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CH2MHILL

June 1, 2006

Mr. Robert Worl
Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Re: Supplement I in Response to Data Requests 1 through 80 and April 25 Workshop Queries, in Support of the Application For Certification for the Sun Valley Energy Project (05-AFC-03)

Dear Mr. Worl:

Attached are an original and 12 copies of Valle del Sol, LLC's Supplement I in Response to Data Requests 1 through 80 and April 25 Workshop Queries, in Support of the Application for Certification for the Sun Valley Energy Project (05-AFC-03).

If you have any questions about this matter, please contact me at (916) 286-0278 or Jenifer Morris at (714) 841-7522.

Sincerely,

Douglas M. Davy, Ph.D.
AFC Project Manager

Attachment

cc: J. Morris
T. McCabe
L. Kostrzewa

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INTERESTED AGENCES

No agencies to date.

DECLARATION OF SERVICE

I, **Jeannette Cumberland**, declare that on **June 1, 2006**, I deposited copies of the attached **Supplement I in Response to Data Requests 1 Through 80 and April 25 Workshop Queries in Support of the Application for Certification for the Sun Valley Energy Project (05-AFC-03)**, in the United States mail at **Sacramento, CA** with first class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above. Transmission via electronic mail was consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.5, and 1210.

I declare under penalty of perjury that the foregoing is true and correct.

[signature]

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

SUPPLEMENT I IN RESPONSE TO DATA REQUESTS 1 THROUGH 80 AND APRIL 25 WORKSHOP QUERIES IN SUPPORT OF THE APPLICATION FOR CERTIFICATION FOR THE SUN VALLEY ENERGY PROJECT (05-AFC-03) **(Revised 03/03/06)**

PROOF OF SERVICE LIST

DOCKET UNIT

Send *the original signed document plus the required 12 copies to the address below:*

CALIFORNIA ENERGY COMMISSION
DOCKET UNIT, MS-4
*Attn: Docket No. 05-AFC-2
1516 Ninth Street
Sacramento, CA 95814-5512
docket@energy.state.ca.us

* * * *

In addition to the documents sent to the Commission Docket Unit, also send individual copies of any documents to:

APPLICANT

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Contents

Introduction

Attached are Valle del Sol Energy, LLC's (VSE's) supplemental responses to Data Requests for the Sun Valley Energy Project (SVEP) (05-AFC-03). The CEC Staff served these data requests as part of the discovery process for the SVEP project. VSE has provided written Data Request Responses to all of the data requests. In some cases, however, full responses were deferred for additional time. In addition, Staff asked for additional information during the Data Request Response Workshop held on April 25, 2006, relating to some data requests or topic areas. This document provides both the additional responses to CEC's Data Requests dated March 15, 2006, and additional information in response to the informal requests made at the workshop. If information is provided in response to a specific data request, the response is keyed to a Data Request number. If the information is provided in response to a workshop query, the response is numbered sequentially with a "WSQ" prefix.

The responses are grouped by individual discipline or topic area. Within each discipline area, the responses are presented in the same order as CEC Staff presented them and are keyed to the Data Request numbers. New or revised graphics or tables are numbered in reference to the Data Request number. For example, the first table used in response to Data Request #15 would be numbered Table DR15-1. The first figure used in response to Data Request #28 would be Figure DR28-1, and so on. Other supporting information in response to a data request (supporting data, stand-alone documents such as plans) is found at the end of a discipline-specific section as numbered attachments. These additional pieces of information are not sequentially page-numbered consistently with the remainder of the document, but may have their own internal page numbering system.

Air Quality

Fine Particulate Matter ($PM_{2.5}$) Mitigation

DR6. Please provide proposal(s) to mitigate the facility's potentially significant $PM_{2.5}$ impacts.

Response: VSE has requested information regarding particulate matter (PM) credits in the Priority Reserve from the South Coast Air Quality Management District (SCAQMD) and will provide this information and further analysis of PM mitigation in a future submittal, based on SCAQMD's response.

Fuel Sulfur Content

DR23. Please provide the method for ensuring continuous compliance with the sulfur content limits specified for the supplied natural gas fuel.

WSQ-1. Although the sulfur content of Southern California natural gas is generally low and may average the 0.25 gr/100scf contemplated in the AFC, the Southern California Gas Company has, historically, not guaranteed sulfur content below 0.75 gr/100scf. Please provide modeled impacts of using natural gas at 0.75 gr/100scf.

Response: See Attachment AIR-3 for revised sulfur tables for assessing short-term effects assuming 0.75 gr/100scf.

Text File

DR26. Please provide a text file describing the provided input and output modeling files.

Response: A "readme" file was supplied to CEC Staff via e-mail on April 12, 2006, (Gregory Darvin to Gabriel Taylor), which identifies the various modeling input and output files.

Cumulative Impacts Analysis

DR27. Please clarify whether an air quality cumulative impact analysis has been performed. If it has, please provide the modeling assumptions, model input and output files, and modeling results.

DR28. If a cumulative impact analysis has not been performed, please discuss the status of obtaining a list of projects near the Sun Valley project site that meet the criteria listed in Section 8.1H "Cumulative Impacts Analysis Protocol". If the aforementioned list has been obtained, please submit the list of the emission sources to be included in the cumulative air quality impacts analysis.

DR29. Upon staff's review and concurrence of the sources, please perform a cumulative impact analysis using the modeling method proposed in the AFC.

Response: The SCAQMD has provided the list of emissions sources and this list is included here as Attachment AIR-4. The District has not yet provided emissions data for these projects.

Attachment AIR-3

Revised Sulfur Gas Table

Attachment AIR-3

Sun Valley Energy Project

Revised Modeled SO_2 Project Impacts

Pollutant	Averaging Time	Maximum Facility Impact ($\mu g/m^3$)	Background ($\mu g/m^3$)	Total Impact ($\mu g/m^3$)	State Standard ($\mu g/m^3$)	Federal Standard ($\mu g/m^3$)
SO_2	1-hour	11.97	53.2	65.17	650	-
	3-hour	11.76	53.2	64.96	-	1,300
	24-hour	3.78	39.9	43.68	109	365
	annual	0.08	8	8.1	-	80

Attachment AIR-4

List of Emissions Sources

CITY	ZIP	C_CAT_NUMB	C_CAT_DESC	FACILITY_S	SIC_CODE_1	UTM_EAST	UTM_NORTH	APPLICATIO	APPLICAT_1	APPLICAT_2	APPLICAT_3	PERMIT_NUM	PERMIT_STA	PERMIT_ISS	B_CAT_NUMB	B_CAT_DESC	EMI_AMOUN	EMI_AMO_1	EMI_AMOUNT	EMI_AMOU_1	EMI_AMOU_2	PC_ISSUED_
ERRIS	92570			A	0	0.000	0.000	1/16/2004	31	10	424223	F66600	ACTIVE	2/26/2004	257	OVEN, OTHER	0	1	0	3	0	
ENIFEE	92584			A	5541	0.000	0.000	4/28/2004	31	50	428771	N14273	ACTIVE	5/6/2004	248915	SERV STAT STORAGE & DISPENSING GASOLINE	0	0	0	22	0	
ERRIS	92570			A	0	0.000	0.000	6/9/2004	31	10	430963	F69751	ACTIVE	7/21/2004	183	CREMATORY	1	1	0	0	0	
ERRIS	92570			A	3273	479.295	3735.861	6/9/2004	31	30	431155	F69705	ACTIVE	7/16/2004	112920	STORAGE SILO FLY ASH	0	0	0	0	0	
ERRIS	92570			A	5541	479.057	3740.074	6/30/2004	31	50	431888	N14658	ACTIVE	7/14/2004	248915	SERV STAT STORAGE & DISPENSING GASOLINE	0	0	0	17	0	
UAIL VALLEY	92587	60	SPRAY BOOTH PAINT AND SOLVENT	A	9999	0.000	0.000	8/6/2004	31	20	433294	F72343	ACTIVE	12/3/2004	0		0	0	0	22	0	
ERRIS	92570			A	0	0.000	0.000	8/24/2004	31	10	433907	F72698	ACTIVE	12/22/2004	292	CONCRETE BATCH EQUIPMENT	9	14	1	1	1	10/08/2004 10:1
ERRIS	92570	60	SPRAY BOOTH PAINT AND SOLVENT	A	2511	479.160	3736.108	11/24/2004	31	50	437149	F73788	ACTIVE	2/16/2005	0		0	0	0	30	0	
UN CITY	92586			A	5541	0.000	0.000	11/23/2004	31	10	437231	F73356	ACTIVE	1/27/2005	28000	SOIL TREAT VAPOR EXTRACT GASOLINE UNDER	0	0	0	1	0	
UN CITY	92586			A	5541	0.000	0.000	1/4/2005	31	10	438523	N16139	ACTIVE	2/15/2005	248915	SERV STAT STORAGE & DISPENSING GASOLINE	0	0	0	13	0	
ERRIS	92571			A	9999	479.086	3741.878	12/21/2004	31	10	438726	F81674	ACTIVE	4/21/2006	603	DRY CLEANING,DRY-TO-DRY NV,W/ SIC,PERC	0	0	0	0	0	
ERRIS	92570			A	5171	479.151	3738.206	2/1/2005	31	50	439553	N16594	ACTIVE	3/23/2005	248126	BULK LOADING/UNLOADING FUEL DISPENSING (1 RACK) <20,000 GPD	0	0	0	10	0	
UN CITY	92586			A	5541	483.181	3730.414	2/1/2005	31	50	439556	N16212	ACTIVE	2/18/2005	248915	SERV STAT STORAGE & DISPENSING GASOLINE	0	0	0	13	0	
UN CITY	92584			A	4813	483.706	3723.121	2/4/2005	31	50	440068	N16438	ACTIVE	3/15/2005	248915	SERV STAT STORAGE & DISPENSING GASOLINE	0	0	0	1	0	
ENIFEE	92584			A	0	0.000	0.000	2/22/2005	31	10	440289	N16375	ACTIVE	3/9/2005	248915	SERV STAT STORAGE & DISPENSING GASOLINE	0	0	0	17	0	
ERRIS	92571	6H	SPRAY BOOTHS (MULTIPLE) WITH MULTIPLE VOC CONTROL EQ	A	5561	479.080	3743.509	2/17/2005	26	50	440323				0		0	0	0	0	2	06/26/2005 11:4
ENIFEE	92584			A	0	0.000	0.000	3/1/2005	31	10	440610	N16427	ACTIVE	3/11/2005	248915	SERV STAT STORAGE & DISPENSING GASOLINE	0	0	0	0	0	
ERRIS	92570			A	0	479.070	3738.059	3/22/2005	31	50	441570	N16702	ACTIVE	3/30/2005	248915	SERV STAT STORAGE & DISPENSING GASOLINE	0	0	0	3	0	
ERRIS	92570	60	SPRAY BOOTH PAINT AND SOLVENT	A	2511	0.000	0.000	4/5/2005	31	10	442579	F75144	ACTIVE	4/28/2005	0		0	0	0	5	0	
ANYON LAKE	92587			A	9999	475.192	3726.704	4/13/2005	31	50	444057	N17306	ACTIVE	6/9/2005	248915	SERV STAT STORAGE & DISPENSING GASOLINE	0	0	0	1	0	
ENIFEE	92584			A	0	0.000	0.000	6/6/2005	31	50	444505	N17346	ACTIVE	6/16/2005	248915	SERV STAT STORAGE & DISPENSING GASOLINE	0	0	0	22	0	

Biological Resources

Biological Surveys

DR30. *Provide a schedule for and the results of spring botanical surveys, burrowing owl surveys, and winter bird surveys.*

Response: Protocol-level burrowing owl surveys were completed for the project area and along the linear routes on March 30, 2006. Results of the survey are included in Attachment BIO-1.

Spring botanical surveys were completed on May 17, in accordance with the blooming periods of the special-status plants known to occur in this area. The report of these surveys is included as Attachment BIO-2.

Winter bird and general wildlife surveys were completed on March 24, 2006. The report of this survey is included as Attachment BIO-3.

Attachment BIO-1

Burrowing Owl Survey Report

Burrowing Owl Survey of the Sun Valley Energy Project Site, Romoland, California

PREPARED FOR: Doug Davy/CH2M HILL

PREPARED BY: Robert Hernandez/CH2M HILL

COPIES: Russell Huddleston/CH2M HILL

DATE: April 26, 2006

Introduction

The purpose of this technical memorandum is to summarize the results of a burrowing owl (*Athene cunicularia*) survey at the Sun Valley Energy Project site near Romoland California. In accordance with the Riverside County Multiple Species Habitat Management Plan, project sites that support suitable nesting habitat for burrowing owl must be surveyed following the Burrowing Owl Survey Protocol as part of the environmental review process for construction projects.

The Sun Valley Energy Project (SVEP) will be a nominal 500-megawatt (MW) peaking facility consisting of five GE Energy LMS100 natural gas-fired turbine-generators and associated equipment. The facility will be located near Romoland in unincorporated Riverside County on an approximately 20-acre parcel. Although the project site is currently in agricultural use, the land is zoned Manufacturing-Service Commercial. The project site is located at 29500 Rouse Road, Romoland, California. The Assessor's Parcel Numbers are 331-250-019 and -020. The site is located in Township 5S, Range 3W, Section 14 (San Bernardino Base and Meridian).

Figure 1 depicts the project site, and appurtenant facilities, including the electric transmission line, natural gas supply line, and waste water disposal line. Burrowing owl survey transect routes are also shown on Figure 1. The project will require a 750-foot-long natural gas pipeline between the project boundary and Menifee Road that will be entirely located within one of the project parcels. It will also require a 0.75-mile-long non-reclaimable water pipeline.

SVEP will connect to Southern California Edison's (SCE) electrical transmission system at the Valley Substation, which is approximately 600 feet north of the project site. This connection will require approximately 600 feet of 115-kV transmission line connecting to the south end of the Valley Substation and one off-site transmission tower in an existing SCE transmission easement.

Non-reclaimable wastewater will be discharged through an 8-inch-diameter pipeline that will run west from the project along Matthews Road to McLaughlin Road for 0.75 mile and will connect with the Inland Empire Energy Center's non-reclaimable waste water line located at McLaughlin and Antelope Roads.

The project will connect with Southern California Gas Company's (SoCal Gas's) natural gas pipeline via a 12-inch-diameter and 750-foot-long connection to the existing pipeline that runs along Menifee Road east of the project site.

Site Characterization

The proposed project site includes approximately 20 acres of agricultural land that is currently cultivated in wheat, but the area has been zoned for light industrial land use. The Burlington Northern Santa Fe (BNSF) railroad tracks are located immediately north of the site and wheat fields are present immediately to the west, south and east of the site. A fenced equipment storage yard is located immediately to the northeast and a residential home is located to the southeast. No natural habitats, trees or wetland areas were evident at the proposed project site.

Land use surrounding the project site includes a mixture of agricultural fields, fallow-ruderal areas, residential developments, and industrial areas. The Southern California Edison Valley Substation and a wood recycling facility are located north of the project, and the Inland Empire Energy Center is located approximately 0.7 mile to the northwest. Agricultural and fallow-ruderal habitats are common to the west and southwest of the project area along with some areas supporting natural coastal scrub habitat present on the low, rocky hills. The area to the southeast of the project site, on the east side of Menifee Road and south of the railroad tracks is currently being developed for housing. Areas to the northeast are predominantly agricultural fields.

Ruderal/fallow areas were documented along the north and south sides of the linear transmission lines. Ruderal/fallow areas have not been assigned a habitat category, but most closely resemble the Annual Grassland habitat types described in the literature (termed Annual Grassland by Mayer and Laudenslayer, 1988; California annual grassland series by Sawyer and Keeler-Wolf, 1995; and Non-Native Grassland by Holland, 1988). Characteristic vegetation in this habitat includes invasive species that are often associated with disturbance such as Russian thistle (*Salsola tragus*), black mustard (*Brassica nigra*), prickly lettuce (*Lactuca serriola*), western sunflower (*Helianthus annuus*), horseweed (*Conyza* sp.), doveweed (*Croton setigerus*), red brome (*Bromus madritensis*), wild oat (*Avena barbata*), sour clover (*Melilotus indicus*), and ragweed (*Ambrosia* sp.). Some areas within the ruderal habitat also support non-native *Eucalyptus* trees. The ruderal/fallow areas are typically found adjacent to the BNSF railroad track, within the transmission line right-of-way, along the edges of dirt roads and fields, in open lots, and in fallow agricultural fields.

Survey Methodolgy

Burrowing owl and general upland bird species surveys were conducted by CH2M HILL biologist Robert Hernandez on March 30, 2006 from 6:45 a.m. to 1:00 p.m. Air temperature was approximately between 54 degrees and 62 degrees Fahrenheit; prevailing winds were generally northeasterly at approximately 1 mph through 3 mph and there was 70 percent cloud cover with continued overcast conditions well after the end of survey effort at 1:00 p.m. Weather conditions may be rated as optimal, relative to protocol requirements.

The burrowing owl survey was conducted within all suitable and marginal habitat within the project site including the electric transmission line, natural gas supply line, and waste water disposal line. Prior to beginning the survey, all suitable habitat was scanned using binoculars. The surveys consisted of slowly walking all suitable habitat within 150 meters

(500 feet) of proposed ground disturbing activities. The focus of the survey consisted of detecting active nests, burrows, or signs of burrowing owl. Survey transects were performed to allow 100 percent visual coverage of the ground surface, and no two survey transects exceeded approximately 30 meters (100 feet) separation. Several areas were inaccessible to pedestrian surveys along the wastewater disposal line. When inaccessible areas were present within the 500-foot buffer, surveys were performed by scanning suitable habitats including perches with binoculars. Survey methodology for burrowing owl followed the procedures outlined in the California Burrowing Owl Consortium (CBOC) (1997).

Results

All suitable habitats within the project limits mentioned above and a 500-foot buffer from planned ground disturbance activities were surveyed for burrowing owl.

The burrowing owl survey did not result in the detection of burrowing owl; however, a single inactive burrowing owl burrow (Figure 1) was documented along the southern berm of the Burlington Northern Santa Fe (BNSF) railroad tracks located along the northern boundary of the project site. The burrow included sign such as white wash, and small mammal bone fragments. The burrow was determined to be inactive due to the presence of debris obstructing passage in and out of the burrow opening. No other burrowing owl sign was observed during the course of the survey.

Due to the presence of suitable habitat and an inactive burrow with sign on the project site, additional focused surveys including a pre-construction shall be conducted prior to any construction related ground disturbing activities can occur.

All wildlife species detected during the survey were recorded and are provided in Table 1 below.

TABLE 1
List of Wildlife Observed During Survey

Common Name	*Scientific Name*
American coot	*Fulica Americana*
American crow	*Corvus brachyrhynchos*
American goldfinch	*Carduelis tristis*
Black phoebe	*Sayornis nigricans*
California groundsquirrel	*Spermophilus beecheyi*
Desert cottontail	*Sylvilagus audubonii*
European starling	*Sturnus vulgaris*
House finch	*Carpodacus mexicanus*
Killdeer	*Charadrius vociferous*
Mourning dove	*Zenaida macroura*
Northern mockingbird	*Mimus polyglottos*
Red-tailed hawk	*Buteo jamaicensis*

TABLE 1
List of Wildlife Observed During Survey

Common Name	*Scientific Name*
Savannah sparrow	*Passerculus sandwichensis*
Say's phoebe	*Sayornis saya*
Song sparrow	*Melospiza melodia*
Tree swallow	*Techycineta bicolor*
Turkey vulture	*Cathartes aura*
Western meadowlark	*Sturnella neglecta*
White-crowned sparrow	*Zonotrichia leucophrys*

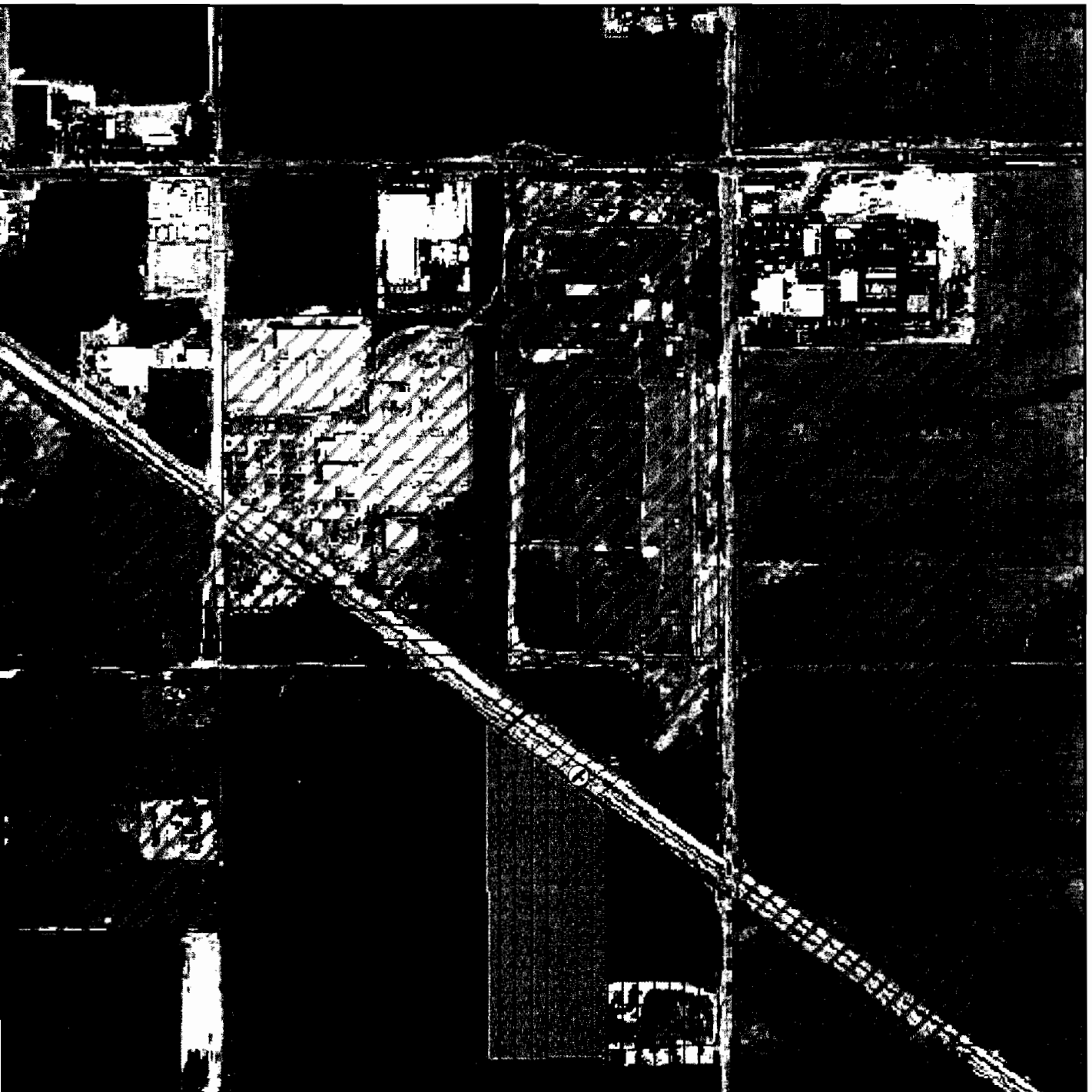
References

California Burrowing Owl Consortium. 1993. *Burrowing Owl Survey Protocol and Mitigation Guidelines.* April.

Holland, Robert F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California.* State of California, Resources Agency, Department of Fish and Game. Sacramento, CA. October.

Mayer, Kenneth E. and William F. Laudenslayer Jr. 1988. *A Guide to Wildlife Habitats of California.* State of California, Resources Agency, Department of Fish and Game. Sacramento, CA. October. Available online at: http://www.dfg.ca.gov/whdab/html/wildlife_habitats.html.

Sawyer, John O. and Todd Keeler-Wolf. 1995. *A Manual of California Vegetation.* California Native Plant Society, Sacramento, CA. Available online at: http://davisherb.ucdavis.edu/cnpsActiveServer/index.html.



Legend

- Burrowing Owl - Inactive Burrow
- Gasline
- Transmission Line
- Waste Water Line
- Survey Transects (80 Foot Intervals)
- 500 Foot Buffer
- Restricted Access
- Project Site

0 375 750 1,500

Attachment BIO-2

Wildlife Survey Report

Winter Bird Survey Reconnaissance Report Sun Valley Energy Project

PREPARED FOR: Doug Davy/CH2M HILL

PREPARED BY: Victor Leighton/CH2M HILL

COPIES: Russell Huddleston/CH2M HILL

DATE: April 24, 2006

On March 24, 2006 a winter bird and biological reconnaissance survey was conducted by Victor Leighton for the Sun Valley Energy Project near Romoland, California. This technical memorandum presents the findings of the wildlife usage and habitat observed at the proposed Sun Valley Energy Project (SVEP) and the associated linear facilities to support this proposed project. A protocol-level survey for burrowing owls was completed for the project on March 30, 2006 and is discussed in a separate report.

Project Location

The proposed SVEP is located near the unincorporated community of Romoland in western Riverside County, California. The project site is located at 29500 Rouse Road, Romoland, California. The Assessor's Parcel Numbers are 331-250-019 and -020. The site is located in Township 5S, Range 3W, Section 14 (San Bernardino Base and Meridian).

Methods

A reconnaissance-level survey was conducted by CH2M HILL biologist Victor Leighton on April 14, 2006. General wildlife (including winter and resident bird species) along with general habitat characteristics were documented for the area. Pedestrian surveys were conducted throughout the project area, including associated linear features, and visual observations of wildlife species were made with the aid of binoculars. No protocol surveys were conducted at this time.

Results

Weather for the April 14, 2006 survey was mild with temperatures in the high 60s to low 70s, wind calm, and sunny with rain occurring earlier in the week. The proposed project site includes approximately 20 acres of agricultural land currently cultivated in a grain crop (wheat or barley). Unimproved dirt roads, railroad tracks and high voltage transmission lines are located immediately north of the site and agricultural fields (grain crops) are present immediately to the west, south and east of the site. A fenced equipment storage yard is located immediately to the northeast and a residential home is located to the southeast. Habitat types and wildlife species observed in the project area are described below.

Vegetation Communities

The proposed plant site as well as areas to the south, west and east is currently being actively farmed for grain crops (wheat/barley).

The railroad and transmission line right-of-way corridors are characterized by ruderal non-native species such as black mustard (*Brassica nigra*), jimsonweed (*Datura stramonium*), foxtail (*Hordeum murinum* ssp. *leporinum*), cocklebur (*Xanthium strumarium*), sunflower (*Helianthus annus.),* prickly lettuce (*Lactuca serriola*), common knotweed (*Polygonum arenastrum*), horseweed (*Conyza canadensis*), and curly dock (*Rumex crispus*). Remnant blue-gum eucalyptus (*Eucalyptus globulus*) trees that were cut and killed to reduce fire hazards under the transmission lines are present in some areas. Outside of the transmission corridor several small to large clusters of live eucalyptus trees still remain and provide nesting habitat for a variety of avian species.

Wildlife Species Observed

This transmission corridor contains numerous small and medium sized mammal burrows throughout the area and associated linear alignments. Wildlife observed on the proposed plant site and associated linears during the surveys included red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), morning dove (*Zenaida macroura*), rock dove (*Columba livia*), killdeer (*Charadrius vociferus*), Anna's humming bird (*Anna calypte*), yellow-rumped warbler (*Dendroica coronata*), common raven (*Corvus corax*), European starling (*Sturnus vulgaris*), brewer's blackbird (*Euphagus cyanocephalus*), red-winged blackbird (*Agelaius phoeniceus*), black phoebe (*Sayornis nigricans*), white-crowned sparrow (*Zonotrichia leucophrys*), California ground squirrel (*Spermophilus beecheyi*), coyote (*Canis latrans*) (tracks), skunk (tracks) possibly (*Mephitis mephitis*), desert cottontail (*Sylvilagus audubonii*). Table 1 provides a summary of all wildlife species observed in the project area during this survey, the burrowing owl survey and the September 8, 2005 site reconnaissance survey. No special-status species were noted at the time of the survey.

Summary and Recommendations

No biological concerns were observed in the actively farm agricultural fields or fenced equipment storage yard. Eucalyptus trees and power poles provide various nesting sites for avian species; however, no nesting activity or remnant nests were observed during the survey.

TABLE 1
List of Wildlife Species Observed During Surveys

Common Name	Scientific Name	Sept. 8, 2005	March 30, 2006	April 14, 2006
American coot	*Fulica Americana*		X	
American crow	*Corvus brachyrhynchos*	X	X	
American goldfinch	*Carduelis tristis*		X	
American kestrel	*Falco sparverius*	X		X
Anna's humming bird	*Anna calypte*			X
Black phoebe	*Sayornis nigricans*		X	X
Brewer's blackbird	*Euphagus cyanocephalus*	X		X
California groundsquirrel	*Spermophilus beecheyi*	X	X	X
Common raven	*Corvus corax*	X		X
Coyote (tracks)	*Canis latrans*			X
Desert cottontail	*Sylvilagus audubonii*		X	X
European starling	*Sturnus vulgaris*	X	X	X
House finch	*Carpodacus mexicanus*		X	
Killdeer	*Charadrius vociferous*		X	X
Loggerhead shrike	*Lanius ludovicianus*	X		
Mourning dove	*Zenaida macroura*		X	X
Northern mockingbird	*Mimus polyglottos*		X	
Red-tailed hawk	*Buteo jamaicensis*	X	X	X
Red-winged blackbird	*Agelaius phoeniceus*			X
Rock dove	*Columba livia*	X		X
Savannah sparrow	*Passerculus sandwichensis*		X	
Say's phoebe	*Sayornis saya*		X	
Skunk (tracks)	*Mephitis mephitis*			X
Song sparrow	*Melospiza melodia*	X	X	
Tree swallow	*Techycineta bicolor*		X	
Turkey vulture	*Cathartes aura*		X	
Western meadowlark	*Sturnella neglecta*		X	
White-crowned sparrow	*Zonotrichia leucophrys*		X	X
Yellow-rumped warbler	*Dendroica coronata*			X

Attachment BIO-3

Spring Botanical Surveys

Rare Plant Survey, Sun Valley Energy Project, Romoland, California

PREPARED FOR: Doug Davy, Project Manager

Russell Huddleston, Biologist

PREPARED BY: Kelly Byrne, Botanist

DATE: May 28, 2006

This memorandum provides the results of a special-status plant species survey conducted in spring, 2006 at the Sun Valley Energy Project (SVEP) site near Romoland, Riverside County, California. Survey methods employed and results of the surveys are presented in the following sections.

1.2 Survey Methods

Rare plant surveys of the project area were conducted by Kerry Byrne and Nichole Coulter of CH2M HILL on May 17, 2006. The objective of these surveys was to determine if any special-status plant species occur in the project area. These rare plant surveys were floristic in nature (meaning that each plant encountered onsite was identified to the level necessary to ascertain if it was a special-status species). Surveys followed California Department of Fish and Game and California Native Plant Society rare plant survey guidelines (CDFG, 2000; CNPS 2006).

Prior to beginning surveys, a target species list was prepared by searching the California Department of Fish and Game's Natural Diversity Database (CNDDB) and the California Native Plant Society's (CNPS) Electronic Inventory in order to identify the special-status plants that occur within the project vicinity (CNDDB, 2006; CNPS 2006). The following USGS Quadrangle maps were searched for records of special-status plants: Romoland, Lakeview, Perris, Lake Elsinore, Wildomar, Steele Peak, Winchester, Murrieta, and Bachelor Mountain.

A reference site in the San Jacinto Valley was checked to determine the phenology and condition of local rare plant populations in the area. On May 15 and 16, 2006 the biologists observed thread-leaved Brodiaea (*Brodiaea filifolia*), Smooth tarplant (*Centromadia pungens* ssp. *laevis*), Spreading navarretia (*Navarretia fossalis*), San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*), Davidson's saltscale (*Atriplex davidsonii*), Parish's brittlescale (*Atriplex parishii*), Vernal barley (*Hordeum intercedens*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), and Little mousetail (*Myosurus minimus*) all in flower or seed and recognizeable. The SVEP project site and the off-site linear appurtenances were surveyed on foot by walking systematic transects throughout the project area. The offsite linear appurtenances included the electrical transmission line, which runs for approximately 600 feet to the northeast of the project site; the natural gas pipeline, which runs

approximately 750 feet to the east and southeast of the project site along the railroad right-of-way; and the nonreclaimable wastewater pipeline, which runs north to McLaughlin Road and then west along McLaughlin Road for a total distance of about 0.75 miles. The biologists surveyed to approximately fifty feet on either side of the linear transmission lines to ensure that the species in the area of any possible indirect impacts would be inventoried as well.

Special-status species identified from these database searches that are either known to occur within the study area or are known to occur in grassland habitats in the project vicinity are shown in Table 1.

TABLE 1
Special-Status Plant Species Potentially Occurring at the Sun Valley Energy Project.

Scientific Name	Common Name	Federal/State/ CNPS status	Habitat Description	Blooming Period	Documentation of Species Within the Project Vicinity *
Brodiaea filifolia	Thread-leaved Brodiaea	FT/CE/1B	Chaparral (openings), cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools/often clay	Mar-Jun	Known to occur in the project vicinity
Centromadia pungens ssp. *laevis*	Smooth tarplant	None/None/1B	Chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grassland/alkaline	Apr-Sep	Known to occur in the project vicinity
Erodium macrophyllum	Round-leaved filaree	None/None/2	Cismontane woodland, valley and foothill grassland/clay	Mar-May	Known to occur in the project vicinity
Navarretia fossalis	Spreading Navarretia	FT/None/1B	Coastal scrub, meadows and seeps, valley and foothill grassland (alkaline), vernal pools/mesic	Apr-June	Known to occur in the project vicinity

Notes:

* Only grassland habitat is present.

Sources:

California Department of Fish and Game. Natural Diversity Data Base Program "Rarefind." 2006. California Natural Diversity Database. The Resources Agency, Sacramento.

California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06b). California Native Plant Society. Sacramento, CA.

Status Codes:

Federal Status
FE = Federally listed as endangered
FT = Federally listed as threatened
FPE = Federally proposed for listing as endangered
FPT = Federally proposed for listing as threatened
FC = Federal candidate species
FSC = Federal species of concern

State Status
CE = State listed as endangered
CT = State listed as threatened
CSC = State species of concern
CAF = Fully Protected by California Department of Fish and Game (CDFG)
CAP = Protected by CDFG

California Native Plant Society (CNPS) Status Codes
1A = Plants presumed extinct in California
1B = Plants rare, threatened, or endangered in California, and elsewhere
2 = Plants rare, threatened, or endangered in California, but more common elsewhere
3 = Plants about which we need more information – a review list
4 = Plants of limited distribution – a watch list

A list of plants encountered within the project area during the rare plant survey is provided in Table A-1 (Appendix A). The habitat type within this proposed project area was identified and is described in the results section, below. Taxonomy follows the Jepson Manual (Hickman, 1993) and The Vascular Plants of Western Riverside County, California (Roberts et al. 2004).

1.3 Results

The proposed project site includes approximately 20 acres of agricultural land that is currently cultivated in barley. The vegetation along the margins of the agricultural field and along the project linears lines is dominated by ruderal (weedy) non-native grassland habitat. One "wet area" was located at the western end of the non-reclaimable wastewater discharge pipeline route.

The ruderal non-native grassland is dominated by weedy grasses such as rip-gut brome (*Bromus diandrus*), perennial ryegrass (*Lolium perenne*), soft chess (*Bromus hordeaceus*), foxtail barley (*Hordeum murinum* ssp. *leporinum*), and wild oats (*Avena fatua*). In areas where the dense grass cover does not preclude the presence of other species, forbs such as Russian thistle (*Salsola tragus*), summer mustard (*Brassica geniculata*), prickly lettuce (*Lactuca serriola*), western sunflower (*Helianthus annuus*), horseweed (*Conyza canadensis*), doveweed (*Croton setigerus*), sour clover (*Melilotus indicus*), and annual burweed (*Ambrosia acanthicarpa*) are common.

The "wet area" located towards the western end of the nonreclaimable wastewater line did provide habitat for more water dependent species, but no rare plants were found in the area. Species included annual beardgrass (*Polypogon monspeliensis*), perennial ryegrass (*Lolium perenne*), Mexican speed-well (*Veronica peregrina* ssp. *xalapensis*), salt-marsh sand spurry (*Spergularia marina*), common toad rush (*Juncus bufonius*), and California loostrife (*Lythrum californicum*).

No federal, state or CNPS listed plants were found during the surveys. The project area contains a host of non-native species and a few native species, but does not provide adequate habitat for any of the potential rare plants in the area. These surveys were conducted durning an appropriate blooming period for all potential rare plants.

1.4 References

California Department of Fish and Game (CDFG). 2006. California Natural Diversity Data Base "Rarefind". Natural Heritage Division, Sacramento, CA.

California Department of Fish and Game (CDFG). 2001. General Rare Plant Survey Guidelines. Available on line at: http://www.fws.gov/sacramento/es/protocol.htm

California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06b). California Native Plant Society. Sacramento, CA.

California Native Plant Society (CNPS). 2001. Botanical Survey Guidelines. Inventory of Rare and Endangered Plants (6th Edition). California Native Plant Society. Sacramento, CA.

Hickman, J.C., ed. 1993. The Jepson Manual. Higher Plants of California. University of California Press, Berkeley.

Roberts, F.M., Scott D. White, Andrew C. Sanders, David E. Bramlet and Steve Boyd. 2004. The Vascular Plants of Western Riverside County, California. An Annotated Checklist. F.M. Roberts Productions, San Luis Rey, California.

APPENDIX A

Plant Species Observed During May 2006 Survey of the Sun Valley Energy Project Site

TABLE A-1
List of Plant Species observed during May 2006 survey of the Sun Valley Energy Project Site

Scientific Name	Common Name	Native	Habit
Asteraceae			
Ambrosia acanthicarpa	Annual burweed	N	A
Anthemis cotula	Dog mayweed	NN	A
Centaurea melitensis	Tocalote	NN	A
Chamomilla suaveolens	Common pineapple weed	NN	A
Cirsium vulgare	Bull thistle	NN	B
Conyza canadensis	Common horseweed	N	
Deinandra keloggii	Kellogg's tarplant	N	
Helianthus annuus	Western sunflower	N	A
Lactuca serriola	Prickly lettuce	NN	A
Lasthenia californica	California goldfields	N	A
Boraginaceae			
Amsinckia menziesii var. *intermedia*	Common fiddleneck	N	A
Heliptropium curassavicum	Salt heliptrope	N	
Brassicaceae			
Brassica geniculata	Summer mustard	NN	
Brassica nigra	Black mustard	NN	
Capsella bursa-pastoris	Shepherd's purse	NN	A
Raphanus sativus	Wild raddish	NN	A B
Sisymbrium irio	London rocket	NN	A
Caryophyllaceae			
Spergularia marina	Salt-marsh sand spurry	N	A
Chenopodiaceae			
Chenopodium murale	Nettle-leaved goosefoot	NN	A
Salsola tragus	Russian thistle	NN	A

TABLE A-1
List of Plant Species observed during May 2006 survey of the Sun Valley Energy Project Site

Convolvulaceae			
Convolvulus arvensis	Field bindweed	NN	P
Euphorbiaceae			
Croton setigerus	Doveweed	N	P
Euphorbia albomarginata	Rattlesnake spurge	N	A
Fabaceae			
Lupinus bicolor	Miniature lupine	N	A
Medicago polymorpha	Bur-clover	NN	A
Melilotus indicus	Sourclover	NN	A
Geraniaceae			
Erodium brachycarpum	Short-fruited filaree	NN	A
Juncaceae			
Juncus bufonius	Common toad rush	N	A
Lythraceae			
Lythrum californicum	California loostrife	N	A B
Malvaceae			
Malva parviflora	Cheeseweed	NN	A
Myrtaceae			
Eucalyptus spp.	Eucalyptus	NN	T
Poaceae			
Avena fatua	Wild oats	NN	A
Bromus diandrus	Common ripgut grass	NN	A
Bromus hordeaceus	Soft chess	NN	A
Bromus madritensis ssp. *rubens*	Red brome	NN	A
Cynodon dactylon	Bermuda grass	NN	P
Dactylis glomerata	Orchard grass	NN	P
Hordeum murinum ssp. *leporinum*	Foxtail barley	NN	A
Hordeum vulgare	Cultivated barley	NN	A
Lolium perenne	Perennial ryegrass	NN	P
Phalaris minor	Littleseed canary grass	NN	A
Polypogon monspeliensis	Annual beard grass	NN	A
Schismus barbatus	Mediterranean schismus	NN	A
Polygonaceae			

TABLE A-1
List of Plant Species observed during May 2006 survey of the Sun Valley Energy Project Site

Polygonum argyrocoleon	Persian knotweed	NN	A
Rumex crispus	Curly dock	NN	P
Portulaceae			
Portulaca oleracea	Common purslane	NN	A
Scrophulariaceae			
Veronica peregrina ssp. *xalapensis*	Mexican speedwell	N	A
Solanaceae			
Nicotiana glauca	Tree tobacco	NN	S
Zygophyllaceae			
Tribulus terrestris	Puncture vine	NN	A

Notes:

N = Native
A = Annual
P = Perennial
S = Shrub
NN = Non-native
B = Biennial
F = Fern
T = Tree

Taxonomy follows the Jepson Manual (Hickman, 1993)

Cultural Resources

California Archaeological Information Center Record Search

DR48/WSQ-3. Applicant has provided the archaeological site records for sites located near the project and cited references of archaeological surveys conducted near the project. Under confidential cover, please provide the California Historical Resources Information Center's letter reporting the results of the literature search conducted for the project.

Response: This information has been provided to Staff.

Architectural Survey

DR50. Please submit the following information on the architectural survey(s) conducted by the applicant for this project.

a. The date(s) of the survey(s), the names of the personnel carrying out the survey(s), a delineation of the survey areas, a description of the methods used (including how the ages of the structures adjacent to the proposed project components were determined), and the results of new and/or additional surveys.

i. Pre-Application Survey. Under "Architectural Reconnaissance," the AFC indicates that the applicant reconnoitered the project parcel, the "immediate project area," and "along" the natural gas pipeline and non-reclaimable waste water line, but identified no standing buildings or structures older than 45 years except for the BNSF Railway (pp. 8.3-14, 15). If the survey did not include other commonly overlooked linear facilities and related structures (roads, bridges, tunnels, culverts, dams, canals, irrigation systems, pumping stations, transmission lines, electrical substations) that are located within ½ mile of the SVEP site and that could be more than 45 years old, staff recommends that an additional survey should be conducted to identify these resources and the results should be provided.

c. Please provide the resume of the architectural historian who conducted or directed the survey(s) and made the age and/or eligibility assessments for the identified cultural resources. If that person does not meet the Secretary of the Interior's Professional Qualifications Standards, a re-survey by a qualified person may be necessary.

Response: 50a. The initial architectural/historic sites reconnaissance was conducted at the time of the archaeological survey by Mr. Clint Helton (see response to Data Request 49(a)(i) on September 21, 2005). Surveys for historic buildings, on which the project might have a visual impact, were reconnaissance-level surveys that extended for ½ mile beyond the project boundary. This reconnaissance was conducted by visual inspection from the project site, by inspection of maps and aerial photographs, and by windshield survey (driving the project area, looking for older properties).

Mr. Helton also conducted the initial reconnaissance for historic properties (roads, bridges, tunnels, culverts, dams, canals, irrigation systems, pumping stations, transmission lines, and electrical substations) located along the natural gas pipeline and non-reclaimable

wastewater lines and that the project could affect. No features that could qualify as historic features were identified along or adjacent to the right-of-way.

Ms. Peggy Beedle visited the project area on March 29, 2006, to record the BNSF Railway segment that is located adjacent to the project site. Ms. Beedle conducted a windshield survey-reconnaissance of the areas adjacent to the power plant site that the project might affect visually. No buildings or structures that could qualify as historic were identified near the project site.

50c. The resume for Peggy Beedle of Applied Earthworks was provided as Attachment CR-5 to the Data Request Response package. Ms. Beedle meets the Secretary of the Interior's Professional Qualifications Standards for architectural history and she performed the recordation of the BNSF railroad and prepared the site record. Ms. Beedle recorded the BNSF railway segment that is located adjacent to the project site and also conducted a windshield survey of buildings and structures located near the project site that the project might affect visually.

Visual Plume Analysis

Visible Plume Modeling Results

DR67. *If the applicant performed a visible plume modeling analysis in support of the AFC Visual Resources conclusion, please provide the modeling results, any meteorological data used in the analysis, a full discussion of all assumptions, the name and version of the model used, and all model input and output files. If a modeling analysis was not performed, please provide any analysis that supports the visible water vapor plume discussion in the AFC.*

Response: The visual plume modeling analysis will be provided in a future submittal.

Meteorological Data Files

DR68. *Please provide five years of meteorological data files in either the National Climate Data Center (NCDC) CD144 (surface data), NCDC-TD3280 (hourly surface observations with precipitation), or Hourly United States Weather Observations (HUSWO) format. The files should be the most recent years available. The files must include location, present weather, cloud cover, and visibility data. Please include a complete description of the source of this data (i.e. specific location, anemometer height, etc), and a discussion of why the data is representative of the area. Please also provide an electronic copy of the raw meteorological data file for each year.*

Response: This data was provided to Staff on April 19, 2006 (e-mail from Gregory Darvin to Gabriel Taylor and is available to interested parties on request.

Cooling Tower Operating Values

DR70. *Please provide the values for heat rejection, exhaust temperature, and exhaust mass flow rate that affect cooling tower vapor plume formation for a range of ambient conditions that represent reasonable worst-case operating scenarios. At a minimum, please fill in all blanks in the table below. Please also update/correct the table, if necessary.*

Cooling Tower Operating Values

Parameter	***Cooling Tower Exhausts***		
Number of Cells		*5 cells (in 1 x 5 array)*	
*Cell Height**		*11.89 meters*	
*Cell Diameter**		*6.71 meters*	
*Tower Housing Length**		*66.53 meters*	
*Tower Housing Width**		*11.28 meters*	
Ambient Temperature	*20°F*	*59°F*	*95°F*
Ambient Relative Humidity	*60%*	*60%*	*60%*
Heat Rejection (MW/hr)	—	—	—
Exhaust Temperature (°F)	—	—	—
Exhaust Flow Rate (lb/hr)	—	—	—

** Stack dimensions from AFC Table 8.1B-2. Tower length and width (not including circulating pumps)*

Socioeconomics

Development Impact Fee

WSQ-4. Please provide the Riverside County Development Impact Fee schedule for the project.

Response: In accordance with Riverside County Ordinance 659.6, the Development Impact fee for the project (Industrial property in Area 17, Sun City/Menifee Valley Area Plan) will be $11,932 per acre (Table WSQ4-1).

TABLE WSQ4-1
Development Impact Fee for Industrial Property, Riverside County Area 17

	Fee Component	Per acre fee
a.	Public Facilities	$1,160
b.	Fire Facilities	$1,263
c.	Transportation – Roads, Bridges, Major Improvements	$4,594
d.	Transportation - Signals	$3,601
e.	Conservation and Land Bank	$0
f.	Regional Parks	$720
g.	Community Centers/Parks	$0
h.	Regional Multipurpose Trails	$426
i.	Flood Control	$0
j.	Library Books	$0
k.	Fee Program Administration	$168
	Total	$11,932

Source: http://www.clerkoftheboard.co.riverside.ca.us/ords/600/659.htm

estimated from AFC Table 8.1B-3 and 8.1B-4.

Response: Table DR70-3 below, presents the values for heat rejection, exhaust temperature, and exhaust mass flow rate that affect cooling tower vapor plume formation for a range of ambient conditions that represent reasonable worst case operating scenarios.

TABLE DR70-3
Cooling Tower Operating Values

Parameter	Cooling Tower Exhausts		
Number of Cells	5 cells (in 1 x 5 array)		
Cell Height*	11.89 meters		
Cell Diameter*	6.71 meters		
Tower Housing Length*	66.53 meters		
Tower Housing Width*	11.28 meters		
Ambient Temperature	20°F	59°F	95°F
Ambient Relative Humidity	60%	60%	60%
Heat Rejection (MW/hr)	**145**	**160**	**176**
Exhaust Temperature (°F)	**107**	**102**	**111**
Exhaust Flow Rate (lb/hr)	**6,348,000**	**10,116,431**	**12,612,612**

* Stack dimensions from AFC Table 8.1B-2. Tower length and width (not including circulating pumps) estimated from AFC Table 8.1B-3 and 8.1B-4.