Ivanpah Energy Center

Final Environmental Impact Statement




Prepared for

Lead Agency
U.S. Department of the Interior
Bureau of Land Management
Las Vegas Field Office

Cooperating Agency
U.S. Department of Energy
Western Area Power Administration
DOE/EIS-0354

On behalf of

Ivanpah Energy Center, LP
a Diamond Generating Corporation Company
Los Angeles, California

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Submitted by

PARSONS

May 2003

FINAL

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Abstract

Ivanpah Energy Center, L.P., a Diamond Generating Corporation Company, a subsidiary of Mitsubishi Corporation proposes to construct and operate a 500 Megawatt (MW) gas-fired electric power generating station in southern Clark County, Nevada. The facility would be known as the Ivanpah Energy Center, LP (IEC). The Environmental Impact Statement evaluates several potential plant sites, two of which were determined to be reasonable alternatives for development. Construction at either site would require consideration of a natural gas supply pipeline, access roads, process water availability and conveyance, telecommunications, and electrical transmission interconnections to the southern Nevada power grid. The purpose of the proposed project is to provide additional reliable electrical generating capacity within the southwestern United States to aid in meeting near-term and future power needs.

The BLM has a jurisdictional trust responsibility over public lands that would be affected by the project, and because the proposed project is a major federal action, the preparation of an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA) of 1969 is required to evaluate potential impacts and alternatives for project planning and environmental protection. Electric power generated at the base load facility would enter the southern Nevada power grid through the Mead Substation which is operated by Western Area Power Administration (Western). The proposed interconnection will require new installation and modification of Western's equipment at Mead; Western is required to provide NEPA compliance for this subsequent federal action. The BLM and Western have reviewed and approved the information and analyses set forth in the EIS.

The Draft EIS (published in November 2002) evaluated potential impacts and mitigation measures that would be associated with construction of the facility at either a site located near Goodsprings, Nevada or a facility located near Primm, Nevada. The Primm, Nevada plant site became commercially unavailable subsequent to issuing the Draft EIS and prior to issuing the Final EIS. Therefore, alternatives that remain viable and under consideration by the BLM are the proposed Goodsprings Plant Site (and ancillary facilities) and the No Action Alternative.

Very few comments were received on the Draft EIS; therefore, the BLM elected to prepare this FEIS in an abbreviated format consisting of:

- the status of the project,
- response to comments,
- errata sheets by DEIS section, and
- supplemental information.

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ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
Afy	Acre-feet per year
APE	Area of Potential Effect
ARPA	Archaeological Resources Protection Act
BACT	Best available control technology
BLM	Bureau of Land Management
B.P.	Before present
BRP	Basin and Range Province
Btu/hr	British thermal units per hour
CO	Carbon monoxide
COM Plan	Construction, operations, and maintenance plan
CTG	Combustion turbine generator
DAQM	Clark County Department of Air Quality Management
DEIS	Draft environmental impact statement
DOI	Department of the Interior
EA	Environmental assessment
EIS	Environmental impact statement
ERMA	Extensive recreation management area
FAA	Federal Aviation Administration
FEIS	Final Environmental Impact Statement
FLPMA	Federal Land Policy and Management Act of 1976
I–15	Interstate 15
IEC	Ivanpah Energy Center, LP
KRGT	Kern River Gas Transmission
kV	Kilovolt
LOS	Level of service
LVVWD	Las Vegas Valley Water District
MBTA	Migratory Bird Treaty Act
mg/L	Milligrams per liter
MP	Mile post
mph	Miles per hour
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act of 1990
NDOT	Nevada Department of Transportation
NDOW	Nevada Department of Wildlife
NDWR	Nevada Division of Water Resources
NEPA	National Environmental Policy Act
NERC	North American Reliability Council
NHPA	National Historic Preservation Act
NO	Nitric oxide
NO_2	Nitrogen dioxides

NOI	Notice of intent
NO_x	Nitrogen oxides
NRHP	National Register of Historic Places
NRS	Nevada Revised Statute
O_3	Ozone
Pb	Lead
PM_{10}	Particulate matter less than 10 microns in diameter
POD	Plan of Development
ppm	Parts per million
PSD	Prevention of Significant Deterioration
RMP	Resource Management Plan
ROW	Right-of-way
SHPO	State Historic Preservation Office
S.N.O.R.E.	Southern Nevada Off-Road Enthusiasts
SCR	Selective catalytic reduction
SO_2	Sulfur dioxides
SO_x	Sulfur oxides
SR	State route
STG	Steam turbine generator
TDS	Total dissolved solids
UPRR	Union Pacific Railroad
USEPA	United States Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
VEA	Valley Electric Association
VOC	Volatile organic compound
Western	Western Area Power Administration

Disclaimer

National Environmental Policy Act (NEPA) Disclosure Statement
Bureau of Land Management Environmental Impact Statement
Ivanpah Energy Center

The President's Council on Environmental Quality (CEQ) regulations at 40 CFR 1506.5(c) require that consultants preparing an environmental impact statement (EIS) execute a disclosure specifying that they have no financial or other interest in the outcome of the project. The term "financial interest or other interest in the outcome of the project" for the purposes of this disclosure is defined in the March 23, 1981, guidance "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations," 46 FR 18026-18038 at questions 17a and b.

"Financial or other interest in the outcome of the project" includes "any financial benefit such as a promise of future construction or design work in the project, as well as indirect benefits the contractor is aware of (e.g., if the project would aid proposals sponsored by the firm's other clients)." 46 FR 18026-18038 at 18031.

In accordance with these requirements, **Parsons** has prepared this EIS on behalf of the Bureau of Land Management and declares no financial or other interest in the outcome of the proposed project.

Certified by:

_____ 5 May 2003

George R. High, EIS Manager Date

Parsons
840 Grier Drive, Suite 340
Las Vegas, Nevada 89119

SECTION 1
PROJECT STATUS

1.0 Status of EIS Process To-Date

Preparation of the Ivanpah Energy Center (IEC) Environmental Impact Statement (EIS) was initiated by the Bureau of Land Management (BLM) with a Notice of Intent (NOI) that was published on February 15, 2002 in the 2002 *Federal Register*, Vol. 67, Number 32. The NOI included a summary of the proposed project; the locations, dates, and times of public scoping meetings; and BLM contact information. A Legal Notice providing the same information as the NOI was published weekly in the *Las Vegas Review-Journal* during three consecutive weeks on February 18, 2002, February 25, 2002, and March 4, 2002. The process of notification also included distribution of the NOI to numerous federal, state, and county agencies, city officials, and various interested parties. Copies of the NOI and the NOI distribution list can be found in the IEC Public Scoping Document that has been prepared as part of the EIS process.

Following publication of the NOI, the scoping process began. Public scoping allowed the public and interested parties the opportunity to express their concerns about the proposed action and to identify issues to be addressed in the EIS. Comments were compiled in the Public Scoping Document as part of the official Administrative Record, which is available to the public. Once the environmental analysis was complete, the Draft EIS was prepared and released on November 22, 2002 for public review and comment. During a 60-day public review period, formal hearings were conducted to receive public comment on the draft EIS. Public comments were compiled, evaluated, and responses were prepared and incorporated into this Final EIS.

1.1 Overview of DEIS Findings

The Draft EIS evaluated two plant site alternatives, four transmission line routes, and four alternative transmission line and water supply access options to the Goodsprings Plant Site were evaluated in detail. Results of the evaluation determined the Primm Plant Site and corresponding transmission line routes consisting of Segments 25, 10, 30, 50, 60, 60/65, 90, 110, 130, and 140 (Alternative C) to be the agency-preferred alternative.

Should the Goodsprings Plant Site be developed, the preferred transmission line route would consist of Segments 10, 30, 50, 60, 60/65, 90, 110, 130, and 140. Plant site access Option 2, which would route all transmission lines and the water line across the toe of the mountain west of the plant site and enter the plant site from the south would be considered the preferred plant access option.

1.2 Unresolved Issues and How They Were Resolved

The Draft EIS was released for public review with several unresolved issues that were identified in text. Those issues included:

- Confirmation from the project proponent (Diamond Generating Company) that the Primm Plant Site Alternative was commercially available through an agreement with Reliant Energy. Although verbal assurances were provided on several occasions, written confirmation was not received. On February 6, 2003, the project proponent received a letter from Reliant Energy stating that the site was not available due to overriding financial reasons. Records of conversations regarding the viability of the Primm Plant Site are available for public review as part of the Administrative Record for this EIS.

- Specific information regarding the availability of process water for the Ivanpah Energy Center was not available for inclusion in the Draft EIS. Although requested on numerous occasions, all that has been received to date is limited to applications to the State Engineer requesting the use of wastewater (graywater) from the Southern Nevada Correctional Center (SNCC) as a primary water source. Documentation that would confirm the availability of supplemental water from a well that is owned and operated by the Las Vegas Valley Water District (LVVWD) also had been requested during the Draft EIS preparation process; however, such documentation has not been forthcoming and the issue remains unresolved. Records of conversations regarding the availability of water from SNCC and LVVWD are available for public review as part of the Administrative Record for this EIS. Additional information regarding water availability is provided in Section 2, pages 2-15 and 2-35 of this FEIS.

- The Draft EIS was issued prior to completion of archaeological and paleontological field surveys, as indicated on pages 5-43, 5-44, 5-132, and 5-133. Field surveys and related analyses have been completed and are now part of this Final EIS.

1.3 Mitigation Measures Unique to the IEC Project

Several development options for the Ivanpah Energy Center were identified in the DEIS as a means to reduce the severity of impacts. Those development options that are unique to the proposed project and are not necessarily included in BLM's standard stipulations include:

routing of transmission lines entering the Goodsprings Plant Site,

routing of water supply pipeline entering the Goodsprings Plant Site,

routing of the Ivanpah – Mead #2 Transmission Line through Eldorado Valley,

structure placement, configuration, and color; use of non-specular conductor,

construction of the northern (permanent) access road to the plant site,

use of colors to minimize visual impacts,

turning lane along SR 161,

routing of the water supply pipeline east of I-15,

bussing of construction workers to the Goodsprings Plant Site,

surety bond to cover plant site restoration following the life of the project,

restrictions on transmission line construction dates through the McCullough Range,

avoidance of helicopter overflights within the McCullough Range,

water source and purchase agreements must be in place prior to construction,

Category B desert tortoise mitigation measures to be implemented west of I-15,

storage and use of aqueous ammonia for plant operations,

use of graywater from Southern Nevada Correctional Center,

collection and re-seeding *Penstemon spp.,* and

co-location of Table Mountain Substation at Goodsprings Plant Site.

Routing of Transmission Lines Entering the Goodsprings Plant Site

A total of five transmission line circuits would enter the Goodsprings Plant Site from the existing BLM utility corridor west of the plant site. Although the project proponent originally identified a 300-foot-wide corridor across a mountain that separates the plant site from the utility corridor, options were developed in the DEIS to identify alternative routes that would be environmentally preferable. Option 2 (as described in the DEIS) is considered to be preferable because the five circuits would be routed across the toe of the mountain, and outside of the Desert Tortoise Translocation Area. Option 2 would avoid construction on steep mountain slopes and therefore reduce the potential for related erosion. Option 2 also would reduce visual impacts that would be associated with land disturbance and the presence of single-pole transmission line structures on mountain slopes and crest. Option 2 was identified in Figure 3-12 of the DEIS.

Co-location of the Water Supply Pipeline Entering The Goodsprings Plant Site

The water supply pipeline would be co-located with the above referenced transmission line corridor (Option 2, as identified in the DEIS). Co-location of the pipeline across the toe of the mountain west of the proposed plant site would reduce overall land disturbance, avoid erosion and visual impacts that would be associated with construction on steep slopes. The alignment also would avoid, to the extent possible, construction within the Desert Tortoise Translocation Area and would minimize pumping requirements that otherwise would be needed for a pipeline across the mountain west of the proposed plant site.

Routing of the Ivanpah – Mead #2 Transmission Line Through Eldorado Valley

Although several alternative transmission line routes were evaluated as part of the DEIS, all but two were eliminated from further consideration due to environmental and/or engineering considerations. One of the two remaining routes would cross Eldorado Valley north and

northwest of Eldorado Lake; the other would cross the valley south and southeast of the lake. Environmental impacts and engineering constraints related to the two routes were similar. Therefore, due to a desire to parallel (to the extent practicable) the existing Valley Electric Association Pahrump – Mead Transmission Line, Alternative E (as described in the DEIS as consisting of Segments 10, 20, 30, 50, 60, 90,110, 130, and 140) was selected as Environmentally Preferred.

Structure Placement, Configuration, and Color; Use of Non-Specular Conductor

As stated in the DEIS, transmission line structures are to be single-pole and constructed in a pole-for-pole configuration, to the extent practicable. The use of single-pole and pole-for-pole configuration reduces overall land disturbances, maximizes the use of previously disturbed land, and reduces visual impacts to the extent possible. Pole-for-pole construction also provides greater opportunities for line crossings, should they be needed as part of future projects.

As stated in the DEIS, the use of gray-painted structures and non-specular conductor reduces visual contrasts and related impacts. Paint specifications are: Carboline Company color #0729 (Medium Gray), paint #8819, and top coat #8809 (Acrylic Aliphatic Polyurethane).

Construction of the Northern (Permanent) Access Road to the Plant Site

Construction of the 7,500-foot-long, 20-foot-wide northern (permanent) access road would require permanent tortoise fencing along nearly the entire length (in accordance with Desert Tortoise Category B stipulations). Due to its proximity across desert tortoise Category B density habitat, the DEIS recommended that a series of culverts be included in the design to reduce the potential effects of habitat fragmentation. Placement of the culverts would be determined by a BLM biologist and should be included in related project stipulations and the Construction, Operations, and Maintenance Plan.

Use of Colors to Minimize Visual Impacts

As stated in the DEIS, visual impacts associated with the Ivanpah Energy Center (power plant) can be reduced through the use of colors that would blend with the surrounding landscape.

Turning Lane Along SR 161

As discussed in the DEIS, the project proponent proposed to install a turning lane at the north (permanent) entrance to the Goodsprings Plant Site to enhance traffic safety. The concept of a turning lane was responded to favorably by the Nevada Department of Transportation.

Routing of the Water Supply Pipeline East of I-15

The segment of the water supply pipeline that would parallel the west side of the Union Pacific Railroad right-of-way from the vicinity of the proposed water treatment plant sites to the BLM utility corridor was found to cross (in part) an area that could be of historical interest. Therefore, the area was avoided in favor of a modified route that would utilize the

east side of the right-of-way from the water treatment plant to the BLM utility corridor where it would cross under the UPRR. This modification should be shown in the Construction, Operations, and Management Plan for the project.

Bussing of Construction Workers to the Goodsprings Plant Site

Diamond Energy has committed to the bussing of construction workers from the vicinity of Jean to the plant site during plant construction. The use of busses would minimize traffic increases along SR 161.

Surety Bond to Cover Plant Site Restoration Following the Life of the Project

A surety bond is needed that would be in place during the life of the project (approximately 30 years). The bond would be retained to ensure that Public lands are cleared, free of contamination, and restored, following the life of the project.

Restrictions on Transmission Line Construction Dates Through The McCullough Range

As stated in the DEIS, transmission line construction through the McCullough Range should be scheduled to avoid the lambing and hunting seasons. Nevada Department of Wildlife commented on the restriction period and identified the optimum construction period to extend from mid-summer through late-summer.

Avoidance of Helicopter Overflights Within the McCullough Range

If helicopters are to be used during construction of the Ivanpah-Mead Transmission Line through the McCullough Range, flight paths should not deviate from the pass where construction is taking place. Helicopter flights over upland areas can result in adverse impacts to bighorn sheep.

Water Source and Purchase Agreements Must be in Place Prior to Construction

Agreements and permits for the use of Southern Nevada Correctional Center graywater and supplemental water (to be furnished by SNCC, Las Vegas Valley Water District or a different source) must be in place prior to issuance of any Notice to Proceed from the BLM. Approvals are required from the Nevada Department of Corrections (SNCC), the Nevada State Engineer.

Category B Desert Tortoise Mitigation Measures to be Implemented West of I-15

Construction and operation of the Ivanpah Energy Center at the Goodsprings Plant Site and related transmission lines, permanent and temporary access roads, the telecommunications line, and water supply pipeline west of I-15 require desert tortoise mitigation measures applicable to Category B habitat density. Activities (primarily transmission line construction, water supply pipeline, and water treatment plant construction) east of I-15 will meet requirements for Category C habitat density. Total (permanent and temporary) lands disturbed within Category B and Category C areas are 115 and 217 acres, respectively.

Storage and Use of Aqueous Ammonia for Plant Operations

Anhydrous ammonia will not be transported to, stored at, or used at the Ivanpah Energy Center. Aqueous ammonia will be used for plant operations.

Use of graywater from Southern Nevada Correctional Center

Graywater from the Southern Nevada Correctional Center will be used for plant operations. Supplemental water will be acquired, if needed, from a high TDS well that is owned and operated by the Las Vegas Valley Water District.

Collection and Re-seeding *Penstemon spp.*

The DEIS recommended seed collection and re-seeding of *Penstemon bicolor bicolor* and *P. albomarginatus* as a mitigation measure. Due to difficulties in differentiating *P. bicolor bicolor* and *P. albomarginatus* from the more common *P. palmeri*, it is preferable to flag individual plants during the flowering season for seed collection in the fall. In that manner, seeds from *P. palmeri* would not be erroneously included in the collection.

Co-location of Table Mountain Substation at Goodsprings Plant Site

A concept that would co-locate the proposed Table Mountain Substation within the Ivanpah Energy Center Goodsprings Plant site was identified following preparation of the Draft Environmental Impact Statement. The co-location would only be available as an option if the decision were to approve the Goodsprings Plant Site and if the Table Mountain Wind Energy Project were to be constructed. Co-location of the substation at the Goodsprings Plant Site would eliminate the need for the substation and related facilities that were to be constructed south of Sandy Valley Road. If implemented, the action would result in a net benefit to the environment. The proposed mitigation and related environmental impacts are addressed in Section 4.10 of the FEIS.

1.4 Project Design Refinements

Surface disturbance locations and acreages identified in the DEIS/FEIS sections are anticipated to be sufficient for the construction and operation (including maintenance) of the IEC Project and all ancillary improvements. However, due to project refinement, locations and acreages of anticipated disturbances have the potential to change. Analyses in this FEIS cover more space than would be required for the proposed facilities. For example, although the project could disturb as much as 237 acres for transmission line construction more than 485 acres were surveyed for biological and cultural resources.

The plant site and various rights-of-way were determined from a preliminary level of engineering; however, as the design is refined, the alignments may change to increase safety, minimize environmental disturbance, and provide adequate grade on steep slopes and across deep washes. These refinements could result in final alignment and slight refinement in location changes for additional workspace, staging areas, and final alignment of the linear rights-of-way.

Where work is required outside the areas evaluated in this FEIS, additional evaluation would be performed for biological and cultural resources to ensure they were not adversely affected. Location of the workspace, date, and survey results would be documented and forwarded to the BLM. In cases where no new state or federally protected species or cultural resources are found, work would proceed. In cases where new species or cultural resources are found, the applicable agencies would provide direction prior to disturbance in that area. As-built drawings would be provided to the BLM at the end of the project.

1.5 Balance of the EIS Process

The BLM will issue a Record of Decision (ROD) for the Ivanpah Energy Center project within 30 calendar days following finalization of this Final EIS. The ROD will identify the Environmentally-Preferred Alternative, provide the rationale for the selection of the alternative, and a summary of mitigation measures that were adopted.

Western, as a cooperating agency in this process, will review the Final EIS for adequacy and if approved will adopt the document as the Western Final EIS for the proposed Valley Electric Association interconnection at Mead Substation. Western plans to issue its own ROD on the proposed interconnection after the 30-day waiting period prior to issuance of the ROD.

Once BLM's ROD is issued, the public and other interested parties may appeal BLM's decision to the Interior Board of Land Appeals (IBLA) (43 CFR 4.411-4.413). The appeal must be filed within 30 calendar days following issuance of the ROD. The process for filing an appeal is outlined in Table 1-1 below:

Table 1-1 Appeals Process

Step 1	Notice of Appeal	The Notice of Appeal, along with your statement of reasons must be filed in the BLM office that issued the decision: Field Manager Bureau of Land Management Las Vegas Field Office 4701 N. Torrey Pines Drive Las Vegas, NV 89130-2301 A copy of the Notice of Appeal must be sent to the BLM Solicitor: Regional Solicitor Pacific Southwest Region U.S. Department of the Interior 2800 Cottage Way Room E-2753 Sacramento, CA 95825-1890
Step 2	Statement of Reasons	Filed within 30 days after filing Notice of Appeal, unless statement of reasons were filed with the Notice of Appeal and sent to: U.S. Department of the Interior Office of the Secretary Board of Land Appeals 4015 Wilson Blvd. Arlington, VA 22203 A copy sent to: Regional Solicitor Pacific Southwest Region U.S. Department of the Interior 2800 Cottage Way Room E-2753 Sacramento, CA 95825-1890
Step 3	Adverse Parties	Within 15 days after each document is file, each adverse party named in the decision and the Regional and/or Field Solicitor will be served a copy of the Notice of Appeal, Statement of Reasons, and any other documents.
Step 4	Proof of Service	Within 15 days after documents are served, proof of service must be filed with the U.S. Department of Interior at the address below: U.S. Department of the Interior Office of the Secretary Board of Land Appeals 4015 Wilson Blvd. Arlington, VA 22203

43 CFR 4.411-4.413 and Form 1842-1

1.6 Contents of the FEIS

Lead agencies are required to respond to comments received on the Draft EIS and prepare a Final EIS (40 CFR 1502.9[b] and 40 CFR 1503.4[b]). Typically, the Final EIS is a re-issue of the Draft EIS including responses to comments submitted on the Draft EIS and any new analysis or additional information. The Bureau of Land Management and Western Area Power Administration determined that comments received on the Ivanpah Energy Center DEIS did not affect the original analysis presented in the Draft EIS, and that additional analysis was not required; therefore, the FEIS has been prepared in an abbreviated format (40 CFR 1503.4[c]). The contents of the Ivanpah Energy Center Final EIS are described below:

Section 1 includes a status of the project since issuance of the Draft EIS on November 22, 2002, unresolved issues, a description of unique mitigation measures for the Proposed Goodsprings Plant Site (should it become environmentally-preferred), and an explanation of remaining activities in the EIS process.

Section 2 summarizes the agencies' process for responding to comments and contains the BLM and Western's formal responses to comments submitted on the Draft EIS.

Section 3 includes Errata Sheets organized by sections in the Draft EIS. Minor additions, deletions, and corrections are addressed in the errata sheets.

Section 4 provides supplemental information acquired following issuance of the Draft EIS. Topics include a floodplain statement of findings, fault duty mitigation, thermal plume analysis, results on the Archaeological Class III field surveys, results on the Paleontological field surveys, an expanded analysis of the "No-Action" Alternative, and updated acreage tables.

SECTION 2
RESPONSE TO COMMENTS

The Bureau of Land Management (BLM) published a Notice of Intent to prepare an Environmental Impact Statement for the proposed Ivanpah Energy Center project on February 15, 2002 in the *Federal Register*. Public scoping meetings were held on March 5, 6, and 7, 2002 to identify the action, alternatives, and impacts to be addressed in the EIS. The meetings included a presentation describing the proposed project (Goodsprings Plant Site), an explanation of the NEPA process, followed by an opportunity for attendees to ask questions. Comments received during the scoping process identified issues of concern and provided the basis for analyses in preparation of the Draft EIS.

Prior to completion of the Draft EIS, Western Area Power Administration (Western) requested participation as a cooperating agency in BLM's Ivanpah Energy Center EIS effort. The BLM and Western issued a Notice of Availability (NOA) for publication in the *Federal Register* on November 22, 2002, releasing the Draft EIS for a 60-day public review. Under the Council on Environmental Quality (CEQ) NEPA regulations, after preparation of the Draft EIS and prior to preparation of the Final EIS, agencies are required to obtain comments from federal agencies and request comments from the appropriate state and local agencies, Native Americans, other agencies in receipt of the environmental impact statement, the project applicant, and members of the public (40 CFR 1503.1).

During the public comment period, BLM and Western held three official public hearings to receive written and oral comments on the adequacy of the Draft EIS and the Ivanpah Energy Center project. The public hearings were held December 10, 11, and 12, 2002 in Las Vegas, Sandy Valley, and Goodsprings, Nevada, respectively. Oral comments were formally received through transcription by a certified court reporter. Comment forms were made available for the public to complete and submit to BLM. The public comment period ended on January 21, 2003.

Written comments were received by the BLM via email and mail. BLM received nine written comments from federal and state agencies, a municipality, and interested organizations. Numerous oral comments were received by transcription from participants at the three formal public hearings. The applicant submitted comments on the Draft EIS via email. BLM did not receive written comments from individuals.

All written comments as well as the oral transcripts received during the public comment period were assigned an alphanumeric identification number, consisting of a letter to denote where the comment originated and a number for each individual document as shown in the following table.

Document Identification #	Commentor
Federal Agencies	
F1	U.S. Environmental Protection Agency
F2	U.S. Fish and Wildlife Service
State Agencies	
S1	Nevada Historic Preservation
S2	Nevada Division of Water Resources
S3	Nevada Environmental Protection Agency
S4	Nevada Division of Wildlife
Municipality	
M1	City of Henderson
Organizations	
O1	Red Rock Audubon Society
O2	Kern River Gas Transmission Company
O3	Southern Nevada Water Authority/Las Vegas Valley Water District
Transcripts	
T1	Las Vegas Public Hearing
T2	Sandy Valley Public Hearing
T3	Goodsprings Public Hearing
Project Proponent	
P1	Ivanpah Energy Center, LP, a Diamond Generating Corporation Company

Each document was reviewed and individual comments were identified within each document. The individual comments were then assigned an additional number as a subset of the numbered document. For example, comment S4.5 is the fourth state agency submittal (Nevada Division of Wildlife) and the fifth comment within the document.

The primary issues addressed in the comments submitted to BLM are summarized in the following list:

- Plant siting and preference to the alternative plant site
- Impacts to air quality

- Impacts to water resources
- Plant and wildlife impacts
- Traffic-related impacts associated with the proposed plant site
- Visual impacts related to the proposed plant site

Under CEQ regulations (40 CFR 1503.4), agencies are required to consider comments both individually and collectively and state their response in the Final EIS by one of the following means:

1. Modify alternatives including the proposed action.
2. Develop and evaluate new alternatives.
3. Supplement, improve, or modify its analyses.
4. Make factual correction.
5. Explain why the comments do not warrant further agency response.

BLM and Western have completed their review of comments on the Ivanpah Energy Center Draft EIS. All comments received a response. Some comments did not specifically address the adequacy of the DEIS or require a response as described above, but responses were provided for clarity. Responses to the comments are provided in the following pages as part of the Final EIS.

COMMENTS
F1 – U.S. EPA
Page 1 of 2

RESPONSES

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

RECEIVED
Bureau of Land Management
07:30

JAN 22 2003
LAS VEGAS
FIELD OFFICE
Las Vegas, Nevada

January 13, 2003

Jerrold E. Crockford, Project Manager
Las Vegas Field Office
U.S. Bureau of Land Management
4765 W. Vegas Drive
Las Vegas, NV 89108

Dear Mr. Crockford:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the ***IVANPAH ENERGY CENTER PROJECT, Clark County, Nevada*** (CEQ #020473. #D-BLM-K09808-NV). EPA's review is conducted under the National Environmental Policy Act, the Council on Environmental Quality's NEPA Implementing Regulations (40 CFR 1500-1508), and Section 309 of the Clean Air Act.

The Bureau of Land Management (BLM) proposes to issue right-of-way grants to construct and operate a 500-megawatt gas-turbine combined-cycle power plant in the Ivanpah Valley, approximately 20 miles south of Las Vegas. Except for a related transmission line, the proposed generating facility and most ancillary facilities are located on 30 acres of public land administered by the BLM approximately 2.5 miles southeast of Goodsprings. Power would be sold to markets in Nevada, California, and Arizona. The facility would use a refrigerated air system to reduce cooling water requirements normally associated with combined-cycle facilities. Power generated by Ivanpah would enter the southern Nevada power grid through the Mead Substation. The proposed action includes various ancillary facilities: a 12-inch diameter gas pipeline interconnection to the adjacent Kern River Gas Transmission gas pipeline; a four-inch diameter water pipeline originating from the Southern Nevada Correctional Center (SNCC) to supply water processed through a planned water treatment facility for air emissions control; a telecommunications line; a 230 kilovolt (kV) substation; 230 kV transmission lines; and fiber optic lines.

Two other action alternatives are fully evaluated. An alternative plant site (in Primm) would be co-located with the Reliant Bighorn Power Plant on a 30-acre parcel on private property. Ancillary facilities for the alternative plant site are a 10- to 11-mile long water supply pipeline from the SNCC to the power plant; a 40-mile long transmission line to interconnect the plant to the Mead Substation; approximately 30 miles of transmission lines to interconnect the facility to the proposed Table Mountain Substation and the Pahrump-Mead transmission line; a 3.2 mile natural gas pipeline connecting to Kern River Gas Transmission Company natural gas pipeline; use of existing access roads; and telecommunications facilities. Under the No Action Alternative, BLM would not issue right-of-way grants for Ivanpah and ancillary facilities, and the project as proposed would not be built.

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COMMENTS
F1 – U.S. EPA
Page 2 of 2

RESPONSES

F1.1

Based upon EPA's review, we rate the DEIS and Proposed Action as LO, *Lack of Objections*. We have one comment to offer regarding the proposed project. Table 5-3 (Procedures Incorporated into the Proposed Ivanpah Energy Center Project to Reduce Impacts) states, "Hazardous materials will not be drained into the ground or into arroyos or drainages." Since Federal law and State law generally prohibit the intentional discharge or release of hazardous materials into the ground, arroyos, or drainages, we believe that this should not be presented as a mitigation measure. Accordingly, EPA recommends that this be removed from the Final EIS (FEIS).

We appreciate the opportunity to comment on the DEIS. Please send one copy of the FEIS to this office (mailcode: CMD-2) when it is filed with EPA's Washington, D.C. office. If you have any questions, please contact my staff reviewer for this project, David Tomsovic, at 415-973-3858 or <tomsovic.david@epa.gov>.

Sincerely,

for Lisa B. Hanf, Manager
Federal Activities Office

F1.1 See Errata Sheet Section 5.

COMMENTS
F2 – U.S. Fish and Wildlife
Page 1 of 5

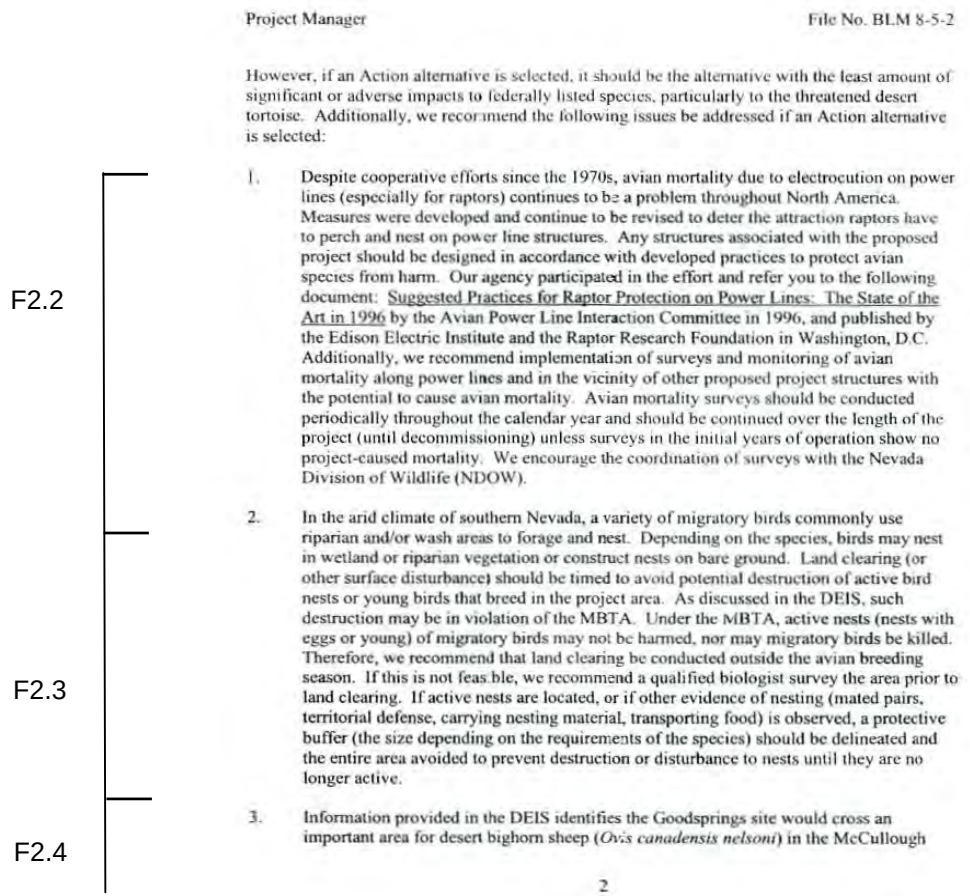
RESPONSES

F2.1

F2.1 Comment acknowledged regarding preference for the No Action Alternative.

COMMENTS
F2 – U.S. Fish and Wildlife
Page 2 of 5

RESPONSES



Project Manager File No. BLM 8-5-2

However, if an Action alternative is selected, it should be the alternative with the least amount of significant or adverse impacts to federally listed species, particularly to the threatened desert tortoise. Additionally, we recommend the following issues be addressed if an Action alternative is selected:

1. Despite cooperative efforts since the 1970s, avian mortality due to electrocution on power lines (especially for raptors) continues to be a problem throughout North America. Measures were developed and continue to be revised to deter the attraction raptors have to perch and nest on power line structures. Any structures associated with the proposed project should be designed in accordance with developed practices to protect avian species from harm. Our agency participated in the effort and refer you to the following document: Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996 by the Avian Power Line Interaction Committee in 1996, and published by the Edison Electric Institute and the Raptor Research Foundation in Washington, D.C. Additionally, we recommend implementation of surveys and monitoring of avian mortality along power lines and in the vicinity of other proposed project structures with the potential to cause avian mortality. Avian mortality surveys should be conducted periodically throughout the calendar year and should be continued over the length of the project (until decommissioning) unless surveys in the initial years of operation show no project-caused mortality. We encourage the coordination of surveys with the Nevada Division of Wildlife (NDOW).

2. In the arid climate of southern Nevada, a variety of migratory birds commonly use riparian and/or wash areas to forage and nest. Depending on the species, birds may nest in wetland or riparian vegetation or construct nests on bare ground. Land clearing (or other surface disturbance) should be timed to avoid potential destruction of active bird nests or young birds that breed in the project area. As discussed in the DEIS, such destruction may be in violation of the MBTA. Under the MBTA, active nests (nests with eggs or young) of migratory birds may not be harmed, nor may migratory birds be killed. Therefore, we recommend that land clearing be conducted outside the avian breeding season. If this is not feasible, we recommend a qualified biologist survey the area prior to land clearing. If active nests are located, or if other evidence of nesting (mated pairs, territorial defense, carrying nesting material, transporting food) is observed, a protective buffer (the size depending on the requirements of the species) should be delineated and the entire area avoided to prevent destruction or disturbance to nests until they are no longer active.

3. Information provided in the DEIS identifies the Goodsprings site would cross an important area for desert bighorn sheep (*Ovis canadensis nelsoni*) in the McCullough

2

F2.2

F2.3

F2.4

F2.2 Single- and double-circuit structures will use davit arms with conductor suspended from insulators. The conductors will be separated from each other and davit arms with sufficient conductor-to-conductor and conductor-to-ground clearance to preclude electrocution of large avian species. As stated in the DEIS, "…impacts related to electrocution are not anticipated." The comment regarding periodic surveys to monitor avian mortality is noted and, may be included as part of the project stipulations and in the Construction, Operation, and Maintenance Plan (COM Plan).

F2.3 Migratory birds and measures that can be taken to avoid or minimize impacts to avian populations are addressed on pages 4-25 and 5-28. Impacts to migratory birds can be avoided or reduced by scheduling land clearing activities during periods that would avoid the nesting season. If land clearing and/or construction activities cannot be scheduled to avoid the nesting season, active nests should be identified by a qualified biologist and avoided to prevent destruction or disturbance of nests until they are no longer active. The identification and avoidance of active nests should be included in project stipulations and the project COM Plan.

F2.4 The Ivanpah-Mead Transmission Line would cross the McCullough Range within McCullough Pass, regardless of plant site location. Nevada Department of Wildlife, the Fraternity of Desert Bighorn, and

COMMENTS
F2 – U.S. Fish and Wildlife
Page 3 of 5

RESPONSES

F2.4 Cont'd.

Pass. If this alternative is implemented, we recommend coordinating with NDOW in studies of desert bighorn sheep behavior in response to the alternative, studies of potential sheep displacement, and long-term monitoring of overall habitat use in the proposed project and surrounding areas.

F2.5

4. The overall effects to vegetation would be significant under either Action alternative. At the Goodsprings site, temporary disturbance of 294.4 acres and the permanent disturbance of 41.6 acres would occur, for a total of 336 acres of disturbance under this alternative. At the Primm site, temporary disturbance of 317.7 acres and the permanent disturbance of 8.8 acres would occur, for a total of 326.5 acres of disturbance under this alternative. Therefore, we recommend that measures be included in the design of either action alternative to avoid and reduce the total area of disturbance. In the absence of significant disturbance, many Mojave desert plant communities persist as temporally stable, late-successional communities. Following disturbance, a return to historic climax conditions may take from 20 to 100 years. The DEIS states that areas temporarily disturbed would be restored in accordance with the Bureau of Land Management's (BLM) approved restoration plan with successful restoration reached when 60 percent or more of the area is revegetated. We agree that restoration would be necessary to facilitate the regeneration process and an appropriate monitoring program as part of that restoration plan should be established.

F2.6

5. Disturbance in Mojave desert plant communities creates conditions advantageous for the establishment and spread of many invasive weed species. Land management agencies such as BLM, as well as other land owners, are responsible for controlling noxious weeds on their lands as per Nevada State Law (NRS 555.202) and Federal Executive Order (EO) 13112. Basic weed monitoring and treatment measures should be implemented. A 10-year period of monitoring and treatment should occur as control of many weeds may take more than 5 years. Because invasive weeds are increasing in number and frequency in southern Nevada, we recommend measures be included in the proposed project to reduce the total area of disturbance in the proposed project area.

F2.7

6. We recommend the inclusion of efforts to protect and minimize disturbance to cacti and yucca plants as part of the proposed project. These plants are ecologically important and are protected by Nevada State Law (NRS 527.060-.120). We concur with the measures in the DEIS to salvage and transplant any plants that are not able to be protected as part of the overall restoration plan.

F2.8

7. Efforts should be implemented to avoid or minimize impacts throughout the project area to existing populations of twotoned beardtongue (*Penstemon bicolor*), a plant species of

other organizations routinely monitor sheep herds within the area and implement measures to support herd success. Additional monitoring that would be related to the Ivanpah Energy Center is not warranted at this time.

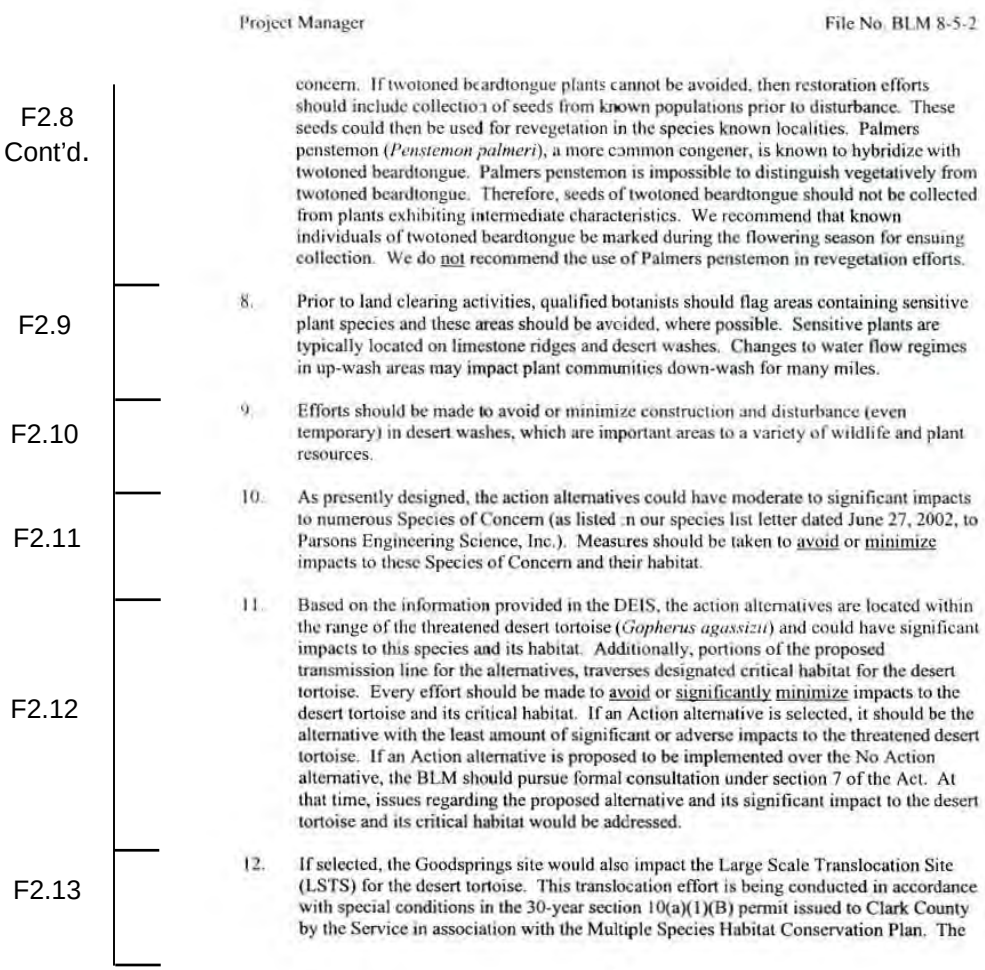
F2.5 Temporary and permanent impacts related to the loss of habitat is referenced in numerous locations throughout the DEIS. The potential loss of habitat has been minimized, to the extent practicable by the use of existing roads and trails, co-location of the water supply pipeline and transmission line, and other factors. Restoration will be addressed as part of BLM's stipulations and in the project COM Plan.

F2.6 The potential introduction and control of noxious weeds is addressed in DEIS on pages 4-20, 4-21, 4-22, 5-42, 5-43, and 5-131. Mitigation measures that could be taken to minimize the presence of noxious weeds are itemized in text and include use of weed free seeds, high-pressure washing of equipment, use of weed free gravel/fill, and prompt revegetation of disturbed areas. Post construction monitoring and control of noxious weeds would be included in the project stipulations and the COM Plan.

F2.7 The DEIS (page 5-26) states that "Restoration plans would likely include salvaging and replanting of all barrel, cottontop, and hedgehog cactus that would be impacted during construction." The document also states that "Yucca … and other cacti … that are over one-foot tall that would be impacted also would be salvaged and replanted." Protocol for salvaging and replanting will be addressed in the project COM Plan and project stipulations.

COMMENTS
F2 – U.S. Fish and Wildlife
Page 4 of 5

RESPONSES



Project Manager File No. BLM 8-5-2

concern. If twotoned beardtongue plants cannot be avoided, then restoration efforts should include collection of seeds from known populations prior to disturbance. These seeds could then be used for revegetation in the species known localities. Palmers penstemon (*Penstemon palmeri*), a more common congener, is known to hybridize with twotoned beardtongue. Palmers penstemon is impossible to distinguish vegetatively from twotoned beardtongue. Therefore, seeds of twotoned beardtongue should not be collected from plants exhibiting intermediate characteristics. We recommend that known individuals of twotoned beardtongue be marked during the flowering season for ensuing collection. We do not recommend the use of Palmers penstemon in revegetation efforts.

F2.8 Cont'd.

8. Prior to land clearing activities, qualified botanists should flag areas containing sensitive plant species and these areas should be avoided, where possible. Sensitive plants are typically located on limestone ridges and desert washes. Changes to water flow regimes in up-wash areas may impact plant communities down-wash for many miles.

F2.9

9. Efforts should be made to avoid or minimize construction and disturbance (even temporary) in desert washes, which are important areas to a variety of wildlife and plant resources.

F2.10

10. As presently designed, the action alternatives could have moderate to significant impacts to numerous Species of Concern (as listed in our species list letter dated June 27, 2002, to Parsons Engineering Science, Inc.). Measures should be taken to avoid or minimize impacts to these Species of Concern and their habitat.

F2.11

11. Based on the information provided in the DEIS, the action alternatives are located within the range of the threatened desert tortoise (*Gopherus agassizii*) and could have significant impacts to this species and its habitat. Additionally, portions of the proposed transmission line for the alternatives, traverses designated critical habitat for the desert tortoise. Every effort should be made to avoid or significantly minimize impacts to the desert tortoise and its critical habitat. If an Action alternative is selected, it should be the alternative with the least amount of significant or adverse impacts to the threatened desert tortoise. If an Action alternative is proposed to be implemented over the No Action alternative, the BLM should pursue formal consultation under section 7 of the Act. At that time, issues regarding the proposed alternative and its significant impact to the desert tortoise and its critical habitat would be addressed.

F2.12

12. If selected, the Goodsprings site would also impact the Large Scale Translocation Site (LSTS) for the desert tortoise. This translocation effort is being conducted in accordance with special conditions in the 30-year section 10(a)(1)(B) permit issued to Clark County by the Service in association with the Multiple Species Habitat Conservation Plan. The

F2.13

4

F2.8 BLM acknowledges that collection of *Penstemon palmeri* seeds should be avoided and that (as stated in the DEIS, pages 5-33, 5-35, and 5-38) seeds from *P. bicolor bicolor* and *P. albomarginatus* should be collected for reseeding. The methodology used to collect the desired seed should be addressed in BLM stipulations and the project COM Plan.

F2.9 Flagging of sensitive plant species would be addressed as part of BLM's stipulations and the project COM Plan.

F2.10 Construction within desert washes will be avoided to the extent practicable. Such avoidance is most likely to be associated with minor adjustments to transmission line structure locations which would be made as part of detailed engineering and constructability reviews. Most desert washes would be spanned by the transmission lines and existing roads would be used to minimize potential impacts associated with site access.

F2.11 The DEIS addresses species of concern and, to the extent practicable, provides mitigation measures that can be implemented to avoid or reduce the severity of impacts. Known locations of species of concern (i.e., *Penstemon bicolor bicolor* and *P. albomarginatus*) have been identified on maps. A qualified biologist will monitor construction activities and if such species are present at additional locations, their locations will be noted and avoided.

RESPONSES

F2.12 Impacts to the desert tortoise were considered to be significant for those areas classified as Category B (moderately high) habitat density. Field investigations that were carried out for the project confirm that those areas are west of Interstate 15; areas of lesser density (Category C) were east of I-15 and impacts were considered to less than significant. Construction of the Ivanpah Energy Center at the Goodsprings Plant Site would result in greater loss of Category B habitat than would result from construction of the facility at the Primm Plant Site. A biological assessment has been prepared and formal Section 7 Consultation is ongoing with the U.S. Fish and Wildlife to address the contingency that the Goodsprings Plant Site could be selected.

F2.13 The presence and importance of the Large Scale Translocation Site (otherwise referred to as the "Desert Tortoise Translocation Area") is shown and is discussed in several locations in the DEIS. Impacts to the Translocation Area have been minimized to the extent possible. For example, the Goodsprings Plant Site, main access road, and telecommunications line are north of the Translocation Area and transmission and water supply corridors to the site are routed to minimize activity within the area. Stipulations that are applicable to Category B desert tortoise habitat density will be applied to all project construction and operations that are west of I-15, including those within the Translocation Area.

COMMENTS
F2 – U.S. Fish and Wildlife
Page 5 of 5

RESPONSES

Project Manager File No. BLM 8-5-2

LSTS is highly important to the ongoing scientific research and recovery efforts for desert tortoise. We are very concerned about any irreparable damage that may occur to the LSTS as a result of implementing the Goodsprings alternative.

Again, we reiterate our concurrence with the conclusion reached in the DEIS that implementation of the Proposed Action or alternatives would result in significant impacts to biological resources; therefore, we believe the No Action Alternative is in the best interest of the fish, wildlife and plant resources our agency is entrusted with protecting.

If you have any questions regarding these comments, please contact Amy LaVoie in our Southern Nevada Field Office at (702) 515-5230.

Cynthia T. Martinez
for Robert D. Williams

cc:
Supervisory Biologist, Habitat, Nevada Division of Wildlife, Las Vegas, Nevada
Biologist, Habitat, Nevada Division of Wildlife, Reno, Nevada (Attn: Roddy Shepard)

5

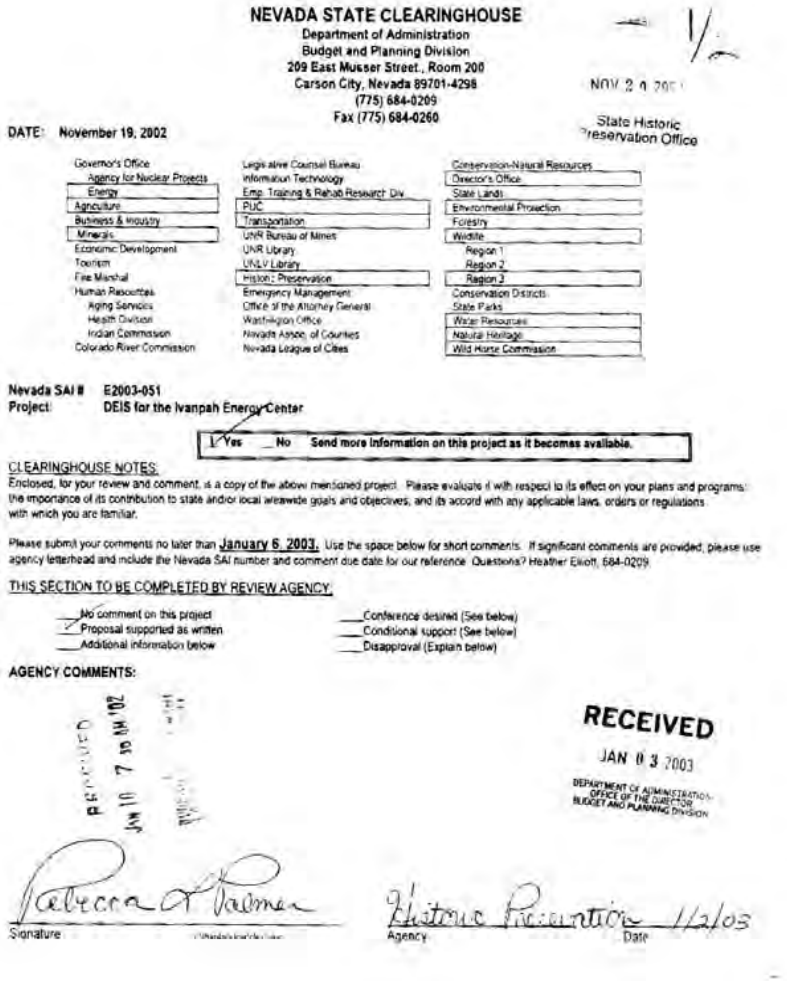
COMMENTS

RESPONSES

S – State of Nevada
Page 1 of 4

COMMENTS

S1 – State of Nevada Historic Preservation
Page 2 of 4



NEVADA STATE CLEARINGHOUSE
Department of Administration
Budget and Planning Division
209 East Musser Street., Room 200
Carson City, Nevada 89701-4298
(775) 684-0209
Fax (775) 684-0260

NOV 2 0 200
State Historic Preservation Office

DATE: November 19, 2002

Governor's Office	Legislative Counsel Bureau	Conservation-Natural Resources
Agency for Nuclear Projects	Information Technology	Director's Office
Energy	Emp. Training & Rehab Research Div.	State Lands
Agriculture	PUC	Environmental Protection
Business & Industry	Transportation	Forestry
Minerals	UNR Bureau of Mines	Wildlife
Economic Development	UNR Library	Region 1
Tourism	UNLV Library	Region 2
Fire Marshal	Historic Preservation	Region 3
Human Resources	Emergency Management	Conservation Districts
Aging Services	Office of the Attorney General	State Parks
Health Division	Washington Office	Water Resources
Indian Commission	Nevada Assoc. of Counties	Natural Heritage
Colorado River Commission	Nevada League of Cities	Wild Horse Commission

Nevada SAI # E2003-051
Project: DEIS for the Ivanpah Energy Center

☑ Yes ☐ No **Send more information on this project as it becomes available.**

CLEARINGHOUSE NOTES:
Enclosed, for your review and comment, is a copy of the above mentioned project. Please evaluate it with respect to its effect on your plans and programs; the importance of its contribution to state and/or local areawide goals and objectives; and its accord with any applicable laws, orders or regulations with which you are familiar.

Please submit your comments no later than **January 6, 2003.** Use the space below for short comments. If significant comments are provided, please use agency letterhead and include the Nevada SAI number and comment due date for our reference. Questions? Heather Elliott, 684-0209.

THIS SECTION TO BE COMPLETED BY REVIEW AGENCY:

☑ No comment on this project
☐ Proposal supported as written
☐ Additional information below
☐ Conference desired (See below)
☐ Conditional support (See below)
☐ Disapproval (Explain below)

AGENCY COMMENTS:

RECEIVED
JAN 03 2003
DEPARTMENT OF ADMINISTRATION
OFFICE OF THE DIRECTOR
BUDGET AND PLANNING DIVISION

Rebecca A. Palmer
Signature

Historic Preservation
Agency

1/2/03
Date

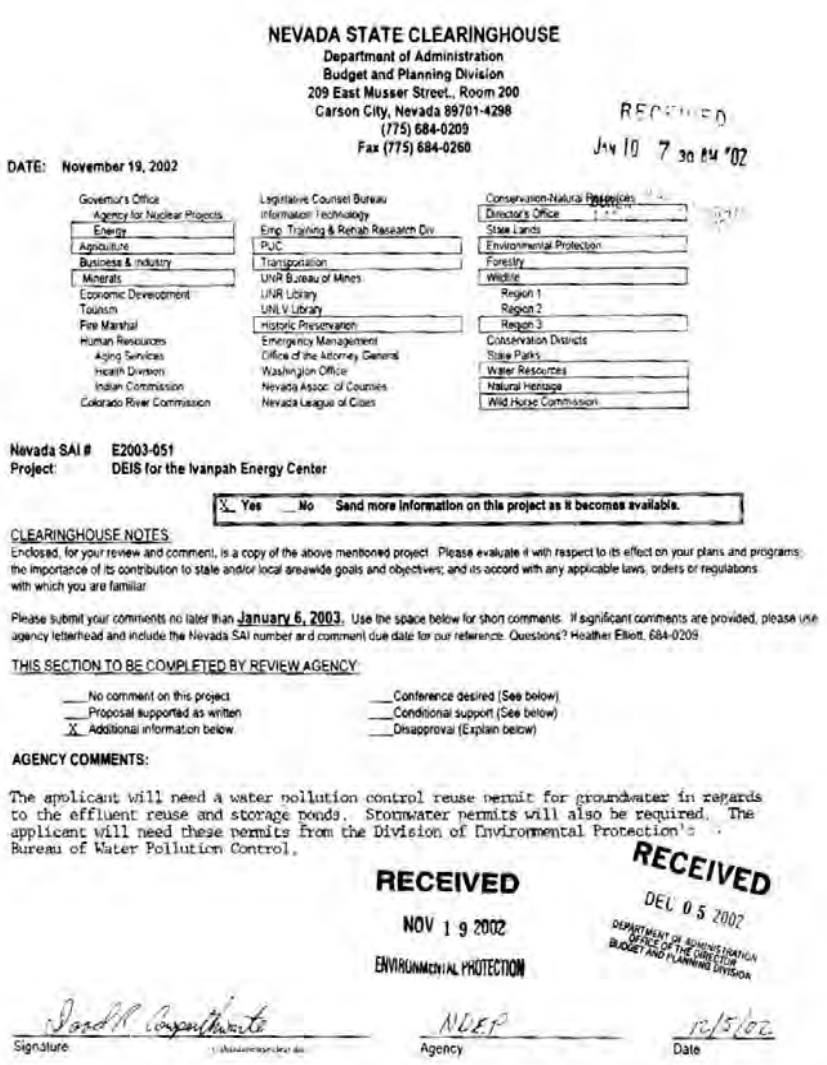
S1

RESPONSES

S1 Additional information will be sent to the state Historic Preservation Office, when it becomes available.

COMMENTS

S2 –Nevada Department of Environmental Protection Page 3 of 4



NEVADA STATE CLEARINGHOUSE
Department of Administration
Budget and Planning Division
209 East Musser Street., Room 200
Carson City, Nevada 89701-4298
(775) 684-0209
Fax (775) 684-0260

RECEIVED
JAN 10 7 30 AM '02

DATE: November 19, 2002

Governor's Office	Legislative Counsel Bureau	Conservation-Natural Resources
Agency for Nuclear Projects	Information Technology	Director's Office
Energy	Emp. Training & Rehab Research Div.	State Lands
Agriculture	PUC	Environmental Protection
Business & Industry	Transportation	Forestry
Minerals	UNR Bureau of Mines	Wildlife
Economic Development	UNR Library	Region 1
Tourism	UNLV Library	Region 2
Fire Marshal	Historic Preservation	Region 3
Human Resources	Emergency Management	Conservation Districts
Aging Services	Office of the Attorney General	State Parks
Health Division	Washington Office	Water Resources
Indian Commission	Nevada Assoc. of Counties	Natural Heritage
Colorado River Commission	Nevada League of Cities	Wild Horse Commission

Nevada SAI # E2003-051
Project: DEIS for the Ivanpah Energy Center

X Yes __No Send more information on this project as it becomes available.

CLEARINGHOUSE NOTES:
Enclosed, for your review and comment, is a copy of the above mentioned project. Please evaluate it with respect to its effect on your plans and programs; the importance of its contribution to state and/or local areawide goals and objectives; and its accord with any applicable laws, orders or regulations with which you are familiar.

Please submit your comments no later than **January 6, 2003.** Use the space below for short comments. If significant comments are provided, please use agency letterhead and include the Nevada SAI number and comment due date for our reference. Questions? Heather Elliott, 684-0209.

THIS SECTION TO BE COMPLETED BY REVIEW AGENCY:

___No comment on this project
___Proposal supported as written
X Additional information below
___Conference desired (See below)
___Conditional support (See below)
___Disapproval (Explain below)

AGENCY COMMENTS:

The apolicant will need a water pollution control reuse permit for groundwater in regards to the effluent reuse and storage ponds. Stormwater permits will also be required. The applicant will need these permits from the Division of Environmental Protection's Bureau of Water Pollution Control.

RECEIVED
NOV 19 2002
ENVIRONMENTAL PROTECTION

RECEIVED
DEC 05 2002
DEPARTMENT OF ADMINISTRATION
OFFICE OF THE DIRECTOR
BUDGET AND PLANNING DIVISION

Signature | Agency: NDEP | Date: 12/5/02

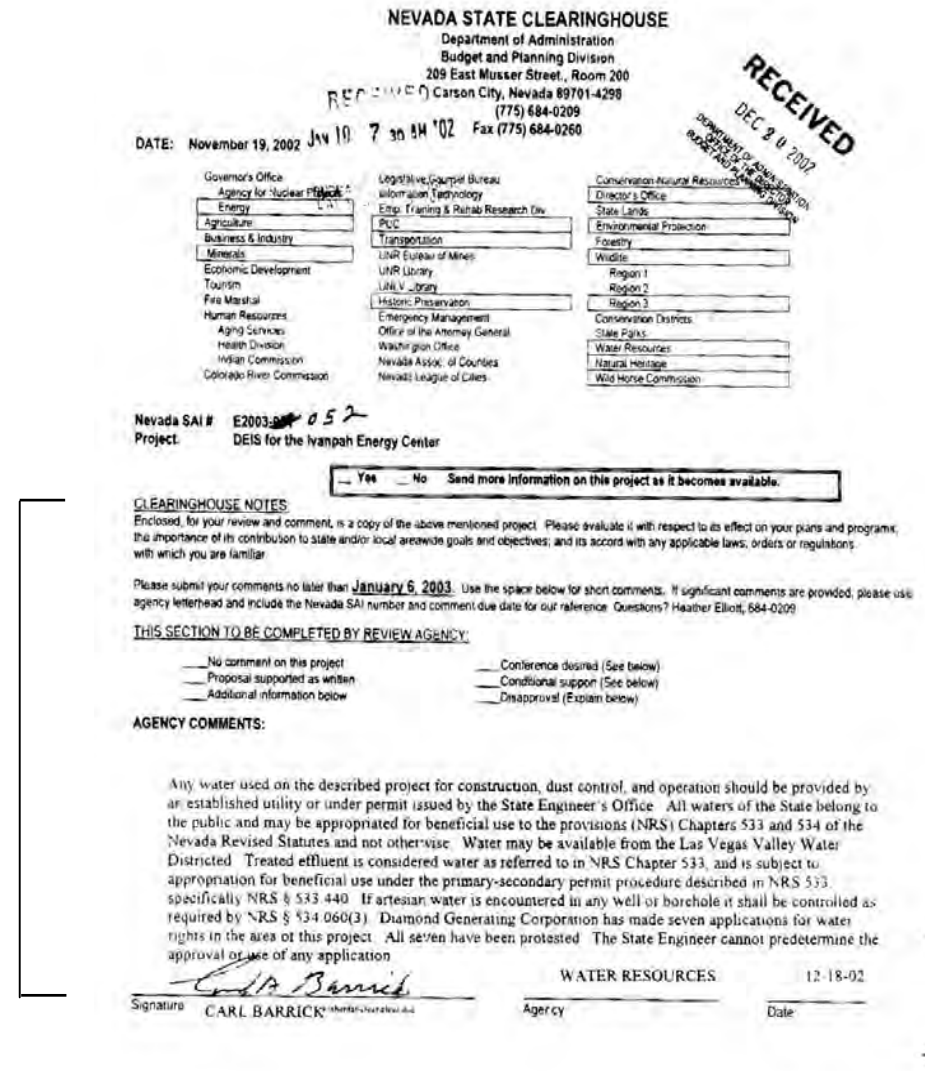
S2

RESPONSES

S2 Diamond Generating has filed an application with the State Engineer for the use of graywater from SNCC. A water pollution control reuse permit will be required from the Nevada Department of Environmental Protection. All water use/reuse permits will be in place prior to issuance of BLM right-of-way grants. Stormwater permits will be prepared for the proposed plant site, access roads, the water treatment plant, and transmission lines prior to construction. A stormwater plan also will be required for the proposed plant site. All permits and plans will be addressed as part of the Construction, Operations, and Maintenance (COM) Plan.

COMMENTS

S3 – Nevada Department of Water Resource Page 4 of 4



NEVADA STATE CLEARINGHOUSE
Department of Administration
Budget and Planning Division
209 East Musser Street., Room 200
Carson City, Nevada 89701-4298
(775) 684-0209
Fax (775) 684-0260

RECEIVED
DEC 2 0 2002

DATE: November 19, 2002

Governor's Office	Legislative/Counsel Bureau	Conservation/Natural Resources
Agency for Nuclear Projects	Information Technology	Director's Office
Energy	Emp. Training & Rehab Research Div.	State Lands
Agriculture	PUC	Environmental Protection
Business & Industry	Transportation	Forestry
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Fire Marshal	Historic Preservation	Region 3
Human Resources	Emergency Management	Conservation Districts
Aging Services	Office of the Attorney General	State Parks
Health Division	Washington Office	Water Resources
Indian Commission	Nevada Assoc. of Counties	Natural Heritage
Colorado River Commission	Nevada League of Cities	Wild Horse Commission

Nevada SAI # E2003-052
Project: DEIS for the Ivanpah Energy Center

__ Yes __ No Send more information on this project as it becomes available.

CLEARINGHOUSE NOTES:
Enclosed, for your review and comment, is a copy of the above mentioned project. Please evaluate it with respect to its effect on your plans and programs, the importance of its contribution to state and/or local areawide goals and objectives; and its accord with any applicable laws, orders or regulations with which you are familiar.

Please submit your comments no later than January 6, 2003. Use the space below for short comments. If significant comments are provided, please use agency letterhead and include the Nevada SAI number and comment due date for our reference. Questions? Heather Elliott, 684-0209

THIS SECTION TO BE COMPLETED BY REVIEW AGENCY:

__ No comment on this project
__ Proposal supported as written
__ Additional information below
__ Conference desired (See below)
__ Conditional support (See below)
__ Disapproval (Explain below)

AGENCY COMMENTS:

Any water used on the described project for construction, dust control, and operation should be provided by an established utility or under permit issued by the State Engineer's Office. All waters of the State belong to the public and may be appropriated for beneficial use to the provisions (NRS) Chapters 533 and 534 of the Nevada Revised Statutes and not otherwise. Water may be available from the Las Vegas Valley Water District. Treated effluent is considered water as referred to in NRS Chapter 533, and is subject to appropriation for beneficial use under the primary-secondary permit procedure described in NRS 533, specifically NRS § 533.440. If artesian water is encountered in any well or borehole it shall be controlled as required by NRS § 534.060(3). Diamond Generating Corporation has made seven applications for water rights in the area of this project. All seven have been protested. The State Engineer cannot predetermine the approval or use of any application.

Signature: Carl B. Barrick
CARL BARRICK
WATER RESOURCES
Agency
12-18-02
Date

S3

RESPONSES

S3 Water used for the project for construction, dust control, and operation will be provided through existing permits with the Nevada Department of Corrections and Las Vegas Valley Water District.

The project proponent has proposed the use of gray water from the Southern Nevada Correctional Center (SNCC) as the primary water source for the Ivanpah Energy Center. Water from an existing well that is owned and operated by Las Vegas Valley Water District (LVVWD) was proposed as a secondary water source, should the primary water supply source be curtailed or interrupted.

Diamond Generating has filed an application with the State Engineer for the use of effluent from the Southern Nevada Correctional Center (SNCC). The SNCC has filed a similar application to divert graywater discharge to Diamond Generating.

To date, the BLM has not received confirmation from the project proponent that agreements have been reached with the SNCC, LVVWD, or the State Engineer that either primary source or secondary source waters will be made available for the Ivanpah Energy Center. Should agreements regarding water sources not be available, and become other than those stated in the DEIS, a Supplemental EIS would be required as to fulfill the requirements of NEPA and the BLM would not issue any Notice to Proceed until all water sources, treatment, and conveyance requirements are met.

COMMENTS

S4 – Nevada Department of Wildlife
Page 1 of 4

S4.1

S4.2

RESPONSES

S4.1 The BLM will consider the comment regarding preference for the "No Action" Alternative.

S4.2 The BLM will consider the comment regarding preference for the "Primm Site" Alternative.

COMMENTS

S4 – Nevada Department of Wildlife
Page 2 of 4

S4.2 Cont'd.

suitable Burrowing Owl habitat, and Category B desert tortoise habitat. Nor does the proposed site justify adding to the cumulative impacts already associated with the adjacently proposed Table Mountain Wind Energy site, the Columbia Pass (Sandy Valley Road) re-alignment, and the new Kern River Pipeline to which we have previously commented.

S4.3

As described in the DEIS, another 78 acres would be temporarily impacted by construction needs. Successful re-vegetation on the 78 acres is dependent on frequency, timing and amount of natural precipitation and lack of disturbance by unauthorized OHV activity. Further, increased traffic and recreational use that would result from development of new roads would have a permanent effect on local wildlife.

We believe the proposed measures to mitigate impacts resulting from construction and long-term operation of the Ivanpah Energy Center should be augmented to include more specific compensatory strategies to aid in the conservation and recovery of wild populations and their habitat. We have included some suggestions for perusal that we hope will generate further consideration.

S4.4

The level of disturbance indicated suggests that a more comprehensive approach to impact minimization and mitigation is warranted. For example, there was very little information concerning the effects of power lines on raptors. Most centered on increasing artificial perch sites for ravens and the relationship with anomalous predation on the desert tortoise. However, construction of the transmission lines through McCullough Pass will affect nearby raptor roosting and nesting sites. Disturbance is anticipated to Prairie Falcon and Golden Eagle nests in or near the McCullough Pass area north to Unnamed Pass (segments #60 and #70). Mitigation for these raptors was not considered. Raptors breed and sit on nests during the months of April through June. We recommend avoiding construction activity during these months, again leaving a window in mid- to late summer. We are also interested in the design of the towers. With some exception, it appears they are of sufficient design to deter both raptors and ravens from perching on them. We also recommend the placement of anti perching "triangles" or other devices or methods that discourage perching on other tower surfaces. This will aid in reduction of the chance for perching by raptors and ravens. Other mitigation measures for these species might include the installation of such devices on existing power lines as well. For more information on safe practices for raptors along power lines, the project proponent can refer to:

Avian Power Line Interaction Committee (APLIC). 1996. Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996. Edison Electric Institute and the Raptor Research Foundation. Washington, D.C.

S4.5

The construction zone is located within bighorn sheep and Gila monster habitat, and more thought must at least go into the timing of construction. We agree that there will be less potential impacts related to chuckwalla and kit fox.

Mitigation measures in the DEIS for bighorn sheep include avoidance of installing electric transmission lines during lambing season, and avoidance of the area during hunting season. We have observed that in southern Nevada, wild sheep may give birth to lambs anytime from January

2

RESPONSES

S4.3 Comment acknowledged.

S4.4 The BLM acknowledges that construction through the McCullough Range should be avoided during the raptor nesting season (April through June). Mitigation measures related to construction scheduling will be included in right-of-way grant stipulations. Structure designs will have sufficient conductor-to-conductor and conductor-to-ground distances to preclude the possibility of electrocution of avian species. Ravens and raptors may perch on structures from time-to-time; however, other structures, particularly lattice structures that are east of I-15, also are in the area and provide perching locations. If anti-perching devices are to be located on new project structures, specific structure locations and devices will be included in stipulations from the BLM and incorporated into the COM Plan.

Mitigation of potential impacts to gila monsters would be difficult, primarily because the species is most active and breeding season occurs during the summer months that would coincide with the above referenced construction period. However, eggs are laid during the late-fall and winter, when construction would not take place.

COMMENTS

S4 – Nevada Department of Wildlife
Page 3 of 4

S4.5 Cont'd.

S4.6

S4.7

until late May or early June. Equally important as lambing season, is breeding season which begins in early fall. Hunting season occurs in November and December. The best time for construction would be mid- to late summer. This measure warrants further attention than was addressed in the text.

McCullough Pass is an attractive location for bighorn sheep because of the steep topography. Natural water pockets are located to the south of the pass, and several artificial water devices are located to the north. During the hot summer months the water pockets evaporate, necessitating the movement of sheep northward to make use of the artificial waters. Construction activity may cause ewes to deviate from traditional ranges, which could lead to a loss of herd knowledge about the location of available water and forage areas. The McCullough herd is one of the few populations of bighorn sheep where numbers are currently stable. Cumulative impacts brought about by several ongoing projects in our region will make it more difficult to manage this and other populations.

Another species warranting additional consideration is Gambel's quail. While there is an anticipated loss of quail habitat along the transmission lines linking up the proposed Table Mountain project with the Ivanpah Energy Center project, there is no mention of any kind of mitigation for this loss. Quail will nest beneath or in dense desert shrubs, and there is risk of crushing eggs by construction activities. Loss of nesting cover and native grasses for forage puts further strain on an already patchy and scarcely available resource. There is an opportunity for some off-site mitigation in the form of habitat enhancements near springs in the Spring Mountains.

Consideration must be made for and federal protocols adhered to regarding burrowing owl observation, survey and removal prior to construction. If breeding pairs are identified they must not be disturbed until the end of the nesting cycle. The project proponent should contact the U.S. Fish and Wildlife Service to obtain information on how to address and mitigate for this species, which is protected under the Migratory Bird Treaty Act (See attached outline).

Again, we appreciate the opportunity to comment and look forward to working with the project proponent and the federal agencies to help facilitate and promote interagency cooperation in conserving our natural resources. Should there be any questions, please contact myself at this office.

Sincerely,

Roddy Shepard,
Habitat biologist

Enclosure

RESPONSES

S4.5 Project scheduling to avoid the bighorn sheep lambing season was addressed on DEIS pages 5-37, 5-38, and 5-131 in which mitigation measures included the restriction of construction through the McCullough Range from the "… spring through early-fall (April through October) …" The DEIS (pages 5-57 and 5-142) also states that construction through the McCullough Range should be scheduled to avoid "… conflict with the November-December hunting season." Information regarding the breeding season (which begins during the early fall) was not included in the DEIS. The DEIS text should expand the period during which construction would not take place and emphasize that construction should be carried out from mid- to late summer, to the extent practicable. Specific periods for construction should be included as part of the COM Plan.

S4.6 Construction of the Ivanpah Energy Center or any of its components during the spring through summer nesting and brooding is likely to adversely impact gambel's quail. Although the species is likely to be present throughout most of the project area, the potential for impacts could be reduced by avoiding construction within areas that have been designated as "crucial quail habitat" (refer to DEIS Figure 4-3) during the nesting and brooding season. Additional mitigation measures available include biological monitoring to identify active nesting sites that should be avoided during construction.

S4.7 The burrowing owl is protected under the Migratory Bird Treaty Act (16 USC 703-711 Executive Order January 1, 2001), as discussed on DEIS pages 4-26 and 4-27. Nesting takes place from approximately April through August. Steps that can be taken to avoid nesting owls include bird surveys and the identification of nest sites that should be avoided during construction. Specific protocol to be followed would be addressed in the COM Plan.

COMMENTS

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RS: rs
cc. NDOW Game Bureau
NDOW Wildlife Diversity Bureau
NDOW Habitat Bureau
USFWS, Las Vegas

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RESPONSES

January 21, 2003

Jerry Crockford, Project Manager
U.S. Bureau of Land Management
Las Vegas Field Office
4701 Torrey Pines Drive
Las Vegas, NV 89130-2301

Re: City of Henderson Comments on the Draft Environmental Impact Statement for the Ivanpah Energy Center.

Dear Mr. Crockford:

The City of Henderson ("City") has reviewed the Draft Environmental Impact Statement ("Draft EIS") for the Ivanpah Energy Center, a proposed 500 MW gas-fired electric power generating station in southern Clark County, Nevada, and is pleased to provide the attached comments on this document. The City is interested in proposals for development that have the potential to affect shared resources, such as air, in southern Clark County, since additional sources of air pollution in this area may adversely impact the quality of life in Henderson and other nearby communities as well as constrain future opportunities for growth in this area.

The City is concerned that this document may not provide an adequate examination of the proposed project's environmental impacts on this area of Clark County. In general, the Draft EIS does not provide adequate information and detail, or use the proper analytical methods to correctly evaluate the individual and cumulative impacts of the new facility on air quality in the area of the development. The City believes that the Draft EIS should be revised to properly inform the public and other interested parties about the potential impacts of the proposed project, in particular those impacts on air quality.

The City's general and specific comments on the air quality analysis in the Draft EIS are presented in the attachment to this letter.

Sincerely,

Shauna M. Hughes
City Attorney

SMH:kal
Enclosure

CITY HALL 240 WATER STREET HENDERSON, NV 89015
702-565-2323

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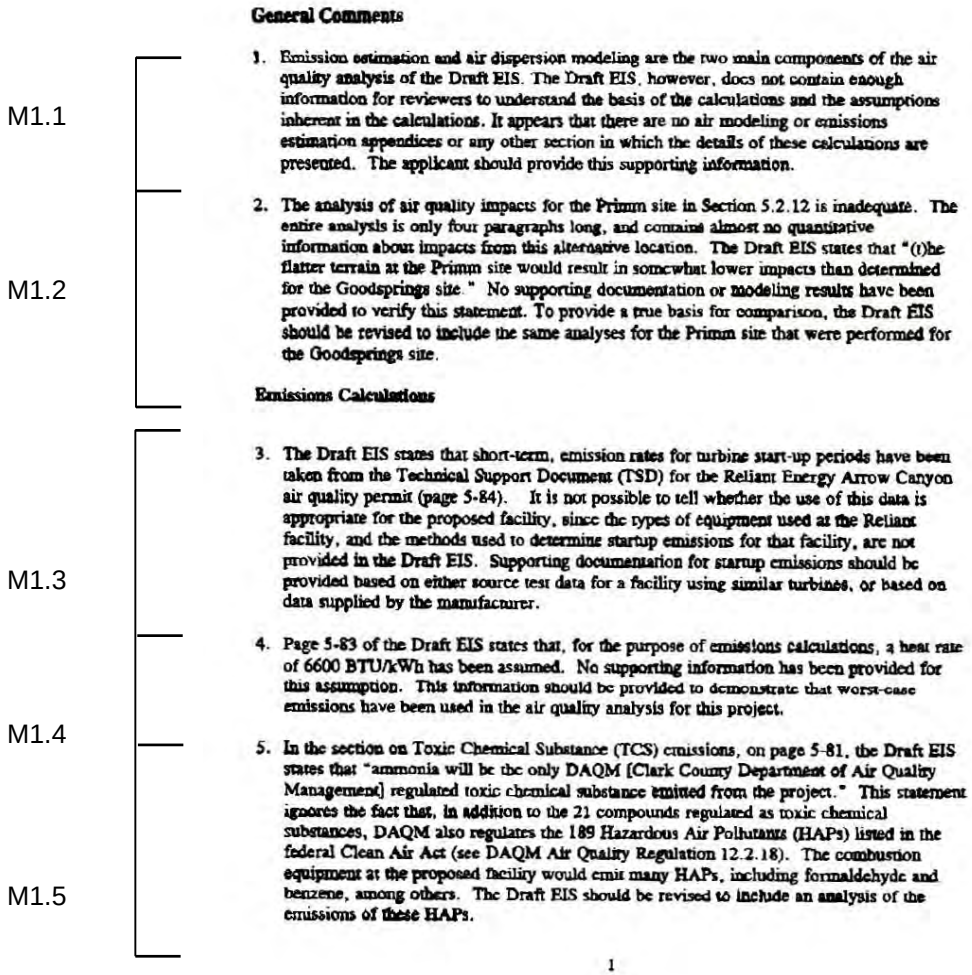

General Comments

M1.1

1. Emission estimation and air dispersion modeling are the two main components of the air quality analysis of the Draft EIS. The Draft EIS, however, does not contain enough information for reviewers to understand the basis of the calculations and the assumptions inherent in the calculations. It appears that there are no air modeling or emissions estimation appendices or any other section in which the details of these calculations are presented. The applicant should provide this supporting information.

M1.2

2. The analysis of air quality impacts for the Primm site in Section 5.2.12 is inadequate. The entire analysis is only four paragraphs long, and contains almost no quantitative information about impacts from this alternative location. The Draft EIS states that "(t)he flatter terrain at the Primm site would result in somewhat lower impacts than determined for the Goodsprings site." No supporting documentation or modeling results have been provided to verify this statement. To provide a true basis for comparison, the Draft EIS should be revised to include the same analyses for the Primm site that were performed for the Goodsprings site.

Emissions Calculations

M1.3

3. The Draft EIS states that short-term, emission rates for turbine start-up periods have been taken from the Technical Support Document (TSD) for the Reliant Energy Arrow Canyon air quality permit (page 5-84). It is not possible to tell whether the use of this data is appropriate for the proposed facility, since the types of equipment used at the Reliant facility, and the methods used to determine startup emissions for that facility, are not provided in the Draft EIS. Supporting documentation for startup emissions should be provided based on either source test data for a facility using similar turbines, or based on data supplied by the manufacturer.

M1.4

4. Page 5-83 of the Draft EIS states that, for the purpose of emissions calculations, a heat rate of 6600 BTU/kWh has been assumed. No supporting information has been provided for this assumption. This information should be provided to demonstrate that worst-case emissions have been used in the air quality analysis for this project.

M1.5

5. In the section on Toxic Chemical Substance (TCS) emissions, on page 5-81, the Draft EIS states that "ammonia will be the only DAQM [Clark County Department of Air Quality Management] regulated toxic chemical substance emitted from the project." This statement ignores the fact that, in addition to the 21 compounds regulated as toxic chemical substances, DAQM also regulates the 189 Hazardous Air Pollutants (HAPs) listed in the federal Clean Air Act (see DAQM Air Quality Regulation 12.2.18). The combustion equipment at the proposed facility would emit many HAPs, including formaldehyde and benzene, among others. The Draft EIS should be revised to include an analysis of the emissions of these HAPs.

1

General Response – Many of the comments imply that the level of detail in the air quality analysis is insufficient to draw conclusions. Support for this position is attributed to various air quality regulatory requirements, both local and federal. The Draft EIS was prepared in compliance with NEPA to be used in BLM's decision to grant Right of Way applications under FLPMA and MLA. While the DEIS examines the environmental consequences of the IEC Project with regards to air quality, the agency with jurisdiction on air quality issues is the Clark County Department of Air Quality Management (DAQM). Accordingly, the applicant has submitted an Application for an Authority to Construct Certificate to the DAQM. The DAQM will conduct its own thorough analysis of the potential air quality impacts of the IEC Project and will not issue an Authority to Construct Certificate unless all regulations are fully complied with. In addition, the Certificate will contain appropriate conditions to ensure that all requirements are met. While detailed information typically required to obtain a permit may not be included in the DEIS, sufficient information from the DAQM application is presented to reasonably evaluate project impacts. It is also worth noting that no comments were received from Clark County.

M1.1 Emissions estimates and modeling results discussed in the DEIS were taken from the applicant's Application for an Authority to Construct Certificate. Detailed printouts of the modeling described in the EIS are contained in that document. The project cannot be constructed until a full analysis of the application is made by DAQM and an Authority to Construct Certificate is issued.

RESPONSES

M1.2 The Primm site air quality analysis relies, in part, on the modeling done for the Goodsprings site. This was supplemented by professional judgment as to the differences that might be seen at the Primm site. If the Primm site is selected, it will be necessary for the applicant to submit a revised application to DAQM addressing that site specifically. Furthermore, the project must be found to be in compliance with applicable local and federal air quality regulations, and a permit issued, before construction can begin. The permit itself will be subject to full public review as required by DAQM and federal regulations.

M1.3 The type of equipment used for the Reliant facility is stated on page 5-84 as being 501FD turbines, the identical turbines proposed for the IEC project (p. 5-81). Start-up emissions for this turbine have been evaluated in the Technical Support Document (TSD) prepared by the DAQM for the referenced Reliant project, as stated on page 5-84.

M1.4 As stated on page 5-83, an average heat rate of 5,983 Btu/kWh was calculated for the plant using the Westinghouse Gate-Cycle Model, which was set up for the Westinghouse 501 FD turbine and site specific conditions. Thus, this model was specifically designed to predict the performance of the proposed turbines at the proposed site. Table 5-13 shows a summer heat rate of 6,074 Btu/kWh based on the same analysis. The assumed rate of 6,600 Btu/kWh allowed for an approximately 10 percent error, although the Gate Cycle model is quite accurate. Thus, there is sufficient conservatism built into the calculation to ensure that emissions are not underestimated. The 6,600 Btu/kWh rate and the emissions presented in Table 5-14 and 5-15 were used in the application to DAQM. It is expected that these emissions will be reflected in the DAQM permit as the maximum allowable.

RESPONSES

M1.5 The commenter is correct that HAPs, including formaldehyde and benzene, would be emitted by the facility as a result of burning natural gas. Table 5-15a (included as supplemental information to the FEIS [refer to Section 4]) shows a full inventory of HAPs emissions for the facility, including emission factors and sources of those factors. Fuel use for these calculations is the same as was used for criteria pollutants. The total estimated emissions of all HAPs are 6.38 tons/yr. This is less than the limits given in DAQM Rule 12.2.18 of 10 tons/yr for a single HAP or 25 tons/yr for total HAPs. Thus, the requirements of Rule 12.2.8 would not apply for this project. This information is included in the application submitted by the applicant to the DAQM.

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M1.6

6. There is no information provided in the Draft EIS concerning the source of the ammonia emission rate of 25.8 lb/hr provided on page 5-84. This emission rate should be based on an allowable ammonia slip rate that will be required of this project. The allowable ammonia slip and the corresponding calculation of the ammonia emission rate should be provided.

M1.7

7. The discussion of construction phase impacts on page 5-84 of the Draft EIS is inadequate. This discussion contains no quantitative emission estimates of construction phase emissions, and no analysis (qualitative or quantitative) of the impacts of these emissions on ambient air quality. The secondary emissions from vehicle exhaust during construction are not mentioned at all in this discussion. This discussion contains the statement that "(p)otential receptors are unlikely to be impacted and resultant impacts are likely to be negligible." No supporting documentation of any kind is provided for this statement. The Draft EIS should be revised to include an estimate of the emissions and resulting impacts from construction phase emissions, including vehicle exhaust emissions.

Modeling – General

M1.8

8. The proposed project would be located within ten miles of two nonattainment areas: the Las Vegas Valley (nonattainment for PM10 and CO) and San Bernardino County, California (nonattainment for PM10). As a result, USEPA regulations require a demonstration that the proposed project will not cause or contribute to a violation of the NAAQS in either of these areas. Sources having more than a significant impact in any nonattainment area are considered to cause or contribute to a violation of the NAAQS (see 40 C.F.R. § 51.165(b)(2)). The impacts reported in the Draft EIS are already considered significant for PM_{10}, NOx, and CO, and these may be underestimated since startup emissions do not appear to have been included. The Draft EIS should be amended to include a demonstration that the project will not have significant impact on either of the nearby nonattainment areas.

M1.9

9. USEPA and DAQM regulations require that three operating loads must be modeled for modeling performed to satisfy PSD requirements: (1) maximum load, (2) expected load, and (3) minimum load. These three modes are required to be modeled because the maximum load may not represent the greatest impacts. From the modeling presented in the Draft EIS, it appears that only the maximum load was modeled. The modeling in the Draft EIS should therefore be revised to satisfy USEPA and DAQM requirements.

M1.10

10. Air quality impacts from the proposed facility were determined using the ISCST3 model. In general, this model is appropriate for use in this case. It appears, however, that the inputs used in the modeling were not valid. Our comments on ISCST3 modeling inputs for this project are described below in subsequent comments. We would also like to note that the ISCST3 model is not adequate for all types of modeling required for this project and will need to be supplemented by the use of additional models. For example, visibility

2

RESPONSES

M1.6 Ammonia emissions are based on a slip rate of 10 ppmvd, a level to which the applicant has committed in its application to the DAQM. The stated emissions rate of 25.8 lb/hr per stack are based on 10 ppmvd and full load operation of the plant.

M1.7 The document states on page 5-84 that "dust control activities would be implemented under Section 94 of the Air Pollution Control Regulations on mitigating impacts of construction emissions." Fugitive dust implications for this type of project are well known, and conditions in the dust control permit required by the DAQM are designed to limit those impacts to acceptable levels. Professional judgement, supported by the requirement for a dust permit and the fact that equipment exhaust emissions would be temporary and dispersed, has been used to make the determination that construction emission impacts will not be significant.

M1.8 The 24-hour and annual PM_{10} isopleth maps in Figures 5-19 and 5-20, respectively, clearly show the limits of project impacts above EPA significance levels (defined as 5.0 $\mu g/m^3$ – 24-hr; and 1.0 $\mu g/m^3$ - annual) during normal operations to be contained within a few miles of the plant site and well within the Ivanpah Valley (i.e., outside of the Las Vegas Valley and San Bernardino County PM_{10} nonattainment areas). Table 5-20 shows that the maximum CO impacts for normal operations do not exceed the applicable significance levels at any location, and thus also do not impact the Las Vegas Valley CO nonattainment area. As reported in the Las Vegas Review Journal on January 17, 2003, the CO standards have not been exceeded in the Las Vegas Valley in four years. The DAQM has requested, and expects to receive, a redesignation of the Las Vegas Valley to a status of attainment for the CO standards. Regarding impacts from start-up emissions, PM_{10} and CO were modeled for the short-term periods that would be applicable to start-up. Those results are shown in Table 5-20 based on

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Cold-start emissions in Table 5-19. Although start-up impacts for both pollutants exceeded the significance levels, these levels were not exceeded in the Las Vegas Valley or in San Bernardino County. NO_2 impacts during start-up were not modeled because the NO_2 standard is an annual average standard. The relatively small impact of higher start-up emissions on an annual basis would be offset by the lack of emissions during extended off-line periods that must occur prior to start-up. It should be noted that impacts on nonattainment areas will be evaluated by the DAQM in the application review process.

M1.9 The gas turbines used for this project are expected to run only at full load. The plant would sometimes run at half load by running only one gas turbine. In that case, impacts would be approximately half of those predicted in the DEIS because the turbines will exhaust to separate stacks about 200 ft. apart. The maximum predicted impacts are the result of adding impacts from both stacks, each of which contribute essentially one-half to the total.

M1.10 This general comment serves as an introduction to the specific comments that follow. Responses to those comments are given below.

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RESPONSES

M1.10 Cont'd.

impacts on the Grand Canyon, as recommended below, will need to be determined by a model such as CALPUFF.

Modeling – Meteorological Data

M1.11

11. The Draft EIS contains the results of an ambient air quality analysis prepared for the proposed facility using air dispersion modeling. According to the EIS, this modeling is used for compliance with National Environmental Protection Act (NEPA) and Clean Air Act PSD requirements. The ISCST3 model was used for this analysis. This model is appropriate for use in this case, but the input data used in the modeling was not appropriate. The Draft EIS states that the available meteorological data were deemed to be unrepresentative of the area near the proposed facility, so a screening set of meteorological data was developed to simulate worst-case conditions. This is inconsistent with the requirements of Section 9.3.1.2.a of USEPA's Guideline on Air Quality Models (40 C.F.R. Part 51, Appendix W), which states:

> "Five years of representative meteorological data should be used when estimating concentrations with an air quality model. Consecutive years from the most recent, readily available 5-year period are preferred. The meteorological data may be data collected either onsite or at the nearest National Weather Service (NWS) station. If the source is large, e.g., a 500MW power plant, the use of 5 years of NWS meteorological data or at least 1 year of site-specific data is required."

This regulation *specifically* mentions 500 MW power plants as an example of the types of large emissions sources that are required to use at least five years of representative NWS data or one year of on-site data. DAQM Air Quality Regulation 12.5.3.2 also requires that all modeling be performed in accordance with the USEPA Guideline in Appendix W. In addition, Appendix W is the standard federal air quality modeling guidance and should therefore be used for guidance on air quality modeling performed in the context of an EIS (see 40 C.F.R. Part 51 – Appendix W, Section 1.0(a)). The modeling for this project should therefore be re-done using data that satisfies USEPA and DAQM requirements.

M1.12

12. The Draft EIS states on page 5-86 that the combinations of wind speed and stability conditions used in the modeling for this project include all combinations used in USEPA's SCREEN3 model. This is not correct, since the combinations used for this project (listed in Table 5-17) do not contain the following combinations that are listed in the USEPA SCREEN3 manual:

3

M1.11 The method of using ISCST3 with screening meteorological data has been routinely accepted by EPA and other air regulatory agencies. It is clearly a more conservative approach than using a one or five-year period of actual meteorological data. As mentioned previously, Clark County did not comment on the modeling approach used.

In any event, a full year set of modeling quality meteorological data in the Ivanpah Valley has recently become available from the Primm Bighorn power plant site. This data set has undergone full quality assurance and quality control (QA/QC) procedures and will be used by DAQM to evaluate the combined effects of the IEC plant with the Bighorn plant, other point sources in the Ivanpah Valley, Interstate 15, and the proposed Ivanpah Valley Airport. The results will be used by DAQM in making permitting decisions regarding the IEC plant.

M1.12 Upon review, the commenter is correct in pointing out that the screening meteorological conditions used in the modeling analysis do not exactly match the SCREEN3 array of conditions. The array of conditions used was taken from PTPLU, another EPA screening model. The range of conditions used is similar to those used in the SCREEN3 model. In all cases, maximum project impacts were due to very stable, low wind speed conditions, specifically stability class F and a wind speed of 1.0 meter/sec. This condition, as well as all other stable, low wind speed conditions were included in the data set that was used. The F/1.0 condition was dominant because of the elevated terrain near the plant. Maximum impacts in elevated terrain favor F/1.0 conditions because those conditions result in the minimum possible plume dispersion prior to interaction of the plume with terrain. There is no indication that higher impacts would result from the additional meteorological conditions listed in the comment.

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M1.12 Cont'd.

Stability Class	Wind Speed (meters/second)
B	3.5, 4.5
C	1.0, 1.5, 3.5, 4.5, 8.0
D	4.5, 8.0
E	3.5, 4.5
F	3.5

As a result, the modeling for this project may not capture all of the worst-case impacts that could result from this project. If it were acceptable to use ISCST3 with screening data in this case, which it is not, all possible combinations of data should be evaluated.

M1.13

13. Although a variety of wind speeds and stability classes were used in the modeling prepared for this project, page 5-86 of the Draft EIS states that "(a)ll simulated conditions were assigned an ambient air temperature of 293 °K (°K = degrees Kelvin) (68 °F), which is approximately the annual average temperature in the project area." The use of a constant temperature for the entire year will not appropriately represent the widely varying temperature profile for this area (both the diurnal and seasonal profiles). For different periods of the year, ambient temperatures in the project area could easily be 30 °F above or 30 °F below 68 °F, the temperature used in the modeling. This is significant since the difference between the ambient air temperature and the temperature of the stack exhaust are part of the buoyant flux calculations, which are used in dispersion modeling to determine how high the plume rises. By misrepresenting plume rise, the use of a constant temperature will therefore not predict worst-case impacts. If it were acceptable to use ISCST3 with screening meteorological data in this case, which it is not, the modeling should be rerun, at a minimum, at the highest possible temperatures, and at the lowest possible temperatures.

Modeling – Class I Areas

M1.14

14. Impacts on Class I areas have not been evaluated at all in the Draft EIS. The report states on pages 5-85 and 5-86 that a determination of these impacts is not required since the closest Class I area (Grand Canyon National Park) is further than 100 kilometers away from the site of the proposed project. PSD projects, however, are regularly required to consider impacts on Class I areas further than this distance. The Phase I guidance developed by the Federal Land Managers Air Quality Related Values Workgroup (FLAG) is the applicable guidance for determining Class I area impacts as part of an EIS (see FLAG Phase I Report, Section C.2.d). The FLAG guidance states that Federal Land Managers may consider Class I areas up to 300 km from a proposed project. There are several Class I areas within this distance, including Grand Canyon National Park, Sequoia National Park and Joshua Tree National Monument. The Draft EIS should be revised to include an analysis of impacts on Class I areas. This analysis should include predictions of ambient air concentrations, visibility impacts, and nitrogen and sulfur deposition. The

4

RESPONSES

As mentioned in Response 11 above, the project will be remodeled by DAQM with actual meteorological data. DAQM will rely on those results in its permit review. Since the DAQM cannot issue a permit that would jeopardize air quality standards or PSD increments, the project will not be allowed to have a significant impact under the DEIS definition.

M1.13 The use of an annual average temperature is reasonable and generally accepted by EPA and other regulatory agencies for screening analyses. In reviewing stack parameters used in modeling, it was discovered that the actual volume flow rate, an important component of the plume rise equation, had been underestimated by 17 percent. Plume rise was calculated for all SCREEN3 meteorological conditions to compare the results from stack parameters (1) as modeled, and (2) with the correct exit velocity and an ambient temperature of 100°F. The resulting plume heights were within 3 percent for all meteorological conditions, and within 0.3 percent for the F/1.0 condition responsible for worst-case impacts. Thus, use of a higher temperature, with the correct exit velocity, would have minimal effect on results presented in the DEIS. Use of a temperature lower than 68°F would result in a higher plume rise for either exit velocity because plume rise is enhanced by greater differences between ambient and stack gas temperatures.

M1.14 Although the Federal Land Managers may consider projects more than 100 km from a Class I area, they are not required to do so and they have declined to make such a request for this project. The National Park Service in Boulder, Colorado was made aware of the project in August 2001 and was specifically asked whether they had an interest in the project. The NPS declined to make any request for involvement. The NPS is the responsible Federal Land Manager for all three of the Class I areas mentioned in the comment.

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M1.14 Cont'd.

exclusion of the Grand Canyon, in this case, is particularly egregious. The Grand Canyon is approximately 160 kilometers from the project site, and is currently the subject of an intensive regional haze study, which includes an evaluation of impacts from sources in Clark County.

Modeling – NAAQS and PSD Increment Analyses

M1.15

15. Since the proposed facility was predicted to cause a significant impact for at least one PSD pollutant, modeling of the facility plus other sources and representative background concentrations is required to determine compliance with the National Ambient Air Quality Standards (NAAQS) and the PSD increments. According to Section IV.C of USEPA's Draft New Source Review Workshop Manual, the sources modeled in a NAAQS and PSD increment analysis should include all sources located within 50 kilometers of the impact area. To define the impact area, a circle is drawn with a radius equal to the distance between the source and the furthest point of significant impact due to the facility emissions alone. This evaluation is critical to assisting reviewers of the EIS understand to what degree the proposed development impacts the potential for further development of the area near the proposed project, including southwestern Clark County.

The Draft EIS does not contain adequate information to determine whether the list of other sources included in the modeling was determined correctly. As stated on page 5-88 of the Draft EIS, a list of NOx and PM_{10} sources in the Ivanpah Valley was provided by DAQM for use in this modeling. The area defined by the significant impact area plus 50 km, however, would extend beyond the Ivanpah Valley, into other areas of Clark County and into California. The Draft EIS should be revised to specify which sources were included in the NAAQS and PSD increment modeling analyses, and should be re-done if sources outside the Ivanpah Valley and within 50 km of the significant impact area were not included in these analyses.

M1.16

16. Although emissions and resulting impacts from turbine startup and shutdown are presented in the Draft EIS, these impacts do not appear to have been considered in the ambient air quality impacts analyses. For example, Table 5-20 lists PM_{10} impacts from both normal operation and from cold startup. The NAAQS and PSD increment analyses in Table 5-21, however, reflect the impacts from normal operations, even though the reported startup impacts were higher. The PM_{10} modeling analyses in the Draft EIS should be revised to include impacts from startup periods, since these clearly represent worst-case conditions.

M1.17

17. The Draft EIS states on page 5-88 that CO impacts from the facility are considered insignificant, even though Table 5-20 shows CO impacts above the 1-hour and 8-hour significance levels for cold startup conditions. This table states clearly that further modeling is required for CO, but Table 5-21 and the text of the Draft EIS indicate that no NAAQS or PSD increment modeling was performed for CO. The modeling analyses in the Draft EIS should be revised to include a full analysis for CO, similar to what was done for

5

M1.15 The modeling analysis in the DEIS was done in consultation with the DAQM, who has the responsibility to ensure that the project is in compliance with all air quality rules and regulations.

M1.16 As a worst case, one could add the difference between PM_{10} impacts during baseload and start-up conditions (1.5 $\mu g/m^3$) to the "All Sources" impacts shown in Table 5-21. This would not change any conclusions of the DEIS. Therefore, additional modeling is unnecessary.

M1.17 A search of the EPA emissions database revealed only two significant sources within 50 km of the CO significant impact area. These included the Mirage Hotel at 43 km and the Clark power facility at 47 km. Annual emissions were reported as 28 tons for the Mirage and 89 tons for the Clark facility. A SCREEN3 calculation was made for the Clark facility using a stack height of 50 feet with no plume rise. The calculated maximum 1-hr impact at 43 km was 1.5 $\mu g/m^3$. Thus, neither of these sources would contribute significantly (i.e. >2000 $\mu g/m^3$) in the IEC significant impact area.

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M1.17 Cont'd.

PM_{10} and NOx. This analysis should include worst-case impacts from operation during startup.

M1.18

18. Table 5-21 of the Draft EIS reports NO_2 impacts that exceed the allowable Class II PSD increment. The text states on page 5-89 that these impacts are almost entirely attributable to emissions from the regional airport proposed for this area. The Draft EIS provides no supporting documentation for this statement. In addition, it is not clear from the document whether all locations where the NO_2 impacts exceed the allowable Class II PSD increments were analyzed, or only the point of maximum impact. Therefore, the Draft EIS should be revised to include modeling input and output files to demonstrate that the proposed project will not cause or contribute to a PSD increment violation.

M1.19

19. As noted above, the impacts from startup and shutdown periods do not appear to have been used in the air quality analysis of short-term impacts, even though these periods result in the highest facility emissions. It is also unclear whether these emissions were included in the determination of annual impacts from the facility. Page 5-84 of the Draft EIS states that ideally there would only be two startup/shutdown cycles per year for routine maintenance, although "market conditions could dictate a higher frequency." It is likely that two startup/shutdown cycles per year is a significant underestimate for a merchant power plant. Many recently permitted power plants of the size of the proposed project include up to 500 hours per year of operation in startup mode (e.g., . This accounts for periods when a plant may expect to shutdown due to fluctuations in electricity costs and demand. The desired annual startup hours should be used in estimating annual emissions, and should also be reflected as a permit condition in the air permit for the proposed facility. The Draft EIS should therefore be revised to include startup emissions in estimating worst-case annual air quality impacts.

Pre-Construction and Post-Construction Monitoring

M1.20

20. From the modeling results presented in the Draft EIS, it appears that the project triggers the USEPA and DAQM requirement for pre-construction monitoring of CO and pre-construction and post-construction monitoring of PM_{10}. DAQM Air Quality Regulation 12.5.5.1 states that the 24-hour modeling thresholds for pre-construction and post-construction PM_{10} monitoring are 10 g/m^3 and 16 g/m^3, respectively. The 24-hour facility PM_{10} impacts reported in the Draft EIS are 16.8 g/m^3 (baseload) and 18.3 g/m^3 (startup). Likewise, the threshold for pre-construction CO monitoring in the DAQM regulations is 575 g/m^3 as an 8-hour average, and the 8-hour facility CO impact for startup conditions reported in the Draft EIS is 869 g/m^3. As a result, the facility should be required to collect up to 12 months of ambient PM_{10} and CO concentrations in the area near the proposed project location before an air permit application is submitted. The Draft EIS does not mention this requirement, so if this data has already been collected, it should be provided as part of the Draft EIS.

6

RESPONSES

M1.18 The statement on page 5-89 was based on comparing impacts from all sources to those from the airport alone. Airport impacts were calculated in a separate ISCST3 model run in which only airport emissions were included. From a comparison of this run to the PSD increment run, it was determined that airport emissions contributed more than 99 percent of the total PSD increment NO_2 concentration of 31.6 $\mu g/m^3$. It should be further noted that the airport is not a legitimate PSD source at this time because a complete application has not been filed with the DAQM for that facility. However, it was included due to Clark County concerns that emissions from the IEC project could potentially jeopardize future airport approvals.

The grid analyzed was designed to include not all areas that might exceed the PSD increment, but only those areas within the significant impact area for the project. The significant NO_2 impact area for the project can be determined from Figure 5-18. It is the rectangle formed by the maximum extent of impacts above the significance level of 1.0 $\mu g/m^3$ to the north, east, south and west. This definition of the significant impact area follows DAQM guidance (Draft Guideline on Air Dispersion Modeling - January 1996) (final never issued). Figure 5-21 shows the impact of all PSD sources on a concentration isopleth map. This includes the Ivanpah Valley Airport (stationary, mobile, & aircraft), at the request of Clark County, even though the airport is not actually a PSD source since it is in the early planning stages. No application has been deemed complete and no permits have been issued. Figure 5-21 shows the PSD increment exceedance area (above 25 $\mu g/m^3$) to be in the extreme southeast corner of the grid (isopleth intervals are 5 $\mu g/m^3$). Figure 5-18 shows that project impacts in that area are well below

the significance level of 1.0 µg/m^3. In fact, Table 5-21 indicates that the calculated project contribution to the maximum PSD impact is 0.1 µg/m^3, one-tenth of the significance level. By EPA and County standards, this means that the project is not a significant contributor to this calculated PSD increment exceedance. It is clear from Figure 5-21 that the PSD increment exceedance area would extend beyond the project significant impact area to the southeast (towards the airport sources). However, given the extremely small impact of the project in that area, it is beyond the scope of the EIS to review impacts of the airport to the east of the area modeled. These isopleth maps are sufficient to show that the project will not cause or contribute to a PSD increment violation, even if the proposed airport is considered to be a PSD source.

M1.19 Start-up conditions for affected pollutants having short-term air quality standards were modeled for the project only case. The results are shown in Table 5-20 of the DEIS, although the text failed to reference them. CO maximum impacts for the 1-hr and 8-hr averaging periods were 2417 µg/m^3 and 869 µg/m^3, somewhat higher than their respective significance levels of 2000 µg/m^3 and 500 µg/m^3. However, they are far below their respective air quality standards of 40,000 µg/m^3 and 10,000 µg/m^3. Maximum calculated project impacts exceed significance levels in a small area to the west of the plant site. This area includes about 0.04 sq. mi. for the maximum 1-hr impact and 0.3 sq. mi. for the 8-hr impact, both due west of the plant site. There are few sources of CO in the Ivanpah Valley, the largest probably being vehicular emissions on I-15. The Ivanpah Valley is an attainment area for CO and is clearly much

RESPONSES

the Las Vegas Valley. Furthermore, the Las Vegas Valley has not experienced a violation of a CO standard in four years (see response to No. 8). Based on this information and professional judgement, it was concluded that the small contribution of the proposed project to CO concentrations in the Ivanpah Valley would not threaten exceedances of CO air quality standards.

Start-up impacts for PM_{10} were only slightly above those for normal operations (18.3 $\mu g/m^3$ vs. 16.8 $\mu g/m^3$). Total PM_{10} impacts were not predicted to come anywhere near air quality standards, and this small difference would not change that conclusion.

Annual emissions for normal operations of the plant were calculated based on 100 percent load for all hours of the year. Any start-up emissions would have to be preceded by a number of hours of down time during which there would be no emissions. It was presumed that the downtime lack of emissions would make up for the additional start-up emissions. In any event, maximum annual impacts were sufficiently low so as to eliminate concerns that annual standards could be exceeded due to occasional start-up emissions. Furthermore, this is an issue that the DAQM will have to resolve before granting a permit.

As stated previously, additional modeling will be conducted by the DAQM based on updated meteorological data to ensure that the project will not endanger the attainment status of the Ivanpah Valley, including when the Ivanpah Valley Airport is considered.

M1.20 There are currently no onsite monitoring data at the site. Monitoring requirements will be determined by the DAQM in its review of the air application.

COMMENTS

O1 – Red Rock Audubon Society
Page 1 of 2

SOUTHERN NEVADANS COMMITTED TO CONSERVATION

RED ROCK AUDUBON SOCIETY

January 17, 2003

Jerry Crockford
Project Manager for
Ivanpah Energy Center
BLM Las Vegas Field Office
4701 N. Torrey Pine Drive
Las Vegas, NV 89130-2301

RECEIVED
Bureau of Land Management
07:30
JAN 22 2003
LAS VEGAS
FIELD OFFICE
Las Vegas, Nevada

RE: Ivanpah Energy Center

Dear Mr. Crockford,

Thank you for this opportunity to comment on the Draft EIS for the Ivanpah Energy Center.

This project, one of several in the Ivanpah Valley will have significant environmental impacts. Since it is one of at least two, may be three very similar projects in the Ivanpah Valley it is important to minimize the cumulative impacts as well as the individual impacts of this project:

O1.1

Location: It is preferable to put all the energy plants in the same general location. Since there is already one plant at Primm (under construction), this is the appropriate location, rather than the proposed Goodsprings location. This would minimize the miles of new transmission line and roads, as well as avoid the energy cost of pumping water up a 500-foot elevation gradient.

O1.2

Wildlife: The area to the west of I-15 and south of State Route 161 is significant to the desert tortoise recovery efforts. Avoiding the construction and operation of a new transmission line and the plant in that area is preferable.

O1.3

Vegetation: A specific plan for revegetation of disturbed areas needs to be prepared and made available prior to start of construction. This plan needs to detail how yuccas and cacti will be stockpiled during construction, how long stockpiling would occur, and at what density they will be replanted (pre-construction density is preferred). The plan needs to be result rather than action driven. Given the variables of weather and precipitation it may take more than one try at seeding to be successful.

O1.4

Penstemon: The area needs to be surveyed to determine if any of the sensitive *Penstemon* species are present on the site, e.g. *P. bicolor*.

POST OFFICE BOX 96691 LAS VEGAS, NV 89193

RESPONSES

O1.1 BLM has selected the Primm Plant Site as the "agency-preferred alternative." However, following closing of the public comment period, the Primm Plant site alternative became commercially unavailable; therefore, the proposed plant site at Goodsprings and the No Action Alternative remain under consideration. BLM will select an "environmentally-preferred" alternative in the Record of Decision.

O1.2 BLM will consider your comment.

O1.3 BLM will develop a Restoration Plan for the Ivanpah Energy Center project, which will include specific details regarding yucca and cacti salvage and re-location. The Restoration Plan will be part of the Construction, Operations, and Maintenance Plan that will be in place prior to construction.

O1.4 Rare plant surveys were conducted in spring 2002. Results from the field surveys are summarized in the DEIS on page 4-18. Based on the data, "…yellow two-tone beardtongue (*Penstemon bicolor* ssp. *bicolor*), rosy two-tone beardtongue (*P.bicolor* ssp. *roseus*) and white-margined beardtongue (*P. albomarginatus*) potentially are present within the project area." The text notes that positive identification of these plants was not possible due to the lack of flowering. Mitigation measures, such as spanning concentrations of sensitive plant communities and seed collection, will be addressed in the Restoration Plan as part of Ivanpah Energy

COMMENTS

O1 – Red Rock Audubon Society
Page 2 of 2

O1.5

Seed Mixtures: Seed mixtures should only contain seeds which are site specific or at least area specific in origin and only contain seeds of plants normally found in the area of disturbance, and not be in conflict with sensitive species such as *Penstemon*. Use of a generic "Mojave Desert Seed Mix" has caused problems in rehabilitation efforts on other projects in Clark County, NV.

Sincerely,

John E. Hiatt

John E. Hiatt
Conservation Chair

RESPONSES

O1.5 BLM will use seed mixtures that are site-specific and compatible with the area of disturbance. Appropriate seed mixtures will be addressed in the BLM-approved Restoration Plan specifically developed for the Ivanpah Energy Center project.

COMMENTS
O2- Kern River Gas Transmission Company
Page 1 of 1

RESPONSES

O2.1

From: Forsberg, Derek J [mailto:Derek.Forsberg@kernrivergas.com]
Sent: Wednesday, January 15, 2003 11:52 AM
To: jcrockfo@nm.blm.gov
Cc: george.high@parsons.com; Donnelly, David W
Subject: Ivanpah Comments to DEIS

Jerry,

Dave Donnelly and I reviewed the Draft EIS for the Ivanpah Energy Center and have the following comments.

Table ES-3 page ES-13 and ES-14

The assumptions about the natural gas pipeline acreage requirements are incorrect for the Primm alternative.

Kern River will need 1 acre of temporary work space for the meter station and 2 acres of temporary work space along the pipeline route for Pis, borings, and work trailers. We do not need a 10-foot wide permanent easement if we can use the existing dirt road to access the meter station. Kern River will temporarily disturb a 75'-width during pipeline construction. The permanent easement would be 50' wide.

If you have questions regarding our comments I can be reached at (801) 584-6353 or you can reach Dave at (801) 584-6347.

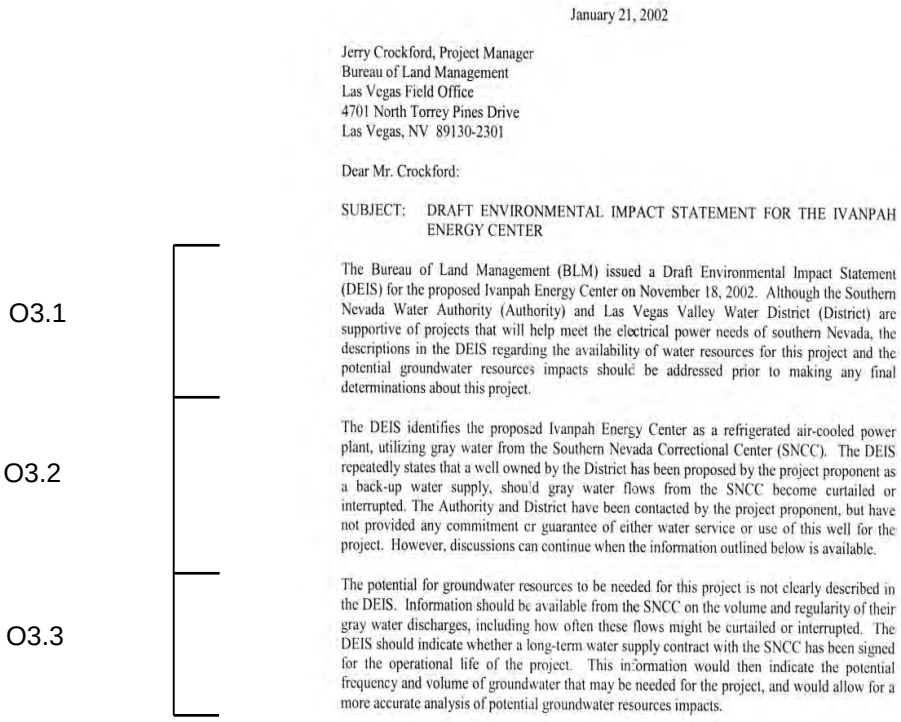
Thanks,

Derek Forsberg
Kern River Gas Transmission Co.

O2.1 Your comment is acknowledged. Acreage requirements for the natural gas pipeline at the Primm Plant Site were adjusted according to your request. The changes are reflected in the revised acreage table for the Primm Plant Site provided in Section 4 of the FEIS.

COMMENTS

O3 – SNWA/LVVWD
Page 1 of 2



January 21, 2002

Jerry Crockford, Project Manager
Bureau of Land Management
Las Vegas Field Office
4701 North Torrey Pines Drive
Las Vegas, NV 89130-2301

Dear Mr. Crockford:

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE IVANPAH ENERGY CENTER

The Bureau of Land Management (BLM) issued a Draft Environmental Impact Statement (DEIS) for the proposed Ivanpah Energy Center on November 18, 2002. Although the Southern Nevada Water Authority (Authority) and Las Vegas Valley Water District (District) are supportive of projects that will help meet the electrical power needs of southern Nevada, the descriptions in the DEIS regarding the availability of water resources for this project and the potential groundwater resources impacts should be addressed prior to making any final determinations about this project.

The DEIS identifies the proposed Ivanpah Energy Center as a refrigerated air-cooled power plant, utilizing gray water from the Southern Nevada Correctional Center (SNCC). The DEIS repeatedly states that a well owned by the District has been proposed by the project proponent as a back-up water supply, should gray water flows from the SNCC become curtailed or interrupted. The Authority and District have been contacted by the project proponent, but have not provided any commitment or guarantee of either water service or use of this well for the project. However, discussions can continue when the information outlined below is available.

The potential for groundwater resources to be needed for this project is not clearly described in the DEIS. Information should be available from the SNCC on the volume and regularity of their gray water discharges, including how often these flows might be curtailed or interrupted. The DEIS should indicate whether a long-term water supply contract with the SNCC has been signed for the operational life of the project. This information would then indicate the potential frequency and volume of groundwater that may be needed for the project, and would allow for a more accurate analysis of potential groundwater resources impacts.

O3.1

O3.2

O3.3

RESPONSES

O3.1 – O3.4 The project proponent has proposed the use of gray water from the Southern Nevada Correctional Center (SNCC) as the primary water source for the Ivanpah Energy Center. Water from an existing well that is owned and operated by Las Vegas Valley Water District (LVVWD) was proposed as a secondary water source, should the primary water supply source be curtailed or interrupted.

To date, the BLM has not received confirmation from the project proponent that agreements have been reached with the SNCC, LVVWD, or the State Engineer that either primary source or secondary source waters will be made available for the Ivanpah Energy Center. Should agreements regarding water sources not be available, and become other than those stated in the DEIS, a Supplemental EIS would be required as to fulfill the requirements of NEPA and the BLM would not issue any Notice to Proceed until all water sources, treatment, and conveyance requirements are met.

COMMENTS

O3 – SNWA/LVVWD
Page 2 of 2

O3.4

O3.5

O3.6

O3.7

RESPONSES

O3.5 See Errata Sheet for Section 4 and Section 5.

O3.6 See Errata Sheet for Section 4.

O3.7 See Errata Sheet for Section 4.

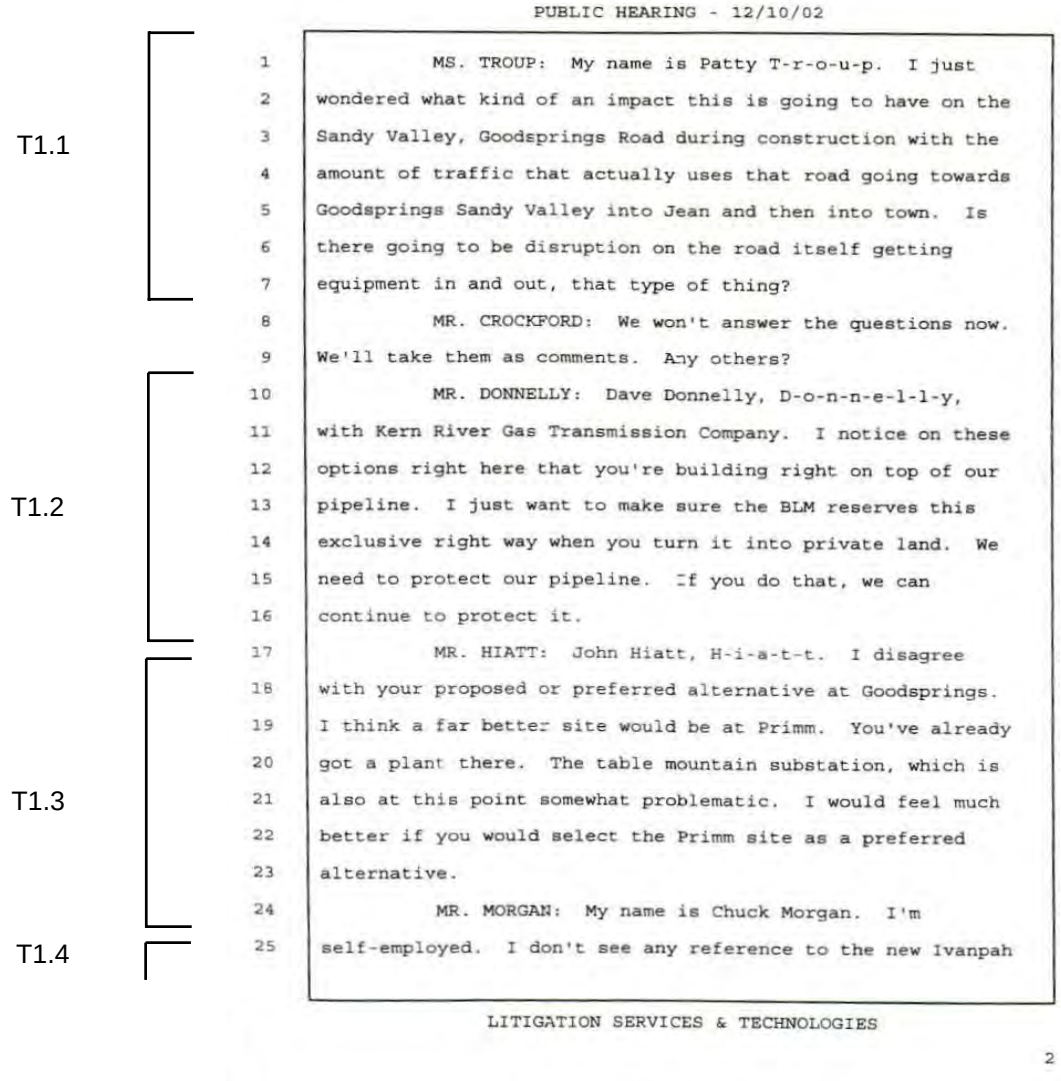
COMMENTS

RESPONSES

T1 – Las Vegas Hearing
Page 1 of 4

COMMENTS
T1 – Las Vegas Hearing
Page 2 of 4

RESPONSES



PUBLIC HEARING - 12/10/02

MS. TROUP: My name is Patty T-r-o-u-p. I just wondered what kind of an impact this is going to have on the Sandy Valley, Goodsprings Road during construction with the amount of traffic that actually uses that road going towards Goodsprings Sandy Valley into Jean and then into town. Is there going to be disruption on the road itself getting equipment in and out, that type of thing?

MR. CROCKFORD: We won't answer the questions now. We'll take them as comments. Any others?

MR. DONNELLY: Dave Donnelly, D-o-n-n-e-l-l-y, with Kern River Gas Transmission Company. I notice on these options right here that you're building right on top of our pipeline. I just want to make sure the BLM reserves this exclusive right way when you turn it into private land. We need to protect our pipeline. If you do that, we can continue to protect it.

MR. HIATT: John Hiatt, H-i-a-t-t. I disagree with your proposed or preferred alternative at Goodsprings. I think a far better site would be at Primm. You've already got a plant there. The table mountain substation, which is also at this point somewhat problematic. I would feel much better if you would select the Primm site as a preferred alternative.

MR. MORGAN: My name is Chuck Morgan. I'm self-employed. I don't see any reference to the new Ivanpah

LITIGATION SERVICES & TECHNOLOGIES

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T1.1

T1.2

T1.3

T1.4

T1.1 The DEIS states that during plant construction, there would be an increase in traffic along SR 161 and some decrease in levels of service at major intersections. Mitigation measures to reduce the level of impacts to traffic along these routes include use of a secondary road from SR 161 near Jean for movement of heavy equipment, bussing construction workers to the construction site, and scheduling movement of heavy equipment to avoid periods of peak traffic and recreational weekend traffic.

Concerns regarding traffic safety along SR 161 were expressed during the public scoping meetings. A traffic safety study was conducted along SR 161 and the results were presented in the DEIS. Safety measures such as use of pilot cars both in front and behind equipment loads would reduce concerns regarding sight distance at vertical curves. An additional safety measure would include construction of a turning lane along SR 161 at the plant entrance.

T1.2 Your comment is acknowledged**.**

T1.3 BLM has selected the Primm Plant Site as the "agency-preferred alternative." However, following closing of the public comment period, the Primm Plant site alternative became commercially unavailable; therefore, the proposed plant site at Goodsprings and the No Action Alternative remain under consideration. BLM will select an "environmentally-preferred" alternative in the Record of Decision.

COMMENTS

RESPONSES

T1 – Las Vegas Hearing
Page 3 of 4

T1.4
Cont'd

Airport. The reason why I say that is the new Ivanpah Airport, the distance between what used to be called Lake Mead Boulevard, now St. Rose Delema, the only crossing between there and Barstow is Nipton Road. That's a distance of 200 miles with no crossing over the mountains. Nipton Road, if you've ever traveled it recently, is a mess. The holes are getting deeper like California's budget. But I don't see any provisions for traffic. That's 200 miles. That's a long way.

Let's just say our official formal presentation is closed tonight but keep in mind that the comment period for this project is open until January 22, 2003. We look forward to written comments. Encourage your neighbors and friends to make comments because we need your comments.

* * * * *

COMMENTS

T1 Las Vegas Hearing
Page 3 of 4

PUBLIC HEARING - 12/10/02

REPORTER'S CERTIFICATE

STATE OF NEVADA)
) SS
COUNTY OF CLARK)

I, HOLLY PIKE, Certified Shorthand Reporter, hereby certify that I took down in Stenotype all of the proceedings had in the before-entitled matter at the time and place indicated, and that thereafter said Stenotype notes were transcribed into typewriting at and under my supervision.

That the foregoing transcript constitutes a full, true and accurate record of the proceedings had.

IN WITNESS WHEREOF, I hereunto subscribe my name at Las Vegas, Nevada.

HOLLY PIKE, CCR NO. 680

LITIGATION SERVICES & TECHNOLOGIES

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T2 – Sandy Valley Hearing
Page 1 of 10

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T2 – Sandy Valley Hearing
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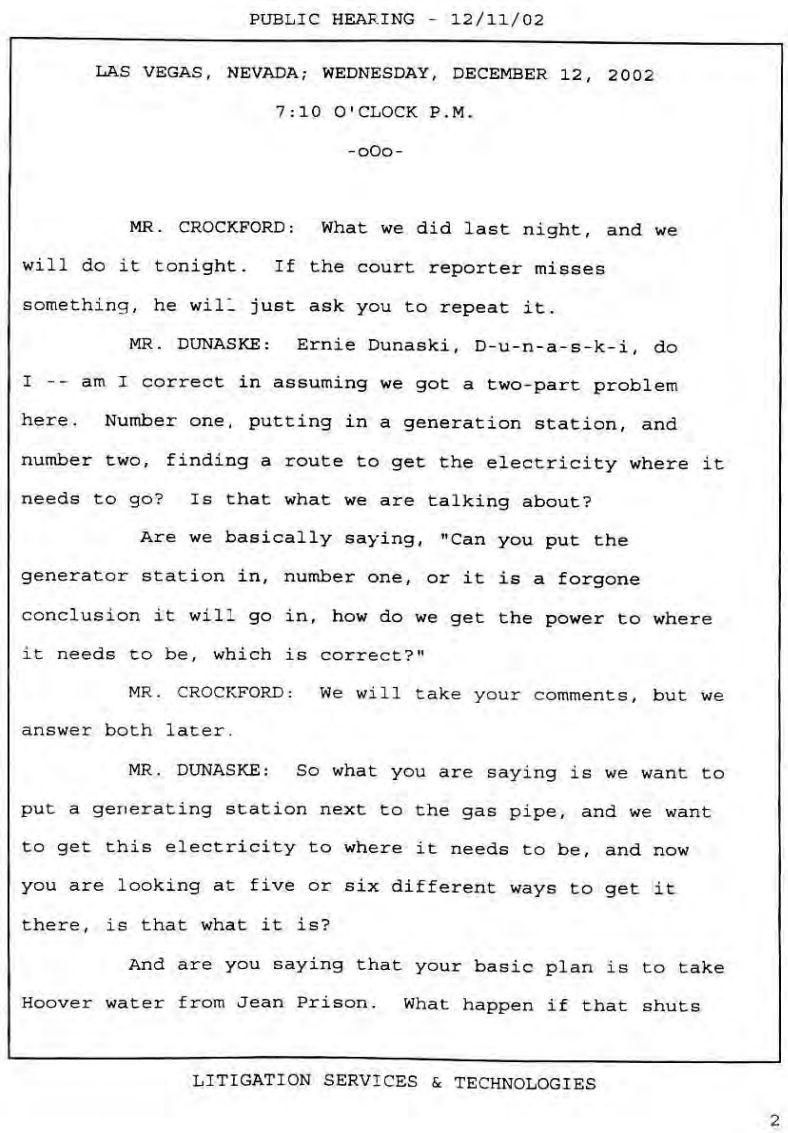

PUBLIC HEARING - 12/11/02

LAS VEGAS, NEVADA; WEDNESDAY, DECEMBER 12, 2002

7:10 O'CLOCK P.M.

-oOo-

MR. CROCKFORD: What we did last night, and we will do it tonight. If the court reporter misses something, he will just ask you to repeat it.

MR. DUNASKE: Ernie Dunaski, D-u-n-a-s-k-i, do I -- am I correct in assuming we got a two-part problem here. Number one, putting in a generation station, and number two, finding a route to get the electricity where it needs to go? Is that what we are talking about?

Are we basically saying, "Can you put the generator station in, number one, or it is a forgone conclusion it will go in, how do we get the power to where it needs to be, which is correct?"

MR. CROCKFORD: We will take your comments, but we answer both later.

MR. DUNASKE: So what you are saying is we want to put a generating station next to the gas pipe, and we want to get this electricity to where it needs to be, and now you are looking at five or six different ways to get it there, is that what it is?

And are you saying that your basic plan is to take Hoover water from Jean Prison. What happen if that shuts

LITIGATION SERVICES & TECHNOLOGIES

2

T2.1

T2.2

RESPONSES

T2.1 Comments regarding plant and transmission line siting are noted. The DEIS considered six potential plant site locations within the Ivanpah Valley. Initial criteria for plant siting included accessibility by surface transportation, and close proximity to a natural gas supply, reliable water supply, and the Valley Electric Association Pahrump-Mead Transmission Line corridor. Two alternative plant sites were carried forward for further evaluation, the proposed Goodsprings site and the Primm Plant Site alternative.

A transmission line routing study was conducted for both plant sites to develop route alternatives to transmit power generation from the Ivanpah Energy Center into Western Area Power Administration's Mead Substation. Twelve transmission line alternatives were developed for the Goodsprings site alternative; two were retained for further analysis. Four transmission line alternatives were identified for the Primm site alternative; all four were retained for further analysis. Additionally, four plant access options were developed for the transmission line and water supply line to the Goodsprings plant site.

The DEIS evaluated the alternatives at both plant site locations for potential impacts to the environment, society, and the economy. Engineering constraints and electrical system reliability also were considered in the analysis. Mitigation measures were developed to avoid or minimize the effects of potential impacts associated with the construction and operation of the proposed project.

BLM received comments on the adequacy of the DEIS and presentation of alternatives during a 60-day public comment period from November 22, 2002 to January 21, 2003. The Primm plant site was selected as BLM's "agency-preferred" alternative; however, the site became commercially unavailable after the closing of the 60-day public comment period. The proposed Goodsprings site and the No Action Alternative remain under consideration. An "environmentally-preferred" alternative will be selected in the Record of Decision.

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RESPONSES

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T2.2 Cont'd.

down? What is your ultimate plan for cooling water for that generation station? Do you have one?

MR. CROCKFORD: We will answer that later. This part is for comments.

MR. SCHNEIDERMAN: Wade Schneiderman, W-a-d-e S-c-h-n-e-i-d-e-r-m-a-n, with natural gas being about the cleanest fuel there is, why all the ammonia and everything to clean the exhaust? Are they not going to have the turbines? Do they not burn that clean naturally? Because

T2.3

I know there has never been any environmental problems at any of the plants in town other than the problems they had with the cooling towers, alkali and up.

Are you foreseeing the same thing, that is why they have to reclean the air, or what? And what about on your cooling tower, are you going to use water? No, so you won't have all the steam and everything that you get off the other steam plants and stuff?

MR. DAVIS: It is a simple answer.

MR. CROCKFORD: We will defer lastly. We will comment upon that in the last section.

T2.4

MR. SCHNEIDERMAN: It is going in -- this is the most favorable location, correct, up there by Good Springs?

MR. DAVIS: We believe so.

T2.5

MR. SCHNEIDERMAN: I like the idea that it is going to be shielded by the mountains myself, personally,

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T2.2 As stated in the DEIS, 50 acre-feet per year (afy) is needed for plant process water. The Southern Nevada Correctional Center (SNCC) is expected to produce a minimum of 35 afy that is generated from a low-security inmate population of approximately 240. At present, it is anticipated that the low-security inmate population will remain constant and that the prison will not reopen until at least 2008. Additional water would be acquired from a yet undisclosed groundwater source until the prison population increases to a level to fully-provide the needed water. There is no plan to use surface water from Hoover Dam or the Colorado River.

T2.3 As stated in the DEIS (page 5-81), ammonia will be used as part of the Selective Catalytic Reduction system for nitrogen oxides (NO_x) control. Although anhydrous ammonia could be used, the project proponent has committed to the use of aqueous ammonia (DEIS, page 5-61). Therefore, ammonia stored at the facility would be at concentrations and quantities below those that would present a health and safety hazard.

T2.4 BLM has selected the Primm site alternative as the "agency-preferred" alternative; however, following closing of the public comment period, the Primm site became commercially unavailable. Therefore, the proposed Goodsprings site and the No Action Alternative remain under consideration. BLM will select an "environmentally-preferred" alternative in the Record of Decision.

T2.5 BLM will consider your comment regarding the proposed Goodsprings site.

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T2.5 Cont'd.

those foothills over there, you know. Everybody looks at the way mountain is now, and we still bought property out here; so from what I have seen here, it is not going to make that much of a difference.

T2.6

The only thing is what about future expansion? Is there anything planned for up in that area?

MR. DAVIS: This is it.

MR. SCHNEIDERMAN: That's it, a one-time shot.

MR. CROCKFORD: Thank you.

MS. BENNER: Sorry. I have a bad back too.

T2.7

Carol Benner, C-a-r-o-l B-e-n-n-e-r, I am just curious about the traffic, and you are talking about possibly two roads going in, and I was wondering how our the traffic would be impacted on State Route 161.

T2.8

You answered my question earlier, I believe, about would there be any discharge from the plant. I would just like that clarified.

MR. CROCKFORD: Thank you.

Sir?

T2.9

MR. DALEY: Daniel Daley, D-a-l-e-y, presently working at the Bighorn project down there with Relying Energy.

Is this an alternative, either here or there, up to the hills here or whatever you suggest and things like that, and has there been any studies as far as the

LITIGATION SERVICES & TECHNOLOGIES

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RESPONSES

T2.6 Diamond Generating Corporation has stated that no future expansion of the Ivanpah Energy Center project is planned.

T2.7 As noted above, the DEIS states that during plant construction, there would be an increase in traffic along SR 161 and Sandy Valley Road as well as some decrease in levels of service at major intersections. Mitigation measures to reduce the level of impacts to traffic and traffic safety along these routes would be implemented (refer to the response in Comment T1.1 above).

T2.8 There will be no discharge of water or solid waste from the plant site. As stated in the DEIS (page 5-61), "All wastes generated from (plant operations) would be transported off-site for disposal at approved disposal sites or transported for recycling through approved vendors and suppliers."

T2.9 The Goodsprings Plant Site is within a mixed scrub-mixed succulent vegetation community (DEIS, page 4-13). Plant construction would result in the permanent loss of over 30 acres of the community and the temporary loss of more than additional 10 acres. The plant site and temporary laydown area will require the removal of numerous Joshua trees that would not be affected if Ivanpah Energy Center were be constructed at the Primm Plant Site. It is acknowledged that loss of Joshua trees will result in the associated loss of Yucca moth numbers that exist in a symbiotic relationship with the trees. Decreased numbers of the moth will have secondary impacts to species that prey on the moth.

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T2.9 Cont'd.

T2.10

T2.11

T2.12

disturbance of Joshua trees above the 2,800 foot level that would happen in the Good Springs Court or versus the Bighorn versus the Joshua trees and the Canuba moss that you would be disturbing versus Good Springs, and would this involve organized labor to ensure jobs for Nevadans in Nevada?

MR. CROCKFORD: Okay. Thank you. There has to be somebody else who wants to say something.

MS. BENNER: Carol Benner, could I not stand up this time?

Are we being asked to give our -- how we feel about the locations too?

MR. CROCKFORD: Any comment you want to make.

MS. BENNER: I'll save that for my --

MR. CROCKFORD: Any comments if you want to talk about the environmental impact statement, you can talk about that. If we missed something, be sure to say we missed this. I heard some things tonight that I am going to look for when I get back; so be sure if we missed something, we need to know it.

MR. DALEY: Wait. Wait. I would like to bring it up one more time, because I have an interest with the Joshua trees because they only happened in the Mojave Desert and disturbance, you know -- and their placement and things like that, but you really can't recreate what's

LITIGATION SERVICES & TECHNOLOGIES

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T2.10 As stated in the DEIS, construction of the plant and ancillary facilities would result in a short-term beneficial impact to employment. Construction personnel would be hired locally from the Las Vegas area and possibly from the communities of Goodsprings and Sandy Valley. Approximately 16 new jobs would be created for plant operations.

T2.11 Public participation is an important element in the NEPA process. The process provides numerous opportunities for public communication with agency decision-makers about proposed actions. The BLM and Western Area Power Administration encourage comments from the public regarding the adequacy of the Ivanpah Energy Center DEIS and the alternatives evaluated and presented.

T2.12 Refer to T2.9 (above).

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T2 – Sandy Valley Hearing
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RESPONSES

T2.12 Cont'd.

T2.13

T2.14

T2.15

T2.13 As stated in the DEIS, approximately 16 new employees would operate the plant rotating on three shifts; therefore, impacts to transportation would be negligible during plant operations.

T2.14 As noted above in the response to Comment #T2.6, Diamond Generating Corporation has stated that no future expansion of the Ivanpah Energy Center project is planned.

T2.15 Your comments regarding the Primm Plant site alternative discussed in the DEIS is on the record; however, as mentioned above, the Primm Plant site became commercially unavailable following closing of the public comment period.

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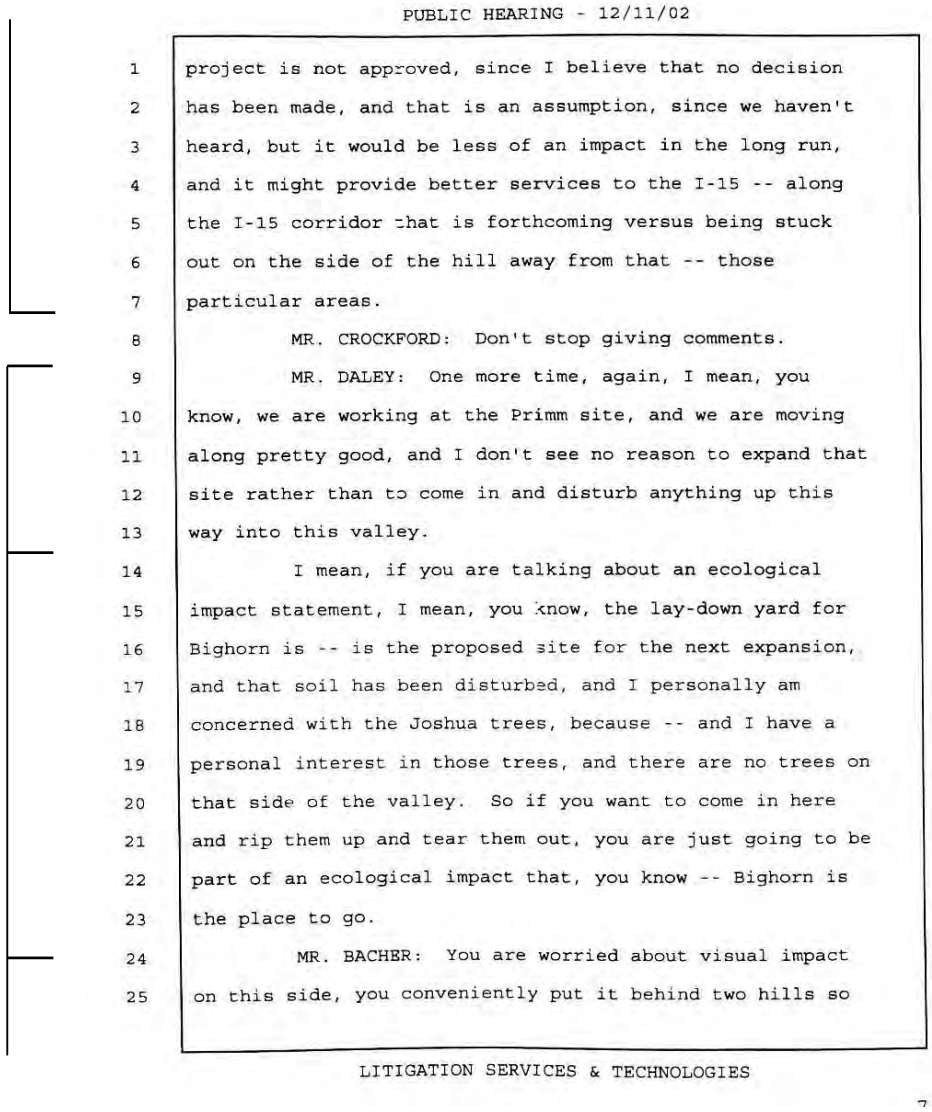
RESPONSES



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project is not approved, since I believe that no decision has been made, and that is an assumption, since we haven't heard, but it would be less of an impact in the long run, and it might provide better services to the I-15 -- along the I-15 corridor that is forthcoming versus being stuck out on the side of the hill away from that -- those particular areas.

MR. CROCKFORD: Don't stop giving comments.

MR. DALEY: One more time, again, I mean, you know, we are working at the Primm site, and we are moving along pretty good, and I don't see no reason to expand that site rather than to come in and disturb anything up this way into this valley.

I mean, if you are talking about an ecological impact statement, I mean, you know, the lay-down yard for Bighorn is -- is the proposed site for the next expansion, and that soil has been disturbed, and I personally am concerned with the Joshua trees, because -- and I have a personal interest in those trees, and there are no trees on that side of the valley. So if you want to come in here and rip them up and tear them out, you are just going to be part of an ecological impact that, you know -- Bighorn is the place to go.

MR. BACHER: You are worried about visual impact on this side, you conveniently put it behind two hills so

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7

T2.15 Cont'd.

T2.16

T2.17

T2.18

T2.16 Your preference regarding the Primm Plant site alternative is noted.

T2.17 BLM has selected the Primm Plant Site as the "agency-preferred alternative." However, following closing of the public comment period, the Primm Plant site alternative became commercially unavailable; therefore, the proposed plant site at Goodsprings and the No Action Alternative remain under consideration. BLM will select an "environmentally-preferred" alternative in the Record of Decision.

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T2.18 Cont'd.

T2.19

it wouldn't have that type of effect.

Actually, the Primm site, there is no visual impacts going to be felt, because you have already got buildings down there and another site similar; so expanding that, people would expect to see it.

MS. BENNER: I'm in agreement. I think it should go in Primm.

MR. CROCKFORD: Any more comments? If not, we are going to shut down our comment period, official hearing of the comments and remind you that formal hearing type is closed now, and keep in mind that the comment period is open until January 21st.

If you have the dates up through -- the 20th is a holiday; so it is going to be January 21st, 22nd.

The Environmental Protection Agency is published on November 22, 2002. When they put it in there, they said the comment period closes on January -- it was incorrect -- the first part of January; so we talked to them, wrote them a letter, and they are going to -- they already had put in a correction and it coincides with ours. They had given something like 40 days. It was not correct so we brought their attention to that; so you have a 60-day comment period, and it started the 22nd; so you have 60 days, and then we will pull comments back together, and we will come back out.

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RESPONSES

T2.18 Your comments regarding visual impacts to both the Goodsprings Plant site and the Primm Plant site are noted. The visual impacts analysis in the DEIS reported no significant impacts to visual resources resulting from construction of the plant facility or associated transmission lines at either plant site location.

T2.19 BLM has selected the Primm Plant Site as the "agency-preferred alternative." However, following closing of the public comment period, the Primm Plant site alternative became commercially unavailable; therefore, the proposed plant site at Goodsprings and the No Action Alternative remain under consideration. BLM will select an "environmentally-preferred" alternative in the Record of Decision.

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Tomorrow night we are going to be in Sandy Valley, same time, same show.

MS. ROBERTS: Good Springs.

MR. CROCKFORD: Excuse me. Good Springs.

And this is on the website. I can give you the web address. If anybody wants the web address, I won't tell it to you now, because it is really long. I have it written down here. If you want to copy it down here, and if you want to get on the Internet and look, it is there.

There is a word search where you can put in the dates and search for the word items involved, and you can pull up the three federal registered notices that are there.

With that, if you want to talk to the court reporter to make sure he has your name right, that is fine. Otherwise we will shut him down, and we will try to answer some of the questions that you asked, because I think that they are answered very easily.

(End of proceedings.)

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T3 – Goodsprings Hearing
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RESPONSES

ORIGINAL

Department of the Interior

Bureau of Land Management

Ivanpah Energy Center

Formal Public Comments

Taken at 375 West San Pedro Avenue

Goodsprings, Nevada

Thursday, December 12, 2002

7:00 P.M.

REPORTED BY: Jennifer O'Neill, CCR #763
LS&T Job No. 24690

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MR. GADD: I just want to start --

MR. CROCKFORD: Could you state your name.

MR. GADD: Gadd, G-a-d-d. I'm a resident of Goodsprings. And I want to tell you people that I'm a chronic asthmatic, I've been one all my life and my problem is breathing. A lot of people's problems are something else but I'm an expert on breathing. I couldn't breathe good enough in Los Angeles so I retired out here to my family's house about maybe 10, 13 years ago. I get along okay out here, it's a lot better because I can smell a cigarette a mile away, the smoke off one.

But anyway I wanted to ask Liz Warren didn't the Goodsprings Advisory Counsel turn down this power plant originally on the vote the first time?

MS. WARREN: We don't have the option of turning it down.

MR. GADD: I mean, you voted it down.

MS. WARREN: We wrote a lengthy response and some of those issues have been addressed in this draft statement.

MR. GADD: I thought that was true.

MS. WARREN: And it was based on several issues. The most important one or one of the most important ones was the traffic situation on Goodsprings

LITIGATION SERVICES & TECHNOLOGIES

T3.1

T3.2

RESPONSES

T3.1 The DEIS states that temporary impacts to air quality would occur during construction from increased dust created from land clearing, site preparation, and vehicle movement. Dust control during construction activities will be in compliance with Clark County's dust control regulations. During plant operations, impacts to air quality would not be significant. The Ivanpah Energy Center is designed to be at, or below, national and local air quality standards. Additionally, modeling was performed to include emissions associated with operations of the proposed Ivanpah Airport and the Reliant Bighorn Facility. Modeling results indicate that the project's contribution to cumulative air emissions would have a negligible impact.

T3.2 The DEIS identifies that impacts to traffic and traffic safety will occur during construction of the plant facility. Mitigation measures to minimize impacts will be implemented. See response to Comment T1.1 above.

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Road, given the volume of traffic and given the kind of road that is, and also given the fact that Nevada Department of Transportation has no plans to expand that road, not to widen it, not to build regular shoulders on it, none of that. So that was a very important issue.

Air quality was a big important issue, and water consumption, water use. In fact, basically we said move it around the corner, get it out of this valley because it will not be good for the people who live in Goodsprings and who are stationary basically as you are here and who will be subjected to this. And so we wanted it moved so that it would remove the stacks and whatever is going to be emitted from those stacks from our immediate vicinity.

MR. GADD: Liz speaks for all of the Goodspringers, I'm sure.

Now, I've been down to Primm and I suppose everybody else here has and they should go down there and take a look at that plant and see how big it is. Now, that's all private property down there and they can do whatever they want. I know they want the power and I'm not against the power. I think we're going to have to have more of it but my concern is this: Besides the health and safety of the invalids up here,

LITIGATION SERVICES & TECHNOLOGIES

T3.2 Cont'd.

T3.3

T3.4

T3.5

RESPONSES

T3.3 Your comment regarding air quality impacts is acknowledged. See the response to Comment T3.1 above. As stated in the DEIS, Ivanpah Energy Center would use refrigerated air technology which drastically reduces the need for water, when compared to other power plants of similar size. The facility would use approximately 50 acre-feet per year (afy), of which 35 afy would be provided as gray water from the Southern Nevada Correctional Center; the remaining 15 afy would originate from a yet undetermined groundwater source.

T3.4 During public scoping, Goodsprings residents suggested a potential plant site west of I-15 between mileposts 5 and 7. The DEIS evaluated the potential site along with five other site locations within the Ivanpah Valley. The site suggested by the Goodsprings residents; however, was eliminated from further consideration because it is located within the Desert Tortoise Translocation Area, several miles of transmission line corridor outside of a BLM-designated utility corridor would be needed, and no reasonable alternative routes for construction were available. A potential alternative site in Primm was identified by the project proponent and if constructed, would be co-located with the Reliant Bighorn Power Plant. The Primm plant site and the proponent's proposed site at Goodsprings were carried forward for further evaluation in the DEIS.

As stated above in previous comments, BLM has selected the Primm Plant Site as the "agency-preferred alternative;" however, the Primm Plant site alternative became commercially unavailable following the closing of the public comment period. Therefore, the proposed plant site at Goodsprings and the No Action Alternative remain under consideration. BLM will select an "environmentally-preferred" alternative in the Record of

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T3.5 Cont'd.

the school children who we don't want any more asthmatics, and we should have the commissioner, the county commissioner, come up here and see our schools, which is a historic Clark County monument, talk to the teachers, talk to our citizens, visit our homes, we're proud of them, we put them up a nail at a time, and get familiar with the area because when they -- if they put a plant of that size on our front porch, which is the only way you can get up here is by coming right by it, nobody in their right mind would spend a nickle for this property and nobody is going to get any value out of their real estate because why would we, they'll go to Vegas and build and buy. They're not going to come into a heavy industrial deal like Pittsburg was in the steel age, see.

T3.6

All I'm saying is please, please, move the plant further south or hide it some place behind some of these hills or something. Do something to keep the thing from just being an absolute monstrosity in this little-bity hamlet.

And we have a history here, there's a lot of people that live here and a lot of nice homes. We have a very distinguished citizen who's building a mansion here. Do you think he would want to drive back and forth and look at that thing every day of his life,

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Also, see response to comment T3.1 above regarding air quality impacts associated with the construction and operation of the Ivanpah Energy Center at the Goodsprings site.

T3.5 Potential impacts to real estate values cannot be determined due to the volatility of the market.

T3.6 BLM has selected the Primm Plant Site as the "agency-preferred alternative." However, following the close of the public comment period, the Primm Plant site alternative became commercially unavailable; therefore, the proposed plant site at Goodsprings and the No Action Alternative remain under consideration. BLM will select an "environmentally-preferred" alternative in the Record of Decision.

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RESPONSES

T3.7

T3.7 See the above responses to comments T3.4 and T3.6.

T3.8

T3.9

T3.8 As stated above, BLM has selected the Primm Plant Site as the "agency-preferred alternative." However, following the close of the public comment period, the Primm Plant site alternative became commercially unavailable; therefore, the proposed plant site at Goodsprings and the No Action Alternative remain under consideration. BLM will select an "environmentally-preferred" alternative in the Record of Decision.

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RESPONSES

T3.9 Cont'd.

T3.9 Comment acknowledged.

T3.10

T3.10 The commenter is correct. The DEIS states that motorists would encounter visual impacts at various points along I-15, SR 161, and the intersection of Sandy Valley Road and SR 161 (see discussion on page 5-74 of the DEIS); however, the impact would be negligible because the views would be brief and of short-duration. Of the four transmission line plant access options, Option 1, which would cross over the mountain to interconnect with the VEA line, would create a "moderate" impact (refer to pages 5-78 and 5-79 of the DEIS). The DEIS states that use of Option 2 or Option 3 would reduce visual impacts associated with Option 1. BLM will consider your comment regarding visual impacts associated with transmission line plant access Option 1.

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T3.10 Cont'd.

there's no way that scar will ever be, and not in my lifetime nor anybody's great-grandchild in this room, would ever be obscured. So I think that that would be something I think when we look at it again as a board, we'll probably discuss that at the meeting.

T3.11

Speaking as the town board chair, we had requested that the whole project be moved out of the Goodsprings Valley and so we would support that option that you have here; that is the Primm site, the alternative that you have identified. Most of what we have every day is a fairly open valley. Yes, there's now a lot of vehicular traffic, not nearly like what you get in town, but still a lot for this area. Any siting of this kind of plant will cause major damage to the air quality, the noise emissions, and all that kind of thing will impact it.

T3.12

And while it may not seem like a lot for any one plant, by the time you accumulate these effects you're going to have a substantial change in this valley and we would like to see that deflected and put down along the I-15 corridor, which is already in my opinion condemned, to have all of those kinds of activities. It won't be noticed down there nearly the way it would be up here in this valley.

We'll have an opportunity, we won't have an

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RESPONSES

T3.11 As stated above, BLM has selected the Primm Plant Site as the "agency-preferred alternative." However, following the close of the public comment period, the Primm Plant site alternative became commercially unavailable; therefore, the proposed plant site at Goodsprings and the No Action Alternative remain under consideration. BLM will select an "environmentally-preferred" alternative in the Record of Decision.

T3.12 The DEIS acknowledges that the Ivanpah Valley is likely to undergo major changes as a result of future development. As indicated in DEIS Section 6.2 (Cumulative Impacts), projects such as the proposed Ivanpah Valley Airport, the Las Vegas Valley Water District pipeline, and the Table Mountain Wind Farm are expected to contribute to air quality degradation, additional loss of habitat, and degradation of visual and aesthetics resources within the area. Some impacts will be short-term and largely related to construction, others will persist throughout the life of the project. Additional impacts will result from induced development that would be associated with major projects. We acknowledge the commentor's preference for the Ivanpah Energy Center to be located at the Primm Plant Site.

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it wouldn't have that type of effect.

Actually, the Primm site, there is no visual impacts going to be felt, because you have already got buildings down there and another site similar; so expanding that, people would expect to see it.

MS. BENNER: I'm in agreement. I think it should go in Primm.

MR. CROCKFORD: Any more comments? If not, we are going to shut down our comment period, official hearing of the comments and remind you that formal hearing type is closed now, and keep in mind that the comment period is open until January 21st.

If you have the dates up through -- the 20th is a holiday; so it is going to be January 21st, 22nd.

The Environmental Protection Agency is published on November 22, 2002. When they put it in there, they said the comment period closes on January -- it was incorrect -- the first part of January; so we talked to them, wrote them a letter, and they are going to -- they already had put in a correction and it coincides with ours. They had given something like 40 days. It was not correct so we brought their attention to that; so you have a 60-day comment period, and it started the 22nd; so you have 60 days, and then we will pull comments back together, and we will come back out.

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REPORTER'S CERTIFICATE

STATE OF NEVADA)
) ss:
COUNTY OF CLARK)

I, Jennifer O'Neill, Certified Shorthand Reporter, hereby certify that I took down in Stenotype all of the proceedings had in the before-entitled matter at the time and place indicated, and that thereafter said Stenotype notes were transcribed into typewriting at and under my supervision.

That the foregoing transcript constitutes a full, true and accurate record of the proceedings had.

IN WITNESS WHEREOF, I hereunto subscribe my name at Las Vegas, Nevada.

JENNIFER O'NEILL, CCR #763

COMMENTS
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(Diamond Generating)
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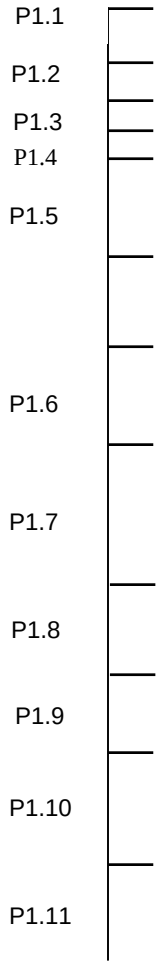

RESPONSES

P1.1 While additional references to the temporary use of roads and trails could be added, the southern access road is identified as temporary in text on pages ES-1, ES-8, 3-22, 5-1, 5-14, 5-25, 5-32, 5-48, and 6-8 and more importantly, acreages for the southern access road are identified as temporary in Table ES-2 and Table 6-2.

P1.2 The commenter is correct. See Errata Sheet, Section 3.

P1.3 The commenter is correct. See Errata Sheet, Section 5.

P1.4 The commenter is correct. See Errata Sheet, Section 5.

P1.5 Figure 5-7 is explained in text on page 5-72 as well as in the legend of the figure. No additional explanation is necessary.

P1.6 The commentor's reference to "permanent disturbance" in Table ES-2 is incorrect. The length and associated acreages have no relationship to disturbance; they are provided in the table to indicate ROW within BLM lands.

Reference to disturbance can be found under the table heading "Land Disturbance Within BLM ROW (subheading) Temporary." Acreages within BLM ROW have been recalculated as 12.1. Temporary disturbance has been recalculated as 48.3 acres. The corrected Temporary Acreages for the project should total 236.4 acres. The corrected temporary acreages disturbed due to pipeline installation and total temporary acreages for the project result in minor modifications those pages identified by the commenter. Detailed engineering will result in precise lengths and acreage determinations and will be included as part of a project Construction, Operations, and Maintenance Plan, should the alternative be selected.

RESPONSES

P1.7 The commentor's reference to "permanent disturbance" in Table ES-3 is incorrect. The length and associated acreages have no relationship to disturbance; they are provided in the table to indicate ROW within BLM lands.

Reference to disturbance can be found under the table heading "Land Disturbance Within BLM ROW (subheading) Temporary." Acreages within BLM ROW have been recalculated as 13.8. Temporary disturbance has been recalculated as 55.1 acres. Adjustments to temporary land disturbance also has been made as a result of comments received from Kern River Gas Transmission Company (refer to Response to Comments, O2.1) in which additional corridor width and temporary use areas resulted in an additional 12.7 acres. The corrected Temporary Acreages for the project (using adjusted values for the water supply pipeline and the natural gas supply pipeline) should total 278.9 acres. The corrected temporary acreages disturbed due to pipeline installation and total temporary acreages for the project result in minor modifications those pages identified by the commenter. Detailed engineering will result in precise lengths and acreage determinations and will be included as part of a project Construction, Operations, and Maintenance Plan, should the alternative be selected.

P1.8 The correct water supply pipeline length and area of temporary disturbance for the Goodsprings Plant Site is approximately 10.0 miles and 48.3 acres, respectively. Detailed engineering will result in precise lengths and acreage determinations and will be included as part of a project Construction, Operations, and Maintenance Plan, should the alternative be selected.

RESPONSES

P1.9 The correct water supply pipeline length and area of temporary disturbance for the Primm Plant Site is approximately 11.4 miles and 55.1 acres, respectively. Detailed engineering will result in precise lengths and acreage determinations and will be included as part of a project Construction, Operations, and Maintenance Plan, should the alternative be selected.

P1.10 The DEIS states on page 5-3 that "Telecommunications would be provided through installation of an additional cable within the existing Bighorn telecommunications corridor." Also, on page 5-7 (Table 5-1) the DEIS states "Installation along the existing Sprint Communications lines in use by Reliant. No routing required." Text on page 6-1 discusses the use of existing access roads and telecommunications rights-of-way would be utilized and that telecommunications right-of way would not be needed in Table ES-3 and Table 6-3.

P1.11 The correct water supply pipeline length and area of temporary disturbance for the Goodsprings Plant Site is approximately 52,600 linear feet (10.0 miles) and 48.3 acres, respectively. Detailed engineering will result in precise lengths and acreage determinations and will be included as part of a project Construction, Operations, and Maintenance Plan, should the alternative be selected.

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(Diamond Generating)
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P1.11 Cont'd.

plant on the east side of the UPRR to the west side of the UPRR. These values total 50,200 feet (9.5 miles) (40 ft wide along 10.9 mile corridor) or 46.1 (53) acres of temporary disturbance.

Approved mixed-use development plan at Primm

RJ located the Clark County decision on the multi-use development proposed at Primm which was mentioned during the DEIS public hearing. The link to the Clark County Board of County Commissioners Notice of Final Action on the application (Item 22) is http://www.co.clark.nv.us/Comprehensive_planning/Current/FinalAction/Old_Final_Actions/080702bcc.htm The staff report with additional background will be sent by facsimile. The proposed insertions in the DEIS are as follows:

P1.12

12) NS – Page 4-86 first para – add the following at the end:

"However, a mixed use development consisting of a 577 unit housing complex and associated commercial, recreational and open space uses has been approved at Primm to provide additional employee housing in the area for existing Primm resorts. (Clark County 2002) "

Add similar language to Page 5-135 – end of first paragraph.

P1.13

13) NS- Page 6-9, - end of first paragraph on Noise, insert

"Depending on the construction schedule for the housing development at Primm, similar impacts could be expected for the Primm site alternative."

P1.14

14) NS- Add para in the Cumulatives – Section 6.2.2 regarding approved multi-use development plan at Primm

P1.15

15) NS- Table 3-6 under "Other Factors" add:

"The site is closer to the proposed Ivanpah airport and an approved mixed-use development plan consisting of 577 housing units and associated commercial uses."

P1.16

16) NS- Add to References:

Clark County Board of County Commissioners Public Hearing ZC-0903-02-Primm South Real Estate Company, August 7, 2002.

Other Comments:

P1.17

17) RJ-Page 5-168, Figure 5-8. The stage height appears too high.

P1.18

18) RJ-Pages 5-175 and 5-176, Figures 5-15 and 5-16. These views are deceptive when compared to the Goodsprings site. The Primm site views appear smaller (the plant size is smaller) as compared to the Goodsprings site views where the plant appears larger, e.g., page 5-167, Figure 5-7.

P1.19

19) RC- In the Abstract, it is stated "[C]ultural resources and paleontological resource investigations are ongoing, therefore, a determination of potential impacts to such

RESPONSES

P1.12 Additional housing for Primm area casino workers will be on property that is owned and operated by casino operators. The majority of the area that is to be developed is currently occupied by recreational vehicles. The property greater than one mile from the probable plant site location (should Ivanpah Energy Center be located at the Primm site). The Reliant Bighorn Generating Facility is located partially between the housing area and the Ivanpah Energy Center plant site and would partially screen the Ivanpah Energy Center from the housing area.

P1.13 See Errata Sheet Section 6.

P1.14 Comment acknowledged.

P1.15 Comment acknowledged.

P1.16 Comment acknowledged. Refer to Section 7 Errata Sheet.

P1.17 Stack height shown on the simulations was developed from plant schematics provided by Diamond Generating. The stack height and other plant components were used on all simulations; topographic features consisting of plant height and land forms that screen the plant were taken from topographic maps. The simulation shown on Figure 5-8 is correct. No changes to simulations are required.

P1.18 The apparent size of objects differ primarily based on distance; distant objects appear smaller than closer objects. Other factors include the relationship of a given object to other objects in proximity. For example, in figures 5-15 and 5-16, the Reliant Bighorn Generating Facility appears larger than that of the Ivanpah Energy Center because the Bighorn Facility

COMMENTS
P1 – Project Proponent
(Diamond Generating)
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P1.19 Cont'd.

resources cannot be made." This statement is a clear admission that the DEIS is not complete, and the work should be completed or the statement should be modified. If the work is not done before the Final EIS, we suggest something like: "[C]ultural resources and paleontological resource investigations are ongoing, and will be completed prior to construction. Any necessary impact mitigations will be required by BLM stipulations."

If, in fact, the field surveys for cultural and paleo are completed and the results incorporated into the fina EIS, then this comment is moot.

NS – Also need to fix language on page 5-43, right column, last paragraph and page 5-44, right column, last paragraph based on final outcome of cultural and paleo issues in FEIS.

20) RC- In Section 5, "Environmental Consequences" the impact levels identified in the DEIS/EIS are defined as:

- Negligible – An impact is present, but the level of which is too small to quantify.
- Moderate – a measurable (quantifiable) impact is present.
- Significant – As defined in table 5-2 (Significance Criteria).

The two categories of "Negligible" and "Moderate" should be clearly identified as sub-categories of "Not Significant." However, these categories are not levels or degrees of insignificance, as explained below. The only difference is that one sub-category can be quantified and the other cannot.

P1.20

The use of the words "*but the level of which is too small to quantify*" in the definition of the "Negligible" level implies that the "Negligible" level of impact is smaller than the "Moderate" level. This is not the case. For example, an economic impact might be quantifiable in terms of dollars, and be insignificant, but would be classified as "Moderate" according to the methodology used in the DEIS. An impact on air quality could be quantifiable according to the applicable rules and regulations, and therefore categorized as "Moderate," but be clearly Insignificant according to those same rules and regulations. Other impacts, such as the temporary disturbance of a small area of habitat, could be clearly insignificant, but the impact of the disturbance on the habitat not quantifiable. Such an impact would be categorized as "Negligible" according to the DEIS methodology.

NEPA requires only the separation of impacts into those that are (or may be) Significant and those that are Not Significant. The terms "Not Significant" or "Insignificant" are absolutes.

The BLM should not concern itself with attempting to differentiate between, or make decisions based upon, categories of Insignificance. The categories of insignificance used in the DEIS/EIS are not different in term of magnitude of impact, only in their ability to be quantified. Our concern is that the seeming differentiation of levels of insignificance of impacts could improperly influence decisions.

RESPONSES

requires large cooling components that are not required by the Ivanpah Energy Center; thus, the Ivanpah Energy Center appears smaller.

Regarding Figure 5-7, the plant was simulated to scale with the surrounding topographic features using the same plant schematics and measurements used in DEIS Figures 5-15 and 5-16.

P1.19 The Abstract in the DEIS states: "Cultural resources and paleontological resources investigations are ongoing, therefore, a determination of potential impacts to such resources cannot be made." Other related references to cultural resources and paleontological resources are "It is currently unknown how many archaeological sites exist in the project area. However, before any construction would be allowed, a Class III cultural resources survey would be conducted for the area of potential effect." An explanation of compliance requirements under Section 106 of NHPA also is provided (Pages 5-43 and 5-132). Similar text regarding paleontological resources is provided in pages 5-44 and 5-132/133.

The fact that cultural resources and paleontological resources surveys have not been undertaken does not indicate that the DEIS is incomplete. Many projects proceed and a ROD is issued without such investigations, but with the stipulation that all cultural resources survey work (including sign-off by the SHPO) be completed prior to construction.

Since issuance of the Draft EIS, both paleontological and cultural field surveys have been completed. Results of the cultural and paleontological field surveys are discussed in Section 4 of this Final EIS.

RESPONSES

P1.20 "Negligible" and "Moderate" are terms used to provide the reader with a frame of reference. Although some subjectivity is inherently included in the use of such terms, they do not conflict with "significance" and are routinely used in NEPA documents. The phrase "…less than significant" or "…not expected to be significant" has been used throughout the DEIS to clearly indicate that significant impacts are not expected, except in the case of the desert tortoise. The phrase appears in 54 locations in the document – once in the Abstract, 13 times in the Executive Summary, 27 times in Section 5 (Impacts), and 13 times in Section 6 (Summary of Impacts/Cumulative Impacts). BLM is required to reduce the level(s) of impact(s) for all impacts; therefore, mitigation to reduce or avoid impacts, regardless of their severity, will be required.

In reference to the reviewer's comment, "The BLM should not concern itself with attempting to differentiate between, or make decisions based upon, categories of Insignificance… Our concern is that the seeming differentiation of levels of insignificance of impacts could improperly influence decisions." The decision makers (BLM) have the ability to fairly evaluate the Proposed Action and the alternatives and that the use of terms such as "negligible" or "moderate" will not result in confusion.

*Initials that precede comments refer to:

RJ – R.J. Johnson, Consultant to Diamond Generating
NS – Necy Sumait, ArkEnergy, Inc., Consultant to Diamond Generating
RC – Reese-Chambers, Inc., Consultant to Diamond Generating

Section 1
Errata Sheet

(includes Abstract, Table of Contents, and Executive Summary, and Section 1)

1. In the Abstract of the DEIS, second paragraph, the last sentence should read: "The BLM and Western, **a Cooperating Agency,** have approved and reviewed…"

2. Page ii, 3.4.4 – Page number corrected from "5-63" to **3-63**.

3. "**P&T Sites – Pulling and Tensioning Sites" added to Acronyms list.**

4. Section 1, page 1-1, 2nd column, first full paragraph, last line should read: "…for this subsequent "connected" federal action."

5. Page 1-1, 5th paragraph under Section 1.2, the second sentence changed to read as follows:

   "The plant would be constructed to operate continuously **as a base load facility**, except during semi-annual…"

6. Page 1-5, Table 1-1 – deleted "NEPA, Protection and Enhancement of Environmental Quality, Executive Order 11512" and add **"National Environmental Policy Act Revised Implementing Procedures, Executive Order 11514, as amended."**

7. In Table 1-2 on page 1-6, under "Agency," Departments added to the following federal agencies:

   U.S. Department of Energy, Western Area Power Administration
   U.S. Department of the Interior, U.S. Fish and Wildlife Service
   U.S. Department of Defense, U.S. Army Corps of Engineers

8. Section 1.3, page 1-4, last paragraph is corrected as shown below:

   "Western's purpose is to ensure that the applicant meets Western's interconnection requirements and to meet the intent of ~~***the requirement of***~~ *Federal Energy Regulatory Commission (FERC) Order No. 888 in providing* ~~***any necessary***~~ *transmission service to the project proponent consistent with…"*

9. Page 1-2, under Section 1.3 – Purpose and Need, the following supplemental information is added:

"Factors contributing to the causes of California's problems have not been universally agreed upon; however, there is general agreement among industry leaders of a core set of factors that contributed to the energy crisis. Those factors are summarized as follows:

- *Investment in new power generation has not kept pace with increasing power demand. California's generation capacity decreased 2 percent from 1990 through 1999, while retail sales increased by 11 percent. Furthermore, there has been no new generation capacity constructed in California for over a decade.*

- *To meet its demand for power, California relies on about 7 to 11 gigawatts of out-of-state generation capability, much of which is hydropower. Reduced hydropower generation has resulted from unusually low water levels in the northwestern United States.*

- *During 2000, approximately 10 gigawatts of generation capability was out of operation during some of the high demand times, which contributed to power shortages.*

- *A major high voltage transmission line (known as Path 15) became congested, thus reducing the flow of surplus electrical capacity from northern to southern California.*

- *Many independent power generators were reluctant to sell power to PG&E and SCE, due to financial difficulties of the two companies.*

- *California's wholesale electric market rules required major utilities to purchase power through a single entity (CalPX) which precluded the ability of the utilities to enter into long-term contracts for energy. When spot market wholesale prices increased, the utilities had no option but to purchase the high-priced power.*

- *Wholesale electricity prices increased due to an increase in natural gas prices and the need to meet California's power plant emissions requirements.*

- *Major utilities within the state paid high wholesale prices, but were unable to recover such costs because retail electricity prices were frozen.*

Additional factors that contributed to power shortages and increased prices have included curtailments in electrical generation,

manipulation of pricing, and curtailment of natural gas supplies by some power and natural gas suppliers."

10. Page 1-5, Table 1-2, "Executive Order 13084, Consultation and Coordination with Indian Tribal Governments" was changed to "Executive Order 13175, Consultation and Coordination with Indian Tribal Governments."

11. Page 1-5, Table 1-1, "36 USC 3001" deleted, "36 CFR 800" added.

12. Page 1-6, Table 1-2, under State of Nevada Historic Preservation Office, the second phrase under "Permit/Approval" has been corrected to read:

"Section 106 review and concurrence; State Historic Preservation Act ~~for Tribal and BLM lands.~~"

Section 2
Errata Sheet

1. Page 2-2, Table 2-1, text corrected to say **U.S. Department of Defense, U.S. Army Corps of Engineers.**

2. Page 2-10, 2nd column, last section title changed to: **Nevada Fish and Wildlife Office/U.S. Fish and Wildlife Service**. The first sentence of the paragraph is changed to read, "…responded in a **joint** letter dated June 27, 2002…"

Section 3
Errata Sheet

1. Page 3-10, Section 3.3.3, second paragraph was revised as follows:

   "*The potential plant site was eliminated from further consideration because ~~it is at an elevation that would reduce the efficiency of the turbine generators and because~~ construction and operations would result in high levels of visual impacts to the Goodsprings community and travelers along Sand Valley Road."*

2. Page 3-13, right column, first full paragraph. Text at the end of the first sentence, "…or on the State of Nevada land that is within the confines of SNCC-operated rapid infiltration basins" will be deleted.

3. Page 3-14, Table - Plant Site Alternative E – the following text moved from "Other Factors" to "Visual Impacts":

   "A portion of the interconnection transmission lines to the proposed Table Mountain Substation would be visible from Sandy Valley Road."

4. Page 3-29, right column, 2nd sentence, insert at the beginning of the sentence the following text:

   "*Except for the facilities owned and operated by Western,"*

5. Page 3-33, Segment 140 – last sentenced revised as follows:

   "Segment 140 would cross over the Boulder-Mead 69-kV and under the Pahrump-Mead 230-kV Transmission Lines…"

6. Page 3-61, 2nd column, 1st sentence, revised to read, "…from the Ivanpah Switch**yard** to the Table Mountain…"

7. Page 3-64, first column, first sentence under "Transmission Interconnection," sentence changed to read, *"The proposed substation additions would be located in the east portion of the230-kV area."*

8. The following text is inserted after Section 3.6:

   "The BLM would retain Ivanpah Energy Center, LP's bond or other security for the life of the project if the decision in the Record of Decision selects the Goodsprings Plant site,

Alternative E. In the event the Primm Plant Site, Alternative F is selected, the bond will be released when BLM is satisfied with reclamation efforts. A bond will not be required if the No Action Alternative is selected."

Section 4
Errata Sheet

1. Page 4-9, second column, first full sentence changed to read as follows:

   "As a result of that northerly flow, the Nevada portion of the basin may receive groundwater recharge from the California potion ~~(Glancy, 1968)."~~

2. Page 4-11, 1st column, 1st column, the following sentence has been deleted because groundwater pumping information can be obtained from the Nevada State Engineer's office:

   ~~"NDWR does not maintain records of pumpage within Ivanpah Valley (north), so the overall annual rate of groundwater usage is not known (URS, 2001)."~~

   The reference has been deleted from Section 7 (see Errata Sheet, Section 7).

3. Page 4-11, 1st column, following the first sentence, the following text and table were added:

   The following table identifies the manner of use for permitted water users within the Ivanpah North Basin (#164A) by acre-feet per year.

Manner of Use	afy
Commercial	13.66
Domestic	15.93
Industrial	150.00
Mining	397.73
Quasi-municipal	1,320.39
Livestock	10.48
Total	**2,008.18**

Nevada Division of Water Resources Water Rights Database, 2003

4. Page 4-30, 2nd column, last paragraph, last sentence, "period" capitalized - "Paleoindian **P**eriod."

5. Page 4-32, 1st column, 1st paragraph, 7th line, comma inserted following "Las Vegas Wash."

6. Page 4-32, 2nd paragraph, last sentence revised as follows:

> *"In the Great Basin area, the Archaic subsistence strategy was characterized by hunting, trapping and snaring of birds, insects, deer, antelope, mountain sheep, rabbits, and other small animals; as well as ~~the~~ collecting ~~of~~ grasses, seed, bulbs, nuts, roots, berries, and other plants."*

7. Page 4-34, 1st column, first sentence revised to read, "Over **parts** of the Great Basin…;" third sentence revised to read, "…**Virgin rivers;**" 2nd paragraph, 3rd sentence revised to read, "…in the lower Colorado River drainage**, ~~and~~** the Sonoran Desert, Mojave Desert,…;" 3rd paragraph, 4th sentence, replaced "repre-senting" with "**representing**."

8. Page 4-42, Report Title under Report 5-1325(N) "Environ-mental" replaced with "**Environmental**" and "Archaeo-logical" changed to "**Archaeological**."

Section 5
Errata Sheet

1. Page 5-9, first column under "Generic Mitigation," insert "**Western,**" following BLM in the first sentence.

2. Page 5-11, Table 5-3, Item #10 "Hazardous materials will not be drained into the ground or into arroyos or drainages…" was deleted from the text.

3. Page 5-12, Item #19, insert "Western," after BLM on the last line. Footnote added to the Transmission Lines column that reads:

   "Regarding interconnection construction, Western would require the construction contractor to abide by all local requirements and in accordance with Western's standard construction specifications."

4. Page 5-12, Item #22, "**When practicable**" removed from text.

5. Page 5-17, 1st column, 1st paragraph, the following text was inserted at the end of the last sentence:

   "or as in the case with the propose interconnection at Mead, would involve construction within a previously developed facility area."

6. Page 5-21, 1st paragraph under "Transmission Lines," the text "**or the Mead interconnection**…" was inserted after "options" in the last sentence.

8. Page 5-23, first paragraph, last sentence should read, "The amount of water that would be used **from** the well…"

8. Page 5-23, 2nd column, 2nd full paragraph, 2nd to the last sentence, has been re-written as follows:

   "Oth*er users in the Ivanpah Valley North Basin total 2,008.18 afy, which represents approximately 91 percent of the annual recharge rate (NDWR, 2003)."*

9. Page 5-24, 2nd column, the following sentence was added to the end of the first paragraph:

   "Water required for construction at Mead Substation could come from existing Mead water supply, resulting in negligible impacts to groundwater."

10. Page 5-43, 1st column, the following sentence added to the last paragraph of the section:

    "Weed control at Mead would be accomplished in accordance with Western's vegetation management guidelines to prevent the spread of noxious weeds."

11. Page 5-45, left column, first paragraph, third line from the bottom of the page should read, "..received, variances and **waivers** for height…"

12. Page 5-50, 2nd column, at the end of the last paragraph, that following sentenced was added:

    "The interconnection at Mead would not change current land use and disturbance would be limited to the existing developed facility area."

13. Page 5-54, 2nd column, last paragraph, first sentence, inserted "**or Mead Substation**" after "…Energy Center." At the end of the last sentence, same paragraph, inserted "**, or the Mead interconnection.**"

14. Page 5-57, 2nd column, last paragraph, inserted "**or the Mead Substation interconnection**…" after "transmission line access options."

15. Page 5-60, 2nd column, last paragraph, added the following new sentence:

    "The Mead interconnect would not affect transportation."

16. Page 5-66, 2nd column, first sentence, after "construction," deleted "is" and inserted "**and the Mead interconnection are**…"

17. Page 5-76, section titles in the 1st column and 2nd column were renamed, "**Transmission Line Interconnection at Table Mountain Substation**," replacing "Transmission Line Interconnection."

18. Page 5-78, a new section was added above the "Transmission Line Plant Access Options" section in the 2nd column. The section reads:

    Transmission Line Interconnection at Mead Substation

    "The structures used for the interconnection at Mead Substation are anticipated to be the same as the existing structures creating no change in the visual contrast at the site."

19. Page 5-80, Footnote [1] added to Summary table under mitigation measures for transmission lines that reads, *"Western will apply standard construction practices to control air emissions at interconnection construction sites."*

20. Page 5-81, 2nd column, the following text is added after the sentence that ends with "…517 MW."

> *"During periods when a single gas turbine is online, natural gas-fired supplemental duct burners may be used to ensure a combined-cycle capacity of up to 260 MW to meet minimum contractual obligations. The duct burners will not operate when both gas turbines are online."*

21. Page 5-94, Table 5-14 and 5-15. Footnote "b" should be added to rows labeled CTG No. 1 and CTG No. 2. Text for footnote "b" follows:

> [b] *Emissions include the potential effects of supplemental duct burning for single turbine operation of either CTG.*

22. Page 5-98, Under "Transmission Lines" the following new paragraph was inserted after the 1st paragraph:

> *"Construction of the Mead interconnection would follow Western's standard construction practices, which includes specifications for controlling dust and meeting local permitting requirements. Disturbed areas within the substation would be covered with gravel to control dust. This measure would reduce air emissions to a negligible amount."*

23. Page 5-104, the following new sentence inserted following the paragraph at the top of the 1st column:

> *"Noise generated from the construction of the Mead interconnection would be short-term and result in negligible impacts in the vicinity of the interconnection site."*

24. The following sentences were inserted to Section 5.2.

> **Page 5-114, 1st column, following the 1st paragraph**
> *"Impacts to geological resources resulting from the interconnection construction at Mead substation would be the same as discussed for the Proposed Goodsprings Plant Site."*

Page 5-118, 2nd column, following the 1st paragraph
"Impacts to mining resulting from the interconnection construction at Mead Substation would be the same as discussed for the Proposed Goodsprings Plant Site."

Page 5-121, 2nd column, following last sentence of paragraph under "Transmission Lines"
"Impacts to groundwater resulting from the interconnection construction at Mead Substation would be the same as discussed for the Proposed Goodsprings Plant Site."

Page 5-126, 2nd column, following last sentence of paragraph under "Transmission Lines"
"Impacts to biological resources resulting from the interconnection construction at Mead Substation would be the same as discussed for the Proposed Goodsprings Plant Site."

Page 5-137, 2nd column, following last sentence of 2nd paragraph
"Impacts to land use resulting from the interconnection construction at Mead Substation would be the same as discussed for the Proposed Goodsprings Plant Site."

Page 5-139, 2nd column, following the last paragraph
"Impacts to rangeland management resulting from the interconnection construction at Mead Substation would be the same as discussed for the Proposed Goodsprings Plant Site."

Page 5-142, 2nd column, following the last paragraph
"Impacts to recreation resources resulting from the interconnection construction at Mead Substation would be the same as discussed for the Proposed Goodsprings Plant Site."

Page 5-145, 2nd column, top of page, following the last paragraph
"Impacts to transportation resulting from the interconnection construction at Mead Substation would be the same as discussed for the Proposed Goodsprings Plant Site."

Page 5-155, 2nd column, following the last paragraph
"Impacts to visual resources resulting from the interconnection construction at Mead Substation would be the same as discussed for the Proposed Goodsprings Plant Site."

Page 5-157, 2nd column, following the last paragraph
"Impacts to air quality resulting from the interconnection construction at Mead Substation would be the same as discussed for the Proposed Goodsprings Plant Site."

Page 5-159, 2nd column under "Transmission Lines," following the paragraph
"Noise impacts resulting from the interconnection construction at Mead Substation would be the same as discussed for the Proposed Goodsprings Plant Site."

Page 5-164, 2nd column, following the first paragraph
"Socioeconomic impacts resulting from the interconnection construction at Mead Substation would be the same as discussed for the Proposed Goodsprings Plant Site."

25. Page 5-120, second column, the 2nd full paragraph, last sentence has been re-written as follows:

"Othe*r users in the Ivanpah Valley North Basin total 2,008.18 afy, which represents approximately 91 percent of the annual recharge rate (NDWR, 2003)."*

26. Page 5-153, section titles in the 1st column and 2nd column were renamed, "**Transmission Line Interconnection at Table Mountain Substation**,," replacing "Transmission Line Interconnection."

Section 6
Errata Sheet

1. Page 6-4, Subtitle in 2nd column revised from "Cultural and Paleontology" to "**Cultural and Paleontological Resources**."

2. Page 6-9, the following text was added to the end of the first paragraph under Noise:

   "Depending on the construction schedule for the housing development at Primm, similar impacts could be expected for the Primm site alternative."

3. Page 6-15, 2nd column, 1st sentence revised to read, "…northern and southern access roads to the **Goodsprings Plant Site**, land surrounding the plant site, and…"

Section 7
Errata Sheet

1. Additional references to Section 7:

   Myrick, David, 1992. *Railroads of Nevada and Eastern California: Volume II, The Southern Roads.* (Reprint) University of Nevada Press, Reno.

   Signor, John R., 1988. *The Los Angeles and Salt Lake Railroad Company, Union Pacific's Historic Salt Lake Route.* Golden West Books, San Marino.

2. The following reference has been deleted from the DEIS.

   URS Corporation, 2001. *Reliant Bighorn Environmental Assessment*.

3. Additional reference to Section 7:

   Nevada Division of Water Resource Water Rights Database, *Hydrographic Basin Summary – By Manner of Use for Groundwater Sources*. April 2003.

4. Additional reference to Section 7.

   NERC, 2001. *Reliability Assessment 2001-2010. The Reliability of Bulk Electric Systems in North America*, October 16, 2001.

Section 8
Errata Sheet

1. Page 8-1, Under "List of Preparers – Western," the following was added to the list:

   "David Vader, Community Planner/Native American Liaison"

Section 4
Supplemental Information

4.1 Floodplain Statement of Findings

Western is required by U.S. Department of Energy (DOE) policy and procedures in 10 CFR 1022 to make an assessment of activities affecting floodplains regulated under EO 11988, Floodplain Management (42 FR 26951, May 24, 1977). Western finds that all necessary information to conduct the assessment and comply with the DOE requirement has been included in the Draft and Final EIS. Proposed project activities, regardless of plant site selection or transmission line route, would involve designated 100-year floodplains in only a few locations where proposed transmission lines span dry washes. There are no practical alternatives that entirely avoid the designated 100-year floodplains. Any single or cumulative impact to the 100-year floodplain due to structure location or construction would be negligible and insignificant. The proposed action would conform to state and local flood protection standards. Measures to minimize harm to floodplains during construction and maintenance activities are incorporated. These measures include, as examples, prompt revegetation of temporarily disturbed areas, use of silt fences and soil stabilization techniques for erosion and drainage control, structure placement to avoid floodways, and use of existing access roads and other previously disturbed areas to the greatest extent possible to reduce new disturbance in the floodplain.

4.2 Western's Fault Duty Mitigation

Several new generation and transmission facilities have been proposed for southern Nevada. Some (the IEC and the Ivanpah-Mead 230-kV transmission line) interconnect directly at Mead Substation. Others interconnect away from Mead Substation. The addition of multiple new generators will indirectly increase the fault duty requirements or 230-kV service at Mead Substation beyond its current rated capability. Fault duty is the capability of substation circuit breakers to safely interrupt power flow in the event of a short circuit. Current capability at Mead may be exceeded within one year.

Western is proposing, as an independent action, to mitigate the potential fault duty deficiency by replacing 48 230-kV 63-kA (63,000 amp) circuit breakers with 80-kA breakers. This action is related to, but not driven by the proposed IEC interconnection at Mead. Western is conducting a separate environmental review for the fault duty mitigation per the DOE NEPA Implementing Procedures (10 CFR 1021).

4.3 Thermal Plume Analysis

A concern was expressed by the BLM regarding potential effects of a thermal plume on aircraft operations at the proposed Ivanpah Airport. The concern was based on the premise that heat generated from normal plant operations could create turbulence that could affect aircraft landing or taking off from the airport.

Calculations have been made regarding potential effects of a thermal plume from the Ivanpah Energy Center, if the plant were to be located at the Primm, Nevada plant site. Potential effects on aircraft operations can only be estimated due to a wide range of uncertainties related to airport design and runway orientation, specific plant site (and therefore, heat source) location, flight path orientation, and actual physical effects on aircraft stability.

Thermal plume associated with the Ivanpah Energy Center would originate from the two main turbine exhaust stacks and the air cooling tower. Based on worst case atmospheric conditions (light to moderate winds [1 - 5 m/sec, or 2 - 11 mph], in the daytime or on cloud-covered nights), higher wind velocities and/or clear nights would reduce thermal plume emissions.

Plume rise from the main stacks is calculated by the EPA air quality model based on engineering calculations of stack exhaust temperature and volume flow. The same equations can be used to estimate plume rise from the heated air rejected from the cooling tower. The cooling tower volume flow was estimated from fan size and power to be about 40 million standard cubic feet per minute. Based on the flow volume, the known heat capacity of air, and the rejected heat (Btus) (i.e., that not directly converted to electricity), the temperature rise above ambient can be calculated. It was assumed for this calculation that 95% of the unused British thermal units (Btus) were rejected to the atmosphere via the cooling tower. Calculated results are as follows:

Plume Height from Main Stacks - 1,000 ft to 5,000 ft above ground level (higher plume is associated with lower wind speed of 2 mph)
Plume Height from Cooling Tower - 3,300 ft to 15,000 ft above ground level
Estimated plume heights on clear nights with light winds are 600 ft for the main stacks and 1200 ft for the cooling tower.

Based on available data, the Primm plant site would be offset to the east from the flight path that would be used for the southern end of the east runway of Ivanpah Airport and commercial aircraft approaching (using instrument landing system) or departing from the nearest runway would be more than 2,000 horizontal feet from the plant site. The existing Bighorn Generating Facility would be closer to the flight path than that of the proposed Ivanpah Energy Center. Smaller aircraft on visual approach or landing could overfly the plant site; however, using a typical 20:1 flight path, such aircraft would be at a minimum altitude of 660 feet above ground level.

In summary, it unlikely that a commercial aircraft would overfly the Primm Plant site during normal takeoff or landing operations. However, the site could be overflown by smaller aircraft operating without instrument landing system. Actual effects of flights through the calculated thermal plume would differ in accordance with aircraft type, atmospheric conditions, and other factors.

4.4 Archaeological Analyses

A Class III cultural resources survey was conducted following completion of the site file search, literature review, and research design. Survey transects that were conducted as part of the survey were a maximum of 30 meters apart covering the area of approximately 64 square miles, which included the area of potential effects (APE).

Sixteen new sites were recorded during the survey. A site description was prepared for each site, which included artifact summaries, feature(s) descriptions, and other pertinent site data. An IMACS site form was filled out for each site. Site sketch maps were drawn for each site, and boundaries and datums were recorded using a Trimble Geo Explorer III® GPS unit. Photographs were taken of each site, and diagnostic artifacts were recorded with a GPS and plotted on the site sketch map. Shovel probes were conducted where topography suggested potential subsurface cultural deposits of the eligibility of the site was questioned. The site datum (consisting of a rebar spike with an orange cap) was established and labeled with a metal site tag for each site. Finally, sites were evaluated for eligibility using the National Register of Historic Places (NRHP) criteria, the historic contexts, and the research questions that were prepared for the project. Nine previously recorded archaeological sites that are located within the APE were revisited and IMACS forms were updated accordingly. Thirty isolated artifacts also were recorded during the Ivanpah Energy Center survey. Each of the isolated finds was recorded on an isolated find table and recorded with a GPS. There were no artifacts collected during the cultural resources survey.

Inventory Results and Eligibility Recommendations.

Ten previously recorded archaeological sites and 16 new archaeological sites were recorded during the Ivanpah Energy Center inventory. Of the 26 sites, 20 are historic, four are prehistoric, one is multi-component, and one is documented as an "isolated artifact." All 16 newly recorded sites are recommended as ineligible for nomination to the NRHP. Of the 10 previously recorded sites, one is eligible and nine are ineligible for nomination to the NRHP. Although Site 26Ck5180 includes NRHP-eligible transmission line, the segment through the project area is a non-contributing element. Previously recorded sites are summarized in the following table. Location information has not been included to ensure confidentiality.

BLM No.	State No.	Description	NRHP Eligibility
CrNV-53-4685	26Ck4685	Historical Artifact Scatter	Ineligible
CrNV-53-5829	26Ck4692	Historic and Modern Dump	Ineligible
CrNV-53-5843	26Ck4723	Historical Isolated Artifact	Ineligible
CrNV-53-5844	26Ck4724	Isolated Artifact	Ineligible
CrNV-53-7090	26Ck5090	Prehistoric and Historical	Ineligible
CrNV-53-5914	26Ck5180	Historic Transmission Line System	Ineligible*
CrNV-53-7232	26Ck5685	Railroad	Eligible**
	26Ck6110	Historical Artifact Scatter	Ineligible
	26Ck6111	Historical Artifact Scatter	Ineligible
	26Ck6112	Historical Artifact Scatter	Ineligible
*Within the project area, Site 26Ck5180 is a non-contributing element to a NRHP eligible transmission line. **The segment of 26Ck5685 within the APE is recommended as a non-contributing element.			

Newly Recorded Archaeological Sites

Sixteen new sites were recorded during the Ivanpah Energy Center Class III field survey. Of the 16 sites, 12 are historical and four are prehistoric. All 16 newly recorded sites are recommend as ineligible for nomination to the NRHP. Newly recorded sites are summarized in the following table. Location information has not been included to ensure confidentiality.

Field Number	Description	NRHP Eligibility
IV-01	Mining Operation	Ineligible
IV-02	Prospecting/Mining	Ineligible
IV-03	Transmission Line	Ineligible
IV-04	Mining Operation and Camp	Ineligible
IV-05	Historical Artifact Scatter	Ineligible
IV-06	Historical Artifact Scatter	Ineligible
IV-07	Lithic Scatter	Ineligible
IV-08	Historical Artifact Scatter	Ineligible
IV-09	Historical Artifact Scatter	Ineligible
IV-10	Historic Artifact Scatter	Ineligible
IV-11	Historical Artifact Scatter	Ineligible
IV-12	Historical Artifact Scatter and Dump	Ineligible
IV-13	Historical Artifact Dump	Ineligible
IV-14	Lithic Scatter	Ineligible
IV-15	Lithic Scatter	Ineligible
IV-16	Lithic Scatter	Ineligible

Newly Recorded Isolated Finds

A total of 30 isolated finds were recorded during field surveys for the Ivanpah Energy Center project. Historic and prehistoric finds totaled 21 and nine, respectively. Newly

recorded finds are summarized in the following table. Location information has not been included to ensure confidentiality.

Isolated Find Number	Description
IV-IF-01	Isolated rock cairn with a milled lumber post in the center that cannot be dated.
IV-IF-02	A modified five-gallon fuel can (bucket) with no base mark.
IV-IF-03	A modified five-gallon fuel can with dial spout, steel bucket handle and a spider web base pattern.
IV-IF-04	Two modified, rectangular five gallon fuel cans (buckets)
IV-IF-05	Five sherds and a base of a glass jar made by Brucking Glass Company (1925 – 1971) (Toulouse, 2001)*
IV-IF-06	Two aqua thick walled bottle fragments*
IV-IF-07	One HIT milk can with "punch here" on it (1930 – 1975) (Simonis, 1997).
IV-IF-08	One HIT milk can, not measurable.
IV-IF-09	Isolated grinding slab fragment of unknown igneous material.
IV-IF-10	Rock cairn, roughly curricular, 32 inches high and 46 inches wide.
IV-IF-11	Chalcedony multi-directional core.
IV-IF-12	Fruit can 3-15/16 x 4-9/16
IV-IF-13	10 sherds of Maopa Gray Ware with a smooth finish*
IV-IF-14	Hinged tobacco tin with a ridged base
IV-IF-15	Eight fragments of aqua glass with bubble inclusions*
IV-IF-16	12 fragments of aqua glass with bubble inclusions "R&Co 29" on the base.
IV-IF-17	A hole-in-cap can 3-4/16 (D) x 4-7/16 (L), with a cap that is 1-11/16
IV-IF-18	20 pieces of aqua glass with a "cola" finish auto bottle*
IV-IF-19	23 pieces of purple glass*
IV-IF-20	An isolated distal biface fragment composed of purple siltstone.
IV-IF-21	Aqua glass insulator (in 6-8 pieces) and part of a steel cable.
IV-IF-22	Three amethyst glass sherds*
IV-IF-23	A brown chert core and an internal flake*
IV-IF-24	An isolated HIT milk can 214 X 406 cm.
IV-IF-25	An isolated HIT milk can 215 X 314 cm.
IV-IF-26	Two middle stage white chert flakes.
IV-IF-27	Crushed HIT milk can.
IV-IF-28	An isolated red chert secondary flake
IV-IF-29	Three mid-late stage white chert flakes
IV-IF-30	Two middle stage chert flakes

* Multiple fragments from original artifacts.

HIT refers to "Hole in Top"

Project-related Impacts and Summary of Conclusions

Site 26CK5685, located along the Union Pacific Railroad right-of-way (ROW) near Jean, Nevada, is the only NHRP-eligible site within the APE. Site 26CK5685 is the San Pedro, Los Angeles, & Salt Lake Railroad (SP, LA, & SL). Under the leadership of William A. Clark, the SP, LA, & SL was chartered on March 20, 1901 (Myrick, 1992). The route was constructed from 1903 to 1905, and operated until 1921. The early focus of the SP, LA, & SL was the development of freight service; however, passenger service also was developed by the line. With the annexation of the City of San Pedro by Los Angeles in 1916, the railroad changed its name to the Los Angeles and Salt Lake Railroad (LA & SL) (Signor, 1988). The Union Pacific Railroad (UPRR) assumed the route in 1921 and has continuously operated, maintained, retrofitted, and upgraded the ROW. Passenger service on the LA & SL ended in 1971. By 1988, the LA & SL was formally merged into the UPRR system (Signor, 1988).

The railway segment that is within the Ivanpah Energy Center APE consists of a raised fill and gravel track grade, rails and ties, and a paralleling maintenance access road. The features have been upgraded and modified and most of the original materials have been replaced by regular maintenance and/or advances in technology. Maintenance repairs and upgrades have altered or removed the original planned features of the track and only the coarse remains intact. The maintenance road also has experienced continuous use and has lost historic integrity.

Significance

The development of western railroads is significant to the broad pattern of regional, state, and national history. As a whole, the site has been previously recommended as eligible to the NRHP under Criteria (a) and (c). However, the segment that is located within the project area is not recommended as a contributing element to Site 26Ck5685. The operation of the UPRR within the ROW of the SP, LA, & SL Railroad has compromised the integrity of the segment. Regular maintenance and upgrades to the fill and gravel track grade, rails and ties, and the maintenance road have replaced the original historic components and only the course remains.

The BLM has recommended that Site 26Ck5685 not be eligible for inclusion in the NRHP and has indicated that it is unlikely to provide any additional information beyond that gathered during the field survey. Avoidance of the site is not necessary and no additional work is needed.

4.5 Paleontological Analyses

A field reconnaissance was conducted during January 15 and 16, 2003 to determine paleontological resources that could be affected by construction, operation, or maintenance of the Ivanpah Energy Center at either the Goodsprings Plant Site or the Primm Plant Site. The reconnaissance also included ancillary facilities such as: permanent and temporary access roads, transmission lines, and pipeline corridors. No

significant paleontological resources were observed during the reconnaissance; however, invertebrate fossils were noted in the Devonian Sultan Limestone, near the north end of the project area. The invertebrates consisted of molds of a small brachiopod and a poorly preserved horn coral (order Rugosa). The uppermost map unit in the area is noted on available geologic maps as Qal (Quaternary alluvium). A lower alluvial unit that was noted by Corsetti (2002), and considered by several authors to be Qoa (older Quaternary alluvium), occurs in an outcrop near the proposed Table Mountain Substation, but would not be affected by the project (regardless of plant site location). Although no fossils were observed within the unit, it contains some medium to fine grained sediments that have been interpreted as having at least a low potential for vertebrate fossils of Pleistocene age.

A sequence of volcanic mud flows (lahars) and inter-bedded water laid tuffs were noted in Tertiary volcanic rocks (unit Tv) near the summit of McCullough Pass. Although the Tertiary volcanic unit was not noted in the class one (literature) survey as having paleontological potential, the presence of the inter-bedded clastic units indicates that the unit does have at least a low to moderate potential for significant paleontological resources. Cave deposits or pack rat middens were not encountered during field surveys.

Survey of Transmission Line Segments and Localities

Paleonotological field surveys were conducted at the proposed Goodsprings Plant Site and along transmission line corridors to Mead Substation. The following information provides an overview of resources along each transmission line segment:

Transmission Line Segment	Description	Potential Likelihood for Paleontological Resources
30	Formations noted include the Goodsprings Dolomite (DCg), Sultan Limestone (Ds), Monte Cristo Limestone, and Pleistocene to Recent alluvium (Qal).	Recrystallization of the Goodsprings Dolomite within the area precluded the presence of any paleontological resources. However, a small rugose coral was collected from the Sultan Limestone.
50	The segment lies along Quaternary alluvium (Qal).	Periodic spot-checking confirmed that depositional environment is not suitable for paleontological resources.

Transmission Line Segment	Description	Potential Likelihood for Paleontological Resources
60	A small area of Pre-Cambrian rocks (pCU) that have been metamorphosed to the point of serpentinization was noted. Outcrops of Goodsprings Dolomite and some unaltered and undivided Cambrian quartzite and shale (Cu) occur adjacent to the corridor; however no fossils were found.	Although no fossils were noted during the field reconnaissance, Tertiary volcanic rocks in the McCullough Range unconformably overly a sequence of inter-bedded volcano-clastic rocks, including several lahar flows.
90	The segment consists of Quaternary alluvium (Qal).	There is no potential for paleontological resources along the segment.
110 and 130	The segments consist of Quaternary alluvium (Qal).	There is no potential for paleontological resources along the segments.
140	The segment lies over fine grained Quaternary alluvium (Qal) which appears to be primarily of eolian deposition.	There is no potential for paleontological resources along the segment.

Conclusions

Fossils were only found within the Sultan Limestone and only consisted of a small horn coral of an undetermined genus. Sultan Limestone is limited to the vicinity of the proposed Table Mountain Substation. The lack of substantative paleontological resources within the area indicates that construction, operation, and maintenance of the Ivanpah Energy Center (and ancillary facilities) at the Goodsprings Plant Site would not adversely affect paleontological resources in the area.

4.6 Tribal Consultation

As discussed in the Draft EIS, the Bureau of Land Management contacted 14 Native American Tribes regarding the proposed Ivanpah Energy Center project. Upon issuance of the Draft EIS, the tribes were notified in writing that the Draft EIS was available for review. Additionally, a supplemental letter was mailed to notify interested parties, including Native American Tribes of Public Hearing meeting places, dates, and times. As of this writing, no formal comments or concerns have been submitted by the tribes. Western Area Power Administration is conducting an expanded consultation with the Native American tribes to meet Native American Consultation requirements of the U.S. Department of Energy. Comments or concerns received on the Ivanpah Energy Center as

a result of Western's expanded Native American consultation will be recorded in the project's Administrative Record.

4.7 Expanded "No-Action" Text

Discussion of the "No Action" Alternative has been expanded at the request of BLM staff. The expanded discussion is provided by resource category in the following text.

Geology

Application of the No Action Alternative would result in no affects to geological, minerals, and soils in the project area. Current and (potentially) future mining activities in the area would be unaffected for the foreseeable future.

Groundwater and Surface Water

Application of the No Action Alternative would result in no affects to groundwater or surface waters in Ivanpah Valley.

Biological Resources

Application of the No Action Alternative would result in no affects to biological resources in the project area. The plant site would remain in its current relatively undisturbed condition for the foreseeable future. Areas that would be used for access, water supply pipeline, and transmission lines that have been previously disturbed would continue to undergo revegetation into the future.

Cultural Resources

Selection of the No Action Alternative would result in no impacts to cultural resources that are known to be, or could be, within the project area. Existing sites of archaeological interest would remain unchanged for the foreseeable future.

Paleontological Resources

Important paleontological resources are not known to be present in the project area. Selection of the No Action Alternative would preclude the potential disturbance of such resources, should they be present, although presently unknown.

Land Use and Zoning

Selection of the No Action Alternative would result in continuation of present land uses into the foreseeable future. The alternative would preclude rezoning of plant site lands to industrial use; the plant, access roads, water supply pipeline, or transmission lines would not be constructed.

Rangeland Management

Grazing in the area is presently limited to the Jean Lake Allotment, which is located west of I-15. A No Action Alternative would result in no affect to grazing; areas that would

receive relatively minor temporary impacts due to transmission line construction would remain in their present, previously disturbed condition.

Recreation

The Ivanpah Energy Center, access roads, and water supply pipeline would be located within an area of little or no recreational use. A portion of the transmission line crosses areas that are used for recreational purposes. However, if the proposed action were not to be constructed, ongoing recreational activities would continue unaffected.

Transportation

Traffic levels and safety along SR 161 would remain at current levels if the Ivanpah Energy Center were not to be constructed.

Hazardous Materials

Selection of the No Action Alternative would ensure that no hazardous or non-hazardous materials would be in use as a result of the Ivanpah Energy Center. However, the presence of such substances would continue to occur through other sources.

Visual Resources

If the Ivanpah Energy Center or any of the project components were not to be constructed, visual resources within those areas would remain in their present condition. The plant site, access roads, wastewater treatment plant site, and transmission line corridors would remain in their present condition, which includes native desert and areas that have been previously modified as a result of industrial facilities, roads, and transmission lines.

Climate and Air Quality

Numerous mobile and stationary emission sources are presently in the Ivanpah Valley. If the Ivanpah Energy Center were not to be constructed, those sources would continue to be present. However, incremental increases to air pollutants that would be attributable to the facility would not be incurred.

Noise

The Goodsprings area is relatively remote and absent of noise-generating activities that are common within metropolitan areas. Selection of the No Action Alternative would eliminate potential sources of noise from the Ivanpah Energy Center, but would not ensure that other (possibly more offensive) noise levels would not be introduced in the area as development within Ivanpah Valley increases.

Socioeconomics and Environmental Justice

If the Ivanpah Energy Center or any of its components were not to be constructed, benefits to employment, local tax revenues, and local businesses would not be realized.

Consequently, implementation of the No Action Alternative would result in no affect on Goodsprings, Jean, or Clark County in general.

4.8 Revised Acreage Tables

Acreage tables presented as Tables ES-2 and ES-3 and corresponding Tables 6-2 and 6-3 in the DEIS have been revised as a result of comments received. The revisions represent minor adjustments in proposed water supply pipeline lengths and acreages reported for the Goodsprings and Primm Plant Site Alternatives and additional temporary work areas that would be needed to construct the natural gas supply pipeline from the Kern River Gas Transmission pipeline to the Primm Plant Site. The revised tables are presented as follows:

Areas of Disturbance by Project Component
Proposed Goodsprings Plant Site Alternative

Goodsprings Site – includes Option 2 across toe of mountain and line to Table Mountain						
	BLM ROW	**Land Disturbance Within BLM ROW**		**Land Disturbance Outside of BLM ROW**		**Private and State Lands**
		Permanent	**Temporary**	**Permanent**	**Temporary**	
Ivanpah Energy Center						
Plant Site (N-75493)	30.0	30.0				
Temporary Laydown Area (N-75493)	10.0		10.0			
Natural Gas Supply Pipeline (N-75471)	Negligible	Negligible	Negligible			
Telecommunications Line (N-75895) (1)	1.7		0.8			
Access Roads (N-75493)						
Northern Access Road (County Road 53Y) (2)				2.7		
Southern Access Road (3)					2.6	
Water Treatment Plant (no BLM permit required)	State of Nevada Land					0.7
Water Supply Pipeline (N-75475)						
Parallel to UPRR ROW and Co-located with Transmission Corridor (~52,600 linear ft)	12.1 (4)		48.3 (5)			
Ivanpah-Mead #2, Ivanpah-Table Mountain #1 & #2, and Pahrump-Mead Interconnections (N-75471 and N-75472)						
Approx. Line Length (~251,000 linear ft)						
Pole Sites (380)		<0.1				
Pole Work Areas (100x200 each)			174.5			
P&T Sites			2.8 (6)		27.6 (7)	
New Access Roads		4.8 (8)				
Spur Roads		4.1 (9)			5.2 (10)	
OPGW	69.2 (11)					
Temp. Laydown Areas (total)					18.0	
Total Proposed Goodsprings Site		**38.9***	**236.4**	**2.7**	**53.4**	**0.7**

Goodsprings Site – includes Option 2 across toe of mountain and line to Table Mountain

(1) Total length - 7,200 linear ft -- 10 ft wide permanent ROW, 25 ft temporary disturbance along 1,400 linear feet.
(2) 7,500 linear ft – increase from 10 ft wide to 26 ft wide, pave 20 ft. width.
(3) 14,000 linear ft – increase from 10 ft side to 18 ft wide.
(4) 10 ft wide permanent ROW, partially within project transmission line corridors,
(5) 40 ft wide temporary disturbance
(6) 4 sites within ROW, (100x300 each)
(7) 40 sites outside of ROW, (100x300 each)
(8) 5,000 linear feet x 18 ft, from Table Mountain Sub. to Mead Sub. (2.1 ac), plus 6,500 linear feet x 18 ft, across toe of mountain (2.7 ac)
(9) 10,000 linear feet (spur roads) x 18 ft (4.1 ac)
(10) 12,500 linear feet (spur roads) x 18 ft from Table Mountain Sub. to Mead Sub. (5.2 ac)
(11) OPGW = 12 ft wide throughout length of ROW
Note: Linear feet and acreages among transmission line alternatives and plant access options differ slightly.
*Includes Western Area Power Administration's withdrawn lands at the Mead Substation.

Areas of Disturbance by Project Component
Primm Plant Site Alternative

Primm Site – Includes to Table Mountain Circuit						
	BLM ROW	**Land Disturbance Within BLM ROW**		**Land Disturbance Outside of BLM ROW**		**Private and State Lands**
		Permanent	**Temporary**	**Permanent**	**Temporary**	
Ivanpah Energy Center						
Plant Site (N-75493)	Private Industrial Land					30.0
Temporary Laydown Area (N-75493)	Private Industrial Land					10.0
Natural Gas Supply Pipeline (N-75471)	19.9 (1)	0.5 (2)	32.1 (3)			
Telecommunications Line (N-75895)	None required					
Access Roads (N-75493)	None required					
Water Treatment Plant (no BLM permit required)	State of Nevada Land					0.7
Water Supply Pipeline (N-75475)						
Parallel to UPRR ROW (~60,000 linear ft)	13.8 (4)		55.1 (5)			
Ivanpah-Mead and Ivanpah-Table Mountain Circuits (N-75471 and N-75472)						
Approx. Line Length (~285,900 linear ft)						
Pole Sites (410)		<0.1				
Pole Work Areas (100x200 each)			188.3			
P&T Sites			3.4(6)		30.3(7)	
New Access Roads		4.2(8)				
Spur Roads		4.1(9)			5.2(10)	
OPGW	78.8(11)					
Temp. Laydown Areas (total)					18.0	
Total Primm Site Alternative		**8.8***	**278.9**	**- 0 -**	**53.5**	**40.7**

(1) 0.5 ac metering station plus 19.4 ac permanent pipeline ROW (50 ft width)
(2) 100 x 200 ft metering station
(3) 1.0 acre temporary workspace at metering station, 2.0 acre temporary workspace along pipeline corridor, and 75 foot-wide temporary disturbance along pipeline ROW (16,900 linear ft x 75 foot-wide = 29.1 acres.
(4) 10 ft wide permanent ROW
(5) 40 ft wide temporary disturbance (an alternative using transmission line corridors would result in 69,800 linear feet, and 64.1 acres of disturbance).
(6) 5 sites within ROW, (100x300 each)
(7) 44 sites outside of ROW, (100x300 each)
(8) 5,000 linear feet x 18 ft, from Table Mountain Sub. to Mead Sub.(2.1 ac), plus 5,000 linear feet x 18 ft from IEC to the north (2.1 ac)
(9) 10,000 linear ft (spur roads) x 18 ft (4.1 ac)
(10) 12,500 linear feet x 18 ft from Table Mountain Sub. to Mead Sub. (5.2 ac)
(11) OPGW = 12 ft wide throughout length of ROW
Note: Linear feet and acreages among transmission line and water supply pipeline alternatives options differ slightly.
*Includes Western Area Power Administration's withdrawn lands at the Mead Substation.

4.9 HAP Emissions

The table below (replaces Table 5-15a of the DEIS) shows a full inventory of HAPs emissions for the Ivanpah Energy Center facility. As discussed in Section 2, Response to Comment # M1.5, the total estimated emissions of all HAPs are 6.38 tons/yr. This is less than the limits given in DAQM Rule 12.2.18 of 10 tons/yr for a single HAP or 25tons/yr for total HAPs. Thus, the requirements of Rule 12.2.8 would not apply for this project. This information is included in the application submitted by the applicant to the DAQM.

Estimated Hazardous Air Pollutant (HAP) Emissions

HAP	Turbines		Aux. Boiler		Fire Water Pump	
	Emfac [a] lb/MMBtu	tons/yr	Emfac [a] lb/MMBtu	tons/yr	Emfac [a] lb/MMBtu	tons/year
Formaldehyde [b]	1.1×10^{-4}	1.64	7.1×10^{-5}	4.3×10^{-5}	7.9×10^{-4}	4.0×10^{-6}
Benzene	1.2×10^{-5}	0.18	2.0×10^{-6}	1.2×10^{-6}	7.8×10^{-4}	3.9×10^{-5}
1,3 Butadiene	4.3×10^{-7}	0.01				
Acrolein	6.4×10^{-6}	0.10			7.9×10^{-6}	3.9×10^{-7}
Dichlorobenzene	--		1.1×10^{-6}	6.9×10^{-7}		
Naphthalene	1.3×10^{-6}	0.02	5.8×10^{-7}	1.0×10^{-3}	1.3×10^{-4}	6.5×10^{-6}
Toluene	1.3×10^{-4}	1.94	3.2×10^{-6}	3.5×10^{-7}	2.8×10^{-4}	1.4×10^{-5}
PAH	2.2×10^{-6}	0.03			8.2×10^{-5}	4.1×10^{-6}
Propylene Oxide	2.9×10^{-5}	0.43			2.8×10^{-4}	1.4×10^{-5}
Acetaldehyde	4.0×10^{-5}	0.60			2.5×10^{-5}	1.3×10^{-6}
Xylenes	6.4×10^{-5}	0.97			1.9×10^{-4}	9.7×10^{-6}
Ethyl benzene	3.2×10^{-5}	0.48				
Arsenic	--	--	1.9×10^{-7}	1.1×10^{-7}		
Beryllium	--	--	1.1×10^{-8}	6.9×10^{-9}		
Cadmium	--	--	1.1×10^{-6}	6.3×10^{-7}		
Chromium	--	--	1.3×10^{-6}	8.0×10^{-7}		
Cobalt	--	--	8.0×10^{-8}	4.8×10^{-8}		
Manganese	--	--	3.6×10^{-7}	2.2×10^{-7}		
Mercury	--	--	2.5×10^{-7}	1.5×10^{-7}		
Nickel	--	--	2.0×10^{-6}	1.2×10^{-6}		
Polycyclic Organic Matter	--	--	8.4×10^{-7}	5.0×10^{-7}		
Selenium	--	--	2.3×10^{-8}	1.4×10^{-8}		
Subtotals (tons/yr)		6.38		1.0×10^{-3}		9.3×10^{-5}
TOTAL HAPS		**6.38**	**tons/yr**			

[a] HAPS emission factors are from AP-42: Turbines - Section 3.1; Aux Boiler: Section 1.4; Pump: Section 3.4

[b] Formaldehyde emissions reduced by 85% control efficiency provided by CO oxidation catalyst. (S. Roy, Docket A-95-51, USEPA, December 30, 1999). No credit taken for control of other HAP constituents.

4.10 Relocation of Table Mountain Substation

A concept that would co-locate the proposed Table Mountain Substation for the Table Mountain Wind Generation Facility (TMWGF) within the Ivanpah Energy Center Goodsprings plant site (if selected) was identified after the preparation of the Draft Environmental Impact Statement. If such a co-location were to take place, it would prove beneficial to both projects and the environment in general. If the Table Mountain Substation were to be co-located at the Ivanpah Energy Center, potential visual impacts of the Table Mountain Substation along Sandy Valley Road would be mitigated and 10 acres of currently undeveloped public land would not be required. The Table Mountain Substation is not part of the Ivanpah Energy Center project; however, both facilities would interconnect with the Valley Electric Association system. Two 230-kV circuits would interconnect the two facilities and would enhance overall electrical systems reliability. The two new circuits would slightly increase visual impacts between Sandy Valley Road and the co-located substation. These two circuits and the Table Mountain portion of the IEC substation would not be constructed if Table Mountain Wind Energy Project were not to be constructed.

The co-location would only be a viable option if both the Goodsprings Plant Site and the Table Mountain Wind Energy Project were constructed. Development of the Ivanpah Energy Center at the Goodsprings Plant Site would eliminate the need for a separate Table Mountain Substation. If the Ivanpah Energy Center were not to be developed, but the Table Mountain Wind Energy Project were to be developed, previously identified plans for the Table Mountain Substation along Sandy Valley Road would remain unchanged.

Relocation of the Table Mountain Substation to the Ivanpah Energy Center at the Goodsprings Plant Site would require four 34.5-kV circuits to be constructed from the vicinity of the proposed Table Mountain Substation site near Sandy Valley Road to the Ivanpah Energy Center switchyard. Existing Pahrump-Mead 230-kV single-circuit structures from Sandy Valley Road through Crystal Pass would be rebuilt to include two 34.5-kV circuits that would be constructed under the 230-kV circuit. The other two 34.5-kV circuits would be installed within the corridor that would have been used for the 230-kV double-circuit interconnections. The four 34.5-kV circuits would enter the Ivanpah Energy Center across the toe of the mountain west of the plant site (as originally described as Option 2 and shown on Figure 3-12 in the DEIS). Two 230-kV circuits would continue to be needed to interconnect to the existing VEA Pahrump-Mead 230-kV Transmission Line and one single-circuit 230-kV transmission line would be required for the Ivanpah-Mead Transmission Line, as originally proposed. The original circuit configuration was shown on Figure 3-8 of the DEIS; the modified circuit configuration is shown on the following figure (Figure 4-1). The lines would be constructed within the same parallel corridors, as originally described in the DEIS; no additional land or right-of-way would be required. Structure configurations would consist of combinations of 230-kV single-circuit with 34.5-kV underbuilt circuits. A typical 230/34.5-kV structure configuration is shown on Figure 4-2.

Land required for the reconfigured 230-kV and 34.5-kV circuits would be essentially the same as originally proposed for the Ivanpah Energy Center Goodsprings Plant Site. Although not part of the Ivanpah Energy Center Project, Table Mountain Substation would no longer be needed, thus eliminating related impacts along Sandy Valley Road. Inclusion of the substation at the Ivanpah Energy Center would be within the original footprint of the facility and essentially the same number of single-pole structures would be required. The original Ivanpah Energy Center footprint would remain unchanged; components within the plant site would be reconfigured, as shown on Figure 4-3. Potential impacts related to the co-location of Table Mountain Substation are summarized in the following table (Table 4-1).