4 and 5 that include several gas pipelines, overhead transmission lines, telephone lines, and other utilities. These existing ROWs would make siting of new evaporation ponds and an ash/solids landfill, which together require approximately 444 acres, logistically impossible. Finally, this location is closer to the population center on the Moapa River Indian Reservation (Reservation) than the proposed location in Section 7 and 8. This alternative was considered to be technically infeasible and obviously has greater environmental impacts than the Proposed Action (closer proximity to Moapa population). It was therefore eliminated from further consideration.

Public Land in Sections 33, 27, and 28

Public land within Sections 33, 28 and the western half of Section 27 of T14S, R66E, north and east of the Facility site (Alternative D area shown on Figure 8) was evaluated as a possible alternate site. Although there is no site-specific information on depth to groundwater in this


SR 168
ALTERNATE D
MUDDY RIVER
ALTERNATE C
ALTERNATE A
REID GARDNER
POWER PLANT
INTERSTATE 15
PROJECT AREA
CALIFORNIA WASH
ALTERNATE B
MOAPA RIVER INDIAN RESERVATION
BASE IMAGE: USGS DRG
PROJECT AREA, APPROXIMATELY 560 ACRES
EXISTING REID GARDNER POWER PLANT BOUNDARY
ALTERNATE SITE
4000
0
4000 FEET
04/23/07
NEVADA POWER
REID GARDNER EXPANSION PROJECT
FIGURE B
ALTERNATIVE EXPANSION PROJECT AREAS

area, it is anticipated that upland portions of Sections 33 and 28 would have a vertical separation of more than 100 feet from groundwater. Section 27 is closer to the Meadow Valley Wash, therefore groundwater in this area is likely to be closer to the surface, making it less suitable for the landfill. Also, Section 27 borders the Moapa Township, so that operation of the ponds and landfill would be closer to a population center than the proposed location.

Section 33 is approximately bisected by State Route 168, a busy highway. Acreage requirements and the presence of several existing utility ROWs would preclude siting the ponds and/or landfill in Section 33 south of the highway. Siting of the ponds and landfill north of the highway in the northern portion of Section 33 or in Section 28 would require frequent truck crossings of highway (20 per day) to haul materials to the landfill. This would represent a major safety consideration for operations that is not shared by the Proposed Action. Also, construction and operation of the ponds and landfill at this location would be more costly than the proposed location, based on the greater distance from the Facility. This alternative was considered to be technically infeasible and obviously had greater environmental impacts than the Proposed Action (closer proximity to population centers and safety issues). It was therefore eliminated from further consideration.

2.4.9 Utilize Section 5 for Ponds (existing authorization) and Section 8 for Landfill

Lands within Section 5 have a current NPC BLM ROW authorization for ponds and other miscellaneous disturbance. NPC intends to construct ponds needed to remediate contaminated groundwater at the Facility. Therefore, this site is not available to use for evaporation pond construction to replace the Proposed Action. Based on monitoring well information at the Facility, the distance to groundwater in this section is less than 100 feet. The proposed solid waste landfill must meet the design and siting requirements for a Class III solid waste facility under State Nevada regulations. These require a vertical separation of at least 100 feet from the uppermost aquifer (NAC 444.735). Therefore, State regulations would preclude location of the landfill at this location. Therefore this alternative is considered to be technically infeasible and was eliminated from further consideration.

2.4.10 New Location for Landfill and Continue to Use Existing Ponds

This alternative combines the No Action Alternative for continued operation of the ponds and implementation of Transport of Solids Off-Site Alternative (Section 2.3) for the solid wastes. The existing ponds would continue in operation, cleaned of solids when full, re-lined and returned to operation. This action would not allow for the closure of these ponds and reclamation of the Muddy River floodplain. This alternative was eliminated from further consideration because this alternative would not meet the project need to remove ponds out of

the Muddy River floodplain. Additionally, the cost associated with transporting solids to a disposal site is unreasonable. Cost estimates are shown in Appendix C.

2.4.11 TRANSPORT OF SOLIDS OFF-SITE

This alternative assumes that the BLM would not approve the ROW for the proposed new landfill in Section 7 but would approve the ROW for the proposed new evaporation ponds in Section 8. This would eventually result in the closure of the existing evaporation ponds as described in the Proposed Action. If the proposed new landfill is not built, following reaching capacity in the existing solid waste landfill, additional solids would need to be transported for disposal off-site in an approved landfill. If solids have to be transported off-site in order for the Facility to continue its operation, the additional cost of off-site disposal versus on-site disposal would be incurred along with the construction cost for the new evaporation ponds and the cost for closure of the existing ponds.

Over the 30-year period from 2009 to 2039, the Facility is projected to generate approximately 10.2 million cubic yards of solids. The operating cost of storing these solids on the proposed BLM land (240 acres) is estimated at $156 million. Appendix C estimates these costs. To transport these solids by truck over a 30 year period, 60 highway-legal truck loads per day would be shipped for 4 days per week to the Apex Disposal Landfill at a cost of $814 million, and a cost increase of $658 million over on-site disposal. This solid waste disposal cost increase over the on-site landfill, combined with the cost of constructing the new evaporation ponds and closing the existing ones, is not economically feasible and this alternative was eliminated from further review in the EA. The environmental impacts of not building the proposed landfill or the new evaporation ponds are evaluated in the No Action Alternative.

In addition to the off-site transport by truck, two other off-site industrial landfills with rail access were evaluated; these are the ECDC landfill in central Utah and the Butterfield landfill in Arizona. Off-site disposal with rail transport of the solid wastes to either the ECDC industrial landfill or the Butterfield landfill would cost $995 and $1,098 million, respectively for the same 30-year period. As these costs are significantly greater than the off-site transport of solids with trucking to Apex, with no change in on-site environmental impacts, the rail transport options were also not carried forward in this EA.

CHAPTER 3 AFFECTED ENVIRONMENT

This chapter describes the environment potentially affected by the construction, operation, and maintenance of the Proposed Action and alternatives carried forward for analysis in this EA.

3.1 GENERAL SETTING

The Proposed Action is located in the upper Moapa Valley in the northeastern Mohave Desert at the southern edge of the Great Basin. The region displays typical Basin and Range topography, with steep ranges oriented northeast to southwest interspersed by low valleys. The Moapa Valley slopes gently from the north to the south and is defined by the Mormon Mountains to the northeast, the Meadow Valley Mountains to the northwest, the Arrow Canyon Range to the west, and the North Muddy Mountains to the southeast. The Proposed Action is located on a mesa one-half mile south of the Muddy River. Elevation of the mesa site is approximately 150 feet higher than that of the lower valley area (1,600 feet). The Muddy River flows through the lower valley area to Lake Mead. California Wash is located at the southeast corner of the Project Area. Vegetation primarily consists of low, widely spaced shrubs typical of the Mojave Desert.

3.2 CRITICAL ELEMENTS OF THE HUMAN ENVIRONMENT

Pursuant to BLM NEPA Handbook; H-1790-1, Appendix 5, this EA must analyze critical elements of the environment as required by statute, regulation, executive order, or State guidelines. Discussion of the critical elements of the human environment, as listed in the *Environmental Analysis Guidebook* (BLM 2006a), is provided in the following sections as they apply to the Proposed Action and alternatives carried forward for analysis in the EA.

3.2.1 AIR QUALITY

3.2.1.1 Regulatory Framework

The DAQEM has been delegated the authority, under the provisions of Nevada Revised Statute 445B.500 and by direction of the Clark County Board of County Commissioners, to implement and enforce an air pollution control program in Clark County, Nevada. NDEP Bureau of Air Pollution Control (BAPC) has jurisdiction of air quality programs for all counties in the State of Nevada except for Washoe and Clark Counties. However, BAPC retains jurisdiction of only fossil fuel-fired units that generate steam for electrical production for all Facilities in the State, including those located in Clark and Washoe Counties.

The State of Nevada has implemented air quality standards that are based on the national standards for air quality. In addition to the State standards for the criteria pollutants, Nevada has an air quality standard for the non-criteria pollutant hydrogen sulfide (Appendix D), which is a potentially toxic gas characterized by a disagreeable odor.

3.2.1.2 National Ambient Air Quality Standards

The U.S. EPA has established National Ambient Air Quality Standards (NAAQS). The EPA set these standards to protect human health and welfare. Primary standards are designed to protect public health and the environment, including sensitive populations such as the elderly and children. Secondary standards protect public health and address the effects of air pollution on vegetation, materials, and visibility (Appendix D). The Clean Air Act, as amended in 1990 (CAA) (42 U.S.C. 7401) Sec. 107. (a) states that "Each State shall have the primary responsibility for assuring air quality within the entire geographic area comprising such State by submitting an implementation plan for such State which will specify the manner in which national primary and secondary ambient air quality standards will be achieved and maintained within each air quality control region in such State."

Ozone is a secondary pollutant formed in the atmosphere from a series of three complex photochemical reactions involving volatile organic compounds (VOC), NO_x, and other ozone precursor pollutants such as carbon monoxide. Conservatively, ozone emissions may be estimated by assuming 100% conversion of VOC pollutants into ozone emissions.

Air pollution comes from a variety of sources. These include "stationary sources," such as factories, power plants and smelters; smaller sources, such as dry cleaners and degreasing operations; "mobile sources," such as cars, trucks, buses, trains and planes; and "natural sources," such as windblown dust and wildfires. The six principal air pollutants ("criteria" pollutants) with primary standards are carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter (with an aerodynamic size less than or equal to 10 microns, or PM_{10}, and with an aerodynamic size less than or equal to 2.5 microns, or $PM_{2.5}$), and sulfur dioxide. Effective September 16, 1997, standards for eight-hour ozone concentrations and for particulate matter less than or equal to 2.5 microns in size ($PM_{2.5}$) were added to the list of standards for the criteria pollutants. The finer particle size standards for $PM_{2.5}$ provide increased protection against a wide range of health effects related to respiration of particulate matter. Monitoring for the new $PM_{2.5}$ standards began in 1999. The State of Nevada has its own air quality standards that are generally based on the national standards for air quality. As stated previously, Nevada has an air quality standard for the non-criteria pollutant hydrogen sulfide. Required monitoring for hydrogen sulfide is generally confined to the proximity of industrial sources of this pollutant.

3.2.1.3 Fugitive Emissions

Fugitive emissions are regulated by the State of Nevada Air Quality program (NAC 445B.22037). Fugitive Emissions are defined in NAC 445B.075 as "emissions of solid, airborne particulate matter which could not reasonably pass through a stack, chimney, vent or a functionally equivalent opening."

3.2.1.4 Prevention of Significant Deterioration

Federal Prevention of Significant Deterioration (PSD) is an EPA program in which state and/or federal permits are required in order to restrict emissions from new or modified large sources (such as power plants, large mines, chemical plants, etc.) in places where air quality already meets or exceeds primary and secondary ambient air quality standards. PSD increments are a limit on air quality impacts as defined in the Federal PSD regulations which are contained within Title 40 CFR, Part 51 Subpart 166 (40 CFR 51.166) and are adopted by reference in the NAC in Chapter 445B Section 221 (NAC 445B.221). PSD regulations are intended to help encourage economic growth while preserving existing clean air resources. PSD increments as defined in 40 CFR 51.166 are limits to increases in ambient pollutant concentration over the baseline concentration. As outlined in the CAA, and through the authority of the Nevada State Implementation Plan, the State of Nevada is responsible for assuring that PSD increments are not exceeded. In Nevada, planning areas have been defined in accordance with section 107(d) of the CAA and are represented by hydrographic areas.

3.2.2 CLIMATE

The climate of the area is arid to semi-arid with low precipitation and humidity, and high evaporation rates. Local summer storms during July and August are the source of most summer precipitation, and winter snows occur 30 miles west of the site at the higher mountain elevations.

According to National Weather Service records (NOAA 2006), average monthly high temperatures at Las Vegas range from 104.1 degrees Fahrenheit (˚F) in July to 57.1˚F in January, while average monthly lows range from 78.2˚F in July to 36.6˚F in December. Summer high temperatures are frequently over 110˚F. Average annual precipitation is 4.49 inches although the rainfall is erratic and infrequent and intense thunderstorms can cause flooding.

3.2.2.1 Wind Conditions

The existing Facility has an extensive air quality monitoring program. Wind rose information available from this data indicates that the wind direction is most commonly coming from either the north/northwest or from the south/southwest. Sample wind rose figures are included in Appendix E.

3.2.3 EXISTING CONDITIONS

The Las Vegas/Clark County region, excluding the Reservation and the Fort Mojave Indian Reservation, is currently designated non-attainment by the EPA for three NAAQS criteria pollutants (carbon monoxide, ozone [8-hour] and PM_{10}). The Proposed Action is located in the Air Quality Hydrographic Basin Area Boundary 218 (Figure 9). This area is classified as non-attainment for NAAQS ozone (8-hour). This hydrographic basin has also been classified as a PSD Triggered 107(d) Planning Area by the State of Nevada. DAQEM is currently scheduled

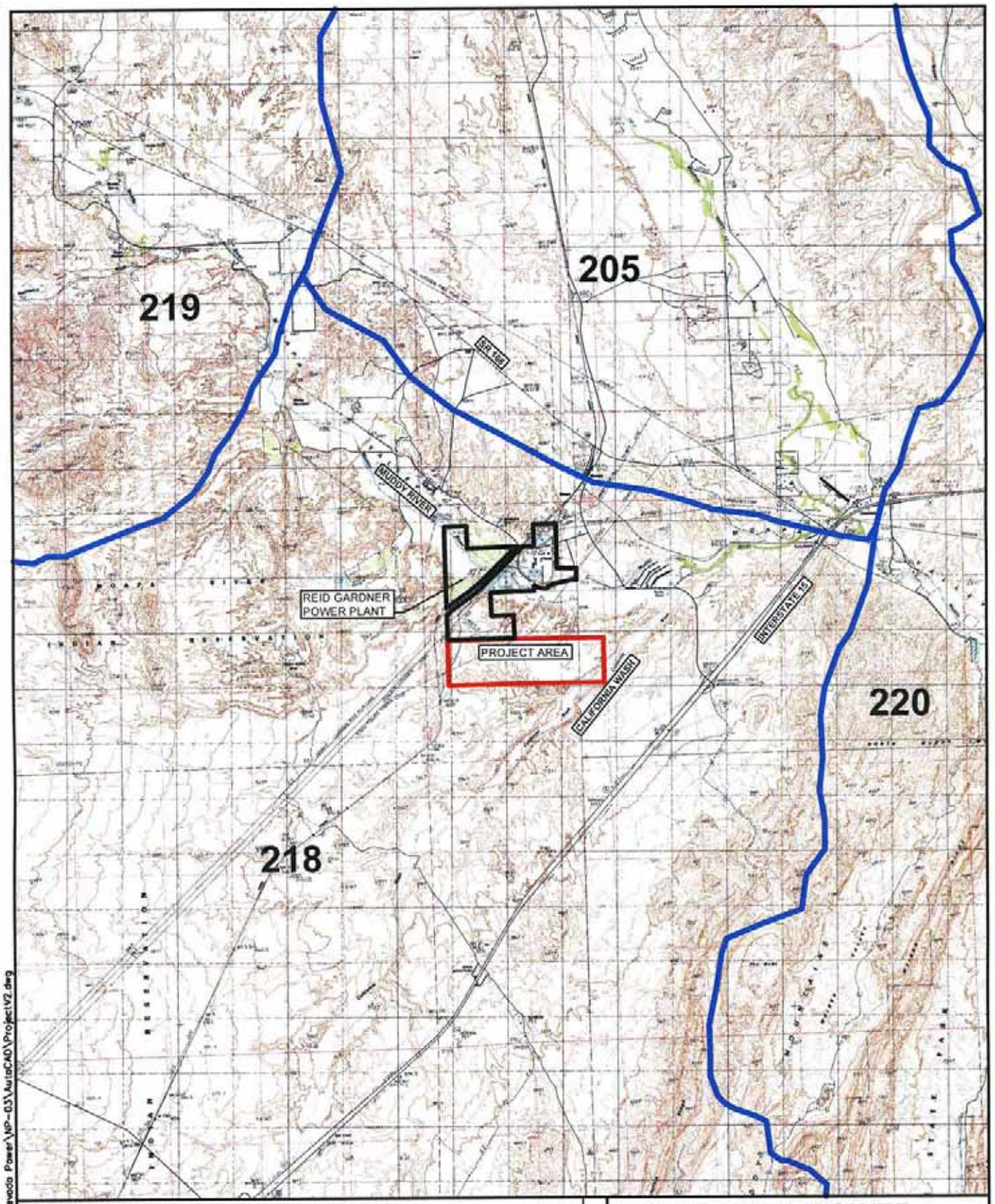


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FIGURE 9
AIR QUALITY HYDROGRAPHIC BASIN

to submit a State Implementation Plan for ozone non-attainment to the EPA in 2009. In a letter to the EPA dated June 12, 2007, the DAQEM asked the EPA to lift the non-attainment status for 8-hour ozone showing proof of compliance with the air quality standard.

3.2.3.1 Reid Gardner Facility

The existing Facility is located immediately adjacent to the Proposed Action in Hydrographic Basin 218. The Facility was issued a PSD permit on January 3, 1980 by the EPA. The PSD requirements have been included in the facility wide Class I Air Quality Operating Permit AP4911-0897 issued April 22, 2004 by NDEP, BACP. DAQEM has been delegated to authority by the Governor for the State of Nevada as the compliance oversight for Clark County and the Proposed Project.

The Air Quality Operating Permit regulates emissions from 20 systems at the Facility, hydrogen sulfide emissions associated with process ponds and fugitive emissions associated with surface area disturbance. The permitted systems include boilers, cooling towers, coal unloading, coal crushing and screening, coal storage, conveying equipment, ash and lime storage silos, and fuel and ash slurry tanks. The major potential sources of fugitive dust on the Facility property include: the ash landfill haul road; unpaved roads that access the ponds and other areas of the Facility; various coal yard activities including conveying, stacking, and scale calibration; and, seasonal drying of ponds potentially resulting in windblown salt precipitate and pond sediment. The source of hydrogen sulfide emissions is the evaporation ponds that receive scrubber wastewater from the plant. The plant's scrubber system uses a liquid compound to extract sulfur dioxide pollutants from the plant's emissions. The residual, sodium sulfate, is disposed as wastewater in a series of evaporation ponds. Low oxygen levels in the ponds result in bacterial consumption of the sulfate, resulting in the by-product, hydrogen sulfide gas.

The Facility has numerous emission control devices and practices in place to reduce the potential to emit regulated air pollutants. Examples of control measures include gas stream scrubber units, water sprays, baghouses and the practices of fugitive dust management included in the Reid Gardner Dust Control Plan.

The Facility is required by state and federal regulations to perform ambient air quality monitoring to obtain site specific meteorological data and ensure compliance with applicable air quality standards. Table 3-1 lists each monitoring site and provides a description of the purpose and monitoring parameters. Figure 10 shows the location of the monitoring stations. Table 3-1 provides data on the ambient air quality in the Project Area. Table 3-2 summarizes typical air quality data (criteria pollutants only) for the Reid Gardner Facility, measured from July 1, 2006 to June 30, 2007.

BASE IMAGE: AERIAL PHOTO PROVIDED BY KENNEDY/JENKS CONSULTANTS & USGS DOQQ

PROJECT AREA, APPROXIMATELY 560 ACRES

EXISTING REID GARDNER POWER PLANT BOUNDARY

AIR QUALITY MONITORING STATION LOCATION

2000 0 2000 FEET

04/23/07

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FIGURE 10
EXISTING AIR QUALITY MONITORING STATIONS

Hydrogen sulfide monitoring occurs near the ponds and on the Reservation. The monitors near the ponds serve as an early warning system to trigger alarms when the gas reaches 25 percent of the standard for acceptable levels of hydrogen sulfide. Appendix F contains the Reid Gardner Hydrogen Sulfide Action Plan and a sample Odor Complaint Form.

Table 3-1 Reid Gardner Facility Ambient Air Quality Monitoring

Site Identification	**BMT-1 (Big Meteorological Tower) (100 Meter Tower)**
Required (Y/N)	**Yes**
Reason	Reid Gardner Station Title V Operating Permit (AP 4911-0897) and PSD
Parameters	2 Meter Level – BP, Precipitation, Solar Radiation, RH, Temperature, Differential Temperature from 2-10, 2-50, 2-100 10 Meter Level – WS, Vertical WS, WD, Sigma Theta, Temperature 50 Meter Level – WS, Vertical WS, WD, Sigma Theta, Temperature 100 Meter Level – WS, Vertical WS, WD, Sigma Theta, Temperature
Site Identification	**RAQ-2 (Railroad Air Quality) (No Tower)**
Required (Y/N)	**Yes**
Reason	Reid Gardner Station Title V Operating Permit (AP 4911-0897) and PSD
Parameters	SO_2, PM_{10}
Site Identification	**GAQ-3 (Glendale Air Quality) (10 Meter Tower)**
Required (Y/N)	**Yes**
Reason	Reid Gardner Station Title V Operating Permit (AP 4911-0897) and PSD
Parameters	SO_2, NO_2, O_3, Co-located PM10, WS, WD, Temperature
Site Identification	**PAQ-4 (Pond Air Quality) (No Tower)**
Required (Y/N)	**YES**
Reason	Installed for Hydrogen Sulfide detection – originally on ponds. Moved to guard shack at request of NDEP in approximately 1996.
Parameters	Hydrogen Sulfide
Site Identification	**RMS-5 (Reservation Monitoring Site) (10 Meter Tower)**
Required (Y/N)	**Yes**
Reason	Clark County Health District requested as a condition of approving lateral expansion of Reid Gardner Ash Landfill (Permit No. LF006-CMP-0)
Parameters	2 Meter Level – BP, Precipitation, Solar Radiation, RH, Temperature, Hydrogen Sulfide 10 Meter Level – WS, WD, Sigma Theta, Temperature
Site Identification	**PMS-10 (Pond Monitoring Station) (No Tower)**
Required (Y/N)	**No**
Reason	Nevada Power installed as pre-warning of Hydrogen Sulfide in direction of reservation
Parameters	Hydrogen Sulfide

SO_2 = Sulfur Dioxide
NO_2 = Nitrogen Dioxide
O_3 = Ozone

The air emissions of concern for the Proposed Action would be fugitive dust (PM_{10}) and hydrogen sulfide. The applicable standards for these pollutants are the NAAQS for PM_{10} and the Nevada standard for hydrogen sulfide. The ambient air monitoring described above are in place to assist in compliance with these limitations.

Table 3-2 Reid Gardner Facility Ambient Air Quality Monitoring Data Summary

	Measured Concentration		Standards NAAQA/State of Nevada[1]	
Parameter	**ug/mg^3**	**ppb**	**ug/mg^3**	**ppb**
Site 2 - RAQ				
PM_{10}				
24-hour Maximum	23.32	NA[2]	150	NA[2]
Quarterly Mean	11.40	NA[2]	50[4]	NA[2]
SO_2				
1-hour Maximum	-	26.7	NS[3]	NS[3]
3-hour Maximum	-	12.8	1300	500
24-hour Maximum	-	4.1	365	140
Quarterly Mean	-	1.7	80[4]	30[4]
Site 3 – GAQ				
PM_{10} - Primary				
24-hour Maximum	40.10	NA[2]	150	NA[2]
Quarterly Mean	14.05	NA[2]	50[4]	NA[2]
PM_{10} -Secondary				
24-hour Maximum	42.16	NA[2]	150	NA[2]
Quarterly Mean	13.84	NA[2]	50[4]	NA[2]
SO_2				
1-hour Maximum	-	4.5	NS[3]	NS[3]
3-hour Maximum	-	2.9	1300	500
24-hour Maximum	-	2.2	365	140
Quarterly Mean	-	2.0	80[4]	30[4]
NO_2				
1-hour Maximum	-	50.1	NS[3]	NS[3]
Quarterly Mean	-	13.0	100[4]	53[4]
O_3				
1-hour Maximum	-	72.2	235	120
Quarterly Mean	-	39.0		
8 Hr O_3				
8-hour Maximum	-	54.1	157	80
Quarterly Mean	-	29.6		
Site 4 - PAQ				
H_2S				
1-hour Maximum	-	16.7	112[5]	80[5]
Quarterly Mean	-	0.10		
Site 5 - RMS				
H_2S				
1-hour Maximum	-	2.5	112[5]	80[5]
Quarterly Mean	-	0.2		
PM_{10}				
24-hour Maximum	-	36.80	112[5]	80[5]
Quarterly Mean	-	17.41		

[1]Nevada State and NAAQS are equivalent

[2]NA = Not Applicable

[3]NS = No Standard

[4]Quarterly mean concentrations are compared to annual NAAQS standard.

[5]Nevada State standards only, excludes naturally occurring background concentrations

Source: NPC

3.2.4 CULTURAL, PALEONTOLOGICAL, AND HISTORICAL RESOURCE VALUES

The Proposed Action lies within an archaeologically sensitive area, in part, due to its proximity to three major water courses (the Muddy River, the California Wash, and the Meadow Valley Wash) and proximity to the Black Dog Mesa Archaeological Complex (Far Western 2006). The California Wash is located on the southeast corner of the Project Area. The California Wash joins with the Muddy River approximately 1.5 miles downstream of the project. Three miles further downstream, the Meadow Valley Wash and the Muddy River converge near Glendale, Nevada. The Project Area is approximately 22 miles from the historic confluence of the Muddy and Virgin Rivers.

Far Western Anthropological Research Group, Inc. performed a Class III cultural resource inventory over the 560-acre Project Area, the Area of Potential Effect (APE). The cultural resource inventory was performed in compliance with the requirements of Section 106 of the NHPA, as amended. The NHPA requires federal agencies to consider the effects of their undertakings on historic properties, which are those properties listed in or eligible for nomination to the NRHP. The results of the literature review and survey are presented in *Class III Inventory of the Nevada Power Storage Yard and Ponds Expansion Project at Reid Gardner Facility, Clark County, Nevada* (Far Western 2006).

Results of the inventory identified three previously recorded sites, 12 newly identified sites, and 29 isolated finds. All but two sites and isolates are prehistoric. Of the 12 new sites, 10 consisted of low-density scatters of assayed local toolstone and related debris. Another site is an extensive scatter of flakes associated with several rock features and cleared circles that may be remnants of food storage caches. At least two of the rock features are of historic period or modern construction. Another site is a well-established trail that may possibly be a livestock trail. The records search identified three additional sites within the APE that were not relocated. In two instances, site record discrepancies suggest they may fall outside the Project Area. None of the newly identified or previously recorded sites within the APE are recommended as eligible for nomination to the NRHP. Based on the results of the inventory, the BLM determined that there are no historic properties within the APE. In a letter dated January 17, 2007, the State Historic Preservation Office (SHPO) concurred with the determination, concluding BLM's Section 106 consultation (Appendix G).

Paleontological Resources

The Project Area is located in Quaternary alluvium (Longwell, et. al 1965) deposited by flowing water. The source quaternary rock units vary in type and age and many units are potentially fossiliferous (fossil-bearing). Potential paleontological materials might exist at the source location but are substantially less likely to exist in the alluvium. As the Project Area is underlain by alluvial deposits that are not known to have produced a substantial body of significant

paleontological materials, the Project Area is categorized as low potential for paleontological resources.

3.2.5 MIGRATORY BIRDS

Waterfowl and Shorebirds

Waterfowl and shore birds are not common in this desert environment but American avocet, American coot, lesser scaup, northern shoveler, and other unidentified duck species have been observed at or near the Facility's existing evaporation ponds. The Project Area is on the eastern fringe of the Pacific flyway, one of the four major migratory bird routes. No sittings of migratory bird species listed under the Endangered Species Act, protected by the State of Nevada or identified as BLM sensitive species, have been observed. The Facility evaporation ponds tend to attract waterfowl and shore birds in the same way that a natural water body in the desert would. There have been instances of waterfowl and shore bird mortalities in the evaporation ponds. The pond water typically has a high concentration of dissolved chemicals and salts, and birds that land in the ponds or forage along the edges tends to become coated with suspended solids.

Under the Migratory Bird Treaty Act of 1918 and subsequent amendments (16 USC 703-711), it is unlawful to take, kill, or possess migratory birds. A list of those protected birds can be found in 50 CFR 10.13. The Facility has a permit from the U.S. Fish and Wildlife Service (USFWS) to salvage any dead birds at the site and an Industrial Artificial Pond Permit from the Nevada Department of Wildlife (NDOW) (effective from March 15, 2005 through March 15, 2010) to quarterly operate the artificial ponds. The NDOW permit requires NPC to monitor wildlife mortalities and send reports to NDOW. NPC is in the process of investigating various means of preventing avian mortalities in the ponds while maintaining the necessary high rates of evaporation. NPC staff is coordinating with state and federal agencies to explore solutions to deter birds from ponds.

3.2.6 ENVIRONMENTAL JUSTICE

Environmental Justice is defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations and policies. Title V of the Civil Rights Act and Executive Order 12898, signed in February 1994; require federal agencies to address potential inequities in environmental effects on minority and low-income populations. The order requires that federal agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations. As policy, the BLM will promote and provide opportunities for full involvement of minority populations, low-income communities, and the

tribes in BLM decisions that affect their lives, livelihoods and health and will to adequately respond to environmental justice issues and problems (BLM 2002).

The residents on the Reservation represent the closest Environmental Justice population to the Project Area. As Native Americans, the residents on the Reservation meet the criteria of a minority population and thus are subject to Environmental Justice consideration under the Executive Order and under subsequent U.S. Department of Interior guidance (BLM 2002). Opportunities for involvement are previously described in Native American Consultation Section 1.6.2.

3.2.7 PRIME OR UNIQUE FARMLANDS

No Prime or Unique Farmlands were identified within the Project Area (NRCS 2007).

3.2.8 INVASIVE, NON-NATIVE SPECIES

Within the Project Area, tamarisk was found in the California Wash in the southeast corner of the Project Area. Tamarisk is a Class C noxious weed species. Class C is defined as "Weeds currently established and generally widespread in many counties of the State; actively eradicated from nursery stock dealer premises; abatement at the discretion of the State quarantine officer" (NDA 2005). No noxious or invasive weeds were observed within the Proposed Action footprint (JBR 2006b).

The management of noxious and invasive weeds is guided by the LVFO Noxious Weed Plan (Weed Plan) (BLM 2006), which includes goals for inventory and monitoring of noxious weeds and implementation of an integrated weed management program. The Weed Plan describes tamarisk as a major threat to ecosystem health in southern Nevada. Tamarisk can dominate riparian areas, using precious water resources, nutrients and space and altering soil chemistry and plant community composition. The RMP also identifies tamarisk as a species of concern, and includes a management objective for the control and eradication of tamarisk.

3.2.9 NATIVE AMERICAN RELIGIOUS CONCERNS

Native American Consultation associated with the NEPA process was initiated by the BLM. Specifically, on July 12, 2006, the BLM sent letters to both the Moapa Band of Southern Paiute and Las Vegas Band of Southern Paiute. The consultation process is still on-going. On August 8, 2006, both the BLM and NPC attended a Moapa Band of Southern Paiute Tribal Council meeting to describe the Proposed Action. Information related to Native American Religious Concerns is considered confidential and is on file at the BLM LVFO.

3.2.10 THREATENED, ENDANGERED, AND SPECIAL STATUS WILDLIFE

The USFWS provided a species list for the Project Area in November 2006 (Table 3-3) and the Nevada Natural Heritage Program (NNHP) provided a list of sensitive species occurrence records in their database (Table 3-4). Agency correspondence is provided in Appendix H.

Table 3-3 U.S. Fish and Wildlife Service Wildlife Species List

Scientific Name	Common Name	Status[1]
Coccyzus americanus	Yellow-billed cuckoo, western U.S. DPS	C, NP
Empidonax traillii extimus	Southwestern willow flycatcher	E, NP
Gopherus agassizii	Desert tortoise	T, NP

[1] E = Federal Endangered; T = Federal Threatened; C = Federal Candidate; NP = State of Nevada Protected
DPS = distinct population segment

Table 3-4 Nevada Natural Heritage Program Sensitive Wildlife Records

Scientific Name	Common Name	Status[1]
Bufo microscaphus	Arizona toad	S
Crenichthys baileyi moapae	Moapa White River springfish	NP
Hesperopsis gracielae	MacNeill sooty wing skipper	S
Gopherus agassizii	Desert tortoise	T, NP

[1] T = Federal Threatened; S = BLM Sensitive; NP = State of Nevada Protected

The NNHP records for the Arizona toad, Moapa White River springfish, and MacNeill sooty wing skipper are all from locations along the Muddy River where aquatic and riparian habitat suitable for these species can be found. These three species are very unlikely to be present in the Project Area because there is no aquatic or riparian habitat.

Listed Species

Yellow-billed cuckoo – Candidate

The western U.S. population of the yellow-billed cuckoo is a candidate for federal listing. The USFWS considers yellow-billed cuckoos that occur in the western U.S. (i.e., west of the crest of the Rocky Mountains) as a Distinct Population Segment. Based on historic accounts, the species was widespread and locally common in California, but generally local and uncommon in scattered drainages of the arid and semiarid portions of Nevada. Cuckoos breed in large blocks of riparian habitats, particularly woodlands with cottonwoods (*Populus fremontii*) and willows (*Salix* sp.). Dense understory foliage appears to be an important factor in nest site selection, while cottonwood trees are an important foraging habitat in areas where the species has been studied in California (USFWS 2004). No suitable riparian woodland habitat of this type is in the Project Area.

Southwestern willow flycatcher – Endangered

The breeding range of the species includes the extreme southern portion of Nevada. Nesting habitat is described as being near surface water or damp soil along intermittent streams that

support dense riparian vegetation. Nesting is primarily in willows and other shrubs with a scattered overstory of cottonwood. Tamarisk-dominated thickets are also used (USFWS 2005). There is no suitable habitat in the Project Area for the southwestern willow flycatcher.

Desert tortoise – Threatened

The Proposed Action exceeds the area of disturbance allowed under the Programmatic Biological Opinion for Implementation of Multiple Use Activities within the LVFO (1-5-7-F-251). A separate biological opinion will be obtained for this project. None of the Project Area has been designated critical habitat for the desert tortoise (USFWS 1994).

A field survey for the desert tortoise (*Gopherus agassizii*) was completed in August 2006 (JBR 2006c). The desert tortoise survey included all of the Project Area and followed the established BLM/USFWS tortoise survey protocol (USFWS 1992). The survey crew consisted of 7 biologists walking 90 parallel transects, spaced 30 feet apart, in order to achieve 100 percent coverage of the Project Area. The survey confirmed that desert tortoises are present in the Project Area, although at a relatively low density. A zone of influence tortoise survey was also performed in a buffer area 300 feet and 600 feet from the Project Area boundary on all sides.

The highest concentration of use occurred in the southern portion of the survey area along the many washes and steep hill slopes, which provided for many deep burrow dens. Areas with deeper soil found within the western and central portions of the survey also provide good habitat and showed signs of tortoise occupancy (Figure 11).

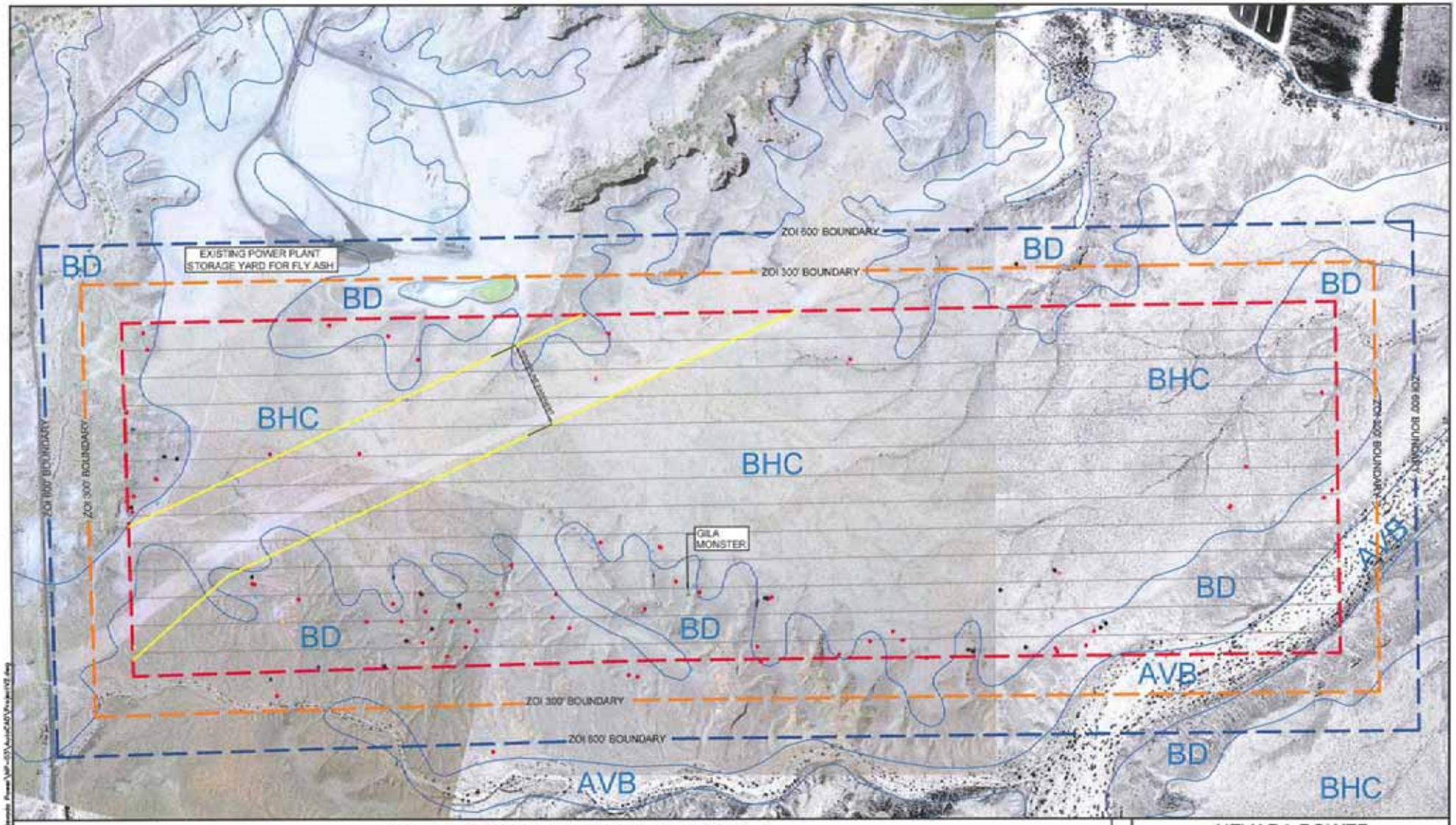
<u>BLM Sensitive Species</u>

Gila monster

A Gila monster was observed in the Project Area in August 2006 (JBR 2006c). This species is found in shrubby, grassy, and succulent desert and occasionally in oak woodland. It reportedly prefers canyon bottoms or arroyos with permanent or intermittent streams; sheltering in burrows, woodrat nests, thickets, under rocks, and in cavities. Gila monsters are diurnal and are capable of climbing (Stebbins 2003).

Chuckwalla

Although no chuckwallas have been observed in the Project Area, suitable habitat appears to be available. This species is typically found in areas of creosote bush with rock outcrops, where it is often seen basking in the late morning and afternoon. Chuckwallas eat a wide variety of annual and perennial plants and some insects (Stebbins 2003).


EXISTING POWER PLANT
STORAGE YARD FOR FLY ASH
ZOI 600' BOUNDARY
ZOI 300' BOUNDARY
BD
BHC
AVB
GILA MONSTER
NRCS SOIL MAPPING UNITS:
AVB Arizo gravelly fine sand
BD Badland
BHC Bard gravelly fine sandy loam
BASE IMAGE: AERIAL PHOTO PROVIDED BY KENNEDY/JENKS CONSULTANTS
PROJECT AREA
ZONE OF INFLUENCE (ZOI) 300' BOUNDARY
ZONE OF INFLUENCE (ZOI) 600' BOUNDARY
TRANSECTS
SHELTER SITE ACTIVE
SHELTER SITE INACTIVE
SCAT REMAINS
SHELL REMAINS
LIVE TORTOISE
BLM SENSITIVE SPECIES - GILA MONSTER
700 0 700 FEET
04/25/07
NEVADA POWER
REID GARDNER EXPANSION PROJECT
FIGURE 11
DESERT TORTOISE SURVEY RESULTS

Burrowing owl

No burrowing owls have been observed in the Project Area, although suitable habitat appears to be available. This is a small owl that typically is found in prairies, deserts, and other barren treeless country. Foraging takes place mostly in the early evening and throughout the night. Prey consists mostly of insects and rodents. Burrowing owls are often colonial in the West and may use burrows of other animals such as tortoises (Terres 1982).

Bats

There are 21 bats on the BLM sensitive species list for Nevada and the only one of these species whose published range does not overlap the Project Area is the cave myotis (*Myotis velifer*) (USGS 2006). There are no roost sites such as caves, mines, or structures in the Project Area but crevices in rock outcrops could provide night roosts for bats. The main value of the Project Area to bats appears to be as foraging habitat for those species that typically forage in desert scrub (e.g., pallid bat (*Antrozous pallidus*), California myotis (*Myotis californicus*), and Brazilian free-tailed bat (*Tadarida brasiliensis*)).

3.2.11 THREATENED, ENDANGERED, AND SPECIAL STATUS PLANTS

Listed Species

The USFWS provided a species list for the Project Area in November 2006 (Table 3-2). There were no endangered, threatened, proposed, or candidate plant species identified as having potential to be present in the Project Area.

BLM Sensitive Species

NNHP provided a list of sensitive species occurrences in their database in July 2006 (Table 3-3). The only occurrence of a rare plant species in the Project Area vicinity was the rosy two-tone beardtongue (*Penstemon bicolor* ssp. *roseus*). That record was recorded in 1972 from a wash adjacent to I-15, approximately one mile southeast of the Project Area. A plant survey of the 560-acre Project Area was performed in July 2006 and no BLM sensitive plant species were observed within the Project Area (JBR 2006b).

Cacti and Yuccas

In November 2006, a survey was performed to estimate the number of cactus within the Project Area. Based on sampling of approximately 37 percent of the total survey area (JBR 2006b), it is estimated that there are about 450 cactus plants (19 percent cottontop cactus (*Echinocactus polycephalus*), 54 percent beavertail cactus (*Opuntia basilaris*), and 27 percent golden cholla (*Cylindropuntia echinocarpa*)). No hedgehog cacti (*Echinocereus engelmannii*) were observed during the November 2006 sampling, although the species was recorded during the July 27 survey (JBR 2006b).

3.2.12 WASTES, HAZARDOUS OR SOLID

The current operations at the Facility require the use of materials that may be classified as hazardous. These materials include: (1) diesel fuel, oils, greases, gasoline, antifreeze and solvents; (2) hydrogen peroxide; (3) sulfuric acid; (4) sodium hydroxide; and (5) materials and solid and hazardous wastes that are generated by the facility. These materials are shipped in via trucks and stored on-site in containers and tanks until used. There would be no change in the shipment and use of these materials under the Proposed Action or any of the alternatives.

In addition to the solid wastes that are discussed elsewhere in this EA, the Facility generates a variety of other wastes including: general trash and garbage, used oil and grease, spent solvents, oily absorbents and debris, and scrap metals. These are collected in bins and containers and shipped off-site for handling or disposal.

The SNHD administers solid waste management regulations, including permitting and enforcement in Clark County. The Facility contains a Class III landfill facility permitted by the SNHD. This facility accepts only industrial solid waste.

The Facility has an asbestos disposal cell permitted within the Class III landfill. Asbestos-containing material is used at the Facility and quantities of this are removed during normal maintenance activities. This material is carefully bagged and disposed on-site in a designated and permitted asbestos disposal landfill. Asbestos must be disposed in accordance with the requirements in 40 CFR Part 61 Subpart M.

Hazardous wastes generated at the Facility include small quantities of spent solvents, batteries, industrial lamps, paints, and paint-related materials. These are collected on-site in drums and disposed or recycled off-site.

There would be no change in the type or quantity of the above-described wastes at the Facility, or their handling and disposal, as a result of the Proposed Action or alternatives.

BLM policy prohibits permanent storage or disposal facilities for hazardous materials on public lands. It is the opinion of the LVFO that BLM's hazardous materials management policy would not apply to the Proposed Action because the waste stream that will be deposited in the proposed landfill is not hazardous. The definition of solid waste that is not a hazardous waste defined in EPA regulations 40 CFR part 261.4(b)(4) specifically exclude "Fly ash waste, slag waste and flue gas emission control waste, generated primarily form the combustion of fossil fuels…" from the category of hazardous materials. The BLM LVFO memo regarding hazardous waste is contained in Appendix I.

3.2.13 WATER QUALITY

Surface

The NDEP has set water quality standards contained in the NAC 445A.119-445A.225, defining the water quality goals for important water bodies by designating uses of the water and by setting criteria necessary to protect beneficial uses and prevent degradation. Additionally, Section 303(d) of the Clean Water Act (CWA) requires the NDEP to develop a list of impaired water bodies needing additional work beyond existing controls to achieve or maintain water quality standards. The Muddy River is considered impaired and is on this 303(d) list. For the Muddy River, NDEP developed site-specific numeric standards for pH, dissolved oxygen, maximum temperature, phosphorous, nitrite, nitrate, turbidity, total dissolved solids, color, and *E. coli* to protect the designated beneficial uses and to maintain existing water quality. From its spring source to Glendale, designated beneficial uses for the Muddy River include irrigation, stock watering, recreation not involving contact with the water, industrial supply, municipal or domestic supply, propagation of wildlife, and propagation aquatic life. The California Wash is not an impaired 303(d) listed water body, and therefore, does not have a numeric water quality standard. Instead, the California Wash has a general narrative standard, which applies to all streams in Nevada, that the waters be maintained to be free from various pollutants including those that are toxic.

Groundwater

The Facility is located in an alluvial basin hydrogeologic province, characterized by plateaus underlain by horizontal and gently dipping sedimentary deposits (Heath 1984). Recharge to the aquifers in the region is typically from infiltration of precipitation and streams. The gently dip of sedimentary beds leads to unconfined groundwater conditions where the aquifers typically discharge to springs and seeps along canyon walls (Kleinfelder 1998).

In 1999 and 2006, groundwater studies were performed by NPC to determine elevations of the water table in the portions of the Project Area proposed for the landfill and ponds. The Facility is operated under Authorization to Discharge, Permit #NEV91022 (October 19, 2005), which requires groundwater monitoring. Existing wells throughout the Facility and Project Areas are monitored quarterly for water quality constituents and water levels, per a sampling plan prepared by NPC.

Three monitoring wells (LMW-7, LMW-9, and LMW-10) are located in Section 7, T15S, R66E, where the landfill is proposed. These monitoring wells, measured quarterly, show groundwater elevations ranging from 123 feet to 137.82 feet below the ground surface, and each fluctuate less than one-foot annually. Within Section 8 where the ponds are proposed, the static depth to groundwater at four monitoring wells installed in August 2006 (NMW-1 through NMW-4) ranged from 132 and greater than 180 feet below ground surface in August 2006 (Converse

2006), and the groundwater elevation ranges between 1,550 and 1,600 feet above mean sea level. The regional groundwater flow direction is generally towards the Muddy River and to the east, coincident with the direction of the Muddy River.

Groundwater quality in the Project Area is monitored quarterly at LMW-7, LMW-9, and LMW-10. Table 3-5 displays the average concentration of each of the monitored constituents from these three wells for the period of record.

Table 3-5 Groundwater Baseline Data

	Site Name		LMW-7	LMW-9	LMW-10
	Period of Record		Quarterly Data March 2005 to June 2006	Quarterly Data March 2002 to June 2006	Quarterly Data March 2002 to June 2006
Average Concentration for Period of Record	Total Alkalinity	mg/L	NA	123	623
	Carbonate Alkalinity	mg/L	NA	<5	<5
	Bicarbonate Alkalinity	mg/L	1,095	530.25	357
	Chloride	mg/L	336	416	409
	Hydroxide	mg/L	NA	<5	<5
	Sulfate	mg/L	1,460	1,819	1,793
	Specific Conductance	LAB	3,400	4,165	4,255
	Total Dissolved Solids	mg/L	2,700	3,425	3,315
	pH	SU	7.44	7.52	7.57
	Nitrate	mg/L	5.86	4.4	6.9
	Total Phosphate	mg/L	29.07	2.673	1.10
	Aluminum	mg/L	<2.5	0.72	0.81
	Arsenic	mg/L	<0.01	0.013	0.013
	Barium	mg/L	<0.03	0.012	0.013
	Boron	mg/L	11.28	2.6	7.4
	Calcium	mg/L	268	316	291
	Chromium	mg/L	0.022	0.084	<0.03
	Iron	mg/L	<2.0	<2.0	<2.0
	Lead	mg/L	<0.05	<0.05	<0.05
	Magnesium	mg/L	118	148	121
	Manganese	mg/L	<1	<1.0	<1.0
	Mercury	mg/L	<0.0002	<0.0002	<0.0002
	Molybdenum	mg/L	<0.05	0.15	0.09
	Potassium	mg/L	59	43.1	75
	Selenium	mg/L	0.02	0.044	0.081
	Sodium	mg/L	374	434	550
	Titanium	mg/L	<0.1	0.0297	0.0527
	Vanadium	mg/L	<0.03	<0.03	<0.03

The Nevada Well Log Database maintained by NDEP, Nevada Division of Water Resources (NDWR) has no record of existing wells within one mile east, west or south of the Project Area. On the north side of the Project Area, the database shows records of numerous monitoring wells

at the Facility, within Sections 5 and 6. In the vicinity of the Facility, the records show five historic irrigation wells and one domestic well originally drilled to support operations at the former Hidden Valley Ranch. Northeast of the Project Area, within Section 4 on private property proposed for the Hidden Valley Community, the database included records of six irrigation wells, two domestic wells, and four monitoring wells. Thus the closest domestic wells offsite of the Facility are approximately one mile northeast of the Project Area.

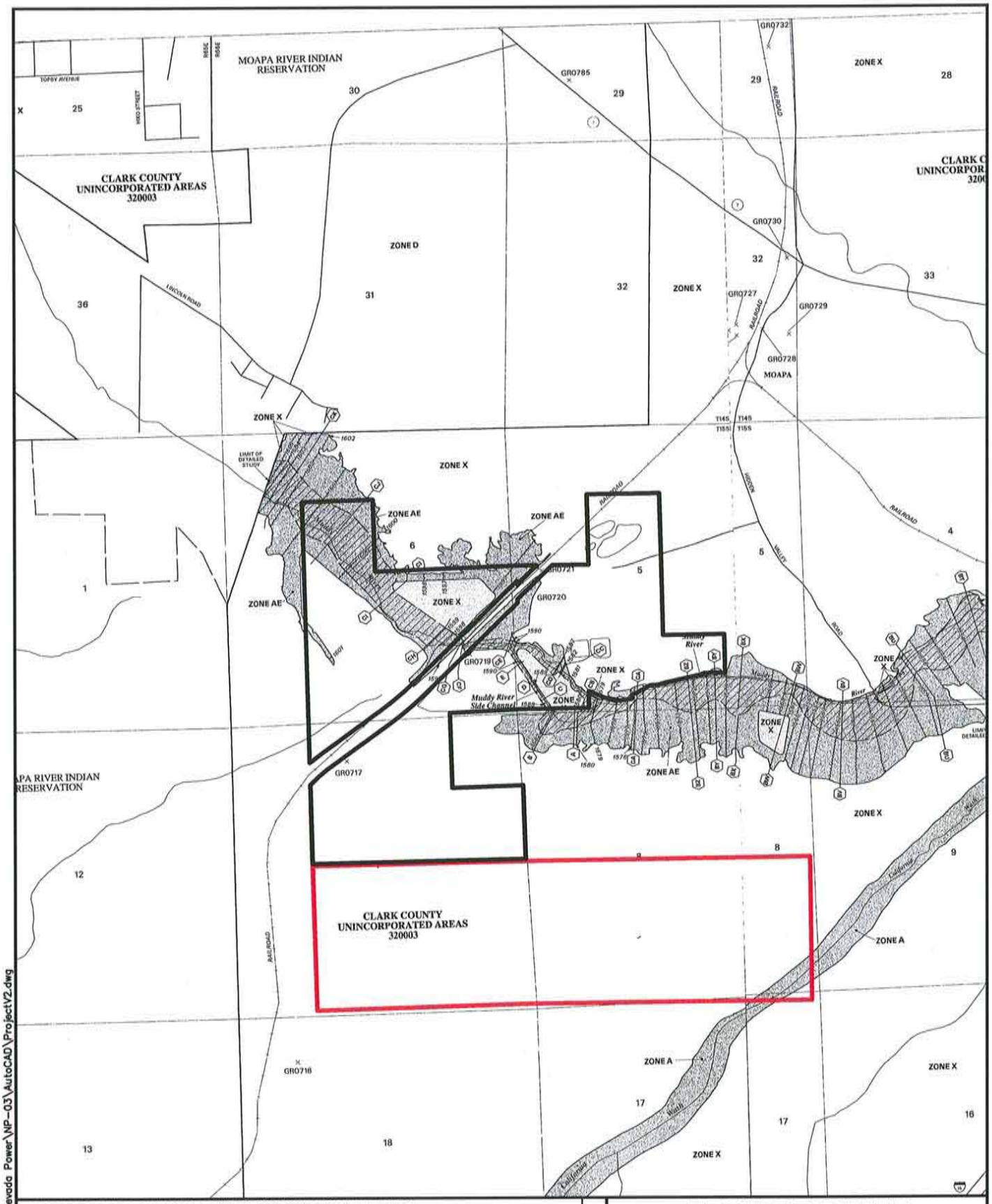
3.2.14 FLOODPLAINS

The U.S. Geological Survey maintains water data records, including records of peak stream flow for major streams and rivers. The California Wash at the Project Area has a catchment area of approximately 35 square miles. Water data records indicate that peak stream flow at the nearest gaging station upstream of the project is highly variable. For a period of record from 1987 to 2004 peak stream flow ranges from zero for some water years to up to 4,400 cfs, but generally remaining below 200 cfs in most years. Peak flood flows were estimated to be as high as 30,600 cfs during an August 1981 flood event. The Muddy River at Moapa has a catchment area of 40 square miles. Peak stream flow at the nearest gaging station downstream of the project ranged from 47 to 5,100 cfs for a period of record from 1913 to 2006. However, peak flows generally remaining below 800 cfs in most years. For comparison purposes, during the August 1981 flood event where California Wash reached a record high peak flow, maximum daily average flow in the Muddy River was 361 cfs.

Based on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps of the area, the portion of the Project Area located on top of the mesa is identified as Zone X (i.e., outside of the 500-year floodplain), above the 0.2 percent flood elevation (Figure 12). The Project Area is considered to be at low risk of flooding under the National Flood Insurance Program (NFIP) (FEMA 2002a). The portion of the Project Area containing the California Wash is located in Zone A, the 100-year floodplain mapped by FEMA (FEMA 2002b). Existing Facility evaporation ponds, which will eventually be retired as the new ponds are built, are located adjacent to the Muddy River, and mapped as Zone A and Zone AE (i.e., within the 100-year floodplain). These lands are considered at high risk of flooding under the NFIP. The pond facilities themselves are protected by berms, and mapped as Zone X (Figure 12).

3.2.15 WETLANDS/RIPARIAN AND WATERS OF THE U.S.

The Project Area is located in the California Wash Sub-basin of the Colorado River Hydrographic basin (15010012 Nevada Area 218). The Project Area is located on a mesa overlooking the lower valley areas of the Muddy River to the north and the California Wash to the southeast. Surface water flows from northwest to southeast in the valley. A short reach of the California Wash is located on the southeast corner of the Project Area, near the proposed ponds. The California Wash is an ephemeral stream that converges with the perennial Muddy



BASE IMAGE: FIRM, CLARK CO., NEVADA AND INCORPORATED AREAS

PROJECT AREA, APPROXIMATELY 560 ACRES

EXISTING REID GARDNER POWER PLANT BOUNDARY

2,500 0 2,500 FEET

DATE DRAWN 05/02/07

NEVADA POWER
REID GARDNER EXPANSION PROJECT

FIGURE 12
FLOODPLAINS

FILE NAME: Clients-2006\Nevada Power\NP-03\AutoCAD\Project\2.dwg

River approximately 1.5 miles downstream of the project. Three miles further downstream, the Meadow Valley Wash and the Muddy River converge near the town of Glendale. The Muddy River drains into Lake Mead and the Colorado River a few miles downstream of Overton. Due to their tributary connection to Lake Mead and the Colorado River, an intrastate river, the Muddy River and California Wash are recommended jurisdictional waters of the U.S. regulated by the U.S. Army Corps of Engineers (ACOE).

Wetlands/Riparian

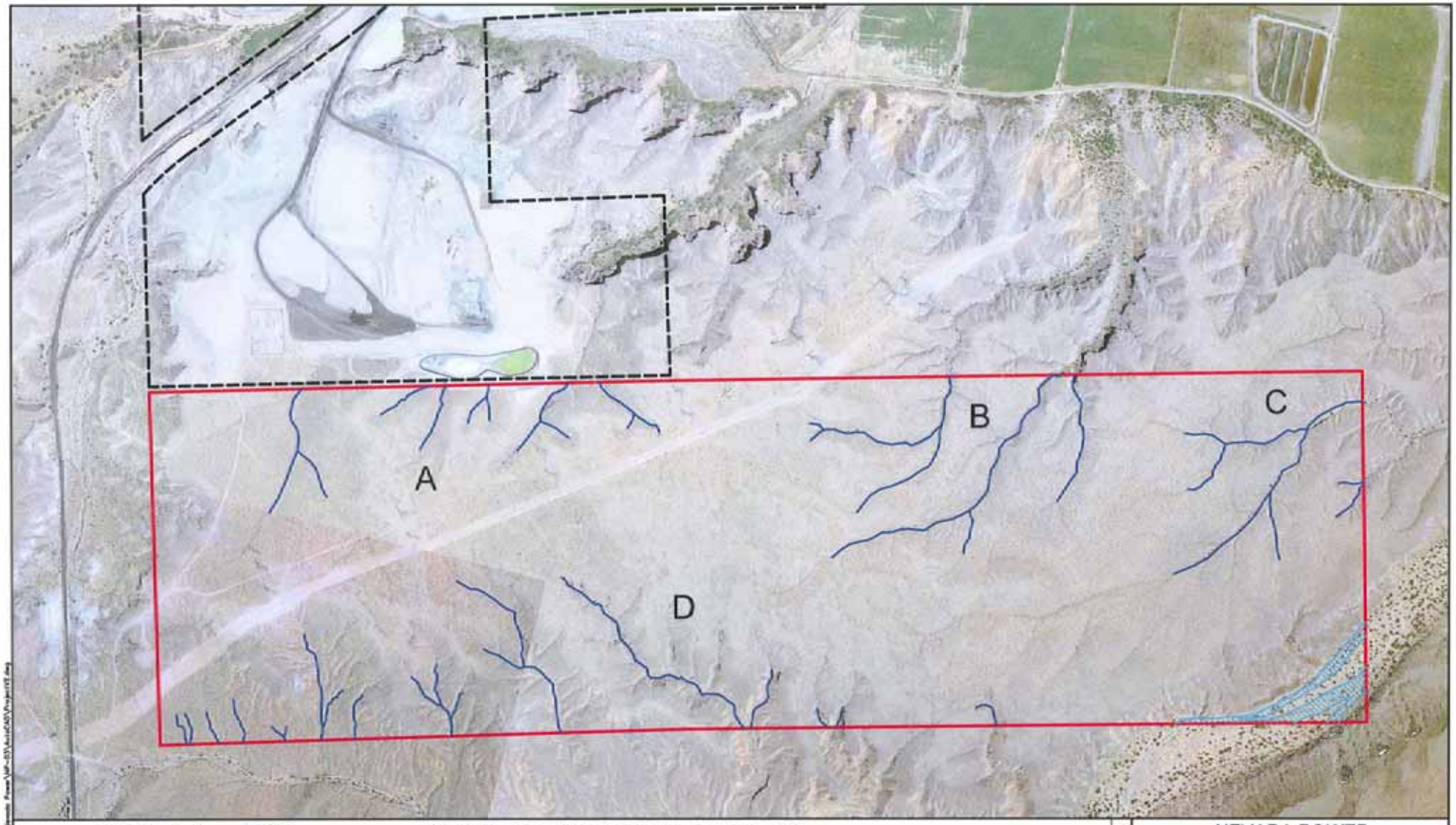
A waters of the U.S. delineation was performed on November 7 and 8, 2006, to determine the location of wetlands or waters of the U.S. within the Project Area. Because the Proposed Action is located on the mesa, overlooking the California Wash, and would not be located near or in the Wash, a wetland delineation within the California Wash was not included in the survey. The results of the survey are contained in a delineation report for submission to the ACOE in support of application for a CWA Section 404 permit. Based on the delineation, no wetlands are contained in the Project Area. Riparian vegetation, common to desert washes, including tamarisk is found in California Wash.

Other Ephemeral Drainages

Approximately 1.18 acres consisting of 38 ephemeral channels and their tributary reaches are contained in Project Area (Figure 13, JBR 2007). The channels range in length from 130 to 2,490 lineal feet. The width of the active channel bottoms are generally less than 2 feet, and no wider than 5 feet. Approximately half of the drainages (15,816 lineal feet/0.60 acres) drain in a northerly direction toward the Muddy River, and the other half (9,194 lineal feet/0.58 acres) drain southward into California Wash. Pending review of the delineation, the ACOE would make the ultimate determination of whether these are jurisdictional waters of the U.S. and subject to Section 404 (of the CWA) permitting. The primary function of the ephemeral channels is to convey runoff after precipitation events.

3.2.16 WILDERNESS VALUES AND AREAS OF CRITICAL ENVIRONMENTAL CONCERN

Wilderness is a legal designation designed to provide long-term protection and conservation of federal public lands. Wilderness is defined by the Wilderness Act of 1964 as "an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain…Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of



TRIBUTARY GROUP	TOTAL AREA	AVERAGE WIDTH
A	0.16	1.6 FT
B	0.23	1.6 FT
C	0.22	1.6 FT
D	0.56	2.3 FT

BASE IMAGE: AERIAL PHOTO PROVIDED BY KENNEDY/JENKS CONSULTANTS

- PROJECT AREA, APPROXIMATELY 560 ACRES
- EXISTING POWER PLANT BOUNDARY
- EPHEMERAL CHANNEL 1.182 ACRES
- CALIFORNIA WASH FLOODPLAIN

700 0 700 FEET

DATE: 04/11/07

NEVADA POWER
REID GARDNER EXPANSION PROJECT

FIGURE 13
EPHEMERAL DRAINAGES WITHIN THE PROJECT AREA

scientific, educational, scenic, or historical value." The nearest wilderness areas are the Arrow Canyon Wilderness (designated in 2002) located 10-13 miles west of the Project Area and the Meadow Valley Range Wilderness and Mormon Mountain Wilderness Areas (designated in 2004) located approximately 16 miles north of the Project Area.

Areas of Critical Environmental Concern (ACECs) are areas designated by BLM where special management attention is needed to protect and prevent irreparable damage to unique natural values, or to protect human life and safety from natural hazards. Natural values include, but are not limited to, historic, cultural, scenic, and wildlife resources. The southern boundary of the 151,360-acre Mormon Mesa ACEC is located 7.5 miles northeast and 9 miles north of the Project Area. The Coyote Springs ACEC is located 19 miles to the west, and the Gold Butte ACEC is located 18 miles to the east. All three ACECs were established specifically for the management of desert tortoise habitat and recovery of the desert tortoise (BLM 1998).

Other managed natural areas in the vicinity include the Valley of Fire State Park, located 7 miles southeast of the Project Area. The 106-acre Moapa Valley National Wildlife Refuge, established to protect the thermal spring habitat of the Moapa Dace, is located 7 miles northwest of the Project Area.

3.2.17 WILD AND SCENIC RIVERS

There are no designated Wild and Scenic Rivers within the Project Area (BLM 1998).

3.3 NON-CRITICAL ELEMENTS OF THE HUMAN ENVIRONMENT

The following additional resources determined through scoping are provided as they apply to the Proposed Action and alternatives carried forward for analysis in the EA.

3.3.1 GEOLOGY AND MINERALS

Geologic Setting

The site is located in the central portion of the Muddy River Valley within the Basin and Range Physiographic Province in the southwestern U.S. The distinctive features of this province are isolated, longitudinal fault-block mountain ranges separated by long, alluvial-filled basins. The valley is bounded by the North Muddy Mountains on the east, the Arrow Canyon Range on the west, the Meadow Valley Mountains and Mormon Mountains to the north and the Muddy Mountains and Dry Lake Range to the south. Outcrops of the Tertiary age Muddy Creek Formation are exposed throughout the valley. Based on well drillers' logs, the thickness of the Muddy Creek Formation is greater than 4,000 feet on the mesa northeast of the Project Area (Converse Consultants 2007).

Site Geology

The Facility is located on floodplain deposits next to the Muddy River. These deposits generally consist of fine-grained overbank deposits that have resulted form past floods overflowing the river channel. These deposits are at least 75 feet deep next to the river (Converse Consultants 2007).

To the south, the mesa site is composed primarily of thinly bedded siltstone, claystone and sandstone of the Tertiary Muddy Creek Formation which are overlain by a series of progressively younger fine to course grained units containing gravel and carbonate cementation deposited during the Pliocene. Confirmed during the geotechnical investigation, the Project Area is covered by fine to coarse grained sediments, remnants of alluvial fans, varying in thickness, and generally thinning towards the east. Pliocene cemented sands and gravels, which constitute the caprock of the mesa, dominate the surface material exposed along the eastern portion of the site. The caprock is up to 20 feet thick, and underlain by finer grained Muddy Creek Formation, which is exposed in drainage areas. The Muddy Creek Formation may be underlain by a variety of deposits, but is generally underlain by basalt flows.

Mineralization

The Proposed Action is located within the Moapa Mining District. The Nevada Bureau of Mines and Geology lists the historical commodities in this district to be gypsum, volcanic ash, tin, silica, sand and gravel, and uranium. There are no current active mining operations or claims within the area of the Proposed Action (BLM 2006b). Several placer mineral claims are located adjacent to the Proposed Action to the south. Mining claim information is listed in Appendix J.

Faulting and Seismicity

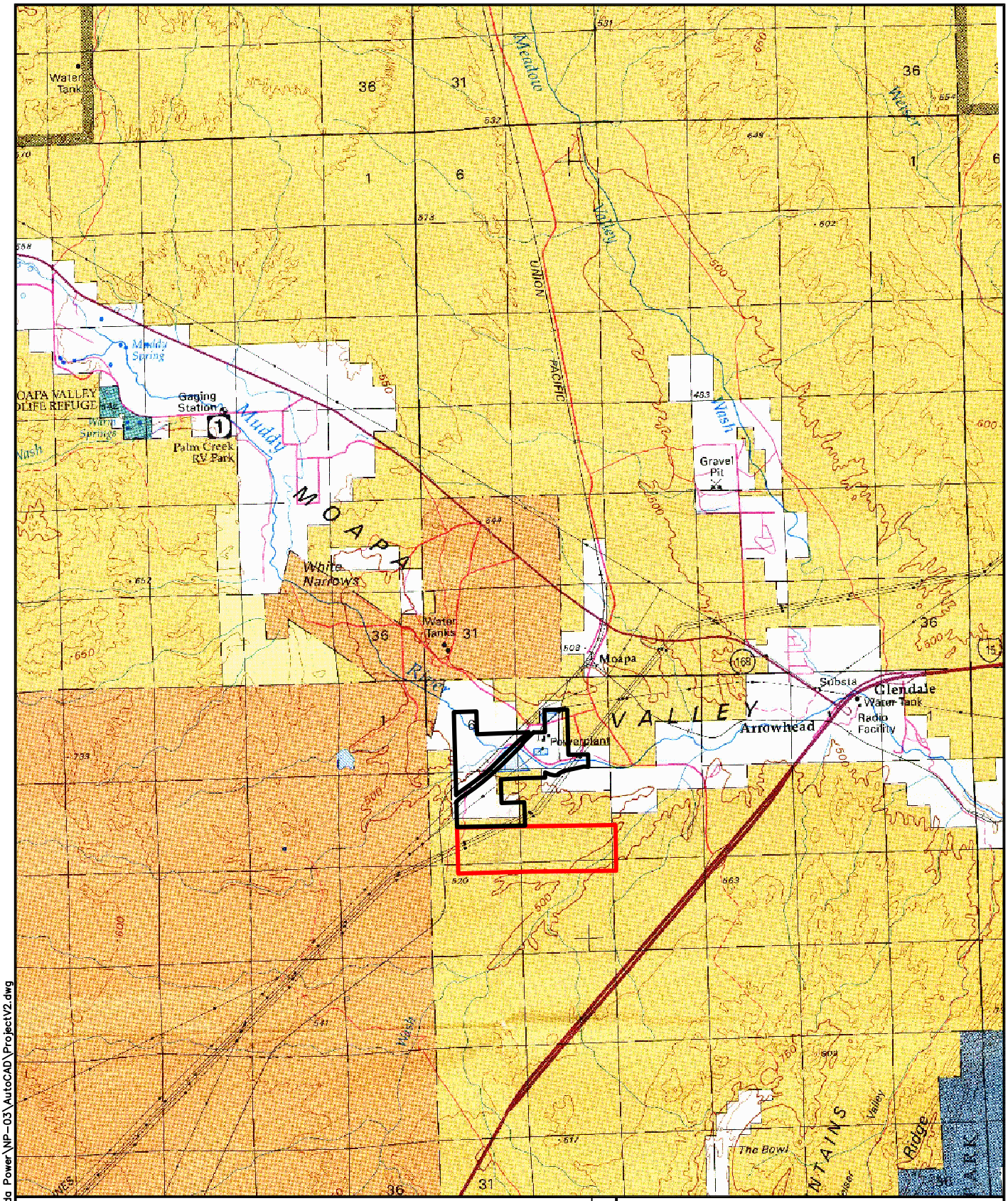
The Project Area does not contain mapped earthquake faults, and no faults were identified during the geologic reconnaissance performed during geotechnical investigation. The nearest mapped faults with evidence of possible recent displacement are a series of north to northeast striking faults located south of the Project Area (California Wash Fault).

3.3.2 LAND USE

The Project Area is located on public lands administered by the BLM. Ownership of surrounding lands include: additional BLM administered lands, the Reservation, Union Pacific Railroad, NPC property, and other private lands along the Muddy River corridor (Figure 14).

BLM Authorized Land Uses

The BLM RMP shows the Project Area located within the 40,950 acre Moapa/Glendale disposal area and identifies the Project Area as available for disposal. The RMP also shows a 2,640 feet (1/2 mile) utility corridor running diagonally from northeast to southwest and south of the



BASE IMAGE: BLM 2005 SURFACE MANAGEMENT STATUS 1:100,000

PROJECT AREA, APPROXIMATELY 560 ACRES

EXISTING POWER PLANT BOUNDARY

MOAPA RIVER INDIAN RESERVATION

PUBLIC WILDLIFE, PARK OR OUTDOOR RECREATION AREA

BLM PUBLIC LAND

PRIVATE LAND

8,000 0 8,000 FEET

DATE DRAWN 04/30/07

NEVADA POWER

REID GARDNER EXPANSION PROJECT

FIGURE 14

LAND STATUS

FILE NAME: Clients-2006\Nevada Power\NP-03\AutoCAD\ProjectV2.dwg

existing NPC facilities, and crossing through Sections 7 and 8 of the Project Area. The RMP indicates that the use of the corridor for utility purposes as being the highest and best use of public lands.

The BLM authorizes ROWs for a variety of uses including roads, material sites, electrical transmission lines, telephone lines, sewer lines, culinary water lines, natural gas pipelines, communication sites, electrical power plants and substations, and related power distribution lines. ROW authorizations are processed on a case-by-case basis as proposals for use are received. A review of the case recordation information on leases, permits, grants, agreements, mining claims, etc. issued by the BLM show the sections adjacent to the Project Area; contain a number of authorized uses and pending applications (Appendix J). The majority of grants and pending applications are associated with the operation of the existing railroad, operation of the Facility, use of the utility corridor and numerous placer mineral claims. Within the utility corridor, several major utilities, including an overhead 500 kilovolt power transmission line, two 345 kilovolt power lines, and an underground natural gas pipeline have ROWs utilizing approximately 600 feet of the utility corridor.

Clark County Planned Land Use

The Project Area is a part of the 2,700 square mile miles of unincorporated Clark County covered in the Northeast Clark County Land Use Plan (Clark County 2006c). The County is required by state law to prepare a master plan to guide planning decisions for the physical development of a region. The land use plan identifies the Project Area planned for industrial use. The surrounding BLM lands are designated as Open Lands. The existing NPC properties, several smaller private parcels located adjacent to NPC, and private parcels located on both sides of the Union Pacific Railroad tracks up to two miles north of the Facility are also planned for Industrial Use. The private lands along the Muddy River immediately downstream of the Project Area and the Facility are shown as Major Development Projects. The Major Development Project category is a category for areas where Clark County considers densities greater than two residential units per acre as premature and/or inappropriate unless guided by the county's Major Projects Review process. Consistent with the Major Development Project designation, the Hidden Valley Glendale, LLC submitted a Draft Plan for the Hidden Valley Community in September of 2006, to initiate the Major Project Review Process, proposing a mix of commercial and residential uses over a 910-acre planning area. A total of 4,000 units on 833 acres are proposed (~4.8 units/acre).

Moapa River Indian Reservation

The Moapa Band of Southern Paiute owns approximately 72,000 acres of land (Reservation), most of which is located west and southwest of the Facility. The Reservation abuts the western border of the existing facility, but is not contiguous with the Project Area. A railroad corridor

separates Reservation lands from the western border of the Project Area. Farming operations are located along the Muddy River valley floor and some residences are clustered nearby. Other areas are leased for cattle grazing.

3.3.3 SOCIAL AND ECONOMIC

The Proposed Action is located in northeast Clark County, Nevada, approximately two miles south of the town of Moapa. Other towns in the general vicinity include Glendale, Logandale, and Overton. Valley of Fire State Park and Lake Mead National Recreation Area are located to the southeast; the Reservation is located to the west and southwest. The project vicinity is sparsely developed and rural, although I-15 is located less than one mile to the southwest.

Population

Clark County is one of the fastest-growing counties in the U.S. The estimated population increase between 1990 and 2000 was 634,512 (85.6 percent) and the estimated population increase between 2000 and 2005 was 334,786 (24.3 percent) (USCB 2006a). By far, most of this growth has occurred in the Las Vegas Valley urban area, which includes North Las Vegas and Henderson. The population of northeast Clark County was estimated at 9,490 as of July 1, 2005, accounting for 0.5 percent of the total population of Clark County (Clark County 2006c). The population of the town of Moapa is approximately 1,481 (Clark County 2006a).

Housing

The vast majority (96.6 percent) of the housing units in Clark County are located in the Las Vegas urban area (Clark County 2006b). Table 3-6 presents the number of units of different housing types in Clark County and the Moapa area.

Table 3-6 Clark County and Moapa Housing Unit Counts

Place/Community	Single Family	2-, 3-, 4-plex	Mobile Homes	Apartments	Townhomes	Condos	Total Units
Clark County/ Cities	251,378	11,995	7,866	76,256	15,320	28,305	**391,120**
Clark County/ Unincorporated	153,119	7,300	22,830	87,695	13,962	28,803	**313,709**
Las Vegas Valley Urban Area	393,243	18,965	25,860	161,638	27,023	54,168	**680,897**
Town of Moapa/ Moapa Reservation	223	16	142	0	0	0	**381**

As of July 1, 2005 (Clark County 2006b).

Employment and Income

The Las Vegas Valley urban area is the center of employment for Clark County with employment in the rural Moapa area of relatively little statistical significance. The 2005 estimated County-wide labor force was 884,375 or 68.7 percent of the population (USCB

2006b). Major employers in Moapa include Geneva Pipe Company, Lasco Bathware, and the Facility. The Facility has 155 employees, as well as eight contract employees that work on the ponds and landfill.

The median household income in Clark County in 2003 was $43,756. The number of persons of all ages in poverty was 184,463, or 11.3 percent of the population (USCB 2006b). The Facility has annual sales of $180 million and an annual payroll of approximately $12 million. Facility expenditures for materials and services are approximately $16 million and an additional $30 million in capital expenditures for materials and services. The Facility pays approximately $3 million in sales and use tax and $1 million in payroll taxes.

Transportation and Services

Highways

I-15 crosses northeast Clark County in a northeast-southwest alignment that connects the Las Vegas area with Mesquite. I-15 passes within a mile of Moapa. State routes 168 and 78 also intersect at Moapa.

Libraries

The Las Vegas-Clark County Library District provides library services for northeast Clark County. The library district is funded through property taxes, sales taxes, and user fees. The Library District serves northeast Clark County with three libraries, one of which is located in Moapa.

Parks and Recreation

Clark County Department of Parks and Recreation provides a system of public parks, recreation and open space facilities throughout Clark County. Ron Lewis Park and the Moapa Community Center are located in Moapa.

Schools

Clark County School District provides public education services to the County. Northeast Clark County is served by two high schools, two middle schools, and three elementary schools. Ute Perkins Elementary School is located in Moapa.

Fire Protection

The Clark County Fire Department provides fire protection and emergency medical response to northeast Clark County. The Fire Department currently has five fire stations that are manned by volunteer firefighters providing service to the area, including Station 72 in Moapa. These crews also respond to emergencies in sections of I-15. Because of the rural character of the area and volunteer staffs, response times are greater than in urban areas.

Police

Las Vegas Metropolitan Police Department is responsible for providing police protection in northeast Clark County. The Police Department has a Resident Officer Program serving the communities of Bunkerville, Moapa/Glendale, and Moapa Valley with approximately 8 officers. A command station is located in Overton. The Police Department works cooperatively with other law enforcement agencies in and around northeast Clark County. The Nevada Highway Patrol enforces traffic regulations on state routes in northeast Clark County and BLM rangers patrol federal lands in the Bureau's jurisdiction.

Electric Service

Overton Power District provides electric service to northeast Clark County communities and NPC provides electrical power service to the Apex heavy industrial area.

Heating Fuel

Propane, oil, and other on-site sources of fuel are used for energy needs other than electricity; natural gas service is not available in northeast Clark County communities at this time.

Solid Waste

For Moapa, solid waste is collected curbside by Republic Services weekly. The waste goes to the APEX Regional Waste Management Center.

Water and Septic

The Moapa Valley Water District provides water service in Moapa, Glendale, Logandale, and Overton. Properties outside a service provider's areas may apply for individual water well permits from the NDWR. Most developed areas of northeast Clark County utilize septic systems although in recent years, some new construction has used package treatment plants.

3.3.4 SOILS

Soils in the Project Area have been mapped by the Natural Resources Conservation Service (formerly the Soil Conservation Service) in the Soil Survey of the Virgin River Area, Nevada-Arizona (NRCS 2006; Figure 11). Soil survey descriptions of the three soil types mapped in the Project Area are as follows:

Bard gravelly fine sandy loam

This shallow, well-drained soil, which is typically found on alluvial fans and associated with a desert pavement surface, comprises approximately 73 percent of the Project Area. It formed in alluvium derived dominantly from mixed rock sources. Typically, the surface layer is pink gravelly fine sandy loam about five inches thick. The underlying material to a depth of 19 inches is pink fine sandy loam. An indurated, lime-cemented hardpan is found at a depth of 19 inches.

Depth to hardpan ranges from 14 to 20 inches. Permeability of this soil is moderately rapid above the hardpan and very slow through the hardpan. Available water capacity is described as very low and the effective rooting depth is about 19 inches. Runoff is slow, and the hazard of water erosion is slight.

Badland

The Badland unit consists of severely eroded and gullied sideslopes of the mesa, which is found mainly along the boundaries of the Project Area, where it comprises approximately 26 percent of the total. It is made of exposures of the Muddy Creek Formation. The Formation consists of highly stratified sand, silt, and clay that contain a large amount of gypsum and calcium carbonate. Slopes are commonly 15 to 50 percent, but can be as much as 100 percent in some areas. Run-off is very rapid, and the hazard of erosion is very high. This unit is described as generally eroded and barren of vegetation.

Arizo gravelly fine sand

This is a deep, excessively drained soil typically found on alluvial fans. In the Project Area it comprises only about 1.5 percent of the total land surface, all of which is found in the southeast corner along California Wash. This soil type formed in mixed, very gravelly and sandy alluvium. Typically, the surface layer is light brownish gray gravelly fine sand about 8 inches thick. The underlying material to a depth of 60 inches or more is light brownish gray, stratified very gravelly sand and very cobbly coarse sand. Permeability of this soil is very rapid and available water capacity is very low. The effective rooting depth is 60 inches or more, run-off is very slow, and the hazard of water erosion is slight. This soil is subject to common, very brief periods of flooding.

3.3.5 VEGETATION

Vegetation communities vary according to the type of soil substrate. The vegetation community on the desert pavement surface of gravel and rocks associated with Bard soils is described as mainly a sparse stand of creosote bush (*Larea tridentata*), white bursage (*Ambrosia dumosa*) (JBR 2006b) big galleta (*Hilaria rigida*), and Indian ricegrass (*Oryzopsis hymenoides*). Along the boundaries of the Project Area, the eroded slopes faces of the mesa bluffs are barren of vegetation.

In the bottoms of the numerous steep gullies (in the Badland soil unit), generally support cat-claw acacia (*Acacia greggii*). California Wash has plant species common to desert washes. These species include tamarisk (*Tamarix* sp.), punctate rabbitbrush (*Chrysothamnus paniculatus*), desert willow, wooly bursage (*Ambrosia eriocentra*), and Mohave seablite (*Suaeda nigra*) (JBR 2006b). A species list of plants observed in the Project Area is presented in Table 3-7.

Table 3-7 Vegetation Species Observed in the Project Area

Scientific Name	Common Name
Trees and Shrubs	
Acacia greggii	Cat-claw acacia
Ambrosia dumosa	White bursage
Ambrosia eriocentra	Wooly bursage
Atriplex canescens	Fourwing saltbush
Atriplex confertifolia	Shadscale
Atriplex polycarpa	Desert saltbush
Chilopsis linearis	Desert willow
Chrysothamnus paniculatus	Punctate rabbitbrush
Encelia virginensis	Virgin River Encelia
Ephedra sp.	Ephedra
Gutierrezia microcephala	Matchweed
Krameria erecta	Littleleaf ratany
Larrea tridentata	Creosote bush
Lepidium fremontii	Desert peppergrass
Lycium sp.	Desert thorn
Petalonyx parryi	Parry sandpaper plant
Psilostrophe cooperi	Whitestem paperflower
Psorothamnus fremontii	Fremont indigobush
Salazaria Mexicana	Bladder sage
Suaeda nigra	Mojave seablite
Tamarix sp.	Tamarisk
Cacti	
Cylindropuntia echinocarpa	Golden cholla
Echinocactus polycephalus	Cottontop cactus
Echinocereus engelmannii	Hedgehog cactus
Opuntia basilaris	Beavertail cactus
Herbaceous Plants	
Adenophyllum cooperi	Cooper's dogweed
Baileya multiradiata	Desert marigold
Camissonia brevipes	Desert primrose
Chamaesyce sp.	Spurge
Chorizanthe rigida	Spiny herb
Cryptantha angustifolia	Creosote bush cryptantha
Cryptantha sp. (annual)	Cryptantha
Eriastrum sp.	Eriastrum
Eriogonum inflatum	Desert trumpet
Eriogonum insigne	Exalted buckwheat
Eriogonum sp. (annual)	Buckwheat
Gilia sp.	Gilia
Malcolmia Africana	African malcolmia
Oenothera deltoids	Desert evening-primrose
Phacelia crenulata	Heliotrope phacelia
Phacelia palmeri	Palmer phacelia
Plantago sp.	Plantain
Psathyrotes annua	Fanleaf
Psathyrotes pilifera	Hairy-beast turtleback
Salsola tragus	Russian thistle

Scientific Name	Common Name
Sphaeralcea sp.	Mallow
Stephanomeria pauciflora	Wire-lettuce
Tidestromia oblongifolia	Arizona honeysweet
Tiquilia latior	Mat tiquilia
Grasses	
Bromus rubens	Red brome
Erioneuron pulchellum	Fluffgrass
Hilaria rigida	Big galleta
Muhlenbergia sp.	Muhly
Schismus sp.	Mediterranean grass

Source: JBR 2006b

3.3.6 WILDLIFE

The Project Area is located in the northern Mojave Desert at an elevation of approximately 1,600 feet. The land surface is mostly desert pavement consisting of gravel and rocks with a sparse vegetation community dominated by creosote bush and white bursage. There are no known permanent water sources or aquatic habitat within the Project Area. Although, the California Wash does provide ephemeral flows at the southeast corner of the Project Area. The Muddy River is a perennial stream located north of the Project Area.

Despite its inhospitable appearance, the Mojave Desert is populated by a diverse assemblage of wildlife species. Invertebrates include scorpions and wind scorpions, spiders, grasshoppers, beetles, harvester ants (*Pogonomyrmex* spp.), butterflies, and moths. A wide range of lizards and snakes are present, including several rattlesnakes. Commonly observed bird species include Gambel's quail (*Callipepla gambelii*), mourning doves (*Zenaida macroura*), greater roadrunners (*Geococcyx californianus*), and common ravens (*Corvus corax*). Small mammal residents include deer mice (*Peromyscus maniculatus*), kangaroo rats (*Dipodomys* spp), pocket mice (*Perognathus* spp.), pack rats (*Neotoma* spp.), the southern grasshopper mouse (*Onychomys torridus*), and ground squirrels. Common larger mammals include coyotes (*Canis latrans*), kit foxes (*Vulpes macrotis*), gray foxes (*Urocyon cinereoargenteus*), badgers (*Taxidea taxus*), desert cottontails (*Sylvilagus audubonii*), and black-tailed jackrabbits (*Lepus californicus*). The known ranges of approximately 20 bat species overlap the Project Area (USGS 2006).

Wildlife species observed during field work (JBR 2006c) in the Project Area include: common raven, mourning dove, turkey vulture (*Cathartes aura*), horned lark (*Eremophila alpestris*), black throated sparrow (*Amphispiza bilineata*), road runner, western whiptail lizard (*Cnemidophorus tigris*), side-blotched lizard (*Uta stansburiana*), collared lizard (*Crotaphytus collaris*), horned lizard (*Phrynosoma* sp.), zebra-tailed lizard (*Callisaurus draconoides rhodostictus*), leopard lizard (*Gambelia wislizenii*), sidewinder rattlesnake (*Crotalus cerastes*), antelope ground squirrel (*Ammospermophilus leucurus*), pack rat, black-tailed jackrabbit, and desert cottontail. A pair of nighthawk chicks (*Chordeiles minor*) was observed under a creosote

bush near the northeastern survey area boundary and a barn owl (*Tyto alba*) and nest were observed just outside the northeastern survey boundary. A Gila monster (*Heloderma suspectum*), a BLM sensitive species, was observed feeding on a rabbit carcass in a small cave along one of the many ravines in the southern portion of the survey area.

3.3.7 RANGE RESOURCES

The Project Area is located within the eastern Ute Grazing Allotment. This allotment has been closed for 5 to 10 years, and is no longer used for grazing. The closed status would continue for the life of the current RMP.

3.3.8 VISUAL RESOURCES

The Project Area is located approximately 2 miles north of I-15. The terrain in this area varies from I-15 to the mesa on which the Proposed Action is located. The terrain is relatively flat in some places while other areas exhibit large drainages and topographic relief. The land to the north of the Proposed Action is within a valley associated with the Muddy River that is approximately 150 feet lower in elevation than the mesa. Vegetation is predominantly low, widely spaced shrubs characteristic of the Mohave Desert. The Meadow Valley Mountains are visible in the background beyond the Facility from I-15. The dominant man-made visual feature from I-15 is the Facility and in particular, the stack from Unit 4. Other features of the Facility are not easily discernible due to the terrain and the distance from the interstate. Other man-made features in the Project Area include fences and power lines.

Lands in the Project Area are mapped as Visual Resource Management Class III. BLM's management objective for Visual Resource Management Class III areas is to partially retain the existing character of the landscape (BLM 1986a). The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

3.3.9 HEALTH AND SAFETY

As presented in detail in Section 2.1, a TCLP analysis of the existing ash and pond and effluent solids, which could become airborne as fugitive dust, was completed for metals: arsenic, barium, cadmium, chromium, lead, silver, and mercury. A typical analysis of ash shows that it consists of silicon (50 percent), aluminum (15 percent), and calcium (15 percent) with minor amounts of magnesium, sodium, and iron. The pond solids consist mostly of sodium sulfate with some calcium sulfate and magnesium sulfate. Arsenic, cadmium, lead, silver and mercury were not detected in ash and pond solid samples. The remaining metals were found in amounts far below the regulatory limit established to protect human health. Effluent solids were also tested for the same metals. Arsenic, cadmium, chromium, lead, silver, and mercury were not detected. Barium and selenium were detected in amounts far below regulatory limits.

CHAPTER 4 ENVIRONMENTAL CONSEQUENCES

The following analysis of environmental consequences identifies both direct and indirect impacts resulting from implementation of the Proposed Action and alternatives. Cumulative impacts are discussed at the end of this chapter.

4.1 CRITICAL ELEMENTS OF THE HUMAN ENVIRONMENT

4.1.1 AIR QUALITY

4.1.1.1 Proposed Action

Direct Impacts: If uncontrolled the Proposed Action would produce fugitive dust from the activities associated with construction, vehicle traffic on roads, transport of ash and pond solids, operation of the landfill and ponds containing dried sediment. The Proposed Action would be phased into operation along with closing down operations in the existing facilities for a period of time. A temporary increase to fugitive and hydrogen sulfide emissions could potentially occur during this time period. The Proposed Action would eventually replace the existing landfill and evaporation ponds at the Facility. The Proposed Action would not cause the production of additional solid wastes, and the transport and handling of these materials under the Proposed Action would essentially be the same as for the existing operations.

The Facility prepared and submitted a Dust Control Plan to NDEP BAPC in February 2004. This plan was prepared in association with the Air Quality Operating Permit and the requirement to control fugitive dust. The plan includes the methods of control for the current facility types. The Proposed Action does not include new facility types (i.e. roads, landfill and ponds). Fugitive emissions would be controlled by methods outlined in the fugitive dust control plan, which includes road watering, using surfactant or gravel, reducing vehicle speeds and moisture conditioning of ash for transport to the landfill. The haul distance from the Facility to the proposed landfill is approximately 40 percent longer than to the existing landfill so potential dust emissions from hauling would be proportionally larger than the current operations. At the landfill, dust would be controlled by application of water and by compacting of the temporary roads and active landfill areas used by the equipment in order to minimize dust generation. Inactive landfill areas would be compacted and covered with an earth cap to reduce dust releases of solid wastes.

As described in Section 3.2.3, the Facility currently performs air quality monitoring in a network surrounding the existing facility as well as performing continuous monitoring of point sources and hydrogen sulfide monitoring in the proximity of the existing ponds. The Facility would be required by NDEP BAPC to either demonstrate that the existing monitoring network (Table 3-2) is adequate for the fugitive dust sources and hydrogen sulfide emissions associated

with the Proposed Action or expand/modify this network. The NDEP approved monitoring program would document compliance with applicable air quality standards for the Proposed Action.

The evaporation ponds could potentially emit hydrogen sulfide, which is a regulated air pollutant in the State of Nevada. Hydrogen sulfide generation in the evaporation ponds would be controlled by maintaining high enough oxygen concentrations in the ponds, which controls the growth of sulfate reducing bacteria. The new ponds would be equipped with aerators and agitators to minimize the anaerobic conditions that can lead to formation of hydrogen sulfide within the solids in the ponds. The water chemistry of the ponds would be monitored to detect conditions that may indicate formation of hydrogen sulfide. A hydrogen peroxide injection system would also be available for each pond to further minimize any anaerobic conditions in the ponds by adding this strong oxidizing reagent to the pond water when chemistry monitoring indicates the need. A hydrogen sulfide monitor would be installed as an additional warning system to alert personnel of a need to implement remedial actions to reduce concentrations.

Because the new landfill and evaporation ponds would be located further from the Facility and the Moapa town site than the existing evaporation ponds, the concentration of fugitive dust and hydrogen sulfide gas in these areas from the Proposed Action would likely be less than for the current conditions.

Based upon the proposed environmental control measures for the control of potential emissions and the temporary nature of increased emissions, no significant incremental impacts to air quality are anticipated over the existing operations.

Indirect Impacts: Fly ash when deposited on transmission line insulators could increase the potential for short circuits interrupting power transmission. Through dust control measures, the potential for dust collection on insulators would be minimized as much as possible. In accordance with the dust control plan for the project, all haul roads and disturbed construction areas would be watered. The fly ash would be maintained at 15 percent moisture content to prevent dust during transport to the landfill. The solids in the landfill would be placed in lifts and compacted to 90 percent.

4.1.1.2 No Action Alternative

Direct Impacts: Current particulate and hydrogen sulfide emissions would continue if the Proposed Action were not implemented. Gradual improvements (adding aerators and hydrogen peroxide systems) would be made for the control of hydrogen sulfide in evaporation ponds that would have been replaced by new ponds. Landfill space would eventually run out and there would be no further dust emissions from the existing landfill operation. The trucking of ash and

solids off-site would result in increased vehicle emissions by about 30 times during the transport of material to the landfill. There would be three times as many truckloads (60 for offsite disposal v. 20 for onsite disposal) per week traveling approximately 10 times further (approximately 30 miles round trip v. three miles for onsite). There are no significant direct impacts to air quality in the Project Area expected from the No Action Alternative. However, the handling of the solid wastes at the off-site disposal facility would likely produce some added fugitive dust at that location.

Indirect Impacts: No indirect impacts are anticipated from the No Action Alternative.

4.1.2 CULTURAL, PALEONTOLOGICAL, AND HISTORICAL RESOURCE VALUES

4.1.2.1 Proposed Action

Direct Impacts: The construction of the ponds and landfill would result in 444 acres of disturbance. A Class III inventory was performed and identified 13 sites within the Project Area. None of the sites within the 560 acres was determined eligible for nomination to the NRHP. Portions of one site, 26Ck5685 (the Black Dog Mesa site complex), are recognized as a National Register-eligible site; however, the BLM determined that the portion of the site that extends into the project's APE (Locus 7) was a non-contributing element to the sites eligibility. As such, implementation of the Proposed Action would have no direct effect on eligible resources. In a letter dated January 17, 2007, the SHPO concurred with the BLM's determination that the undertaking as proposed would have no effect to historic properties, thereby concluding Section 106 consultation. Therefore, the Proposed Action is not anticipated to adversely affect cultural resources.

Because the potential for paleontological resources is low due to the fact that the Project Area is located in Quaternary alluvium, impacts to paleontological resources resulting from implementation of the Proposed Action are not anticipated.

Indirect Impacts: No indirect impacts.

4.1.2.2 No Action Alternative

No additional surface disturbance would occur under the No Action Alternative, and therefore, no direct or indirect impacts to cultural resources are expected. Disposal of solid wastes at an off-site landfill could result in an expansion of surface disturbance at that facility with potential impacts to surface environmental resources but evaluation of these off-site impacts is beyond the scope of this EA.

4.1.3 MIGRATORY BIRDS

4.1.3.1 Proposed Action

Direct Impacts: The proposed new evaporation ponds would encompass approximately 124 acres of pond surface area, or approximately the same area as the existing ponds, which will eventually be closed. The new ponds would tend to attract waterfowl and shorebirds similarly to the existing ponds, and any birds landing in the new ponds or foraging along the edges would be at risk of injury or death from the concentrated salts in the pond water.

Indirect Impacts: No indirect impacts have been identified.

4.1.3.2 No Action Alternative

Under the No Action Alternative, the Facility would not build the proposed evaporation ponds. The existing ponds would continue to operate and attract waterfowl and shorebirds and any birds landing in the existing ponds or foraging along the edges would be at risk of injury or death from the concentrated salts in the pond water.

4.1.4 ENVIRONMENTAL JUSTICE

4.1.4.1 Proposed Action

Direct Impacts: As a Native American population, Tribal members are a minority population and are subject to consideration of disproportionate adverse effects under Executive Order 12898. There is the potential for the project to disproportionately affect the Moapa Band of Southern Paiute because the Project Area is approximately 0.25 miles from the boundary of the Reservation, and residences are located within two miles. Potential impacts include health related effects resulting from fugitive dust and pond odor. The current evaporation ponds are located approximately ½ mile from residences on the Reservation. The Proposed Action will move these ponds one additional mile farther from these residences. However, overall air resources will be minimally impacted on an incremental basis compared to the existing operations. Fugitive emissions from the proposed landfill and evaporation ponds would be further from the Reservation residences, therefore concentrations of these emissions at the residences are expected to be lower under the Proposed Action as described in further detail in Section 4.1.1.1. No adverse health effects are expected. Pond odor sources would be controlled by preventing anaerobic conditions that would form hydrogen sulfide in the new ponds and retirement of the existing ponds. Fugitive dust would also be controlled through implementation of a fugitive dust control plan that includes watering all disturbed surfaces. A TCLP analysis of ash and pond solids constituents, which potentially could be suspended in fugitive dust, was performed to determine levels of toxic metals. The tests show that levels of toxic metals are well below regulatory limits.

The BLM coordinated with the Moapa Band of Southern Paiute and Las Vegas Band of Southern Paiute and provided opportunities for the Moapa Band of Southern Paiute and Las Vegas Band of Southern Paiute to submit scoping comments. Native American Consultation is described in Sections 1.6.2 and 3.2.9. Aware that the Moapa Band of Southern Paiute has health concerns related to air quality, the BLM also solicited the expertise of the SNHD, DAQEM, and the NDEP (see Section 1.6). The SNHD indicated that due to the small population size of Moapa, it would be difficult to identify health problems related to the facility or its proposed modification at the population level. The SNHD concluded that "[e]ven under ideal study conditions, it may not be possible to show a statistically significant health effect" (see Appendix L for a copy of SNHD's March 23, 2007 letter).

Indirect Impacts: The Proposed Action would have no disproportionate indirect effects to the Moapa Band of Southern Paiute and Las Vegas Band of Southern Paiute.

4.1.4.2 No Action Alternative

Current particulate and hydrogen sulfide emissions would continue if the Proposed Action were not implemented. Under the No Action Alternative, ponds would not be relocated and operation of the existing ponds would continue. Gradual improvements would be made for the control of hydrogen sulfide in existing evaporation ponds that would have been replaced by new ponds. Landfill space would eventually run out and there would be no further emissions from their operation. The trucking of ash and solids off-site would result in increased vehicle emissions during the transport of material to the landfill. Since there are no significant direct impacts to air quality expected from the No Action Alternative, no impacts are anticipated to Environmental Justice.

4.1.5 NATIVE AMERICAN RELIGIOUS CONCERNS

4.1.5.1 Proposed Action

Direct Impacts: Native American Religious Concerns have not been identified; however consultation with the Moapa Band of Southern Paiute and Las Vegas Band of Southern Paiute is ongoing. If information is received by BLM in the future related to Native American Religious Concerns, these concerns will be incorporated into planning process and maintained as confidential. All information related to Native American Religious Concerns is considered confidential and is on file at the BLM LVFO.

Indirect Impacts: No indirect impacts are expected because Native American Religious Concerns have not been identified within the Project Area.

4.1.5.2 No Action Alternative

No expansion would occur under the No Action Alternative and therefore, no direct or indirect impacts to Native American Religious Concerns are expected. Disposal of solid wastes at an off-site landfill could result in an expansion of surface disturbance at that facility with potential impacts to surface environmental resources but evaluation of these off-site impacts is beyond the scope of this EA.

4.1.6 THREATENED, ENDANGERED, AND SPECIAL STATUS WILDLIFE

4.1.6.1 Proposed Action

Direct Impacts:

Desert Tortoise – Threatened

The Proposed Action would result in the permanent loss of approximately 444 acres of occupied desert tortoise habitat as a result of constructing evaporation ponds and landfill. None of the Project Area has been designated critical habitat for the desert tortoise (USFWS 1994). In addition, desert tortoises would be at risk from construction activity. These risks include being run over or having burrows collapsed by vehicles or equipment, and increased predation from ravens and other scavengers that might be attracted to the work area. Implementation of the proposed environmental protection measures (Table 2-4) would reduce potential impacts to the desert tortoise. According to the Proposed Action as written, a tortoise-proof fence would be installed.

Gila Monster and Chuckwalla – BLM Sensitive

The Proposed Action would result in the permanent loss of approximately 444 acres of chuckwalla habitat and less than 444 acres of Gila monster habitat as a result of constructing the new evaporation ponds and landfills. Gila monsters and chuckwallas could also be at risk of being run over during construction. Implementation of the proposed environmental protection measures would reduce potential impacts to the Gila monsters and chuckwallas.

Burrowing Owl – BLM Sensitive

Although burrowing owls are not known to be present, the Project Area appears to be suitable habitat for the species. The permanent loss of approximately 444 acres of potential habitat as a result of constructing the new facilities is not likely to measurably harm the species because it would be a negligible amount of the total habitat available in the project vicinity. Implementation of the proposed environmental protection measures would reduce potential impacts to the burrowing owl.

Bats – BLM Sensitive

The Project Area provides foraging habitat for those BLM sensitive bat species that specialize in desert scrub. The loss of approximately 444 acres of foraging habitat would not be expected to have a measurable effect on these species because there is a vast amount of similar habitat available in Project Area vicinity.

Indirect Impacts: No indirect impacts have been identified.

4.1.6.2 No Action Alternative

Under the No Action Alternative, the Facility would not build the proposed evaporation ponds and landfill. There would be no change in the amount of wildlife habitat currently available and no risk of construction-related wildlife injuries or mortalities. The existing impacts to wildlife from plant operations would remain unchanged. Disposal of solid wastes at an off-site landfill could result in an expansion of surface disturbance at that facility with potential impacts to surface environmental resources but evaluation of these off-site impacts is beyond the scope of this EA.

4.1.7 THREATENED, ENDANGERED AND SPECIAL STATUS PLANTS

4.1.7.1 Proposed Action

Direct Impacts: No listed, proposed, candidate or BLM sensitive plants are known to be present in the Project Area.

Indirect Impacts: No listed, proposed, candidate or BLM sensitive plants are known to be present in the Project Area.

4.1.7.2 No Action Alternative

Under the No Action Alternative, there would be no change in the existing plant community. Disposal of solid wastes at an off-site landfill could result in an expansion of surface disturbance at that facility with potential impacts to surface environmental resources but evaluation of these off-site impacts is beyond the scope of this EA.

4.1.8 WASTES, HAZARDOUS OR SOLID

4.1.8.1 Proposed Action

Direct Impacts:

Hazardous Waste

The Proposed Action may generate some hazardous waste from the accidental spills of diesel fuel, oils, greases, gasoline, antifreeze, solvents or hydrogen peroxide from equipment and systems operating within the Project Area. Releases of any reportable quantity of a hazardous substance to the environment must be reported to the National Response Center (40 CFR Part

302) and to the Nevada Division of Emergency Management (NAC 445A.347) as well as the NDEP, Bureau of Corrective Action. All spills would be cleaned up immediately and disposed in accordance with all applicable state and federal requirements. Any hazardous waste generated at the facility would be taken by approved transporters to designated hazardous waste disposal facilities. Based upon the potential for spills and the regulatory framework under which the site must operate, no significant direct impacts to the human environment are anticipated from hazardous waste due to the Proposed Action.

Solid Waste

The evaporation ponds and landfill would contain solid waste that would remain in place at closure. The SNHD administers the solid waste management program and all solid waste facilities must comply with the requirements for material disposal. NPC would obtain all necessary permits and comply with all necessary solid waste regulations. Based upon the environmental protection measures required by the SNHD, no significant direct impacts to the human environment are anticipated from the solid waste facilities in the Proposed Action.

Indirect Impacts: Based upon the environmental protection measures required by the SNHD regulatory program for solid waste disposal, no indirect impacts are anticipated from the Proposed Action.

4.1.8.2 No Action Alternative

Direct Impacts: In the No Action Alternative, the proposed new evaporation ponds and landfill would not be constructed and at some future point solid wastes would be transported to an off-site disposal location. There would be no incremental direct impacts to the human environment at the Facility. The off-site disposal location would receive the combustion solid waste and, depending on the site-specific characteristics, there could be incremental environmental impacts at that site. Assuming the environmental protection measures at the off-site disposal landfill were in compliance with the SNHD regulatory program for solid waste disposal, no significant direct impacts to the human environment would be anticipated at that site.

Indirect Impacts: No indirect impacts are anticipated from the No Action Alternative.

4.1.9 WATER QUALITY

4.1.9.1 Surface Water

Proposed Action

Direct Impacts: The Muddy River is an impaired waterbody listed on NDEP's 303(d) list as required by the CWA. Any discharge from the Project Area to the river would need to meet water quality standards developed for the Muddy River. The California Wash is not a 303(d) listed waterbody, but discharges to the wash would need to be free from various pollutants

including those that are toxic. No impacts to surface water quality in either of these channels would occur from the Proposed Action because it is designed as a zero-discharge facility. All storm water run-off from the proposed ponds and landfill will be captured and disposed in evaporation ponds. The storm water capture and diversion system for the run-on around the proposed ponds and landfill would be an extension of the system of the existing landfill on NPC property. Storm drains are designed to collect the combined run-off from the proposed and existing landfill sites. The total run-on peak flow is estimated to be 97.7 cfs for a 100-year event.

Indirect Impacts: To prevent surface water contamination via leaching of the solid wastes by meteoric water, the landfill would be lined with a 60-mil HDPE liner and the compacted fly ash would be relatively impermeable, which would reduce leaching of water. The proposed evaporation ponds would be double-lined with 60-mil HDPE lining material with a leak detection system between the liners. The design of these facilities is such that impacts to surface water quality by leachate from the Proposed Action are extremely unlikely.

No Action Alternative

Under the No Action Alternative, the potential for impacts to the current water quality of the Muddy River and California Wash would remain unchanged from current conditions. Assuming the environmental protection measures at the off-site solid waste landfill were in compliance with the SNHD regulatory program for solid waste disposal, no significant direct impacts to surface water would be anticipated at that site.

4.1.9.2 Groundwater

Proposed Action

Direct Impacts: No potential for groundwater contamination from landfill or evaporation ponds leachate is expected because the Proposed Action would be constructed as a zero-discharge facility. The landfill would be lined with a 60-mil HDPE liner. The proposed ponds would be double-lined with 60-mil HDPE lining with a leak detection system between the liners.

Groundwater could be affected by continued groundwater withdrawals needed for dust control and process water. The current 40,000 gallons of water per month that is used for dust control would continue under the Proposed Action. The water for dust suppression is from the decant water from the bottom ash transport water and from well water. No increased usage of groundwater is expected because the Proposed Action would maintain existing operations without increasing water needs.

Indirect Impacts: No indirect impacts to the quality or quantity of groundwater would occur.

No Action Alternative

No expansion would occur under the No Action Alternative, and therefore, no new surface disturbance would be created requiring water for dust control. Without the need for dust control on the landfill and associated access roads, there may be some reduction in well water usage over time after the current landfill operations terminated. Assuming the environmental protection measures at the off-site solid waste landfill were in compliance with the SNHD regulatory program for solid waste disposal, no significant direct impacts to groundwater would be anticipated at that site.

4.1.10 FLOODPLAINS

4.1.10.1 Proposed Action

Direct Impacts: The Project Area is located on top of a mesa, away from the Muddy River and approximately 150 feet above the California Wash. Therefore, constructing the proposed facilities on top of the mesa would not impact the floodplains of the Muddy River or California Wash. The SNHD administers solid waste management regulations, including permitting and enforcement in Clark County. In accordance with SNHD regulations (NAC 444.735), the location of a Class III landfill site must not be within 1,000 feet of any surface water or be within 100 feet of the uppermost aquifer, unless approved by the solid waste management authority. The Project Area is greater than 1,000 feet from the centerline of the California Wash, and should not affect the California Wash, even during flood events.

Indirect Impacts: With the construction of new ponds, the Proposed Action would allow the existing ponds built within the Muddy River floodplain to ultimately be closed and reclaimed.

4.1.10.2 No Action Alternative

Under the No Action Alternative, floodplains would remain unchanged. Disposal of solid wastes at an off-site landfill could result in an expansion of surface disturbance at that facility with potential impacts to surface environmental resources but evaluation of these off-site impacts is beyond the scope of this EA.

4.1.11 WETLANDS/RIPARIAN AND WATERS OF THE U.S.

4.1.11.1 Proposed Action

Direct Impacts: No wetlands or riparian zones are contained within the Project Area. However, approximately 1.18 acres of ephemeral channels were identified within the Project Area as shown on Figure 13. Based on preliminary engineering design, implementation of the proposed project would result in the excavation and filling of approximately 0.94 acres of ephemeral channels.

The EPA and the Department of the Army issued a joint legal guidance memorandum on June 5, 2007, interpreting U.S. Supreme Court's decision in *Rapanos v. United States* and *Carabell v. United States* regarding Clean Water Act jurisdiction of tributary streams. Based on this guidance, JBR determined that the channels do not support a significant nexus to traditionally navigable water, and therefore, the ephemeral channels are recommended as non-jurisdictional. The results of the 2006 Delineation Report (JBR 2007) are considered tentative until it has been reviewed and verified by the Corps and EPA.

For the ephemeral channels within the Project Area, the primary function of the ephemeral channels is to convey runoff after precipitation events. With the construction of the landfill, natural channels would be replaced by a storm water capture system. The Proposed Action is designed as a zero discharge facility. Stormwater run-on would be conveyed to evaporation ponds for disposal. Provided that the functions of the ephemeral channels are replaced through construction of adequate stormwater conveyance facilities, the Proposed Action would have minimal effect to surface waters.

Indirect Impacts: The Proposed Action would indirectly affect the Muddy River and the California Wash by reducing the quantity of surface water runoff because runoff would be intercepted by stormwater facilities. Reduced surface run-off would have minimal impact on water supply to surface waters because the contribution of the Project Area is very small compared to the drainage area of the waterbodies. Near the Project Area, the catchment area of the California Wash is 35 square miles and the catchment area of the Muddy River is 40 square miles.

4.1.11.2 No Action Alternative

Under the No Action Alternative, no new surface disturbance would occur, and therefore, waters of the U.S. will remain unchanged. There would be no incremental impacts to wetlands or riparian areas at the Facility. Existing ponds within the Muddy River floodplain would not be closed and would continue to operate. Disposal of solid wastes at an off-site landfill could result in an expansion of surface disturbance at that facility with potential impacts to surface environmental resources but evaluation of these off-site impacts is beyond the scope of this EA.

4.2 NON-CRITICAL ELEMENTS OF THE HUMAN ENVIRONMENT

4.2.1 GEOLOGY AND MINERALS

4.2.1.1 Proposed Action

Direct Impacts: The construction of the ponds and landfill would disturb approximately 444 acres. The material that forms the surface of the mesa is a caprock that is up to 20 feet thick, and is underlain by the finer grained Muddy Creek Formation. In some locations, construction would involve excavation of up to 20 feet below the existing grade resulting in the removal of the

conglomeratic caprock and the underlying alluvium. In areas where the landfill would be constructed, the placement of up to 50 feet of fill would bury the surface substrate.

There are no active mining claims within the Project Area, and therefore no claims would be affected by the Proposed Action. Regarding future claims, mineral resources would not be available during active operations, nor would they be readily available after operations are completed because the geologic and mineral resources would be covered by closed ponds landfill.

Indirect Impacts: No indirect impacts to geology and minerals have been identified.

4.2.1.2 No Action Alternative

No ground disturbance is associated with the No Action Alternative; therefore, no impacts to geologic or mineral resources would occur. Disposal of solid wastes at an off-site landfill could result in an expansion of surface disturbance at that facility with potential impacts to geologic and mineral resources but evaluation of these off-site impacts is beyond the scope of this EA.

4.2.2 LAND USE

4.2.2.1 Proposed Action

Direct Impacts: Construction of the proposed landfill would encroach into the existing utility ROW by approximately 117 acres. Specifically, the landfill would be constructed on the north side of the utility corridor. Construction of one road crossing and pipeline to the proposed ponds would also cross the existing utility corridor. Implementation of the Proposed Action would maintain access for existing grant holders within the utility corridor, as needed. Therefore, access to maintain existing utilities would not be affected.

After the completion of the project, the landfill would be capped and remain in place. Ponds would be closed as landfills when the Facility is ultimately retired. While constructing future utilities through the landfill and ponds may be technologically feasible for certain types of facilities, it may not practicable considering cost, maintenance, access, and liability. The construction of future utilities within the utility corridor would need to be coordinated with NPC to ensure that no conflicts occurred between operation of the proposed landfill and ponds. To avoid conflicts with future grant holders, NPC has agreed to allow the placement of future power lines be constructed around the Facility on the northwest border. The location of the proposed ponds would allow for the placement of additional utilities in the existing corridor south of the existing utility centerline.

Holly Energy Partners has applied to the BLM for a ROW grant to construct a gas pipeline within the utility corridor. The pipeline is not proposed to be located underneath either the

proposed landfill or ponds. Implementation of environmental protection measures would eliminate potential conflicts and or impacts between existing/future grant holders and NPC.

The northeast Clark County Land Use Plan was reviewed to determine impacts and compatible uses. The Proposed Action is consistent with the planned Industrial Use shown in the County's Land Use Plan mapped for that location (Clark County 2006c). The existing NPC properties, several smaller private parcels located adjacent to NPC, and private parcels located on both sides of the Union Pacific Railroad tracks up to two miles north of the NPC facility are also planned for Industrial Use.

In addition to Industrial uses, Clark County's Land Use Plan also identifies a Major Development project on private land approximately 0.25 miles away to the north and northeast. The Proposed Action would not preclude the use of the private land for a Major Development project. Clark County Department of Development Services is currently processing a Major Project application and has accepted a conceptual draft plan for the Hidden Valley development, a 910-acre mixed-use community. To initiate the Major Project Review Process, the Hidden Valley Glendale, LLC submitted a draft plan for the Hidden Valley Community in September 2006. NPC submitted a ROW application to the BLM to initiate the EA process in May 2006.

The proximity of the Facility and the Proposed Action to the Hidden Valley development has raised concerns over air quality impacts potentially causing adverse health effects to future residents. As described in the Air Quality Section 4.1.1, the potential fugitive dust and pond odor would not result in substantive adverse air quality or health effects. Any concerns over health and safety related to the existing operations at the Facility (not the expansion), and the need for buffering adjacent potentially non-compatible land uses would be considered during the Major Projects review process. Many of the goals and policies described in Clark County's Land Use Plan are intended to promote development that is compatible with adjacent land uses. When proposing a development project, it is the burden of the applicant to establish that the development complies with the goals and policies of the Land Use Plan. For example, if health concerns are an issue during the Major Projects review process, the applicant would need to demonstrate compliance with Policy 2.2:

> *Ensure that new development or uses, adjacent to existing land uses, are appropriately buffered with transitional space and/or uses. All space necessary to achieving such transitions should be absorbed on the property supporting the new development.*

The applicant would also need to demonstrate that exceptional circumstances exist to warrant deviation from policy, including Policy 4.16:

Discourage residential development adjacent to industrial or hazardous uses. Examples include wastewater treatment facilities, power plants, landfills, mainline railways and other similar uses. In the event that a residential development is approved adjacent to an industrial or hazardous use, a separate disclosure statement should be issued to residents.

Indirect Impacts: The Project Area, located in the 40,950 acre Moapa/Glendale disposal area, is identified in the RMP as available for disposal. A change in the land ownership of the Project Area from public to private may occur with the construction of the project if NPC pursues a fee title purchase of the property. Under private ownership, the property would no longer be managed by the BLM for allowable uses described in the RMP. However, the presence of the landfill and ponds on the affected property would make new uses logistically and technology difficult, in addition to costly, regardless of ownership, whether private or public.

Fly ash when deposited on transmission line insulators could increase the potential for short circuits interrupting power transmission. Through dust control measures, the potential for dust collection on insulators would be minimized as much as possible. In accordance with the dust control plan for the project, all haul roads and disturbed areas would be watered. The fly ash would be maintained at 15 percent moisture content to prevent dust during transport to the landfill.

Construction and use of the access road to the ponds across the utility corridor could damage underground facilities (e.g. pipelines) owned by other grant holders. However, impacts are expected to be minimized with the implementation of proper design and other potential environmental protection measures.

4.2.2.2 No Action Alternative

No ROW grant would be issued under the No Action Alternative, and therefore no direct or indirect impacts to land use would occur. Disposal of solid wastes at an off-site landfill could result in an expansion of surface disturbance at that facility with potential impacts to land uses but evaluation of these off-site impacts is beyond the scope of this EA.

4.2.3 SOCIAL AND ECONOMIC

4.2.3.1 Proposed Action

Direct Impacts: The project would cost approximately $46 million and take about 2 years to complete. It is estimated that 21 workers (in addition to regular Facility employees) would be employed during the construction phase of the project. Most, if not all, of the temporary employees would be from the local area. Adequate temporary housing, if needed, is available within commuting distance of the Project Area in Glendale, Logandale, and Overton.

During the operational phase of the project the Facility workforce, payroll, expenditures on materials and services, and taxes would remain at approximately the same level as at present. Therefore, the project should not result in any long-term change in the population size, number of housing units, employment level, income, transportation, or demand for services in the Moapa area. Annual ROW rent would be paid to the BLM for the use of public land to construct and operate the new facilities. The annual rent payments would begin at approximately $672,000 and increase to approximately $1,409,600 over 30 years (see Appendix C).

Indirect Impacts: During the construction phase, the increased spending on wages, materials, and services should have a beneficial indirect effect on local businesses. No indirect impacts are anticipated during the operational phase because spending (except for the annual BLM rent) and employment would remain approximately the same as at present.

4.2.3.2 No Action Alternative

Under the No Action Alternative, the Facility would not expand the evaporation ponds and landfill capacity. When the existing facilities are full, solid waste would be trucked to an off-site disposal area. The annual cost of off-site disposal would range from approximately $6,000,000 to $40,000,000 over 30 years (see Appendix C). Truck traffic would increase on public roads between the Facility and the off-site disposal area by 60 trucks per day, four days a week. This would increase wear on the affected roadways and public maintenance costs for these roads. Under the No Action Alternative, no significant change is likely in the current population size, number of housing units, employment level, income, or demand for services in the Moapa area. Disposal of solid wastes at an off-site landfill could result in an expansion of operations at that facility with potential impacts to local social and economic conditions but evaluation of these off-site impacts is beyond the scope of this EA.

4.2.4 SOILS

4.2.4.1 Proposed Action

Direct Impacts: The construction of the project would disturb approximately 444 acres, including pipelines and haul roads. Construction and operation of the landfill, over the 30-year life, would impact approximately 325,000 cubic yards of soil. The majority of soils disturbed by construction of the project are thin soils with a desert pavement surface of gravel and rocks, which support sparse vegetation typical of the desert environment. Disturbed soil would be retained and used as cap material and as substrate to place over the cap to assist with revegetation. The final graded area of the landfill will be covered with natural earth obtained from on-site. All landfill final slopes would be no steeper than 4H:1V to allow for successful revegetation and to minimize erosion.

Indirect Impacts: Disturbed soil surfaces including stockpiled soils to be used for reclamation would be susceptible to wind and water erosion. Measures to minimize erosion include compaction of landfill material and implementing the fugitive dust control plan and storm water pollution prevention plan.

4.2.4.2 No Action Alternative

No soil disturbance is associated with the No Action Alternative, and therefore, no impacts to soil resources would occur at the Facility. Disposal of solid wastes at an off-site landfill could result in an expansion of surface disturbance at that facility with potential impacts to surface environmental resources but evaluation of these off-site impacts is beyond the scope of this EA.

4.2.5 VEGETATION

4.2.5.1 Proposed Action

Direct Impacts: Construction of the Proposed Action would result in the loss of approximately 444 acres of the existing natural plant community. Because no work is proposed in the southeast corner of the Project Area, tamarisk plants along California Wash would not be disturbed, reducing the risk that this noxious weed could become established in other site areas. Cactus plants in the Project Area would be avoided if possible. Based on a survey performed in November 2006, approximately 397 cacti are estimated to be impacted by implementation of the Proposed Action (JBR 2006b). Any cactus plants that cannot be avoided would be salvaged and transplanted in accordance with BLM guidelines.

Indirect Impacts: The additional truck traffic to the new facilities could increase the risk of noxious weed establishment in undisturbed areas nearby by bringing seeds to the area from off-site.

4.2.5.2 No Action Alternative

Under this alternative, the Facility would not expand the evaporation ponds and landfill capacity. There would be no change in the existing plant community at the Facility. Disposal of solid wastes at an off-site landfill could result in an expansion of surface disturbance at that facility with potential impacts to surface environmental resources but evaluation of these off-site impacts is beyond the scope of this EA.

4.2.6 WILDLIFE

4.2.6.1 Proposed Action

Direct Impacts: The Proposed Action would result in the permanent loss of approximately 444 acres of wildlife habitat as a result of constructing evaporation ponds and landfills. Small

mammals and reptiles remaining in the project vicinity could be at increased risk of mortality from construction of the landfill and ponds and on-going truck traffic on the proposed roads.

Indirect Impacts: No indirect impacts have been identified.

4.2.6.2 No Action Alternative

Under the No Action Alternative, the Facility would not expand the evaporation ponds and landfill capacity. There would be no change in the amount of wildlife habitat currently available at the Facility and no risk of construction-related wildlife injuries or mortalities. Disposal of solid wastes at an off-site landfill could result in an expansion of surface disturbance at that facility with potential impacts to surface environmental resources but evaluation of these off-site impacts is beyond the scope of this EA.

4.2.7 RANGE RESOURCES

4.2.7.1 Proposed Action

Direct Impacts: Construction of the Proposed Action would result in the loss of approximately 444 acres of the existing natural plant community and range resources. However, no impacts to grazing supported by the range resources would occur because the Project Area is no longer an active grazing allotment.

Indirect Impacts: The additional truck traffic to the new facilities could increase the risk of noxious weed establishment in undisturbed areas nearby by bringing seeds to the area from off-site. However, impacts to grazing would not occur because the Project Area is not an active grazing allotment.

4.2.7.2 No Action Alternative

The No Action Alternative would not change range resources. No impacts would occur at the Facility. Disposal of solid wastes at an off-site landfill could result in an expansion of surface disturbance at that facility with potential impacts to surface environmental resources but evaluation of these off-site impacts is beyond the scope of this EA.

4.2.8 VISUAL RESOURCES

4.2.8.1 Proposed Action

Direct Impacts: Implementation of the Proposed Action would represent an alteration of the existing landscape. Specifically, the majority of the undisturbed mesa top would be disturbed and impacted by the construction of the landfill and ponds. The Proposed Action would be constructed immediately adjacent to the Facility and would represent a continuation of existing industrial facilities.

One Key Observation Point (KOP) was established to evaluate the visual contrast and visibility of the Proposed Action (BLM 1986b). The visual contrast rating worksheet and KOP location is shown in Appendix K. KOP #1 and is located near the intersection of I-15 and State Route 168. Specifically, the KOP is located along the north side of I-15 within a truck pull out area adjacent to the highway. The view of the KOP is towards the northwest, looking directly at the Facility.

The expansion of the landfill and ponds would be visible from I-15 and from KOP#1. The landfill would have an ultimate height of 50 feet. However, such change to the landscape would not be the main focus of attention. The proposed landfill and ponds would be located in the "middle ground," and would be an extension of the existing power plant facilities in the view. Because of the distance between the Interstate and the Project Area (approximately 2 miles), the level of change would be moderate. The proposed facilities would not dominate the view of the casual observer. Construction of the Proposed Action would be consistent with BLM management objectives for a Class III area.

The proposed landfill and ponds would be in operation for a 30-year period, after which time, the facility would be reclaimed per the standards of NDEP and SNHD.

Indirect Impacts: Indirect impacts to visual resources resulting from the Proposed Action are not anticipated.

4.2.8.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be built. NPC would continue to utilize on-site ponds for evaporation needs. No new visual impacts would result at the Facility under the No Action Alternative. Disposal of solid wastes at an off-site landfill could result in an expansion of surface disturbance at that facility with potential impacts to surface environmental resources but evaluation of these off-site impacts is beyond the scope of this EA.

4.2.9 HEALTH AND SAFETY

4.2.9.1 Proposed Action

Direct Impacts: The Proposed Action is expected to minimally impact air resources incrementally compared to the existing Facility operations. Pond odor conditions would be improved as described in further detail in Section 4.1.1.1. Therefore, no incremental adverse health effects are expected to existing population centers. Fugitive dust would be controlled through control measures including watering all disturbed surfaces. Additionally, fugitive dust does not contain harmful levels of toxic metals. Fugitive dust conditions at the landfill would be controlled as described in further detail in Section 4.1.1.1. The landfill operations would also be further away from the existing Facility and residences on the Reservation. Therefore, no incremental adverse health effects are expected to existing population centers.

The BLM requested technical assistance from the SNHD to evaluate alleged health concerns raised by the public. The SNHD suggested possible methods to investigate health issues that ranged from voluntary health surveys to a scientific epidemiological study, but believed that it may not be possible to show a statistically significant health effect due to the small population size of Moapa. Appendix L contains SNHD letter concerning public health impacts of the project.

Indirect Impacts: Indirect impacts resulting from the Proposed Action are not anticipated.

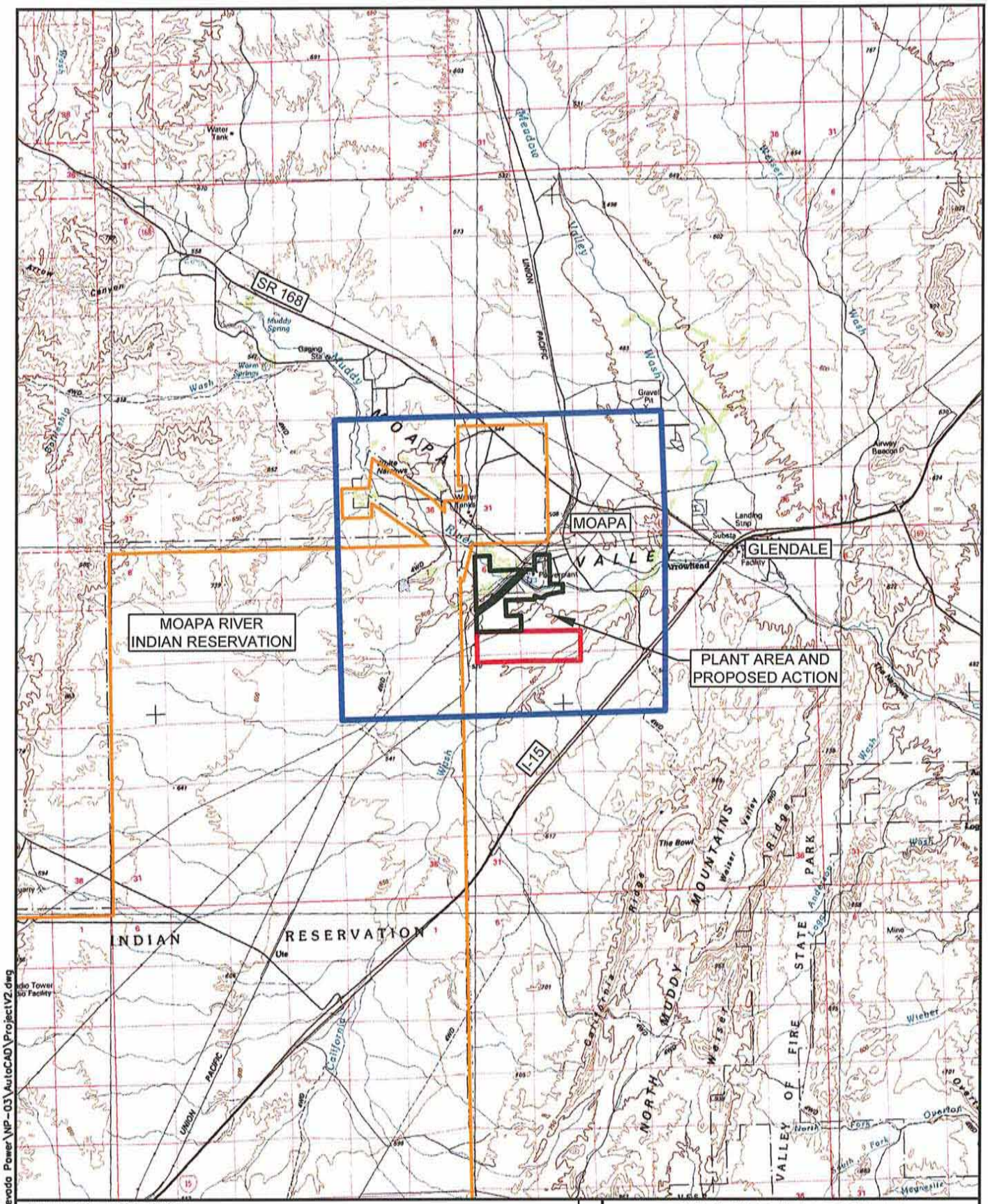
4.2.9.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be built. NPC would continue to utilize on-site ponds for evaporation needs and the existing landfill for solids disposal until it reached its capacity and was closed. Under this alternative, there would be no change in existing Facility operations related to health and safety. Eventually, solid waste would be transported to an off-site disposal facility, most likely by truck. To transport these solids by truck, 60 highway-legal truck loads per day would be shipped for 4 days per week. This additional truck traffic would increase the potential for accidents due to the truck traffic itself and increased wear and subsequent maintenance activities on the roads.

4.3 CUMULATIVE IMPACTS

This section analyzes the potential cumulative impacts from past, present, and reasonably foreseeable future projects combined with the Proposed Action within the cumulative impact assessment area specific to the resources for which cumulative impacts may be anticipated. A cumulative impact has been defined as "the impact which results from the incremental impact of the action, decision, or project when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (BLM 1990).

As related to the Proposed Action, cumulative impacts are possible for air quality, cultural resources, Native American Religious Concerns, migratory birds, environmental justice, threatened, endangered, and special status wildlife, threatened, endangered, and special status plants, wastes (hazardous or solid), water quality, groundwater, floodplains, wetlands/riparian and waters of the U.S., geology and minerals, land use, soils, vegetation, wildlife, range resources, and visual resources. The cumulative impact assessment area for all resources has been identified as the immediate vicinity of the Facility (Figure 15). The cumulative impact assessment area for air quality is the Air Quality Hydrographic Basin Area Boundary 218 (Figure 9). The reasonably foreseeable time frame for the cumulative assessment analysis assumes 30 years (the anticipated timeframe of the Facility).



BASE IMAGE: USGS DRG 100k

- CUMULATIVE ASSESSMENT AREA
- PROJECT AREA, APPROXIMATELY 560 ACRES
- EXISTING POWER PLANT BOUNDARY
- MOAPA RIVER INDIAN RESERVATION

12,000 0 12,000 FEET

DATE DRAWN 04/30/07

NEVADA POWER
REID GARDNER EXPANSION PROJECT

FIGURE 15
CUMULATIVE ASSESSMENT AREA

FILE NAME: Clients-2006\Nevada Power\NP-03\AutoCAD\Project\V2.dwg

The following sections contain a description of the interrelated activities that have occurred and may reasonably occur in the foreseeable future within the cumulative impact assessment area, and an analysis of the impacts of the interrelated activities within a regional context.

4.3.1 DESCRIPTION OF INTERRELATED PROJECTS

The primary activities which would contribute to cumulative impacts would include past, present, proposed, and reasonably foreseeable future actions at the Facility, activities on the Reservation, activities within the existing utility corridor, activities within the town of Moapa and related surrounding residential or commercial development combined with the Proposed Action. Past, present, proposed, and reasonably foreseeable future projects are described in this section and summarized in Table 4-1 with respect to the cumulative impact assessment area.

Table 4-1 Past, Present, Proposed, and Foreseeable Future Surface Disturbance for the Proposed Action Cumulative Impact Assessment Area

Activity	Surface Disturbance (acres) [1]
Past, Present, and Proposed Disturbance	
Reid Gardner Facility (past and existing disturbance)	680
Reid Gardner Expansion Project (Proposed Action)	444
Moapa River Indian Reservation (past and existing disturbance)	740
Existing Utility Corridor [2]	200
Subtotal:	2,064
Reasonably Foreseeable Disturbance	
One Additional Power line [3]	0
Two Additional Pipelines [4]	55
Hidden Valley Master Planned Development	833
Subtotal:	888
Total Cumulative Surface Disturbance	**2,952**

[1] Disturbance approximate. Disturbance based on BLM ROW files, information provided by the BIA, information presented in the Hidden Valley Glendale LLC Major Project Application (2006), and aerial photographs.
[2] Represents disturbance within the portion of the utility corridor that is within the cumulative impact assessment area only.
[3] Assumes that all disturbances created by a new power line will occur in previously disturbed areas in the vicinity of the Facility.
[4] Represents Holly Energy Partners pipeline (N-82385 application recently submitted to the BLM) and another reasonably foreseeable pipeline. Assumes all new disturbance created will occur in previously disturbed areas of the utility corridor except for 55 acres of previously undisturbed area.

4.3.2 PAST AND PRESENT ACTIVITIES

Past and present disturbance within the cumulative impact assessment area total an estimated 2,114 acres and includes the Facility, portions of the Reservation, and the existing BLM utility corridor. In addition to this disturbance, there is also the I-15, State Route 168, and numerous minor dirt roads in the immediate vicinity (these areas were not calculated nor included in Table 4-1).

The Facility is described in Section 1.1 of this EA. The Reservation encompasses approximately 71,954 acres and includes 322 members. The Reservation consists of approximately 80 homes, an Indian Health Service Clinic, Police Department, and a Community Facility/Tribal

Administration Office. Current disturbance on the Reservation is estimated (based on aerial photography) to be approximately 740 acres, the majority of which is agricultural lands.

The existing utility corridor includes several high-voltage electrical transmission lines and the Kern River natural gas pipeline. The BLM's RMP identifies the utility corridor as 2,640 feet wide; although existing disturbance with the corridor is only approximately 600 feet wide (see Table 4-1).

4.3.3 PROPOSED ACTION

The Proposed Action involves 444 acres of new disturbance and is described in detail in Chapter 2 of this EA.

4.3.4 FORESEEABLE FUTURE PROJECTS

Reasonably foreseeable activities within the cumulative impact assessment area include construction of one new power line and two new pipelines within the utility corridor, and the Hidden Valley Master Planned Development.

It is likely that one new power line will be constructed within the utility corridor. Due to the proposed landfill, NPC has agreed to allow the construction of a new power line to occur around the north side of the Facility and on private lands owned by NPC. For the purposes of this analysis, it is assumed that construction of a new power line will occur in previously disturbed areas.

It is likely that two new pipelines will be constructed within the existing utility corridor. In August 2006, Holly Energy Partners submitted a ROW application to the BLM (N-82385) for the proposed construction of a 400-mile long petroleum pipeline, generally located from the Holly Refinery in Woods Cross, Utah to Las Vegas, Nevada. The pipeline is proposed to be located within the existing utility corridor and adjacent to the existing Kern River gas pipeline. Construction is anticipated to occur in late 2007 or early 2008.

The Hidden Valley Master Plan is a proposed residential and commercial development within the cumulative impact assessment area (Hidden Valley Glendale 2006). The Hidden Valley Master Plan is proposed for an approximately 910-acre site along the Muddy River and California Wash. The development site is adjacent to the Facility on the west end and northeast of the expansion Project Area. The draft development plan calls for 4,000 dwelling units on 833 acres, or 4.8 dwelling units per acre and approximately 88 acres of wetlands/open space.

4.3.5 SUMMARY OF CUMULATIVE EFFECTS

The following sections identify cumulative impacts of the Proposed Action when combined with past, present, and foreseeable future activities (identified in Table 4-1) within the cumulative impact assessment area.

Air Quality

The Proposed Action is located in the Air Quality Hydrographic Basin Area Boundary 218 (Figure 9). Incremental impacts to Air Resources above those from the existing Facility due to construction and operation of the Proposed Action are expected to be minimal. Current and future projects within the cumulative impact assessment area, including the Proposed Action, must comply with state and federal air quality standards. Hidden Valley Glendale, LLC has submitted an application for a Major Project in Clark County for the Hidden Valley Master Planned Community. However, they have not identified a detailed residential/commercial site plan or transportation plan yet.

The Reid Gardner Facility Ambient Air Quality Monitoring Data Summary, provided in Table 3-2, shows the typical measured concentrations of criteria air pollutants and hydrogen sulfide along with the related Nevada State Standards and NAAQS for each parameter. The measured concentrations demonstrate compliance with the standards at monitoring locations 2, 3, 4 and 5, as described in Table 3-1 and shown on Figure 10.

The air emission parameters of concern for the Proposed Action would be fugitive dust (PM_{10} parameter) and hydrogen sulfide (H_2S parameter). Typical measured concentrations of PM_{10} and H_2S from the existing Facility are far below state and federal standards for these parameters. Because of low measured concentrations of the air emission parameters of concern and the fact that the Proposed Action would be required to comply with all state and federal air quality requirements, cumulative impacts from the Proposed Action would be nominal and air quality is expected to remain within state and federal limitations.

Cultural Resources and Native American Religious Concerns

The proposed Hidden Valley Development and construction of future utilities would cause an estimated 888 acres of ground disturbing activities potentially affecting previously unknown Cultural Resources and Native American Religious Concerns. The Hidden Valley development will need an interchange justification from the Federal Highway Administration; utility construction would require ROW grants from the BLM. Because these projects require federal authorizations and permits, these projects would be required to comply with federal requirements to ensure that cultural resources and Native American Religious Concerns are not adversely affected. The Proposed Action is not expected to add additional cumulative effects because no

known Cultural Resources or Native American Religious Concerns have been identified in the Project Area.

Migratory Birds

Cumulative impacts to migratory birds would occur if disturbance from reasonably foreseeable projects occurs during the migratory bird nesting season. Future construction could affect approximately 888 additional acres of native vegetation and bird habitat bringing the total disturbance within the cumulative impact assessment area to 2,952 acres or 15.9 percent of the total cumulative impact assessment area of 18,595 acres. If the project was not to be built the cumulative disturbance could be approximately 13.5 percent. Cumulative impacts would not likely be adverse as the expected impact to migratory birds from the Proposed Action would be minimal due to implementation of environmental protection measures to limit project construction during migratory bird nesting season.

Environmental Justice

All reasonably foreseeable projects will need federal approval and therefore will be analyzed under NEPA.[1] The federal agencies will be required to address potential inequities in environmental effects on minority and low-income populations. At a minimum, effects to the Moapa Band of Southern Paiute and Las Vegas Band of Southern Paiute will be considered. The Proposed Action is not expected to cause a cumulative impact in environmental justice concerns because no direct or indirect impacts have been identified.

Threatened, Endangered, and Special Status Wildlife

It is not known whether listed or BLM sensitive wildlife are present in the cumulative impact assessment area. However, the reasonably foreseeable projects are likely to need one or more federal permits or authorizations, which could not be approved without satisfying the requirements of NEPA. Therefore, cumulative effects on threatened, endangered, and special status wildlife can not be fully identified. Hidden Valley Glendale, LLC has submitted an application for a Major Project in Clark County for the Hidden Valley Master Planned Community, however, they have not identified a detailed site or transportation plan yet.

Threatened, Endangered, and Special Status Plants

It is not known whether listed or BLM sensitive plants are present in the cumulative impact assessment area. However, the reasonably foreseeable projects are likely to need one or more federal permits or authorizations, which could not be approved without satisfying the requirements of NEPA. Therefore, cumulative effects on threatened, endangered, and special

[1] Hidden Valley Glendale, LLC has submitted an application for a Major Project in Clark County, Nevada – the Hidden Valley Master Plan, in which they indicate the need to improve the Hidden valley Interchange to Interstate 15 (Hidden Valley Glendale 2006: 32).

status plants can not be fully identified as of this time. Hidden Valley Glendale, LLC has submitted an application for a Major Project in Clark County for the Hidden Valley Master Planned Community, however, they have not identified a detailed site or transportation plan yet.

Wastes, Hazardous or Solid

Hazardous Waste

Construction of the one new power line, and the two new pipelines (e.g., gas, petroleum, water) may generate some hazardous waste from the accidental spills of diesel fuel, oils, greases, gasoline, antifreeze, or solvents from equipment and systems operating within their respective construction areas. Releases of any reportable quantity of a hazardous substance to the environment must be reported to the National Response Center (40 CFR Part 302) and to the Nevada Division of Emergency Management (NAC 445A.347) as well as the NDEP, Bureau of Corrective Actions. All spills must be cleaned up immediately and disposed of in accordance with all applicable state and federal requirements. Any hazardous waste generated at these facilities must be taken by approved transporters to designated hazardous waste disposal facilities. Based upon the potential for spills and the regulatory framework under which the projects must operate, no significant cumulative impacts are anticipated from hazardous waste.

Solid Waste

Any reasonably foreseeable project requiring a solid waste facility must comply with the requirements for material disposal. These projects would obtain all necessary permits and comply with all necessary solid waste regulations. Based upon the environmental protection measures required by the SNHD, no cumulative impacts are anticipated from the solid waste facilities of these projects, though cumulative effects from solid waste can not be fully identified as of this time. Hidden Valley Glendale, LLC has submitted an application for a Major Project in Clark County for the Hidden Valley Master Planned Community; however, they have not identified a detailed site plan or transportation plan yet.

Water Quality

Surface water quality impacts have been documented, or are likely to exist, in close proximity of the existing Facilities, the Moapa town site, and local irrigated fields. There would be no direct or indirect impacts from the Proposed Action landfill and evaporation ponds on surface water quality due to their being constructed as no-discharge facilities. Therefore, they would not contribute any cumulative impacts to the existing and reasonably foreseeable impacts on surface water quality.

Groundwater

Groundwater quality impacts have been documented, or are likely to exist, in close proximity of the existing Facilities, the Moapa town site, local irrigated fields, and local residential septic

systems. There would be no direct or indirect impacts from the Proposed Action landfill and evaporation ponds on groundwater quality due to their being constructed as no-discharge facilities. Therefore they would not contribute any cumulative impacts to the existing and reasonably foreseeable impacts on groundwater quality.

The Proposed Action would not result in any new groundwater pumping; therefore it would not contribute to a cumulative impact to the existing and reasonably foreseeable impacts on groundwater availability.

Floodplains

Cumulative impacts to floodplains would occur if disturbance from reasonably foreseeable projects occurs within the floodplain of the Muddy River and/or the California Wash. The Hidden Valley residential and commercial development (Hidden Valley Glendale 2006) is proposed for an approximately 910-acre site along the Muddy River and California Wash. Future construction associated with this development could affect the majority of the existing floodplains depending on the final site plan. The Proposed Action is not expected to cause a cumulative impact to floodplains because no direct or indirect impacts have been identified.

Wetlands/Riparian and Waters of the U.S.

The extent of wetlands or riparian zones is unknown within the cumulative impact assessment area; no National Wetland Inventory Map has been produced nor has a formal water of the U.S. delineation been performed. The Hidden Valley residential and commercial development (Hidden Valley Glendale 2006) is proposed for an approximately 910-acre site along the Muddy River and California Wash. Future construction could affect waters of the U.S. A CWA Section 404 Individual Permit will be needed prior to placement of fill material into the jurisdictional channels from the construction of the Proposed Action. The permit will require the replacement of or compensation for, the loss of channel functions. Therefore, cumulative effects on wetlands and riparian zones can not be fully identified as of this time. Hidden Valley Glendale, LLC has submitted an application for a Major Project in Clark County for the Hidden Valley Master Planned Community, however, they have not identified a detailed site plan or transportation plan yet.

Geology and Minerals

The construction of overhead and underground utilities would make geology and mineral resources within the utility ROW or construction corridor unavailable to future mining claims. Future construction could affect approximately 888 additional acres of future mining claims bringing the total unavailable for future mineral claims within the cumulative impact assessment area to 2,952 acres or 15.9 percent of the total cumulative impact assessment area of 18,595

acres. If the project was not to be built, the cumulative unavailable mineral claims would be approximately 13.5 percent.

Land Use

The cumulative impact assessment area includes the Reservation in northeast Clark County. Only one other project of significance has been proposed in this area. The Hidden Valley residential and commercial development (Hidden Valley Glendale 2006) is proposed for an approximately 910-acre site along the Muddy River and California Wash. The development site is adjacent to the Facility on the west end and northeast of the expansion Project Area. The draft development plan calls for 4,000 dwelling units on 833 acres, or 4.8 dwelling units per acre and approximately 88 acres of wetlands/open space. Future development could affect approximately 888 additional acres of land bringing the total disturbance within the cumulative impact assessment area to 2,952 acres or 15.9 percent of the total cumulative impact assessment area of 18,595 acres. If the project was not to be built, the cumulative disturbance could be approximately 13.5 percent. Cumulative impacts would not likely be adverse as the expected impact to land use from the Proposed Action would be minimal due to implementation of environmental protection measures to eliminate potential conflicts and or impacts between existing/future grant holders.

Social and Economic

The Hidden Valley residential and commercial development would be the two most significant project affecting Social and Economic concerns. The Hidden Valley project would be expected to increase local spending, employment, tax revenue, and income. The project would increase the demand for services such as police and fire protection, transportation, utilities, waste disposal, schools, and recreational facilities. As described in Section 4.2.3.1, the Proposed Action would not increase the population size, number of housing units, employment level, income, transportation, or demand for services in the Moapa area. During the 2-year construction period, NPC estimates and additional 21 workers will be needed, but during the operational phase of the project the plant workforce, payroll, expenditures on materials and services, and taxes would remain at approximately the same level as at present. While there would be a positive trend in the socio-economic welfare of the Moapa community, the cumulative effect contributed by the Proposed Action would be minimal.

Soils, Vegetation, and Wildlife Habitat

With full build, the Hidden Valley residential and commercial development would cover approximately 910-acres. The plan calls for 88 acres of wetlands/open space, where native soils and vegetation could be maintained, enhance or restore native soils and vegetation. Future development could affect approximately 888 additional acres of soils, vegetation, and wildlife habitat bringing the total disturbance within the cumulative impact assessment area to 2,952

acres or 15.9 percent of the total cumulative impact assessment area of 18,595 acres. If the project was not to be built, the cumulative disturbance could be approximately 13.5 percent.

Range Resources

Cumulative impacts are not anticipated to grazing supported by the range resources as the cumulative impact assessment area is no longer an active grazing allotment.

Visual Resources

Past, present, and reasonably foreseeable surface disturbance within the cumulative impact assessment area has the potential to result in short and long-term visual impacts, representing approximately 2,952 acres. Disturbance, representing primarily industrial activities, would be a moderate to strong contrast to the landscape. The Proposed Action, landfill and ponds, would ultimately be reclaimed after its 30-year life. However, other reasonably foreseeable actions, including the residential development, would not be reclaimed and would be a permanent visual impact. The 444 acres associated with the proposed action represents just over 2 percent of the total past, present, and reasonably foreseeable visual disturbance within the cumulative impact assessment area of 18,595 acres.

Health and Safety

The potential for adverse cumulative impacts to public health could result from poor air quality caused by fugitive dust. Current and future projects within the cumulative impact assessment area must meet all state and federal air quality standards. Monitoring of the criteria pollutants at the Facility, which would include the Proposed Action, would ensure that air quality standards are met near the property boundary. Cumulative impacts would be nominal as the expected impact to air quality from the Proposed Action would be minimal and all applicable air quality standards would be within regulatory limits.

4.4 RESIDUAL IMPACTS

With the successful implementation of the Environmental Protection Measures and BMPs incorporated into the Proposed Action, and the recommended environmental protection measures, the Proposed Action would result in minimal residual impacts. The proposed landfill and ponds would remain indefinitely. Implementation of the Proposed Action would result in long-term impacts to visual resources and land use. The construction of the landfill and ponds would prohibit the future use of the land by another action.

CHAPTER 5 CONSULTATION AND COORDINATION / PREPARERS

5.1 AGENCIES AND ORGANIZATIONS CONSULTED

The following agencies and organizations having jurisdiction and/or specific interest within the Project Area were contacted regarding the Proposed Action, existing environmental data, permitting for the project, the EA, and potential future projects.

Clark County Administrative Services
Sue Baker, Town & Liaison Services

Clark County Department of Comprehensive Planning
Chris Dingell, Senior Planner

Clark County Department of Development Services
Rob Kaminski, Principal Planner, Major Projects Team

Clark County Department of Air Quality and Environmental Management
Rob Mrowka, Planning Manager
John Koswan, Assistant Planning Manager

Converse Consultants
Anna Draa, Senior Geologist

EPG
Mickey Siegel

Far Western Anthropological Research Group, Inc.
Amy Gilreath, Principal
Allika Ruby, Staff Archaeologist

Kennedy Jenks Consultants
Ted Schilling, Manager of Industrial Services

Nevada Natural Heritage Program
Eric S. Miskow, Biologist III/Data Manager

Nevada Division of Environmental Protection
Larry Kennedy, Acting Supervisor, Compliance, Bureau of Air Pollution Control
Shannon Harbour, Staff Engineer, Bureau of Corrective Actions
Greg Remer, Bureau of Air Quality
Matt DeBurle, Bureau of Air Quality

Nevada Department of Wildlife
Fred Henson, Game Warden

Nevada Power Company

Paul Aguirre, Environmental Scientist
Lisa Corbett, Sr. Right of Way Agent/BLM Liaison
Joe Day, Plant Manager
Tony Garcia, Manager, Environmental Services
Anthony Giannantonio, Engineer/Scientist, Environmental Services
Dale Gray, Staff Engineer
Forrest Hawman, Team Leader, Coal Generation, Environmental Services
Starla Lacy, Director, Environmental Services
John Lescenski, Manager, Plant Engineering and Technical Services
Jean Ellen Mcfeaters, Land Use Consultant & Right of Way
Thomas Moore, Web Developer
Dave Phillips, Engineer/Scientist, Environmental Services
Christene Poeller, Environmental Scientist
Kevin Rademacher, Senior Communications Specialist
Dave Rigdon, Land Use Consultant & Right of Way
Michael Rojo, Engineer/Scientist, Environmental Services
Gabriel Romero, Communications Specialist
Stan Rolf, Environmental Scientist, Environmental Services
David Sims, Director Project Development
Andrea Smith, Director of Corporate Communications
Roger Trestrail, Right of Way Agent
Richard Willard, Staff Engineer
Eileen Wynkoop, Manager, Environmental Services
Ron Ostop, Project Manager (Contractor)

State of California, Department of Toxic Substances Control

Noel Laverty

Southern Nevada Health District

Stanley P. Jensen, P.E. REHS, CLM, Environmental Health Engineer Supervisor
Dr. Donald Kwalick, former Chief Health Officer
Eddie Ridenour, Environmental Health Specialist
Dr. Larry Sands, Chief Health Officer
Kent Wirtz, Environmental Health Specialist
Edmund Wojcik, P.E.

U.S. Fish and Wildlife Service

Ed Dominguez, Law Enforcement
Michael Burroughs, Biologist
Leilani Takano, Biologist

5.2 LIST OF REVIEWERS/INTERNAL DISTRICT REVIEW

Bureau of Land Management, Las Vegas Field Office

Mark Chatterton, Assistant Field Manager Division of Non-Renewable Resources
Lisa Christianson, Air Quality Specialist
Sharon DiPinto, former Assistant Field Manager, Division of Lands
Dave Fanning, Geologist
Adrian Garcia, Acting NPC Project Manager
Stuart Hirsh, Former NPC Project Manager
Michael Johnson, Planning & Environmental Coordinator
Lucas Lucero, Realty Specialist
Christina Lund, Botanist
Michael Moran, Hazardous Materials
Juan Palma, Field Manager
Suzanne Rowe, Archaeologist
Scott Sanderford, Realty Specialist
Mark Slaughter, Biologist
Jeffrey Steinmetz, Planning and Environmental Coordinator
Everette Bartz, Range Management Specialist/Weed Coordinator
Sara Petersen, Hydrologist

Bureau of Land Management, National Science & Technology Center

Karl Ford

5.3 LIST OF COOPERATING AGENCIES

Bureau of Indian Affairs

Amy Heuslein, Regional Environmental Protection Officer
Paul Schlafly, Natural Resources Specialist

5.4 LIST OF PREPARERS

JBR Environmental Consultants, Inc.

Allison Araya, AutoCAD Drafter
Brian Boyd, Environmental Analyst/ Soil Scientist
Brian Buck, Vice President
Catherine Clark, Division Manager/Project Manager
Mark A. Demuth, Associate Senior Scientist
Richard Duncan, Biologist
Erin Hallenburg, Air Quality Specialist
Eric Holt, Biologist
Nancy Kang, Senior Scientist
Debbie Lassiter, Environmental Scientist
Kathy Oakes, Senior Scientist
Rich Pratt, Environmental Specialist
Greg Sharp, Environmental Analyst
Jerry Tiehm, Botanist
Molly Reeves, Hydrogeologist/Environmental Scientist, CEM
Dave Worley, Senior Biologist

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APPENDIX A

Public Scoping Meeting Notices and Mailing Lists

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Las Vegas Field Office
4701 N. Torrey Pines Drive
Las Vegas, Nevada 89130-2301

TAKE PRIDE IN AMERICA

In Reply Refer To:
N-82003
2800
(NV-056)

Dear Interested Public:

Nevada Power Company (NPC) is seeking a right-of-way grant from the Bureau of Land Management (BLM) for the proposed Ash Storage Yard and Evaporation Ponds Expansion Project (Project) near its Reid Gardner power generation facility near Moapa, Clark County, Nevada. NPC proposes to build new evaporation ponds and a fly ash storage yard on lands managed by the BLM, southeast of and contiguous to the existing facility, within portions of Sections 7 and 8, Township 15 South, Range 66 East, Mount Diablo Base and Meridian (see site map).

The Reid Gardner Facility is a coal fired electric generation facility delivering 560 megawatts of power to Southern Nevada; meeting 10% of the energy needs for the region, and currently provides enough power to support a city of approximately 400,000 people. In order to meet the increasing power needs of southern Nevada, NPC is requesting additional capacity for evaporation ponds and storage of non-hazardous generation by-products (fly ash, bottom ash and waste water treatment sludge). The existing permitted ash disposal area and evaporation ponds, on NPC-owned lands, will reach capacity by the end of 2007. The proposed Project would provide enough capacity through the next 20 to 25 years.

Approximately 240 acres are proposed for pond construction and 320 acres for expansion of the storage yard, for a total of 560 contiguous acres. A utility right-of-way corridor containing above and below ground utilities traverses the Project area, however, the proposed Project would not be constructed within this utility corridor. The proposed site is located on a mesa southeast of the Muddy River at the northern boundary and California Wash at the southeastern boundary. The Moapa River Indian Reservation residences are located two miles north and west of the proposed Project site.

The BLM Las Vegas Field Office is preparing an Environmental Assessment (EA) to evaluate all feasible and reasonable alternatives and the potential impacts of the Project, in accordance with requirements of the National Environmental Policy Act and associated Council on Environmental Quality regulations.

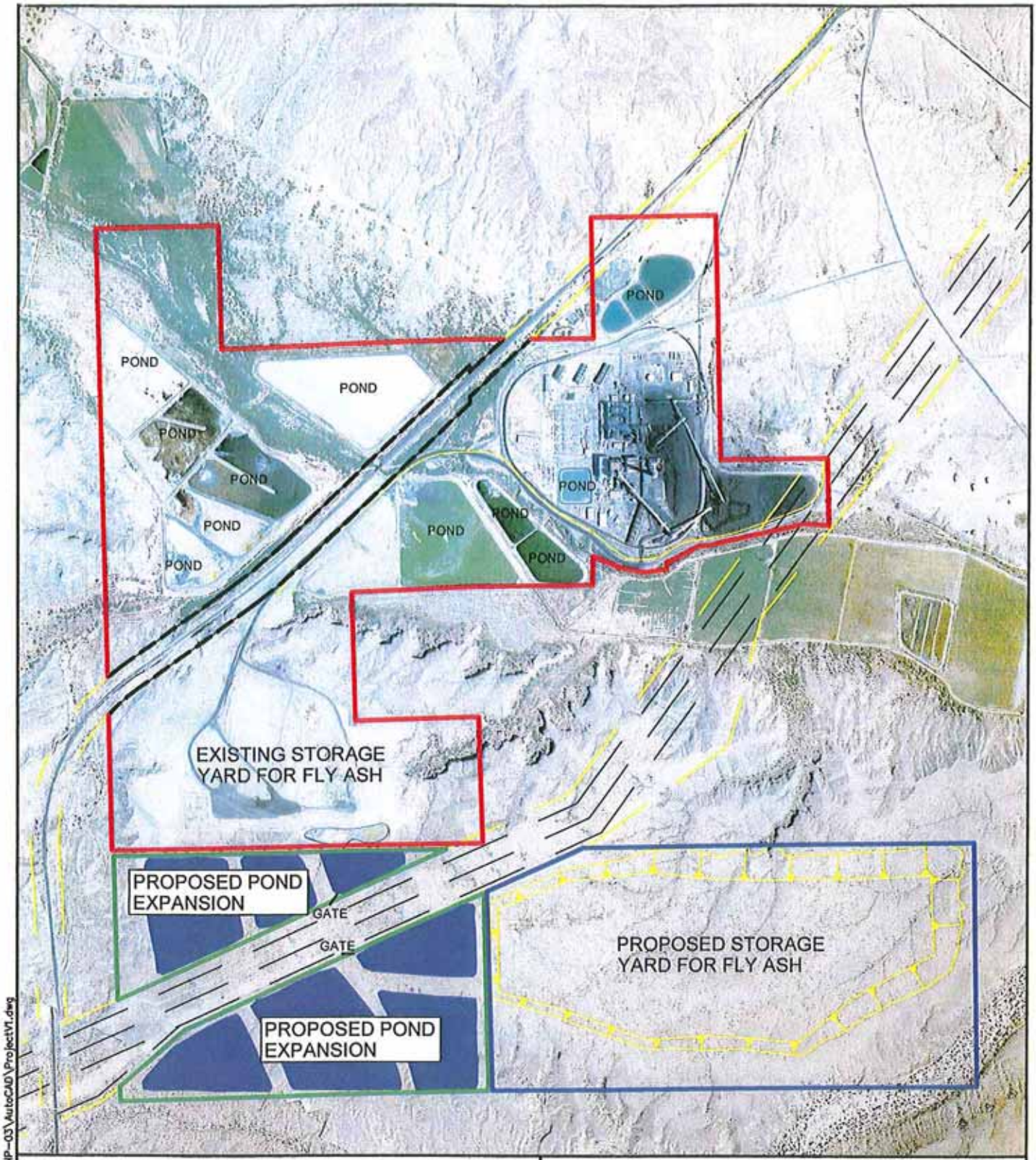
The BLM is seeking your input regarding the proposed Project and relevant issues that should be considered in the EA during a public scoping meeting to be held from 7 to 8:30 pm on Thursday, August 24, 2006, at the Moapa Town Hall/Community Center.

Written comments can be sent to Mr. Lucas Lucero at the above address. Comments should be postmarked or otherwise delivered to the Las Vegas Field Office by close of business September 1, 2006, to ensure full consideration. If you are unable to attend and would like additional project information, you may contact Mr. Lucero at (702) 515-5059.

Sincerely,

Sharon DiPinto
Assistant Field Manager
Division of Lands

Enclosures
1 – Site Map



BASE IMAGE: AERIAL PHOTO PROVIDED BY KENNEDY/JENKS CONSULTANTS

- NPC PROPERTY LIMITS
- NPC 240 ACRE PROPOSED POND EXPANSION
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NEVADA POWER
REID GARDNER FACILITY

FIGURE 1

ASH STORAGE YARD AND EVAPORATION PONDS EXPANSION PROJECT

jbr environmental consultants, inc.

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TAKE PRIDE IN AMERICA

In Reply Refer To:
N-82003
2800
(NV-056)

SEP 29 2006

Dear Interested Public:

Nevada Power Company (NPC) is seeking a right-of-way grant from the Bureau of Land Management (BLM) for the proposed Reid Gardner Ash Storage Yard and Evaporation Ponds Expansion Project (Project) near the Reid Gardner power generation facility in the vicinity of Moapa, Clark County, Nevada. NPC proposes to build new evaporation ponds and a fly ash storage yard on lands managed by the BLM, southeast of and contiguous to the existing facility, within a portion of Sections 7 and 8, Township 15 South, Range 66 East, Mount Diablo Base and Meridian (see site map).

The Reid Gardner Facility is a coal-fired electric generation facility delivering 650 megawatts of power to Southern Nevada, meeting 10% of the energy needs for the region, and currently provides enough power to support a city of approximately 400,000 people. In order to meet the increasing power needs of southern Nevada, NPC is requesting additional capacity for evaporation ponds and storage of the non-hazardous generation by-products (fly ash, bottom ash and waste water treatment sludge). The existing permitted fly ash disposal area and evaporation ponds, on NPC-owned lands, will reach capacity by the end of 2007. The Project would provide enough capacity through the next 20 to 25 years.

Approximately 240 acres are proposed for pond construction and 320 acres for expansion of the storage yard, for a total of 560 contiguous acres. A utility right-of-way corridor containing above and below ground utilities traverses the Project area. The Project would not be constructed within this utility corridor but access is proposed across the corridor. The Project site is located on a mesa south of the Muddy River. The California Wash is located at the southeast corner of the project site. The Moapa River Indian Reservation residences are located two miles north and west of the Project site.

The BLM Las Vegas Field Office is preparing an Environmental Assessment (EA) to evaluate all feasible and reasonable alternatives and the potential impacts of the Project, in accordance with requirements of the National Environmental Policy Act (NEPA) and associated Council on Environmental Quality regulations. NEPA requires that federal agencies consider public input during the preparation of an EA. As such, a second public scoping meeting for the project will be held on **Thursday, October 26, 2006, from 6 to 8 pm at the Old Overton Gym**, 353 Thomas Street in Overton. The BLM is seeking your input, at this meeting, regarding the Project and relevant issues that should

be considered in the EA. Environmental, generation and realty/land specialists and engineers from BLM and NPC will be available to answer project-related questions.

Preliminary project information may be viewed by the public at the BLM Las Vegas Field Office, 4701 N. Torrey Pines Drive between the hours of 7:30 a.m. to 4:30 p.m. Monday through Friday. The right-of-way application and an accompanying Plan of Development are available at http://www.nevadapower.com/company/projects/reidgardner/, and at the following locations:

Moapa Valley Library, Overton
350 North Moapa Valley Boulevard
Mon-Thurs: noon-8 pm; Fri & Sat: 10 am-6 pm

Moapa Town Library, Moapa
(across from the LDS Church on Rox Road)
Tues & Wed: 1-5 pm; Thurs: noon-8 pm; and Sat: 9 am-1 pm

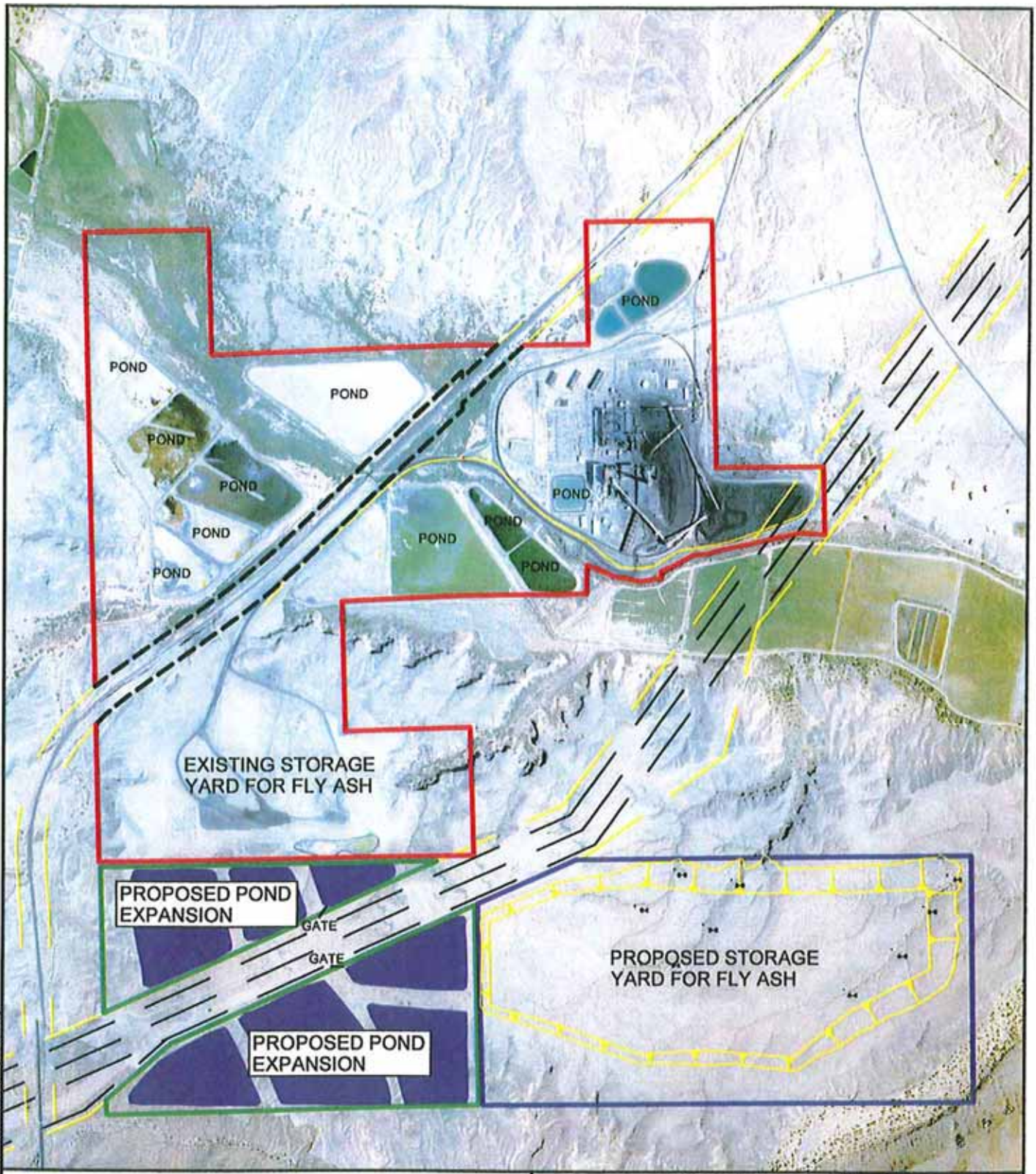
Verbal and written comments will be accepted at the public meeting. In addition, interested parties may submit written comments to BLM Project Manager, Lucas Lucero at the above letterhead address on or before Monday, November 13, 2006. Individual respondents may request confidentiality. If you wish to withhold your name or street address from public review or from disclosure under the Freedom of Information Act, you must state this prominently at the beginning of your written comment. Such requests will be honored to the extent allowed by law. All submissions from organizations and businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be available for public inspection in their entirety.

If you have questions regarding the public meeting or the proposed project, please contact Mr. Lucero at the BLM Las Vegas Field Office, phone (702) 515-5000.

Sincerely,

Sharon DiPinto
Assistant Field Manager
Division of Lands

Enclosures
1-Site Map



BASE IMAGE: AERIAL PHOTO PROVIDED BY KENNEDY/JENKS CONSULTANTS

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APPENDIX B

Scoping Comments Summary Table

Table 1: Summary of Public Concern Statements	
General Concern	**Commenter**
Several commenters were concerned that there was no written record at the August 24, 2006 public scoping meeting.	24, 37, 70
One commenter was concerned that BLM might have already made up its mind to approve Nevada Power right-of-way.	26
One commenter was concerned that several government agencies impacted by project were not aware of August 24, 2006 public scoping meeting.	29
Several commenters were concerned that project is not needed.	30,83, 237
Several commenters identified that a buffer is needed.	31, 40
One commenter considers modernization of the facility a benefit.	221
One commenter noted that the project benefits include continued operation, remote location, and cheaper electricity. Benefits outweigh the problems the Tribe is experiencing.	15
One commenter noted that project alternatives should consider a physical and visual buffer to minimize impact of odor, dust, noise, etc.	216
Two commenters questions the proposed 1999-2000 land sale and why the sale was dismissed.	32, 33
One commenter recommended BLM to contact NDEP regarding the encroachment of development on industrial sites.	20
One commenter questioned if proposed project was highest and best use of the land.	34
Several commenters suggested BLM should keep in mind impacts to nearby community growth and development in area when considering proposed project.	19, 73, 74, 82, 180, 241
One commenter identified that developers need to be aware not to build houses around ponds and landfill.	235
One commenter supports the development of neighboring lands under the current land use designation.	242
One commenter requested that a communication protocol be established to efficiently communicate and resolve issues concerning transmission lines or the LADWP right-of-way.	7
One commenter requested for Nevada Power Company (NPC) to make a formal presentation to the Moapa Town Advisory Board to address NDEP non-compliance issues, identify how they plan on coming into compliance.	236
One commenter concerned that the public scoping meeting was held in Overton rather than in Moapa.	238
A number of commenters were concerned about air quality, public health, risks, and safety.	22, 23, 27, 28, 39, 41, 65, 72, 79, 88, 90, 130,

	177, 181, 214
Several commenters concern about respiratory and other health problems of residents at the Moapa Indian Reservation (including children). Residents experience frequent headaches, sore throat, burning eyes, bronchitis, allergies, nose burns, asthma, coughing, and need breathing treatments.	77, 86, 89, 99, 108, 111, 112, 113, 120, 121, 124, 128, 133, 134, 137, 138, 143, 144, 147, 164, 168, 172, 175, 243
One commenter requested that health studies be conducted and the findings reported publicly to the Moapa Town Board. Complications from asthma have caused early deaths in Moapa.	240
One commenter concerned over frequency of cancer related deaths.	140
One commenter requested that testing be done on dust in reservation homes for contaminants.	173
One commenter concerned that current monitoring at the Moapa Indian Reservation is limited to SO2 rather than particulate information.	156
Several commenters identified that health issues of the Moapa Band of Paiutes (and community) are well documented, but Nevada Power has not altered operating procedures, and/or the issues are unresolved.	66, 109, 178
One commenter requested that Nevada Power answer all questions that were submitted to the BLM during the last scoping meeting.	223
One commenter concerned about Trust responsibility to the Moapa Band of Paiutes.	199
One commenter requested that past violations need to be addressed and corrected prior to BLM approval.	239
One commenter requested information on past or current complaints about location of plant and resolution of complaints.	188
One commenter requested disclosure of information (who and how much) regarding NPC donations to political campaigns.	224
One commenter requested for clarification of whether mitigation for project would be monetary. Questioned whether the money would be used to offset public land issues or added to the general treasury.	228
One commenter requested a contact person at NCP to discuss fly ash and mercury.	189
One commenter concerned that they have heard conflicting statements from NPC consultants and NPC Managers.	179
One commenter concerned over bully tactics used by NPC personnel.	202
One commenter concerned about potential dangers of an overhead power line break and need for emergency repairs above ponds or fly ash storage facility.	8, 9

One commenter has concerns of the effects of fly ash and other debris on the LADWP 500kV DC Transmission Line insulators and conductors and requested monetary compensation for necessary repairs and replacement.	3, 4
Several commenters concerned that more information is needed, and questions related to health and safety be addressed, in order to make substantive comments.	75, 80, 84
Two commenters requested full disclosure and information regarding emissions, hydrogen sulfide, hazardous material storage, wind transport of material and monitoring data be provided in the EA for both current operations and the proposed expansion in order to provide meaningful comments.	38, 11
One commenter requested analysis of reactivity of fly ash and bottom ash contents with aluminum, steel, and silicon to determine impacts on transmission line materials.	5
One commenter concerned about placing a hazardous waste facility on BLM land.	200
One commenter questioned whether there is new technology that will enclose the evaporative process as to not emit detectable odors.	42
Two commenters asked to clarify the involvement of Clark County Air Quality Department.	33, 35
One commenter wants BLM to consider Section 306 of the Clean Air Act, and EPA implementing regulations under 40 CFR Part 32 which state a facility on the List of Violating Facilities would be declared ineligible for participation in any federal contract, grant, loan, or subagreement hereunder.	67
One commenter requested additional information on how Nevada Power proposes to contain fly ash within the project area.	49
One commenter concerned over ash deposition on cars.	118
One commenter questions whether fly ash will be removed and project area reclaimed when project complete.	50
One commenter requested information on the reclamation of the site, wondered if it would be returned to a natural state, if it would be revegetated.	232
Two commenters concerned about anticipated actions that will take place beyond the 20, 25, 40 year planning horizon.	50, 155
One commenter questioned if Nevada Power will request additional public lands.	52
One commenter requested identification of additional permits required for project.	53
One commenter requested a checklist of permits, authorizations, supporting documents to show the facility is operating lawfully, and a copy of the State Implementation	12

Plan.	
One commenter concerned about the incidence of Lupus in residents at the Moapa Indian Reservation.	170
A number of commenters were concerned about odor, exposure to hydrogen sulfide release from the pond facilities	43, 115, 119, 135, 136, 175, 146, 169, 244
One commenter concerned that the ponds give off two different types of odors.	245
One commenter identified that the aeration of ponds and the use of hydrogen peroxide reduces odor but does not eliminate it.	246
Several commenters concerned that the proposed location of ponds and storage yard will increase their exposure to hydrogen sulfide and ash. The elevation of the proposed facilities is higher than existing facilities. Therefore, hydrogen sulfide, which is denser than air, will drift and settle on the Reservation because it is lower in elevation. The higher ground will make it easier for the wind to carry ash.	92, 114, 126, 148, 166, 171
One commenter recommended that the phenomena of ground level stability and ground level air pollution at the base of the Mesa needs to be investigated.	215
One commenter identified that meteorologic conditions such as atmospheric stability and ground level inversion that could increase or prolong exposure to hydrogen sulfide and ash.	205
One commenter questioned what Nevada Power's proposal to manage or eliminate the hydrogen sulfide emissions, and if Nevada Power acknowledges that hydrogen sulfide gas is hazardous to humans?	44
Several commenters concerned about hydrogen sulfide and causing respiratory problems and neurological problems.	93, 161, 211
One commenter claims existing pond makes people sick.	159
Several commenters concerned over toxic metals in the wastes and impacted soils and groundwater	48, 91, 96, 157, 207, 210, 212,
One commenter concerned about greater health risks to adults from contaminated groundwater and inhaling dust and air pollutants from the facility.	97
One commenter concerned over effectiveness of spraying water to control fugitive dust because of the high temperatures in summer.	206
One commenter identified that coal-fired plants are the largest source of mercury pollution.	182
One commenter concerned about neurological damage and other severe health effects caused by higher concentrations of mercury. Concerned that methyl mercury can be absorbed by organic beings.	183
One commenter concerned that fly ash contaminates the surface, air, and water. Concerned that fly ash contributes to	184

other atmospheric emissions such as sulfur dioxide, carbon dioxide, nitrogen oxides, and particulate matter.	
One commenter concern that scrubbers are ineffective.	185
Several commenters requested that air transport modeling exhibits be provided in the EA for public review.	45,59, 213
One commenter concerned about cumulative effects when considering ambient air contains concentrated levels of contaminants, including heavy metals.	95
One commenter requested that all notices of air quality violations for the last 5 years be available to the BLM and the public.	62
One commenter identified that NPC purchased pollution credits and questioned what part of their operation exceeds pollution emission limits and questioned how it impacts the existing community and adjacent lands.	63
Two commenters identified 45 Notices of Alleged Air Quality Violations issued to the Reid Gardner Plant.	64, 68
One commenter wanted the EA to identify whether the project falls under New Source Review under the Clean Air Act.	14
One commenter concerned that the existing facility produces nitrogen oxides and sulfur dioxide, repeatedly violated Section 165(a) of the Clean Air Act and is currently in violation. NPC has the duty to retrofit the facility with pollution control equipment.	13
One commenter requested bag houses on Units 1, 2, and 3.	198
One commenter identified that contractor vehicles parked while idling at the guard shack cause air quality exceedences.	16
Two commenters concerned about odor, ash deposition, and black smoke.	139, 142
One commenter concerned that wind blows from the south and southeast, and therefore, the proposed location would bring ash to the Reservation.	104
One commenter recommended involving the Indian Health Services Environmental Staff to conduct non-biased evaluation of health risks.	110
Two commenters requested a human health risk analysis from exposure to heavy metals, chemical pollutants, and waste from ponds and ash.	163, 197
One commenter requested that NPC indemnify each resident for health complications due to exposure from NPC pollutants.	57
One commenter requested identification of waste water treatment sludge that is generated by the NPC process release of hazardous materials.	60
Several commenters concerned about formation of fugitive dust or odor emission from the fly ash and/or ponds	254, 255, 256, 257

One commenter concerned about air and water resources	125
One commenter identified that they don't want waste material, sulfur, to get into the water table.	234
One commenter concerned about the control of dust, and how much water would be needed on an annual basis to control it.	231
One commenter claims cooling towers could give out bacteria.	132
One commenter requested that Nevada Power needs to demonstrate compliance with the Clean Water Act.	208
One commenter questioned the quality of groundwater downstream from the plant.	209
One commenter concerned over evaporation ponds impact to surface and groundwater, including during large storm events.	219
One commenter concerned about runoff back into the valley from power plant during a rain event.	94
One commenter concerned over damage to LADWP property from polluted runoff.	6
One commenter concerned about release of asbestos.	152
One commenter was concerned about visual impacts because ponds will be visible from I-15.	153
One commenter concerned about destruction of ancestral lands including Warm Springs, Black Dog Mesa, Meadow Valley and the Lower Moapa Valley.	100
One commenter concerned about impacts to remains of a lost village located in footprint of ponds.	150
One commenter concerned that ponds leak over time, even with double lining. Leakage could flood cave immediately to the north of the proposed ponds.	230
One commenter asked what measures would be taken to prevent damage to subterranean archaeological sites adjacent to the landfill.	229
One commenter concerned that ash and air pollutants have left native plants unusable and inedible.	101
One commenter noted that the project area contains a large number of previously recorded archaeological sites.	2
One commenter suggested that the EA must address the economic loss due to adverse take of adjacent lands.	58
Several commenters were concerned about potential impacts to sensitive wildlife (desert tortoise, bighorn sheep), fish, and plants.	102, 151, 181
One commenter identified that protocols identified in the POD regarding desert tortoise, Gila monster, and burrowing owls are appropriate.	258
One commenter recommended that protection measures for other breeding migratory birds also protected under federal and state laws including, but not limited to, the mourning	259

dove, loggerhead shrike, sage sparrow, black-throated sparrow, and lesser nighthawk may be similar to those practiced for the burrowing owl.	
One commenter identified that existing evaporation ponds are presently permitted by NDOW. Highly concentrated saline solutions in existing ponds cause chronic, but relatively low level mortality events of primarily waterfowl, especially during fall and winter.	260
One commenter noted that during meeting between NPC and NDOW in February 2006, two points were made 1) existing ponds were too large to install netting as a deterrent, and 2) NPC was moving to close existing ponds and contemplating construction of new ponds on subject proposed site.	261
One commenter noted that existing (wildlife) deterrent methods as practiced (on existing ponds) have not proven satisfactory.	262
One commenter noted that the POD does not identify what methods will be employed through pond design and monitoring programs to serve as effective wildlife deterrents.	263
One commenter recommend the POD include a wildlife deterring fence design around the new evaporation pond complex inclusive of specifications for desert tortoise.	264
One commenter requested for BLM to coordinate with Tribe regarding cultural sites.	192
Requests identification of the guidelines to approve project. Is there a required environmental report?	186
Request for an additional informational meeting.	190
Several commenters recommended preparation of an EIS.	105,116,149,201,204
One commenter noted the benefits of the proposed ponds because they will be further away from the water table and the Muddy River.	233
One commenter requested information on the no action alternative, if application is denied.	61
Two commenters requested that the BLM consider requiring clean up of existing pollution problems prior to approving new actions.	158, 165
Several commenters concerned about the location of proposed project.	176
One commenter objects to the location of the project. Location should be farther away from proposed residential development.	18, 25, 187, 220
One commenter suggested considered piping fluids to ponds and using a conveyor belt to transport ash.	193
One commenter noted that Scoping meeting attendees do not object to the expansion, but rather, object to the proposed location.	71

One commenter noted that the EA needs to justify why existing evaporation ponds cannot be cleaned out to provide more capacity.	47
Several commenters noted that the EA needs to fully explore project alternatives.	46
One commenter opposes moving the existing ponds and fly ash storage area.	122
Several commenters suggested trucking fly ash to the Apex Landfill (or other disposal area) for disposal.	54, 76, 217
One commenter wants ponds moved to new location, but not on top of mesa.	160
One commenter opposes locating project on the mesa.	174
One commenter suggested moving the fly ash yard directly to the south of the proposed pond expansion to place the yard further away from future residences.	218, 222
One commenter suggested shipping fly ash by railcar back to the coal mine where it was originally mined.	226
One commenter suggested selling the fly ash to eliminate the need for storage yard expansion.	56
One commenter suggested the need to identify operations for sale or reuse of waste products because there is a market for fly ash.	225
Two commenters suggested we evaluate covering the ponds to prevent odor.	194
One commenter suggested that the proposed Ash Grove Cement Plant use the fly ash.	55
One commenter suggested sitting the project northeast of the existing facility on BLM lands.	195
One commenter suggested constructing deeper ponds and storage facility.	196
One commenter suggested considering reuse of sulfur dioxide captured products to reduce the need for ponds and storage yard. Calcium sulfate is used to make gypsum board or plasterboard.	227
Several commenters were opposed to the project and/or continued operation of the plant.	21, 78, 81, 85, 87, 98, 106, 117, 123, 127, 129, 131, 141, 145, 154, 162, 167, 191
Several commenters were opposed to the project and recommended denial of the application.	10, 17, 35, 69, 203
Bureau of Reclamation (BOR) is one of the grant holders, but NPC has managerial authority to act on behalf of the holders of the Navajo McCullough Transmission Line Agreement. Therefore, it is not necessary for BOR to review NPC's application.	248
Bureau of Indian Affairs (BIA) accepts responsibility as a	249, 250

cooperating agency.	
BIA recommends inviting the Moapa Band of Paiute Indians (Tribe) to be a cooperating agency.	251
The primary BIA point of contact is Ms. Amy Heuselin, BIA Regional Environmental Protection Officer. Include Paul Schlafly from BIA Southern Paiute Agency also as a contact.	252
One commenter identified that this proposed project must comply with all applicable federal, state, and local regulations for the construction and operation of the proposed facilities.	253
Clark County recently updated the Northeast Clark County Land Use Plan. Clark County identified that Nevada Power worked with the County to ensure that the proper planned land use designation was assigned to the land of this proposed project.	265
Clark County Department of Comprehensive Planning requested to be on the project mailing list for the EA.	266
Per SNHD, based upon NRS 439.370, SNHD is the Solid Waste Management Authority for Southern Nevada, with the authority to oversee all systems for management of solid waste.	267
Per SNHD, before the proposed landfill can be constructed or placed into operation, Nevada Power must make application to the SNHD for approval to operate a disposal facility.	268
SNHD accepts invitation to be a cooperating agency on proposed project.	269
One commenter concerned with activities on and adjacent to the Kern River ROW.	270-276
One commenter had several questions about the previous land sale request.	33
BLM stated that if non-hazardous waste (fly ash) is stored on the property, BLM will need to know the duration and possibly develop stipulations for reclamation.	278
BLM stated that Clark County Health District should be consulted to determine if a RCRA permit is required.	279
BLM stated that the BLM Nevada HazMat lead Bob Kelso, his memo of June 21, 2006 affirmed that fly ash is not a hazardous material and is not aware of any policy that would prohibit disposal of the fly ash.	280
BLM stated that while fly ash is not a hazardous material issue, each load of fly ash should be tested to ensure it does not exceed the regulatory threshold for a hazardous material.	281
BLM identified that if a ROW is issued, a bond should be required. It should include strict liability and hold harmless provisions. Fugitive dust should be addressed. Rehabilitation of the site should be addressed for when the ROW expires.	282
BLM identified that a data review on the APE was conducted.	283

The APE in Section 7 was previously inventoried (BLM Cultural Resource Report 5-2372). SHPO concurred with BLM's determination that a portion of 26Ck5686 on the site is not a contributing element to the site's eligibility to the NRHP. A small part of Section 8 has the benefit of 3 linear inventories. Harry Reid Center reports 5-4-3 and 5-2-2. Two sites are documented, but have not been evaluated for NRHP eligibility. A Class III inventory will be required for Section 8 which should include a re-evaluation of both sites and eligibility recommendations	
BLM stated that Native American consultation will be a critical component for inclusion in the EA. During a meeting not related to the project on June 13, 2006, the Moapa Band of Paiutes expressed strong opposition to the project.	284
BLM stated that the EA needs to analyze the potential environmental justice issues with the Tribes.	285
BLM stated that impacts to migratory birds and all critical elements of the environment should be looked at. A determination needs to be made if they are impacted or not. A negative declaration works fine for critical elements not impacted.	286
BLM stated that they should identify the need to invite anyone or agency (BIA, the Tribe, etc.) to be a cooperating agency.	287
BLM was not certain of how much, if any ash moves off-site. The commenter state that since the project is on the mesa, ash movement needs to be controlled.	288
BLM stated that cumulative impacts need to be quantified as much as possible.	289
BLM stated that a Biological Assessment (BA) should be contracted by the proponent because BLM does not have the staff or funding available. Once an acceptable BA is received, consultation with USFWS will take approximately 135 days. The BA will analyze impacts to listed species and BLM sensitive species in an appendix.	290
BLM stated that the project will need a restoration plan and vegetation inventory. The inventory is to include: rare plants, Cactus, yucca, and weeds.	291
BLM stated that based on current DAQEM Interim Policy guidance on the use of dust palliatives given the current proposed site location in an existing floodplain, water should be the primary dust control suppressant during the construction phase of the project. Until scientific data can be collected and analyzed on the potential harmful effects to federally listed species, chemical or plant derived dust palliatives should not be used.	292

BLM Provided reference: Clark County District Board of Health. February 22, 200. *Interim Policy on Dust Pallitative Use in Clark County, Nevada*	293

**Did not include reference to 103, 107 because commenter was referring to his/her expertise.

January 10, 2007; version 5

APPENDIX C

Cost of Alternative for Landfill 2009 – 2039

APPENDIX C COST OF ALTERNATIVE FOR LANDFILL 2009-2039

	Cost of Proposed Action					Trucking Alternative		Rail Alternative						
	Construction	Annual O&M Costs	Annual ROW Rent	Transportation Cost / YD^3	Landfill Operating Cost	Apex disposal	Apex	Rail and Conveyor Construction	ECDC Disposal	ECDC Maintenance	ECDC	Butterfield Disposal	Butterfield Maintenance	Butterfield
2009	$2,115,928	$1,222,608	$672,000	$4.50	$7,338,632	$55.00	$40,676,731	$31,000,000	$62.04	$999,600	$77,882,953	$67.39	$1,526,700	$ 82,366,789
2010		$1,253,173	$688,800	$4.61	$3,392,144	$56.38	$17,724,314		$63.59	$1,024,590	$21,017,616	$69.07	$1,564,868	$ 23,281,986
2011		$1,284,502	$706,020	$4.73	$2,916,240	$57.78	$11,314,328		$65.18	$1,050,205	$13,812,767	$70.80	$1,603,989	$ 15,467,127
2012		$1,316,615	$723,671	$4.85	$3,040,064	$59.23	$12,219,520		$66.81	$1,076,460	$14,860,079	$72.57	$1,644,089	$ 16,616,334
2013		$1,349,530	$741,762	$4.97	$2,607,601	$60.71	$6,310,439		$68.48	$1,103,371	$8,221,546	$74.39	$1,685,191	$ 9,417,200
2014		$1,383,269	$760,306	$5.09	$2,808,330	$62.23	$8,124,781		$70.19	$1,130,956	$10,295,709	$76.25	$1,727,321	$ 11,682,394
2015		$1,417,850	$779,314	$5.22	$3,395,093	$63.78	$14,641,349		$71.95	$1,159,230	$17,674,671	$78.15	$1,770,504	$ 19,710,150
2016		$1,453,297	$798,797	$5.35	$2,758,239	$65.38	$6,186,217		$73.75	$1,188,210	$8,166,263	$80.11	$1,814,767	$ 9,394,570
2017		$1,489,629	$818,767	$5.48	$4,786,494	$67.01	$30,287,872		$75.59	$1,217,916	$35,382,635	$82.11	$1,860,136	$ 38,971,039
2018		$1,526,870	$839,236	$5.62	$4,199,640	$68.69	$22,409,868		$77.48	$1,248,363	$26,526,695	$84.16	$1,906,639	$ 29,364,840
2019		$1,565,042	$860,217	$5.76	$4,556,247	$70.40	$26,045,419		$79.42	$1,279,573	$30,658,806	$86.26	$1,954,305	$ 33,867,047
2020		$1,604,168	$881,722	$5.90	$4,337,298	$72.16	$22,628,319		$81.40	$1,311,562	$26,836,305	$88.42	$2,003,163	$ 29,729,024
2021		$1,644,272	$903,765	$6.05	$4,483,019	$73.97	$23,649,780		$83.44	$1,344,351	$28,021,303	$90.63	$2,053,242	$ 31,030,673
2022		$1,685,379	$926,359	$6.20	$4,591,800	$75.82	$24,200,763		$85.52	$1,377,960	$28,676,420	$92.90	$2,104,573	$ 31,757,108
2023		$1,727,513	$949,518	$6.36	$4,703,219	$77.71	$24,764,514		$87.66	$1,412,409	$29,346,780	$95.22	$2,157,187	$ 32,500,470
2024		$1,770,701	$973,256	$6.52	$4,817,855	$79.66	$25,347,638		$89.85	$1,447,719	$30,039,855	$97.60	$2,211,117	$ 33,268,886
2025		$1,814,968	$997,588	$6.68	$4,938,301	$81.65	$25,981,329		$92.10	$1,483,912	$30,790,851	$100.04	$2,266,395	$ 34,100,609
2026		$1,860,343	$1,022,527	$6.85	$5,061,759	$83.69	$26,630,862		$94.40	$1,521,010	$31,560,622	$102.54	$2,323,055	$ 34,953,124
2027		$1,906,851	$1,048,091	$7.02	$5,358,425	$85.78	$29,375,911		$96.76	$1,559,035	$34,695,063	$105.11	$2,381,131	$ 38,374,634
2028		$1,954,522	$1,074,293	$7.19	$5,492,386	$87.93	$30,110,309		$99.18	$1,598,011	$35,562,439	$107.73	$2,440,659	$ 39,333,999
2029		$2,003,385	$1,101,150	$7.37	$5,629,696	$90.12	$30,863,067		$101.66	$1,637,961	$36,451,500	$110.43	$2,501,676	$ 40,317,349
2030		$2,053,470	$1,128,679	$7.56	$5,770,438	$92.38	$31,634,643		$104.20	$1,678,910	$37,362,788	$113.19	$2,564,218	$ 41,325,283
2031		$2,104,807	$1,156,896	$7.75	$5,914,699	$94.69	$32,425,509		$106.81	$1,720,883	$38,296,857	$116.02	$2,628,323	$ 42,358,415
2032		$2,157,427	$1,185,818	$7.94	$6,062,567	$97.05	$33,236,147		$109.48	$1,763,905	$39,254,279	$118.92	$2,694,031	$ 43,417,376
2033		$2,211,363	$1,215,464	$8.14	$6,214,131	$99.48	$34,067,051		$112.21	$1,808,002	$40,235,636	$121.89	$2,761,382	$ 44,502,810
2034		$2,266,647	$1,245,850	$8.34	$6,369,484	$101.97	$34,918,727		$115.02	$1,853,203	$41,241,527	$124.94	$2,830,416	$ 45,615,380
2035		$2,323,313	$1,276,997	$8.55	$6,528,721	$104.52	$35,791,695		$117.89	$1,899,533	$42,272,565	$128.06	$2,901,177	$ 46,755,765
2036		$2,381,396	$1,308,922	$8.77	$6,691,939	$107.13	$36,686,488		$120.84	$1,947,021	$43,329,379	$131.26	$2,973,706	$ 47,924,659
2037		$2,440,931	$1,341,645	$8.98	$6,859,238	$109.81	$37,603,650		$123.86	$1,995,696	$44,412,613	$134.54	$3,048,049	$ 49,122,775
2038		$2,501,954	$1,375,186	$9.21	$7,030,719	$112.55	$38,543,741		$126.96	$2,045,589	$45,522,929	$137.91	$3,124,250	$ 50,350,845
2039		$2,564,503	$1,409,565	$9.44	$7,206,486	$115.37	$39,507,334		$130.13	$2,096,729	$46,661,002	$141.36	$3,202,356	$ 51,609,616
				Total	**$155,860,905**		**$813,908,315**				**$995,070,450**			**$1,098,488,275**

Basis of Data:
Escalation 2.5 percent/year

Proposed Action

Engineering and Construction	$2,115,928
Annual Maintenance	$1,222,608/year
On-site transportation	$4.50/yd^3
Appraised Value ($40,000/acre)	$9,600,000
BLM Lease Cost (7 percent of value)	$672,000

Trucking Alternative

Tipping Fee	$25/yd^3
Transportation	$30/yd^3

Rail Alternative

Cost for fly ash conveyor modification and railroad spur additions - $31,000,000

	ECDC	Butterfield
Tariff Rates	$23/yd^3	$46/yd^3
Tipping Fees	$39/yd^3	$21/yd^3
Annual Maintenance	$999,600/year	$1,526,700/year

APPENDIX D

National Ambient Air Quality Standards and Nevada Air Quality Standards

National Ambient Air Quality Standards (NAAQS)

The Clean Air Act, which was last amended in 1990, requires EPA to set **National Ambient Air Quality Standards** (40 CFR part 50) for pollutants considered harmful to public health and the environment. The Clean Air Act established two types of national air quality standards. ***Primary standards*** set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. ***Secondary standards*** set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings.

The EPA Office of Air Quality Planning and Standards (OAQPS) has set National Ambient Air Quality Standards for six principal pollutants, which are called "criteria" pollutants. They are listed below. Units of measure for the standards are parts per million (ppm) by volume, milligrams per cubic meter of air (mg/m^3), and micrograms per cubic meter of air ($\mu g/m^3$).

National Ambient Air Quality Standards

Pollutant	Primary Stds.	Averaging Times	Secondary Stds.
Carbon Monoxide	9 ppm ($10\ mg/m^3$)	8-hour[1]	None
	35 ppm ($40\ mg/m^3$)	1-hour[1]	None
Lead	$1.5\ \mu g/m^3$	Quarterly Average	Same as Primary
Nitrogen Dioxide	0.053 ppm ($100\ \mu g/m^3$)	Annual (Arithmetic Mean)	Same as Primary
Particulate Matter (PM_{10})	Revoked[2]	Annual[2] (Arith. Mean)	
	$150\ \mu g/m^3$	24-hour[3]	
Particulate Matter ($PM_{2.5}$)	$15.0\ \mu g/m^3$	Annual[4] (Arith. Mean)	Same as Primary
	$35\ \mu g/m^3$	24-hour[5]	
Ozone	0.08 ppm	8-hour[6]	Same as Primary
	0.12 ppm	1-hour[7] (Applies only in limited areas)	Same as Primary
Sulfur Oxides	0.03 ppm	Annual (Arith. Mean)	-------
	0.14 ppm	24-hour[1]	-------
	-------	3-hour[1]	0.5 ppm ($1300\ \mu g/m^3$)

[1] Not to be exceeded more than once per year.

[2] Due to a lack of evidence linking health problems to long-term exposure to coarse particle pollution, the agency revoked the annual PM_{10} standard in 2006 (effective December 17, 2006).

[3] Not to be exceeded more than once per year on average over 3 years.

[4] To attain this standard, the 3-year average of the weighted annual mean $PM_{2.5}$ concentrations from single or multiple community-oriented monitors must not exceed $15.0\ \mu g/m^3$.

[5] To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each

population-oriented monitor within an area must not exceed 35 $\mu g/m^3$ (effective December 17, 2006).

(6) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.

(7) (a) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is ≤ 1, as determined by appendix H.
(b) As of June 15, 2005 EPA revoked the 1-hour ozone standard in all areas except the fourteen 8-hour ozone nonattainment Early Action Compact (EAC) Areas.

TABLE 3
Ambient Air Quality Standards

NEVADA STANDARDS[A]				NATIONAL STANDARDS[B]		
POLLUTANT	AVERAGING TIME	CONCENTRATION	METHOD[D]	PRIMARY[C, E]	SECONDARY[C, F]	METHOD[D]
Ozone	1 hour	235 g/m^3 (0.12 ppm)	Chemiluminescence	1-hour = 0.12 ppm (235 g/m^3) 8-hour = 0.08 ppm	Same as primary	Chemiluminescence
Ozone-Lake Tahoe Basin, #90	1 hour	195 g/m^3 (0.10 ppm)				
Carbon monoxide less than 5,000' above mean sea level	8 hours	10,000 g/m^3 (9.0 ppm)	Nondispersive infrared	9 ppm (10 mg/m^3)	None	Nondispersive infrared
At or greater than 5,000' above mean sea level		6,670 g/m^3 (6.0 ppm)				
Carbon monoxide at any elevation	1 hour	40,000 g/m^3 (35 ppm)		35 ppm (40 mg/m^3)		
Nitrogen dioxide	Annual arithmetic mean	100 g/m^3 (0.05 ppm)	Chemiluminescence	0.053 ppm (100 g/m^3)	Same as primary	Chemiluminescence
Sulfur dioxide	Annual arithmetic mean	80 g/m^3 (0.03 ppm)	Ultraviolet fluorescence	80 g/m^3 (0.03 ppm)	None	Pararosaniline method
	24 hours	365 g/m^3 (0.14 ppm)		365 g/m^3 (0.14 ppm)		
	3 hours	1,300 g/m^3 (0.5 ppm)		None	1,300 g/m^3 (0.5 ppm)	
Particulate matter as PM_{10}	Annual arithmetic mean	50 g/m^3	High volume PM_{10} sampling	50 g/m^3	Same as primary	High volume PM_{10} sampling
	24 hours	150 g/m^3		150 g/m^3		
Particulate matter as $PM_{2.5}$	Annual arithmetic mean	--	--	15.0 g/m^3	Same as primary	Low volume $PM_{2.5}$ sampling
	24 hours			65 g/m^3		
Lead (Pb)	Quarterly arithmetic mean	1.5 g/m^3	High volume sampling, acid extraction and atomic absorption spectrometry	1.5 g/m^3	Same as primary	High volume sampling acid extraction and atomic absorption spectrometry
Visibility	Observation	In sufficient amount to reduce the prevailing visibility[G] to less than 30 miles when humidity is less than 70%	Observer or camera	--	--	--
Hydrogen sulfide	1 hour	112 g/m^3 [H] (0.08 ppm)	Cadmium hydroxide stractan method	--	--	--

Notes for Table 3 - Ambient Air Quality Standards

Note A: These standards must not be exceeded in areas where the general public has access.

Note B: These standards, other than for ozone, particulate matter, and those based on annual averages, must not be exceeded more than once per year. The one-hour ozone standard is attained when the expected number of days per calendar year with a maximum hourly average concentration above the standard is equal to or less than one. The eight-hour ozone standard is attained when a three-year average of the annual fourth-highest daily maximum eight-hour average ozone concentrations is not greater than the standard. The PM_{10} 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above the standard is equal to or less than one. The expected number of days per calendar year is generally based on an average of the number of exceedances per year for the last three years. The federal standards for ozone and particulate matter were supplemented effective September 16, 1997 with an eight-hour ozone standard and a $PM_{2.5}$ standard.

Note C: Concentration is expressed first in units in which it was adopted. All measurements of air quality that are expressed as mass per unit volume (e.g., micrograms per cubic meter) other than for $PM_{2.5}$ must be corrected to a reference temperature of 25 C and a reference pressure of 760 mm of mercury (1,013.2 millibars). In this table, "ppm" refers to parts per million by volume, or micromoles of regulated air pollutant per mole of gas.

Note D: Any reference method specified in accordance with 40 C.F.R. Part 50 or any reference method or equivalent method designated in accordance with 40 C.F.R. Part 53 may be substituted.

Note E: National primary standards are the levels of air quality necessary, with an adequate margin of safety, to protect the public health.

Note F: National secondary standards are the levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a regulated air pollutant.

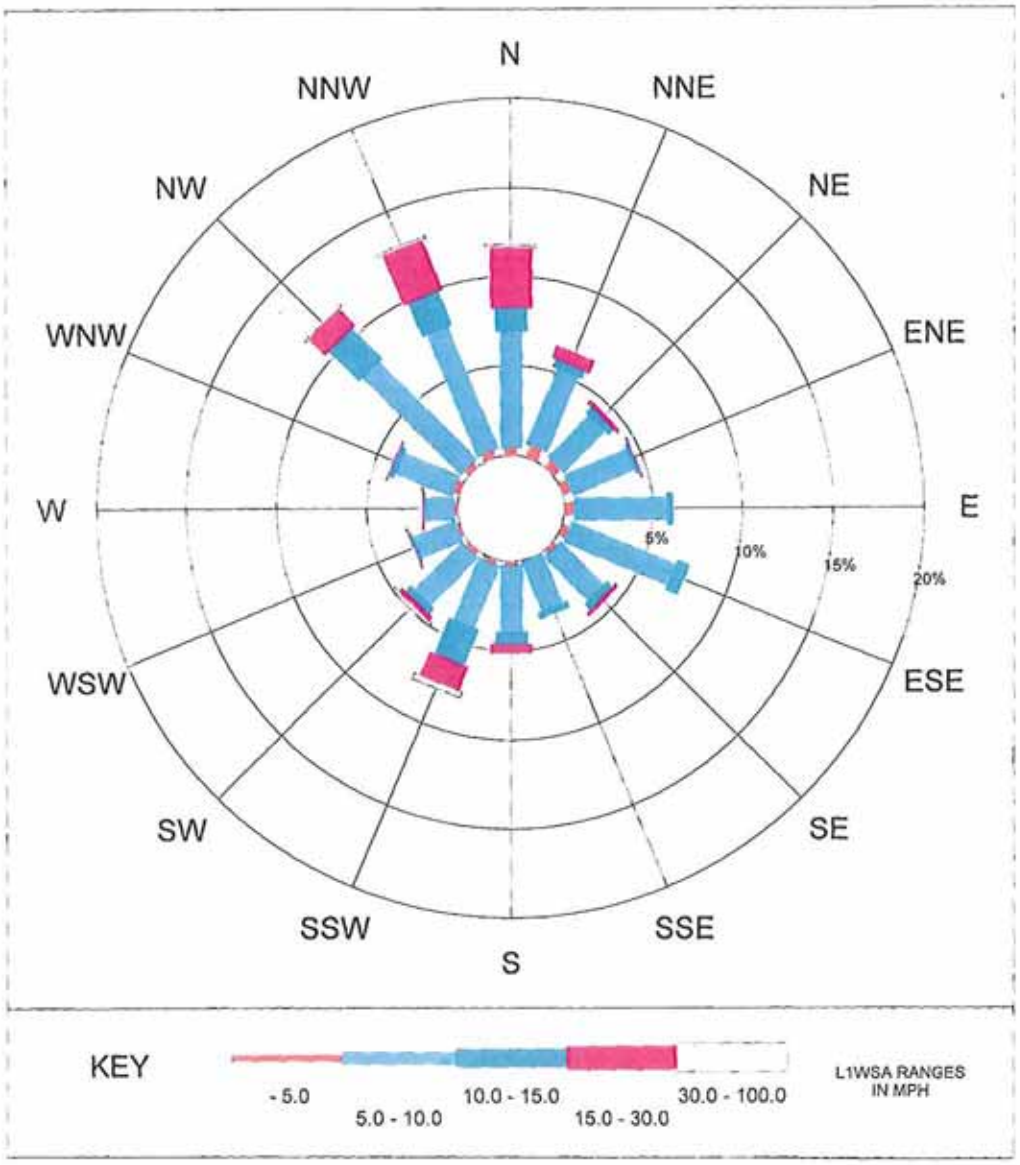
Note G: For the purposes of this section, prevailing visibility means the greatest visibility which is attained or surpassed around at least half of the horizon circle, but not necessarily in continuous sectors.

Note H: The ambient air quality standard for hydrogen sulfide does not include naturally occurring background concentrations.

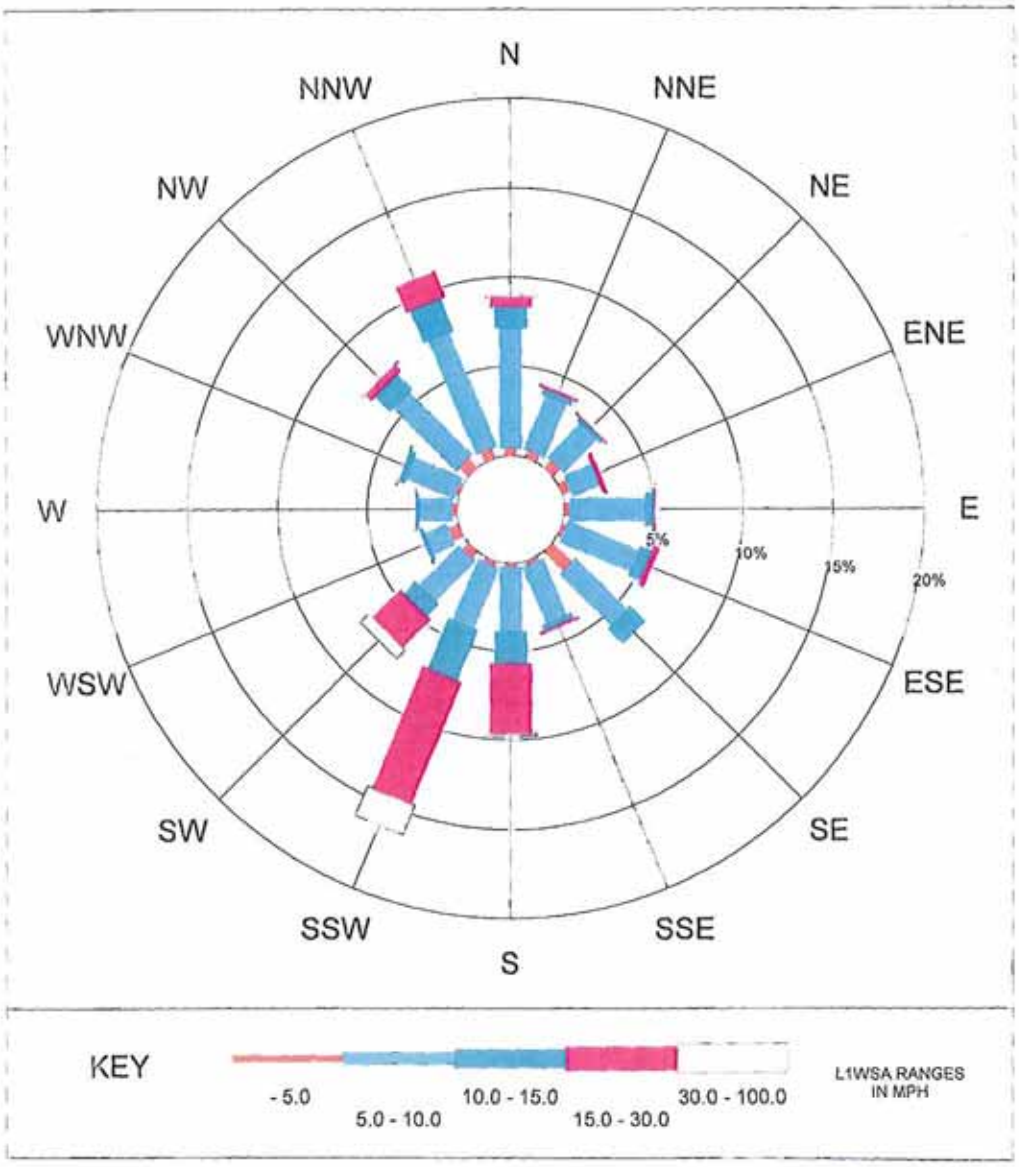
APPENDIX E

Wind Rose

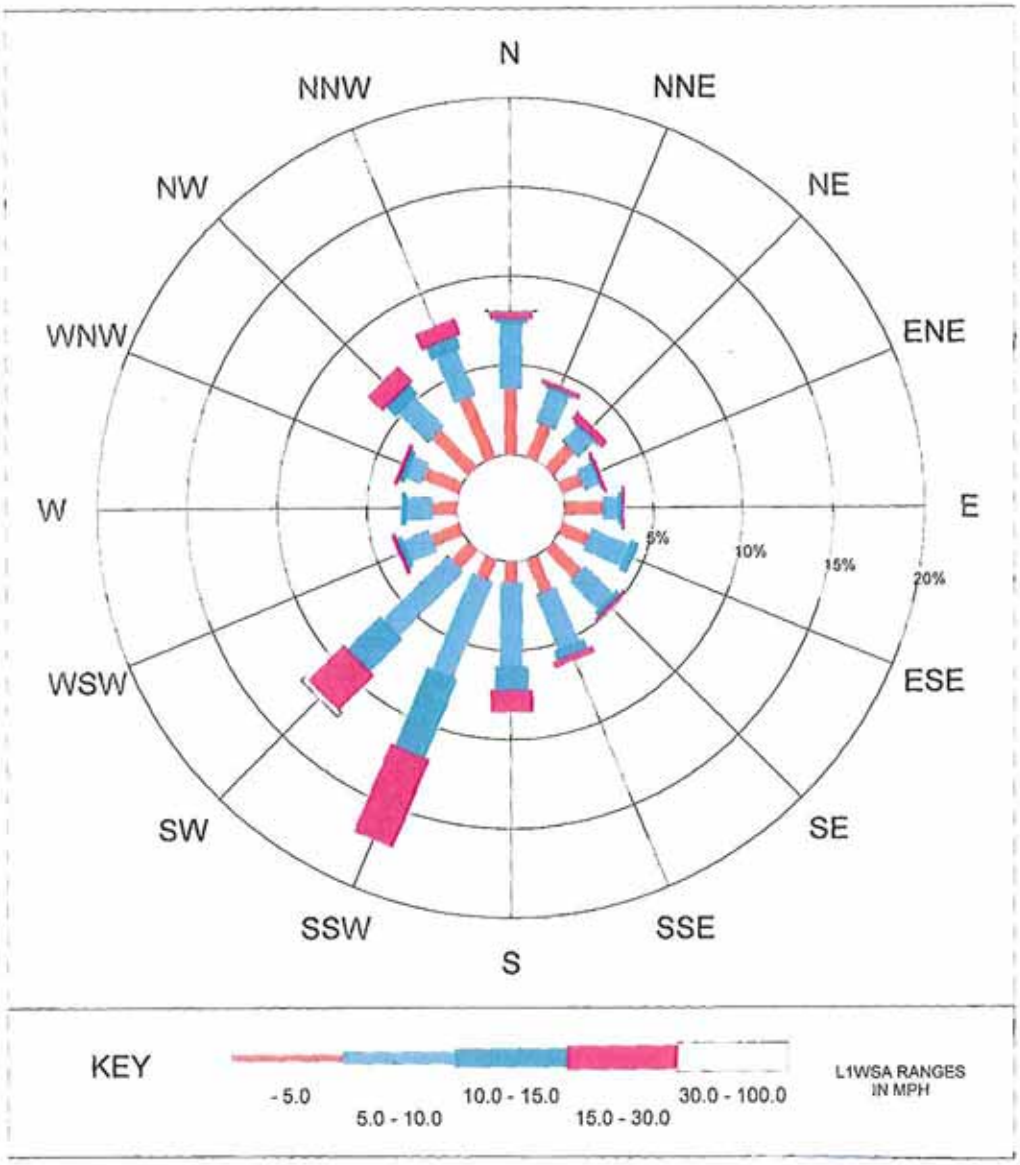
01 Jan 05 - 31 Mar 05
Station: Site1
L1WSA versus L1WDA
Frequency of Occurrence (%)



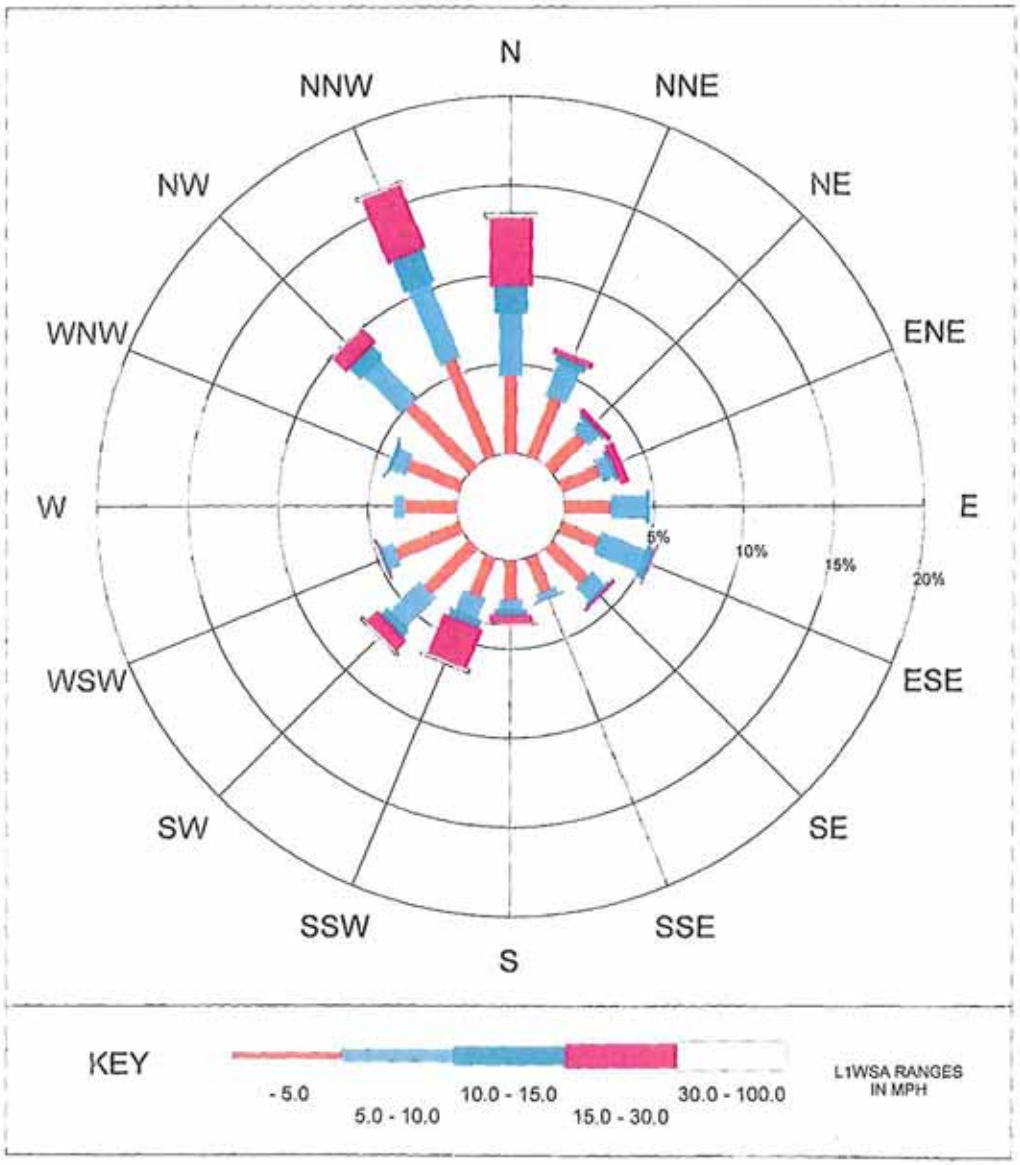
01 Apr 05 - 30 Jun 05
Station: Site1
L1WSA versus L1WDA
Frequency of Occurrence (%)



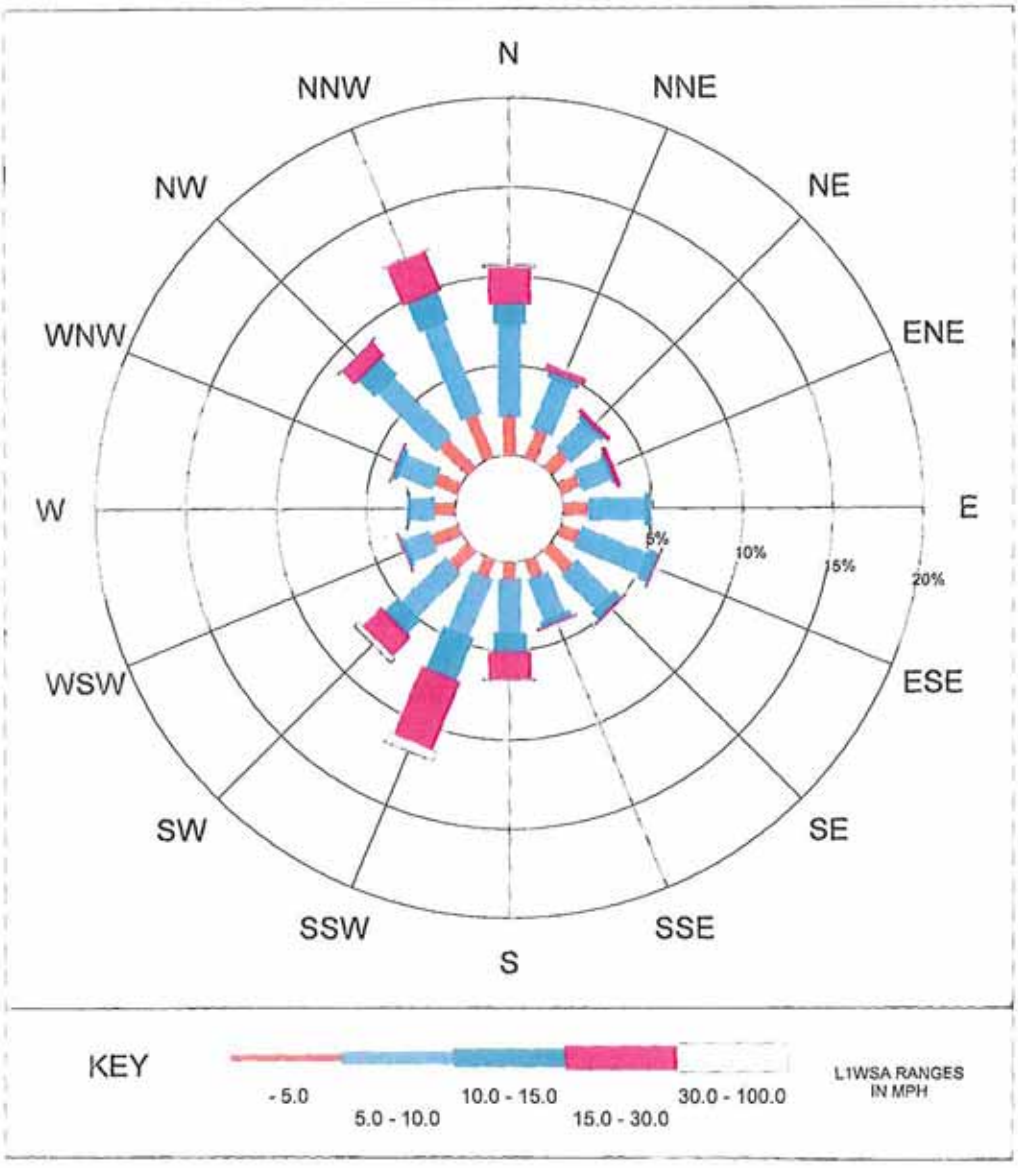
01 Jul 05 - 30 Sep 05
Station: Site1
L1WSA versus L1WDA
Frequency of Occurrence (%)



01 Oct 05 - 31 Dec 05
Station: Site1
L1WSA versus L1WDA
Frequency of Occurrence (%)



01 Jan 05 - 31 Dec 05
Station: Site1
L1WSA versus L1WDA
Frequency of Occurrence (%)



APPENDIX F

Hydrogen Sulfide Action Plan and Sample Complaint Form

NEVADA POWER COMPANY
REID GARDNER STATION

PROCEDURE FOR HYDROGEN SULFIDE RELEASE RESPONSE

PURPOSE:

To define the procedures used in the event of a hydrogen sulfide gas release that will provide comfort and safety of all employees and citizens. To provide for an effective "action plan" in the event of hydrogen sulfide releases from the Reid Gardner property.

SCOPE:

The procedures set forth in this document shall apply to all Reid Gardner employees in its entirety.

REFERENCE:

The Clark County Health Dist (CCHD) nuisance odor ordinance and the Nevada Dept. of Environmental Protection (NDEP) hydrogen sulfide emission limit of 80 ppb based on a one hour average set forth in the Nevada air rules.

INTRODUCTION:

Reid Gardner Station has three complaint sources that may provide initiation of this action plan: 1.) Employees, 2.) Neighboring citizens, 3.) Ambient monitoring alarm calls from (H2S) monitoring instrumentation located near the ponds.

ACTION PLAN:

Any person who feels there is a hydrogen sulfide release will immediately report the incident to the Operations Shift Supervisor and RG Environmental staff.

SHIFT SUPERVISOR	579-1348
ENVIRONMENTAL STAFF	Cellular 277-4924

If the alarm signal is received from an employee the Operations Shift Supervisor will immediately provide personal (H2S) hand-held monitoring of the specified area suspected to be the odor source and determine (and document) detected pollutant levels on the relevant complaint form. Each employee complaint needs to be addressed on a case-by-case basis and include area evacuation if necessary.

If the alarm signal is received from a neighboring citizen or an ambient instrument alarm call, the Operations Shift Supervisor will immediately provide personal (H2S) hand-held monitoring of the specified (pond) area suspected to be the odor source. The assigned personnel will monitor and determine (and document) detected pollutant levels on the relevant complaint form and notify the Operations Supervisor upon assessment.

The Shift Supervisor must also assign an employee to provide personal (H2S) hand-held monitoring of the specified complainant area suspected to be affected and determine (and document) detected pollutant levels on the relevant complaint form. The monitoring personnel will notify the Shift Supervisor upon assessment.

The Shift Supervisor must first initiate appropriate corrective action as well as notifying the RG Environmental staff and gives the time and details (name, address, and phone number, of complainant).

The Environmental Staff (ES) will interpret the local instrumental data and meteorological influence of the period of interest. The data will be reported to the appropriate management people for assessment towards developing corrective actions towards avoiding future occurrences.

The ES will communicate all details with plant management prior to communicating with anyone initiating the complaint.

Nevada Power Company np

To : Tony Garcia
From: Juan Estrada
Date: October 4, 2005 (Re-Issue)
Subject: Pond Odor Control

In response to your request to have the Pond Odor Control Parameters reissued, here are the required actions that are to be used.

- Pond samples are to be collected daily from all waste ponds that contain water. If samples cannot be collected due to hazardous road conditions, this information must be logged and the supervisor on duty notified.
- Each sample is analyzed for Electron-volt potential (EV), Sulfite, Sulfide, Specific Gravity, pH and Temperature. This information, along with the flow meter readings and level gauge from the individual pond locations is logged on the daily report. Information such as H2O2, KMNO4 or NaCO3 additions should also be in the remark section of the daily report.
- The Plant Chemicals Supervisor on a daily basis reviews the pond sample results. In his absence any problems that need supervisions attention are forwarded to the Operations Shift Supervisor.
- The following parameters will be used for Hydrogen Peroxide additions. These conditions may occur independently or in combination.

a. EV potential equal to or more negative than –0.10, add 500 gallons of H2O2.
b. EV potential equal to or more negative than –0.15, add 1000 gallons of H2O2.
c. EV potential equal to or more negative than –0.20, add 2000 gallons of H2O2.
d. Sulfide concentrations greater than 0.1 ppm add 500 gallons of H2O2 minimum.
e. Sulfide concentrations greater than 1 ppm add 1000 gallons H2O2 minimum.

- Ponds which show persistent and reoccurring problems entailing Hydrogen Peroxide additions will be feed H2O2 on a continuous basis at a low feed rate.
- All floating aerators, mixers and Oxidation pumps will be operated on a continuous basis throughout the summer months as conditions dictate.
- In addition, the environmental department maintains a continuous H2S monitoring system. Systems are located at West Gate Security, NW of Pond C2 and at the Native American Population Center. West Gate Security monitor sends via telephone, a signal to the control room. This alarm will sound before a violation of the 80 ppb/hour of H2S occurs. Upon notification of an alarm, Lab/Operations will go out to the ponds and with a portable H2S meter, monitor the air around the pond perimeter to determine where the problem is occurring. Once the offending pond has been identified, corrective action must be taken.

- **In the event of an odor complaint or an alarm signal is received from the monitoring system. The perimeter of the pond areas will be tested with the hand held H2S monitor. A sample of the offending ponds should also be collected and the water tested for dissolved H2S according to Lab Procedures. The proper documentation will be filled out and given to the Operations Shift Supervisor.**
- **Contact the Chemical Supervisor if the offending pond requires more than just chemicals to suppress the odor.**
- **All pond aeration equipment will be tested and ready for Operation and deployment into the ponds by March 1.**
- **All pond chemical systems, tanks, pumps, and delivery lines will be ready for use by March 1.**
- **Any failure of the Pond Odor Control systems will become a Priority 1 work order when the pond aeration systems are in service.**

cc: Plant Director (Joe Day)
Operation Manager (Tom Haycock)
Plant Environmental (Dave Ewing)
Lab
file

Nevada Power Company
Reid Gardner Station
Neighbor Complaint Form

Name of Caller _____ Address _____ Phone # _____

Date: _____ Time: _____ Call Received By: _____

Nature of Complaint _____

Complainant's Description of Problem: _____

_____

"ACTION TAKEN"

In all cases, notify the following Immediately:

			Time	Initials
Plant Director	Dave Sharp	334-5763 (C)	_____	_____
Operations Manager	Randy Postma	556-2187 (C)	_____	_____
Environmental	Michael Rojo	622-8654 (C)	_____	_____
Moapa Piute Dispatch		865-2828 (C)	_____	_____

Perform dust/odor survey at residence IMMEDIATELY:

Location/Description _____ Time _____

Perform dust/odor survey at plant

Location/Description _____ Time _____

Corrective Action: _____

_____

Action Taken by: _____ Time: _____

Immediate distribution as follows: White - Plant Director, Yellow - Operations Manager, Pink - Environmental (Frank Luchetti)

2-Mar-06 Rev. 2

APPENDIX G

SHPO Concurrence Letter
January 17, 2007

STATE OF NEVADA
DEPARTMENT OF CULTURAL AFFAIRS
STATE HISTORIC PRESERVATION OFFICE
100 N. Stewart Street
Carson City, Nevada 89701-4285

JAN 22 7 31 AM '07

BUREAU OF LAND MANAGEMENT
LAS VEGAS, NEVADA

8100
S. Putnam
2-13-07

Jim Gibbons
Governor

Michael E. Fischer
Department Director

RONALD M. JAMES
State Historic Preservation Officer

January 17, 2007

Patrick Putnam
Acting Assistant Field Manager
Renewable Resources & Recreation Division
Bureau of Land Management
Las Vegas Field Office
4701 North Torrey Pines Drive
Las Vegas NV 89130-2301

RE: Storage Yard and Ponds Expansion Project at the Reid Gardner Facility, Nevada Power, Muddy River Basin, Clark County (Bureau of Land Management Report Number: 5-25467).

Dear Mr. Putnam:

The Nevada State Historic Preservation Office (SHPO) reviewed the subject undertaking. The SHPO concurs with the Bureau of Land Management's determination that the following sites are not eligible under any of the Secretary's criteria nor are they contributing elements to any other historic properties:

26Ck1142	26Ck4582	26Ck5686 Locus 7	26Ck7504
26Ck7505	26Ck7506	26Ck7507	26Ck7508
26Ck7509	26Ck7510	26Ck7511	26Ck7512
26Ck7513	26Ck7514	26Ck7515	

This cultural resource inventory report was completed following an intensive archaeological and historic inventory of the project area. The SHPO concurs with the Bureau of Land Management's determination that no historic properties were found within the area of potential effects (APE) for the subject undertaking.

The SHPO notes that consultation with the affected Native American representatives has been initiated. If this consultation results in the identification of properties of religious or cultural significance that could be affected by the undertaking, the Bureau of Land Management must consult with this office concerning the possible effects of the undertaking on any properties identified.

If you have any questions concerning this correspondence, please feel free to call Rebecca Lynn Palmer at (775) 684-3443 or by E-mail at rlpalmer@clan.lib.nv.us.

Sincerely,

Alice M. Baldrica, Deputy
State Historic Preservation Officer

APPENDIX H

Agency Correspondence

06.00211.01
N. Reid Gardner Facility Expansion

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Nevada Fish and Wildlife Office
1340 Financial Blvd., Suite 234
Reno, Nevada 89502
Ph: (775) 861-6300 ~ Fax: (775) 861-6301

November 16, 2006
File No. 1-5-07-SP-419

Mr. Brian Boyd
JBR Environmental Consultants, Inc.
5355 Kietzke Lane, Suite 100
Reno, Nevada 89511

Dear Mr. Boyd:

Subject: Species List for the Nevada Power Reid Gardner Facility Expansion Project in Moapa, Clark County, Nevada

This responds to your letter received on September 27, 2006, regarding the Nevada Power Reid Gardner Expansion Project. The project is located approximately 0.5 miles south of the Muddy River near the California Wash. The following federally listed species may occur in or near the vicinity of the subject project area:

- Desert tortoise (*Gopherus agassizii*) (Mojave population), threatened
- Southwestern willow flycatcher (*Empidonax traillii extimus*), endangered
- Yellow-billed cuckoo (*Coccyzus americanus*)) (Western U.S. DPS), candidate

This response fulfills the requirement of the Fish and Wildlife Service (Service) to provide a list of species pursuant to section 7(c) of the Endangered Species Act of 1973, as amended (Act), for projects that are authorized, funded, or carried out by a Federal agency. Candidate species receive no legal protection under the Act, but could be proposed for listing in the near future. Consideration of these species during project planning may assist species conservation efforts and may prevent the need for future listing actions.

The Nevada Fish and Wildlife Office no longer provides species of concern lists. Most of these species for which we have concern, are also on the sensitive species list for Nevada maintained by the State of Nevada's Natural Heritage Program (Heritage). Instead of maintaining our own list, we adopted Heritage's sensitive species list and are partnering with them to provide distribution data and information on the conservation needs for sensitive species to agencies or project proponents. The mission of Heritage is to continually evaluate the conservation priorities

of native plants, animals, and their habitats, particularly those most vulnerable to extinction or are in serious decline. Consideration of these sensitive species and exploring management alternatives early in the planning process can provide long-term conservation benefits and avoid future conflicts.

For a list of sensitive species by county, visit Heritage's website at http://heritage.nv.gov/index.htm. For a specific list of sensitive species that may occur on the property, you can obtain a data request form from the website or by contacting Heritage at 901 South Stewart Street, Suite 5002, Carson City, Nevada 89701-5245, 775-684-2900. Please indicate on the form that your request is being obtained as part of your coordination with the Service under the Act. During project analyses, if you obtain new information or data for any Nevada sensitive species, we request that you provide the information to Heritage at the above address.

Based on the Service's conservation responsibilities and management authority for migratory birds under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. 703 et seq.), we are concerned about potential impacts the proposed project may have on migratory birds in the project area. Direct impacts to migratory birds on project lands and indirect impacts to migratory birds on adjacent areas should be considered during project evaluation.

Because wetlands, springs, streams, or ephemeral waters are known to occur in the vicinity of the project, we ask that you be aware of potential impacts project activities may have on these areas. Discharge of fill material into wetlands or waters of the United States is regulated by the U.S. Army Corps of Engineers (Corps) pursuant to section 404 of the Clean Water Act of 1972, as amended. We recommend you contact the Corps' Regulatory Section [321 North Mall Drive, Suite L-101, St. George, Utah 84790-7314, (435) 986-3979] regarding the possible need for a permit.

Please reference File No. 1-5-07-SP-419 in future correspondence concerning this species list. If you have any questions regarding this correspondence or require additional information, please contact Leilani Takano in our Southern Nevada Field Office at (702) 515-5230.

Sincerely,

Cynthia T. Martinez

for Robert D. Williams
Field Supervisor

Nevada Natural Heritage Program

Nevada Natural Heritage Program

Nevada Department of Conservation and Natural Resources
Richard H. Bryan Building
901 South Stewart Street, suite 5002 • Carson City, Nevada 89701-5245, U.S.A.
tel: (775) 684-2900 • internet: http://heritage.nv.gov

20 July 2006

Brian Boyd
JBR Environmental Consultants, Inc.
5355 Kietzke Lane, Suite 100
Reno, NV 89511

RE: Data request received 20 July 2006

Dear Mr. Boyd:

We are pleased to provide the information you requested on endangered, threatened, candidate, and/or at risk plant and animal taxa recorded within or near the Nevada Power-Reid Gardner Facility Expansion (JBR Project No. NP-03) project area. We searched our database and maps for the following, a two kilometer radius around:

Township 15S Range 66E Sections 7 & 8

The enclosed printout lists the taxa recorded within the given area. Please be aware that habitat may also be available for: the Nye milkvetch, *Astragalus nyensis*, a Taxon determined to be Vulnerable by the Nevada Natural Heritage Program (NNHP); the dune sunflower, *Helianthus deserticola*, a Taxon determined to be Imperiled by the NNHP; Beaver Dam breadroot, *Pediomelum castoreum*, a Taxon determined to be Vulnerable by the NNHP; and the red-tailed blazing star, *Megandrena mentzeliae*, a Taxon determined to be Imperiled by the NNHP. We do not have complete data on various raptors that may also occur in the area; for more information contact Ralph Phenix, Nevada Division of Wildlife at (775) 688-1565. Note that all cacti, yuccas, and Christmas trees are protected by Nevada state law (NRS 527.060-.120), including taxa not tracked by this office.

Please note that our data are dependent on the research and observations of many individuals and organizations, and in most cases are not the result of comprehensive or site-specific field surveys. Natural Heritage reports should never be regarded as final statements on the taxa or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments.

Thank you for checking with our program. Please contact us for additional information or further assistance.

Sincerely,

Eric S. Miskow
Biologist III/Data Manager

At Risk Taxa Recorded Near the Reid Gardner Facility Expansion Project Area

Compiled by the Nevada Natural Heritage Program for JBR Environmental Consultants, Inc.

20 July 2006

Scientific name	Common name	Usfws	Blm	Usfs	State	Srank	Grank	Lat	Long	Prec	Last observed
Plants											
Penstemon bicolor ssp. *roseus*	rosy twotone beardtongue	xC2	N	S		S3	G3T3Q	363803N	1143614W	G	1972-03-27
Invertebrates											
Hesperopsis gracielae	MacNeill sooty wing skipper	xC2	N			S1	G2G3	363903N	1143304W	G	1978
Fishes											
Crenichthys baileyi moapae	Moapa White River springfish	xC2			YES	S2	G2T2	363911N	1143654W	S	1941-05-04
Amphibians											
Bufo microscaphus	Arizona toad		N			S2	G3G4	364011N	1143958W	M	1951-08-28
Reptiles											
Gopherus agassizii	desert tortoise (Mojave Desert pop.)	LTNL	S	T	YES	S2S3	G4	363923N	1143625W	S	1987-PRE
Gopherus agassizii	desert tortoise (Mojave Desert pop.)	LTNL	S	T	YES	S2S3	G4	363736N	1143726W	S	1987-PRE

U. S. Fish and Wildlife Service (Usfws) Categories for Listing under the Endangered Species Act:

- LT — Listed Threatened - likely to be classified as Endangered in the foreseeable future if present trends continue
- x C2 — Former Category 2 Candidate, now species of concern
- NL — Not Listed (no status) in a portion of the species' range

Bureau of Land Management (Blm) Species Classification:

- S — Nevada Special Status Species - USFWS listed, proposed or candidate for listing, or protected by Nevada state law
- N — Nevada Special Status Species - designated Sensitive by State Office

United States Forest Service (Usfs) Species Classification:

- S — Region 4 (Humboldt-Toiyabe NF) sensitive species
- T — Region 4 and/or Region 5 Threatened species

Nevada State Protected (State) Species Classification:

Fauna:

- YES — Species protected under NRS 501.
- CE — Critically endangered - species whose survival requires assistance because of overexploitation, disease or other factors, or because their habitat is threatened with destruction, drastic modification or severe curtailment (NRS 527.260-.300)

Precision (Prec) of Mapped Occurrence:

Precision, or radius of uncertainty around latitude/longitude coordinates:

- S — Seconds: within a three-second radius
- M — Minutes: within a one-minute radius, approximately 2 km or 1.5 miles
- G — General: within about 8 km or 5 miles, or to map quadrangle or place name

Nevada Natural Heritage Program Global (**Grank**) and State (**Srank**) Ranks for Threats and/cr. Vulnerability:

- G — Global rank indicator, based on worldwide distribution at the species level
- T — Global trinomial rank indicator, based on worldwide distribution at the infraspecific level
- S — State rank indicator, based on distribution within Nevada at the lowest taxonomic level
  - 1 — Critically imperiled and especially vulnerable to extinction or extirpation due to extreme rarity, imminent threats, or other factors
  - 2 — Imperiled due to rarity or other demonstrable factors
  - 3 — Vulnerable to decline because rare and local throughout its range, or with very restricted range
  - 4 — Long-term concern, though now apparently secure; usually rare in parts of its range, especially at its periphery
  - 5 — Demonstrably secure, widespread, and abundant
    - A — Accidental within Nevada
    - B — Breeding status within Nevada (excludes resident taxa)
    - H — Historical; could be rediscovered
    - N — Non-breeding status within Nevada (excludes resident taxa)
    - Q — Taxonomic status uncertain
    - U — Unrankable
    - Z — Enduring occurrences cannot be defined (usually given to migrant or accidental birds)
    - ? — Assigned rank uncertain

APPENDIX I

BLM Memo Regarding Hazardous Materials Management

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Las Vegas Field Office
4701 N. Torrey Pines Drive
Las Vegas, Nevada 89130-2301

In Reply Refer to:
2850 (NV-056)
N-82003

March 23, 2007

Memorandum

To: Case File

From: Acting Power Project Team Manager

Subject: Reid Gardner Project and BLM Hazardous Waste / Landfill Issues

This memo addresses BLM landfill policy issues as the may relate to the Reid Gardner Expansion Project. The project involves a Nevada Power Company proposal to construct a 10.2 million cubic yard landfill on public lands for fly and bottom ash from Reid Gardner power plant operations. Combustion by-product (scrubber) waste from associated evaporation ponds would also be deposed in the landfill. The proposed landfill is intended to replace an existing landfill on adjacent Nevada Power Company property which is nearing its design capacity. The existing landfill has been permitted by the State of Nevada and is fully compliant with the terms and conditions of its permit.

In this case, the federal action is to approve a site right-of-way application pursuant to Title V of FLPMA and regulations at 43 CFR § 2800.

BLM Landfill Policy

Policy regarding landfills on public lands is set forth in two BLM manual sections, 1703 (Hazardous Materials) and 2740 (Recreation and Public Purposes). Although BLM Manual section 2740 does not directly pertain to rights-of-way issued under authority of Title V of FLPMA, it does provide insight into BLM policy regarding landfills.

BLM Manual 1703 – Hazardous Materials

As set forth in BLM Manual 1703, BLM's goals with respect to hazardous materials management are:

1. Protect public health and safety and environmental resources by minimizing environmental contamination on public lands...
2. Comply with applicable Federal and state hazardous materials management laws and regulations.

3. Maintain the health of the land through assessment, cleanup and restoration of contaminated sites.
4. Manage hazardous materials related risks, costs and liabilities
5. Integrate environmental protection and compliance with all environmental statutes in all BLM activities.

Applicable management objectives adopted to allow BLM to meet the above cited goals are:

1. Promote working partnerships with states, counties, communities, other Federal agencies, and the private sector to prevent pollution and minimize hazardous waste on public lands.
2. Encourage public collaboration in environmental decision making.
3. Ensure that solid and hazardous waste treatment, storage, and disposal facilities that might affect public lands are properly located, designed and constructed consistent with the law. **Prohibit permanent treatment, storage or disposal facilities for hazardous materials on public lands.** (Emphasis added.)
4. Ensure that authorized activities on public lands comply with applicable Federal, state and local laws, regulations, policies, guidance and procedures.
5. Ensure appropriate HMM (hazardous materials management) review of authorized activities and application of effective management controls to correct weaknesses.

The issue at had is whether BLM's hazardous materials policy applies to the proposed landfill and the materials which would be deposited therein. **It is the author's opinion that BLM policy as set forth in the 1703 manual does not apply to the action currently pending before the agency.**

Analysis

BLM's Hazardous Materials Manual applies to hazardous materials and wastes. Hazardous wastes are defined in Environmental Protection Agency regulations at 40 CFR § 261.4. Excluded from the definition in regulations at 40 CFR § 261.4(C)(b)(4) are "Fly ash waste, slag waste and flue gas emission control waste, generated primarily from the combustion of fossil fuels…" Therefore, the waste stream proposed for disposal on public lands is by definition not hazardous waste and the policy prohibition against hazardous waste landfills being located on public lands does not apply.

Additionally, the Las Vegas Field Office Hazardous Materials Specialist has stated, in his review of the project proposal, that there are no hazardous materials issues.

Never the less, BLM is complying with its policy objectives by 1.) working with the State of Nevada who will issue separate permit for the landfill, 2.) seeking public collaboration (input) through a National Environmental Policy Act scoping and environmental assessment review process, 3.) ensuring that the landfill facility is properly designed, operated and maintained by requiring that it meet State of Nevada standards and 4.) obtaining BLM internal hazardous materials management review of the project.

BLM Manual 2740 – Recreation and Public Purposes Act

While BLM's Recreation and Public Purposes Act Manual does not directly pertain to right-of-way actions authorized under Title V of the Federal Land Policy and Management Act, it does provide policy guidance regarding landfills and therefore, one can infer what land management direction BLM should take if, as in this case, a landfill is proposed under BLM's right-of-way authority.

Analysis

The Recreation and Public Purposes Act pertains to agencies of state and local governments and qualified not for profit organizations as so defined by the Internal Revenue Service. In the overwhelming majority of landfill actions, it is a local government agency which would operate a municipal landfill on public lands. Such municipal landfills routinely accept a wide variety of municipal solid waste including household, commercial and industrial waste, which could include hazardous waste. Municipal waste may contain hazardous and toxic waste from medications, paints, chemicals, light bulbs, fluorescent tubes, spray cans, fertilizers, pesticides, batteries etc.

Since municipal landfills might accept hazardous and toxic materials in their waste stream, such landfills are discouraged from being located on public lands.

As set forth in Chapter 10 of BLM Manual 2740, BLM's policy with respect to landfills is **to minimize potential liability** and **possible long term expenses** associated with hazardous materials. (Emphasis added.)

However, the proposed landfill for fly and bottom ash and flue gas emission control waste is not a municipal landfill. It will not accept the mix of waste streams which may include hazardous and/or toxic materials. Rather, the proposed landfill is best characterized as an **industrial monofil** which would accept non-hazardous materials (by EPA regulatory definition) which are generally considered to be inert, compared to municipal solid waste. Such wastes landfilled on public lands pose minimal liability (if any) and minimal risk of possibly long term expenses.

Conclusion

Therefore, it is this author's conclusion that neither BLM's Hazardous Waste nor BLM's Recreation and Public Purpose Act policy discouraging landfills on public land would, or should be interpreted as applying to the proposal currently pending with the agency.

APPENDIX J

Authorized and Pending Uses on Public Land

APPENDIX J
AUTHORIZED AND PENDING USES ON PUBLIC LAND
ADJACENT SECTIONS NEIGHBORING THE PROJECT AREA WITHIN T15S, R66E

Serial Number	Section	Description	Holder	ROW Width (feet)	Total Acres
NVCC 0000360	5 & 7	RR & STATIONS OUTSIDE AK	LA and SL RR Company	200	6,623.2
NVN 001454	5	ROW-POWER TRAN LINE	Overton Power District	50	12.3
NVN 002413	5	ROW-PWR FACILITIES	Lincoln County Power District	50	13.9
NVN 004790	7 & 8	ROW-POWER TRAN LINE	Bureau of Reclamation, City of Los Angeles, NPC	200	2,562.2
NVN 007469 Pending	5	ROW-WATER PLANTS	NPC		151.5
NVN 007890	5	ROW-WATER PLANTS	Nevada Power Company		13.8
NVN 010683	6, 7 & 8	ROW-POWER TRAN-FLPMA	Intermountain Power Project	200	1
NVN 029610	5	ROW-COMM SITE, FLPMA	NPC		8.3
NVN 030970	5	ROW-OTHER-FLPMA	NPC		4.9
NVN 039815	6, 7 & 8	ROW-POWER TRAN-FLPMA	NPC	50	212.2
NVN 042353	5	ROW-OTHER-FLPMA	NPC		0.02
NVN 042354	5	ROW-POWER TRAN-FLPMA	Overton Power District		0.4
NVN 042581	7 & 8	ROW-O&G PIPELINES	Kern River Gas Transmission Company	varies	733.0
NVN 043727	5	ROW-WATER FACILITY	NPC		0.01
NVN 046067	5	ROW-WATER FACILITY	NPC		0.01
NVN 046982	5	ROW-WATER FACILITY	NPC		2.9
NVN 053369 Pending	5	ROW-POWER TRAN-FLPMA	Overton Power District	100	218.6
NVN 061927 Pending	7 & 8	ROW-OTHER-FLPMA	NPC		320
NVN 062093	5, 7 & 8	ROW-TEL & TELEG,FLPMA	Touch America		89.6
NVN 06209301 Pending	5, 7 & 8	ROW TEMP USE PERMITS	Touch America		89.6
NVN 066151 Pending	7	ROW-OTHER-FLPMA	NPC		8
NVN 073974 Pending	5	ROW-OTHER-FLPMA	NPC		7.5
NVN 076285	7	ROW-WATER FACILITY	NPC		2.0
NVN 079386	6 & 7	ROW-WATER FACILITY	NPC		0.3
NVN 079582 Pending	5 & 6	ROW-ROADS	Georgia Pacific Corporation		40
NVN 081994	6	ROW-O&G PIPELINES	Kern River Gas Transmission Company	Varies	3.8
NVN 08199401	6	ROW TEMP USE PERMITS	Kern River Gas Transmission Company	Varies	3.6
NVN 082003 Pending	7 & 8	ROW-OTHER-FLPMA	NPC		560
NVN 082062	5	ROW-O&G PIPELINES	NPC		0.7
NVN 08206201	5	ROW TEMP USE PERMITS	NPC		0.6
NVN 082063	5	ROW-TEL & TELEG,FLPMA	NPC	Varies	0.13
NVN 082301	7 & 8	ROW TEMP USE PERMITS	NPC	Varies	1.2
NVN 082385 Pending	7 & 8	ROW-O&G PIPELINES	Holly Energy Partners		1
NVN 082703 Pending	5	ROW-POWER TRAN LINE	Overton Power District	20	0.5

Serial Number	Section	Description	Holder	ROW Width (feet)	Total Acres
NVN 08270302 Pending	5	ROW-POWER TRAN LINE	Overton Power District		0.4
NVN 0051646	5	ROW-TEL & TELEG,FLPMA	Moapa Valley Telephone	20	36.9
NVN 0055887	5 & 7	ROW-POWER TRAN LINE	Overton Power District		149.0
NVN 0061985	7		NPC	100	1070.6
NVN 0064992	5 & 6	ROW-WATER PLANTS	NPC		1.4
NVN 0065121	5	RR & STATIONS OUTSIDE AK	Southern Pacific, Los Angeles & Salt Lake Railroad Company Union Pacific Railroad Co.	100	11.2
NVN 0067348	7	ROW-POWER TRAN LINE	NPC	100	472.73
NVN744190-193 NVN744160	16,17,18	Placer Mineral Claims	Argovitz, Burman, Teninbaum Houston, TX		

Source U.S. Department of the Interior Bureau of Land Management (BLM). 2006b. Lands and Minerals Records LR2000. Available on-line at http://www.blm.gov/lr2000/

APPENDIX K

Visual Contrast Worksheets and Key Observation Point Locations

Form 8400-4
(September 1985)

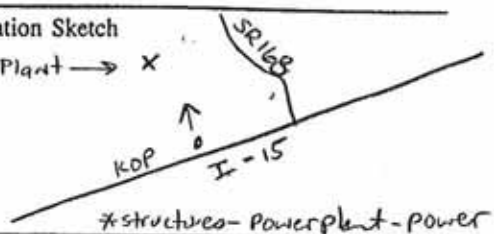
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: October 27, 2006
District: Las Vegas
Resource Area:
Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name: REID GARDNER EXPANSION
2. Key Observation Point: KOP #1
3. VRM Class: 3
4. Location
   Township: 15S
   Range: 66 E
   Section: 2
5. Location Sketch



*structures - powerplant - power line, freeway fence

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Foreground - Flat, low, regular Middleground - Flat, low, Background - rounded, horizontal	F- low, rounded M- low, rounded B- non distinctive	F- definite, narrow, linear M- definite, angular, solid B- N/A
LINE	F- straight M- straight B- curving, angular	F- irregular, broken M- irregular, broken B- non distinctive	F- weak, straight, horizontal M- hard, bold, regular B- N/A
COLOR	F- LT TAN M- LT TAN B- TAN, BROWN	F- green M- green B- non distinctive	F- red fence poles, grey wire M- grey, brown B- N/A
TEXTURE	F- smooth, continuous M- smooth, continuous B- medium, gradational	F- medium course M- medium course B- non distinctive	F- fine, uniform M- medium, ordered, uniform B- N/A

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	F- Flat, low, regular M- rounded, smooth landfill B- rounded,	F- low, rounded M- No veg at landfill site B- non distinctive veg	F- definite, narrow - same M- definite, solid, smooth landfill B- N/A
LINE	F- straight M- regular, curving B- curving, angular	F- irregular, broken M- none B- non distinctive	F- straight, horizontal - same M- hard, bold, curving landfill B- N/A
COLOR	F- LT TAN M- LT TAN - brown - grey B- tan - brown	F- green M- none B- non distinctive	F- red fence - same M- LT TAN TO grey B- N/A
TEXTURE	F- smooth continuous M- smooth, uniform B- medium, gradational	F- medium course M- none B- non-distinctive	F- fine, uniform - same M- mediums, uniform, continuo B- N/A

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM 30 yrs +

1. DEGREE OF CONTRAST

ELEMENTS	FEATURES: LAND/WATER BODY (1) Strong	Moderate	Weak	None	VEGETATION (2) Strong	Moderate	Weak	None	STRUCTURES (3) Strong	Moderate	Weak	None
Form		X				X				X		
Line		X				X				X		
Color		X				X				X		
Texture			X			X				X		

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended ☐ Yes ☒ No (Explain on reverse side)

Evaluator's Names: C. Clark
Date: Oct 27, 2006

SECTION D. (Continued)

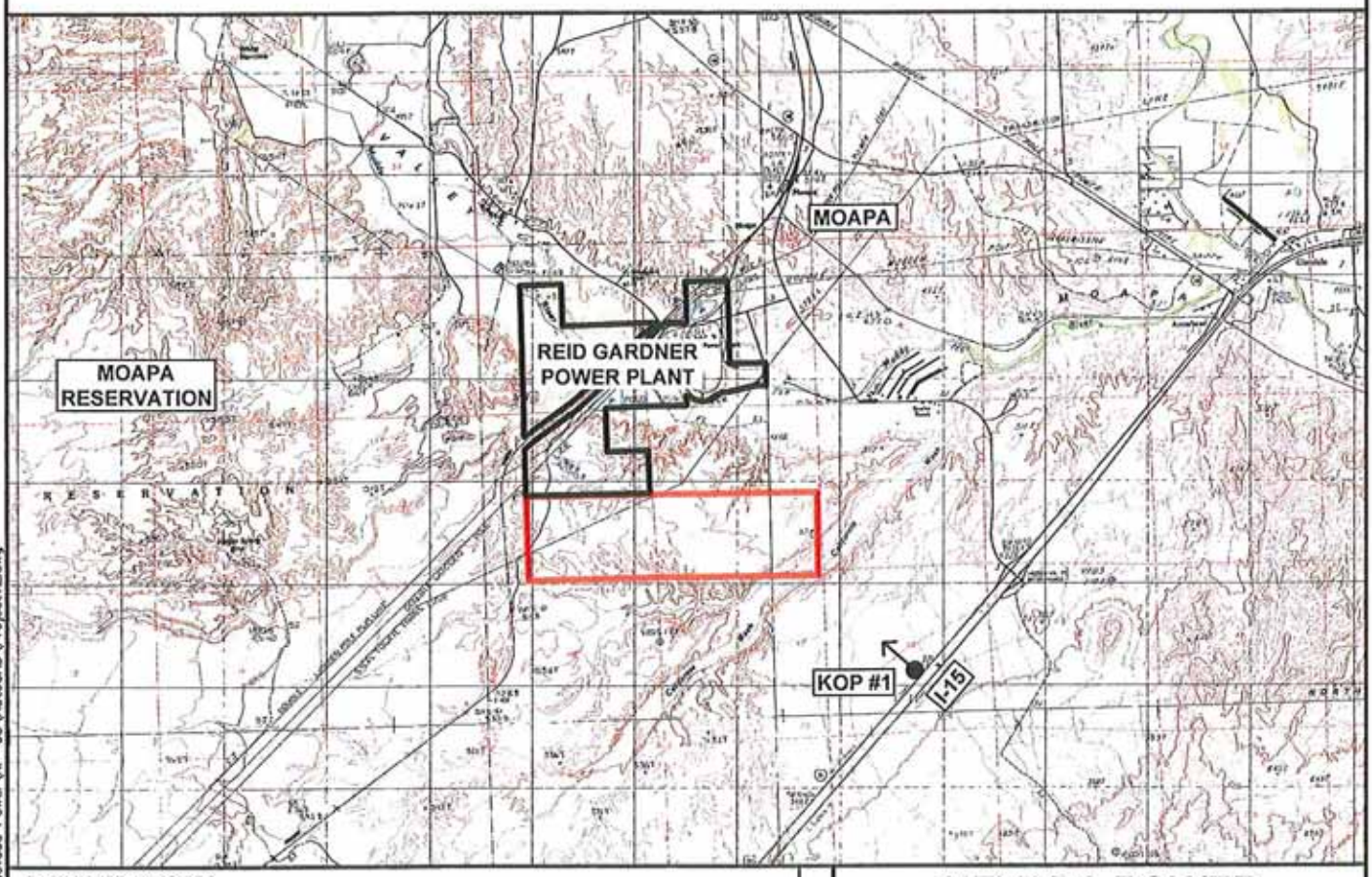
Comments from item 2.

* ASSUMED structures to be freeway fence, powerplant, & utility corridor (powerlines). Powerplant + utility corridor in middleground. DISTANT MOUNTAINS IN BACKGROUND. PROPOSED ACTION OCCURRING IN middleground. Level of change IN VRM Class III should be moderate. Proposed Action will have moderate level of change, but will not dominate the view of the casual observer from Interstate 15.

Additional Mitigating Measures (See item 3)

NO mitigating measures proposed. Standard operating procedures include covering landfill weekly basis. NPC will reclaim both landfill + Ponds after 30 year life. Proposed Action will be continuation of existing operations.

☆U.S. GOVERNMENT PRINTING OFFICE: 1983—461-988/33094



BASE IMAGE: USGS DRG

PROJECT AREA, APPROXIMATELY 560 ACRES

EXISTING POWER PLANT BOUNDARY

DATE DRAWN 04/24/07

NEVADA POWER
REID GARDNER EXPANSION PROJECT

APPENDIX K
KEY OBSERVATION POINT

FILE NAME: Clients-2005\Nevada Power\NP-03\AutoCAD\ProjectV2.dwg

APPENDIX L

Southern Nevada Health District Response Letter

March 23, 2007

Stuart Hirsh, CPL
Acting NPC Project Manager
BLM Las Vegas Field Office
4701 N. Torrey Pines Drive
Las Vegas, NV 89130-2301

Dear Mr. Hirsch:

As discussed previously by telephone, I am writing in response to your request for assistance from the Southern Nevada Health District (SNHD) in considering the public health impacts of the proposed modifications of the Reid Gardner Facility in Moapa, Nevada.

It is our understanding that during the Bureau of Land Management's (BLM) environmental assessment of this project, various health concerns were raised by community members. In response to these concerns, SNHD has been asked to help evaluate the health concerns using existing data when possible, and advise on the process needed for collecting the data when it does not exist. Please be aware that SNHD does not evaluate individual health claims, but rather has as its primary role the evaluation of the health of the entire community. The following discussion is intended to address these issues:

Health Concerns of the Residents
A review of the information BLM shared with SNHD indicated there were several health concerns expressed by the residents of Moapa. A number of specific claims were made about the impact of the facility on the health of the Moapa residents, including general respiratory complaints, claims of high levels of cancer- and asthma-related deaths, and claims of high levels of lupus in the residents. In many cases, the health concerns were related to the continued operation of the plant, and not just to the proposed modifications.

Problem of Small Numbers
The biggest challenge facing epidemiologists in studying the effects of the facility on the local population is a problem of small numbers. Typically, epidemiologic studies compare a group of exposed persons to another group of persons who have not been exposed, in order to show that one group does or does not have a higher rate of disease or death. When one of those

groups is small, it is usually not possible to show a statistically significant difference between the groups, even when true health differences exist. This is the case for Moapa, with a population of around 1,000 residents; it is not possible to show strong statistical evidence, even if there are true health effects.

Existing Data

Very little data specific to the residents of Moapa is available. Although SNHD has death certificate data, there are only about 8 deaths in Moapa each year (slightly lower than the US crude death rate). There were no asthma-related deaths identified in 2005 or 2006 and only two cancer deaths (four deaths would be expected based on national data). These numbers are too small to draw any meaningful conclusions. Because of the small population size, no other community-level health data exist.

Challenges in Acquiring Data

Many of the medical complaints described by the residents (burning eyes, sore throats, headache etc.) often do not require medical care, and so these health effects would not be identified in provider-based systems. Even with diseases for which medical care is sought, there is little medical infrastructure in Moapa, and residents may use providers in Mesquite, Overton/Logandale, or Las Vegas, making it difficult to identify the cases. Using data from Indian Health Services would also not provide a picture of the community as a whole, as the 2000 census found that 12.5% of the Moapa population was American Indian. In general, using provider-based data would not provide an accurate picture of the community as a whole.

It would take considerable time and resources to perform a population-based study of the Moapa community. With only about 8 deaths occurring annually, it would take decades before enough deaths had occurred to allow for a meaningful analysis. Prior studies that looked at the health effects of chemical pollutants and particulate matter have used populations of at least 3,000 people, and respiratory studies would require follow-up for at least ten years. Moapa has also shown a significant decrease in residents (over 20% between 2005 and 2006), which would make it difficult to track people over long periods of time, as they move out of the community and no longer live near the facility.

Summary

Because of the small population size of Moapa, it is difficult to identify health problems related to the facility at the population level, even if true health problems exist. Existing data is not available to evaluate the health of the population, and to perform such a study would take a considerable amount of time. Even under ideal study conditions, it may not be possible to show a statistically significant health effect.

Since many of the health concerns expressed were related to respiratory in nature, involvement of the Clark County Department of Air Quality and Environmental Management is recommended, as that department is responsible for air quality monitoring county-wide. In

addition, the U.S. Environmental Protection Agency (EPA) would be an important resource as a majority of data pertaining to air quality and power plants is expected to reside in their databases. These databases can be accessed through their web-site links listed in the accompanying attachment. EPA may also be able to provide BLM with the technical assistance and resources needed to fully investigate the public health impacts of the proposed project and resident health concerns.

I hope this information will be helpful to you in completing your project. If you have any additional questions or comments, please call Dr. Lawrence Sands, incoming Chief Health Officer at (702) 759-1201.

Sincerely,

Donald S. Kwalick, M.D., M.P.H.
Chief Health Officer

/src

Attachment

http://www.epa.gov/air/oaqps/greenbk/682954.html

http://www.necnev.org/Legislature/ENVIRON1.doc

http://epa.gov/oar/oaqps/glo/designations/documents/clark/NV/boundary.pdf

http://www.epa.gov/ozonedesignations/documents/clark/NV/BecksteadEmail.pdf

http://www.epa.gov/ozonedesignations/documents/clark/NV/boundarycover.pdf

http://www.epa.gov/ozonedesignations//documents/clark/NV/boundarycover.pdf

http://www.epa.gov/ozonedesignations//documents/clark/tribal/120dayletter.pdf

http://www.epa.gov/ozonedesignations//documents/clark/tribal/moapa.pdf

http://www.epa.gov/ozonedesignations//documents/clark/tribal/moapa_atty.pdf

http://www.epa.gov/ozonedesignations/documents/clark/tribal/moapa/Moapa0819supp.pdf

http://www.epa.gov/ozonedesignations//documents/clark/tribal/moapa/Moapa0819supp.pdf

http://www.epa.gov/ozonedesignations//documents/clark/tribal/moapa/OAR-2003-0083-1834.pdf

http://www.epa.gov/ozonedesignations//documents/clark/tribal/moapa/ozoneAndMetadata.pdf

http://www.epa.gov/ozonedesignations//documents/clark/tribal/HydroBasin216andMoapa.jpg

http://www.epa.gov/ozonedesignations//documents/clark/tribal/HydroBasins.jpg

http://www.epa.gov/ozonedesignations//documents/clark/tribal/MonitoringMap.pdf

http://www.epa.gov/ozonedesignations//documents/clark/EPA/enviro.pdf

http://www.epa.gov/ozonedesignations//documents/clark/enviro/federalFacilities.htm

http://www.epa.gov/region09/air/nvozone/clark.html

http://www.epa.gov/ozonedesignations//documents/clark/EPA/96fr117p34076.pdf

http://www.epa.gov/ozonedesignations//documents/clark/EPA/tsd080908.pdf

http://sec.edgar-online.com/1997/03/18/00/0000071180-97-000005/Section2.asp

http://www.epa.gov/ozonedesignations//documents/clark/tribal/moapa/Moapa0819supp.pdf

http://www.epa.gov/ozonedesignations/documents/clark/NV/BecksteadEmail.pdf

http://www.cleartheair.org/reports/pollution_on_the_rise.pdf

http://dirtykilowatts.org/Dirty_Kilowatts.pdf

http://www.bouldercitybypass.com/pdf/vol-i/chapter-06.pdf

http://www.uspirg.org/uploads/Jz/na/JznaATDNqVxxw_RefwgONA/madeintheusa.pdf