

# Memorandum

Date: December 14, 2009  
Telephone: (916) 654-4679

To: Commissioner Jeffrey Byron, Presiding Member  
Commissioner James D. Boyd, Associate Member

From: California Energy Commission – John Kessler, Project Manager  
1516 Ninth Street  
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<b>DOCKET</b>	
<b>07-AFC-5</b>	
DATE	<u>12/14/09</u>
RECD.	<u>12/15/09</u>

Subject: **STAFF’S DESCRIPTION OF ITS VISUAL RESOURCES PHOTOS  
IVANPAH SOLAR ELECTRIC GENERATING SYSTEM (07-AFC-5)  
Exhibit 301**

## SUMMARY

Energy Commission staff is providing a list and description of the Visual Resources photos it previously filed on December 9, 2009 and also presented at the December 14, 2009 Evidentiary Hearing in a presentation by Bill Kanemoto. The list is provided in order of ascending page number as presented at the hearing.

## List and Description of Visual Resource Photos and Figures

Photo information below includes (if available): File name/Location/Direction of view/(lens type).

Page 1 – KOP/Viewshed Map, Figure 2, FSA

**Page 2 – Title Page, Project Setting (Staff Photos by Bill Kanemoto)**

Page 3 – Map of Mojave National Preserve

Page 4 – Map of Site, AFC Figure 5.6-1

Page 5 - EastPano: panorama from project site, looking east toward Primm Golf Course, dry lake.

Page 6 - Clark Mountain from Dry Lake-8040: looking west to site across dry lake from east of the dry lake (normal).

Page 7 - EofLake-8039: View from east of dry lake, looking west to site (normal).

PROOF OF SERVICE (REVISED 11/23/09) FILED WITH  
ORIGINAL MAILED FROM SACRAMENTO ON 12/15/09  
**MS**

Page 8 - IMG\_8064: View of Clark Mountain from dry lake, near KOP 7, looking west (long).

Page 9 - IMG-8046: Another view of site, looking west from east side of dry lake (long).

Page 10 - Nipton\_7168: View from town of Nipton at background distance, looking at site to northwest (normal).

Page 11 - JoshuaHiway\_7147 (long), 7175 (Normal): Views of site looking northwest from Joshua Tree Highway (Nipton Road) at far-middleground and background distance.

Page 12 - Overview from Nipton IC\_ 7228 (normal): similar to 8027, looking north from Nipton/I-15 IC

Page 13 - Overview from Nipton IC\_ 7229(SITE) (normal): same as 7228, rotated slightly to the left to center on project site.

Pages 14 and 15 - Midway\_7291, 7298: 2 rotated views from I-15 midway between Nipton Road and Primm golf course, looking north and northwest (normal).

Page 16 – BLM VRI Inventory Map

### **Page 17 – Title Page, Impacts (Applicant Simulations)**

Pages 18 and 19 – KOP 1 Simulations

Pages 20 and 21 – KOP 2 Simulations

Pages 22 and 23 – KOP 3 Simulations, Yates Well Road, Ivanpah 2 and 3

Pages 24 and 25 – KOP4 Simulations, Yates Well Road, Ivanpah 1

Pages 26 and 27 – KOP 9 Simulations, Road to Umberci Mine

Pages 28 and 29 – KOP 10 Simulations, Road to Benson Mine within Mojave National Preserve

### **Existing Solar Project Photos**

Page 30 – Abengoa Solucar PS10 Project, Seville, Spain

Pages 31 and 32 – Solar 2, Daggett, CA

Pages 33 thru 39 – Solar 1, Daggett, CA

Page 40 – Solucar PS10 Project, Seville, Spain

Page 41 - Solucar PS 10 Project, named '8787050\_55-\_art\_RO' was taken from a National Geographic Magazine article on their website. No other information is available at this time.

Page 42 – Solucar PS 10 Project, Seville, Spain

Page 43 – Local Cumulative Map, Ivanpah Valley FSA/DEIS Cumulative Scenario Figure 3

Page 44 – Regional Cumulative Map, FSA/DEIS Cumulative Scenario Figure 1

### ***Information on photos listed above:***

#### **Project Setting – pages 2 thru 15**

These are all digital photos taken by Bill Kanemoto on one of three dates:

1/14/08; 1/15/08; 4/14/08. The lens settings vary, and of course one is a panorama assembled to depict the broad frame of reference. Most are equivalent to a 54 mm lens on a 35 mm film SLR. For example, the photo of the site from the Joshua tree highway, taken at a distance of about 5 miles, is equivalent to a 54 mm lens on a 35 mm SLR – horizontal angle of view approximately 36 to 37 degrees. This is in the range of what some refer to as a 'normal' lens setting. Some are longer than that; others are wider. It would take some time to identify each individual photo, but that information is certainly available if for some reason it becomes important (?). These photos were not taken with the intent of producing simulations but of conveying the general landscape character, so angle of view was not considered critical.

#### **BLM Figure – page 16**

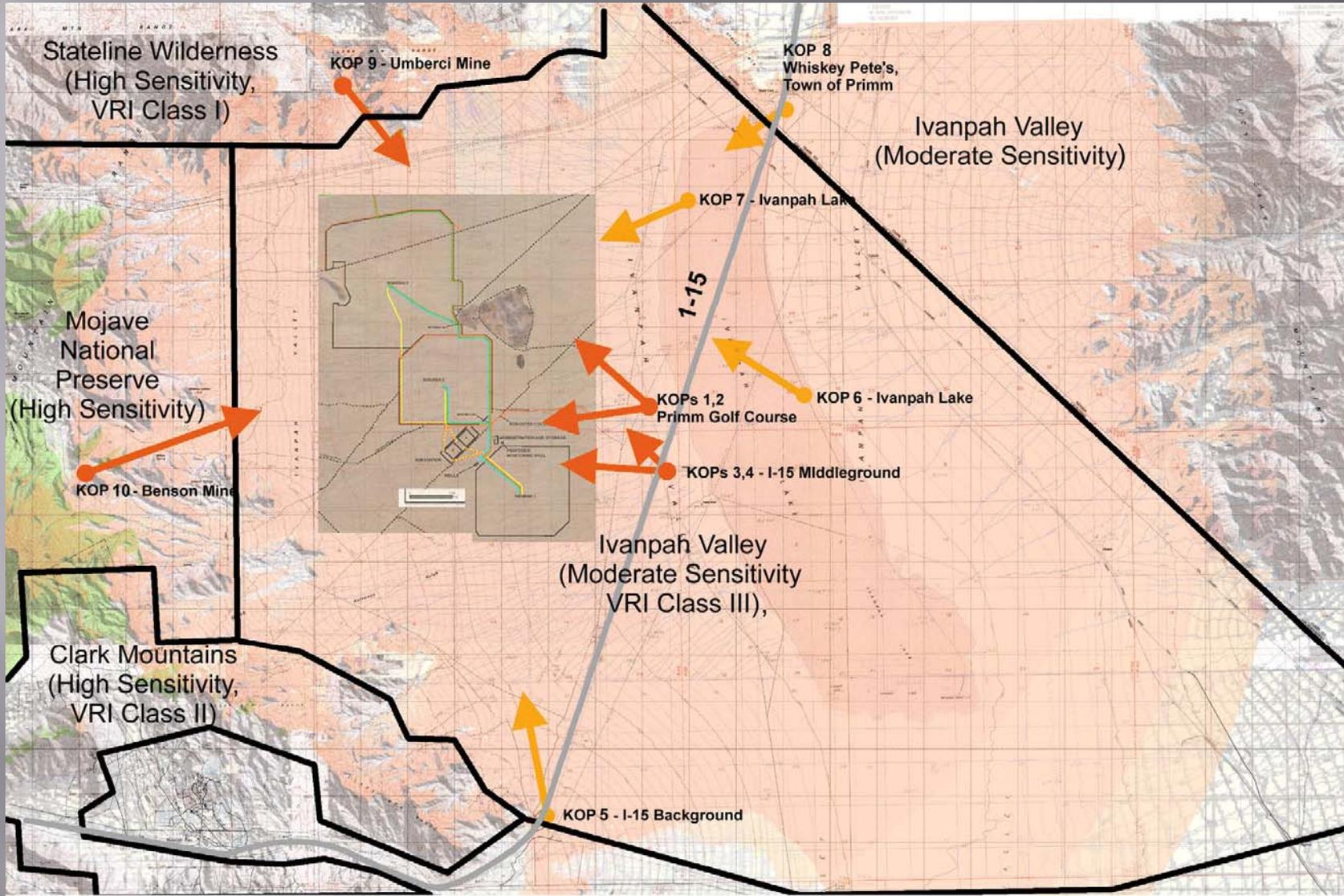
#### **Applicant's Simulations – pages 17 - 29**

#### **Existing Solar Project Photos – pages 30 thru 44**

- Solar One and Two Photos: These are all taken by Sandia National Laboratories, from the Sandia Concentrating Solar Power Photo and Document Database: <http://www.energylan.sandia.gov/stdb.cfm>.
- Photos are taken either by James Pacheco, or Michael Prairie, Sandia Lab employees, between 1994 and 2000, as documented in their online database.

- No other information, such as lens settings, altitude at time of photo, direction, etc. are described in their database and are not known.
- Images of the Solucar PS 10 project were taken in Seville, Spain by uncredited photographers on the Abengoa Solar company website: <http://www.abengoasolar.com/sites/solar/es/> . No other information was available for these photos.
- One additional photo, named 8787050\_55-\_art\_RO was taken from a National Geographic Magazine article on their website. No other information is available at this time.

Docket (07-AFC-5)  
Webworks  
POS



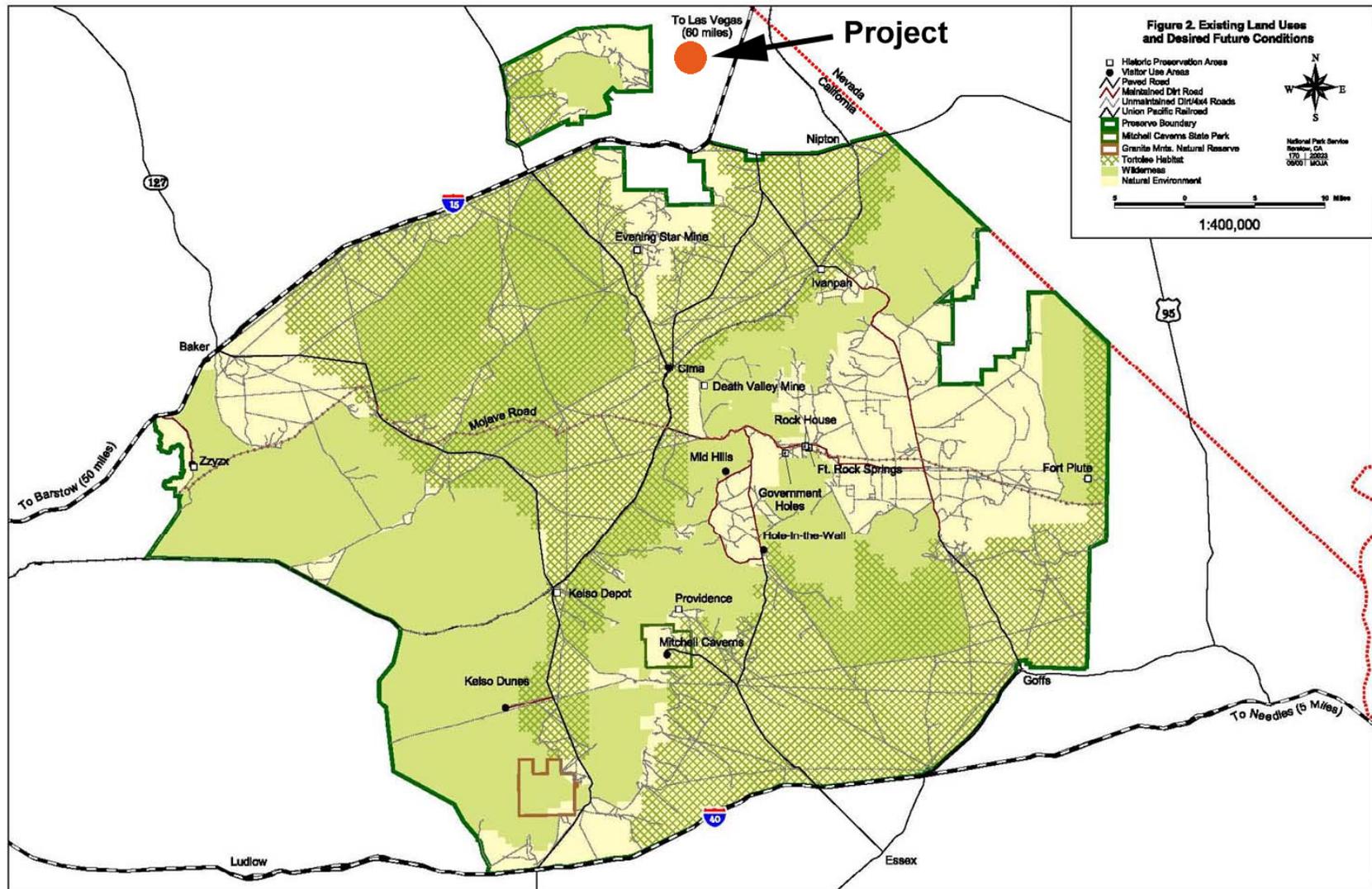
**Project Viewshed, Visual Sensitivity, and KOPs**

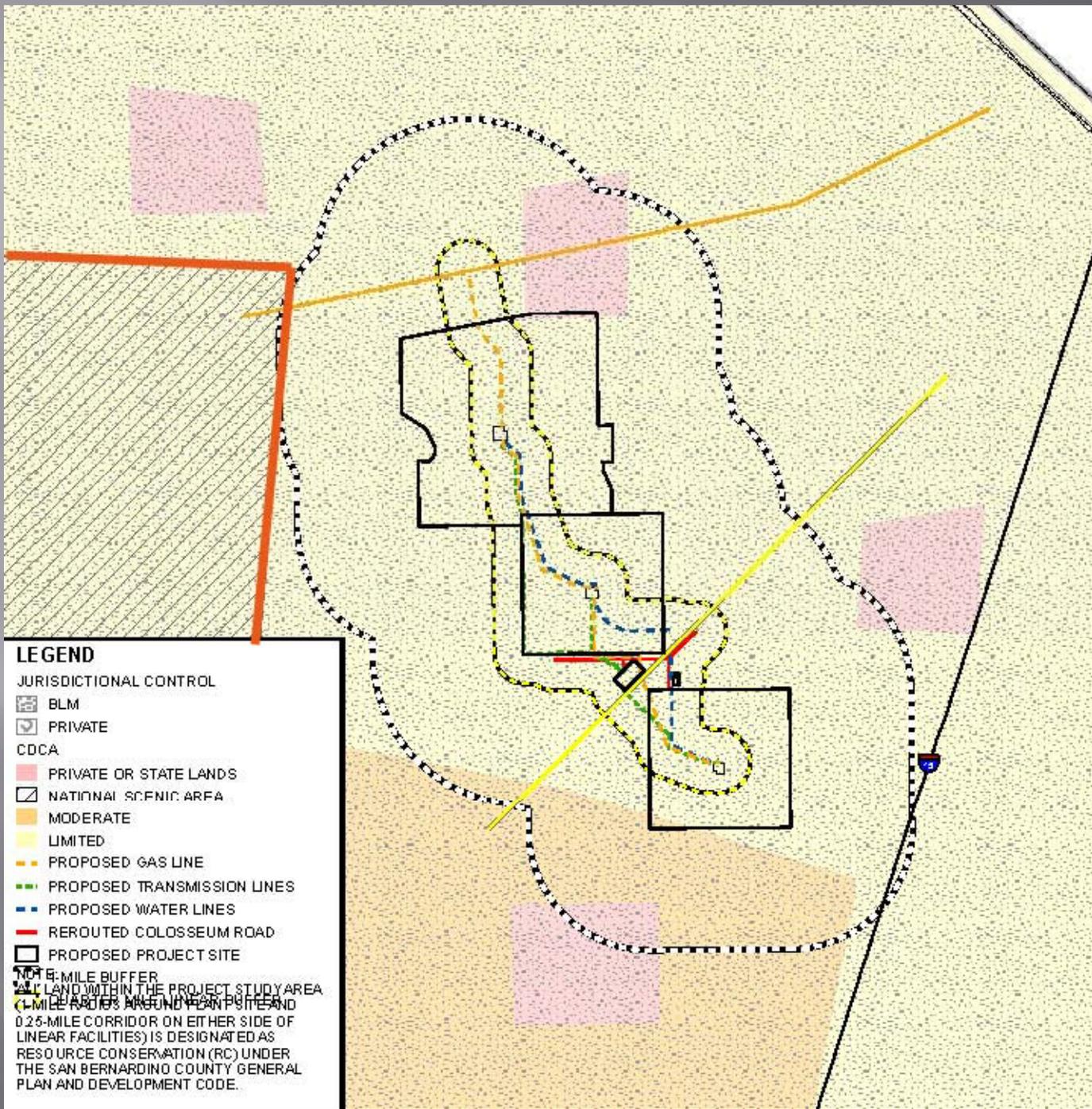
0 1 mile



Sources: USGS; BLM; WKA

# PROJECT SETTING

















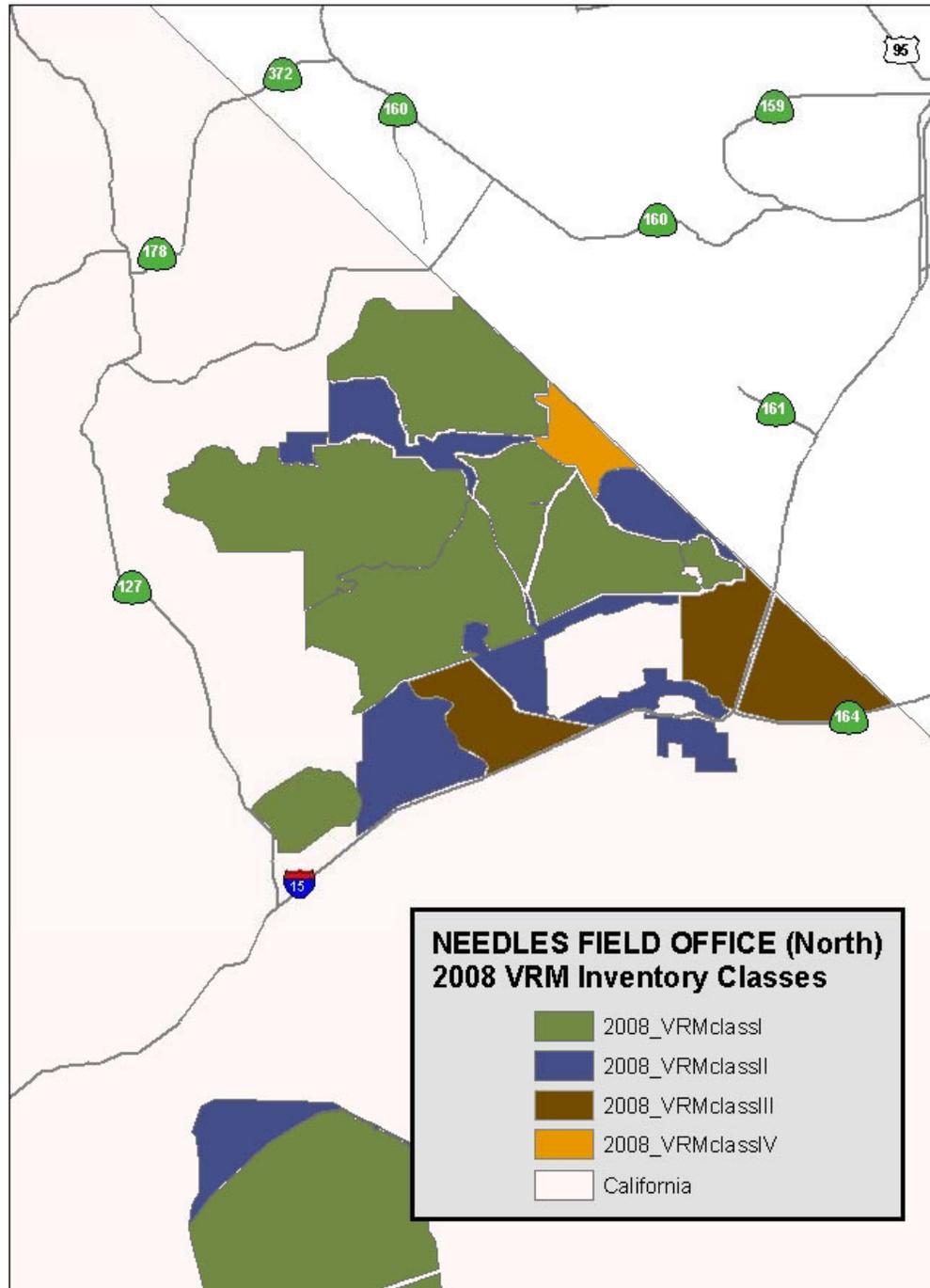












IMPACTS





KOP 1: Simulated "with-project" view looking southwest toward the Ivanpah 1 project site from Primm Valley Golf Club, Desert Course Hole 1.

**FIGURE 5.13-9bR**  
**SIMULATED VIEW OF IVANPAH**  
**1 FROM KOP 1 (HOLE 1)**  
IVANPAH SOLAR ELECTRIC GENERATING SYSTEM

E3062007009SAC Figure\_5.13-9b\_1d\_theta 06.02.08 tbaus

**CH2MHILL**





KOP 2: Simulated "with-project" view looking west toward the Ivanpah 2 and 3 project sites from Primm Valley Golf Club, Desert Course Hole 8. This photo shows the one tower for Ivanpah 2 (the left-most tower in the center of the photo) and three receiver towers for Ivanpah 3 (the three at the right side of the photo).

**FIGURE 5.13-10bR**  
**SIMULATED VIEW OF IVANPAH 2**  
**AND 3 FROM KOP 2 (HOLE 8)**  
IVANPAH SOLAR ELECTRIC GENERATING SYSTEM

ES062007008SAC Figure\_5.13-10b\_JUL\_Sheet1a 05.05.08 dash

















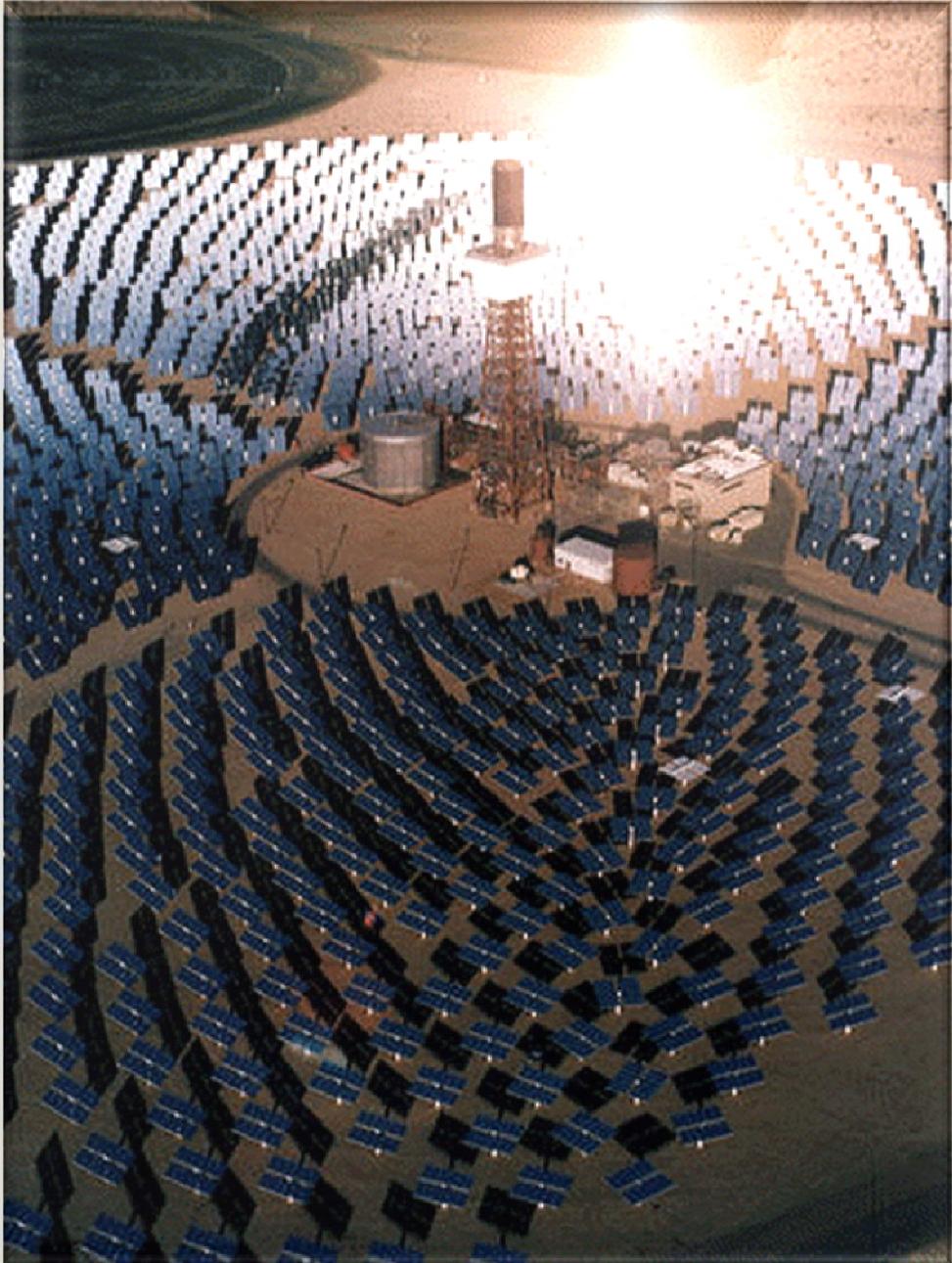


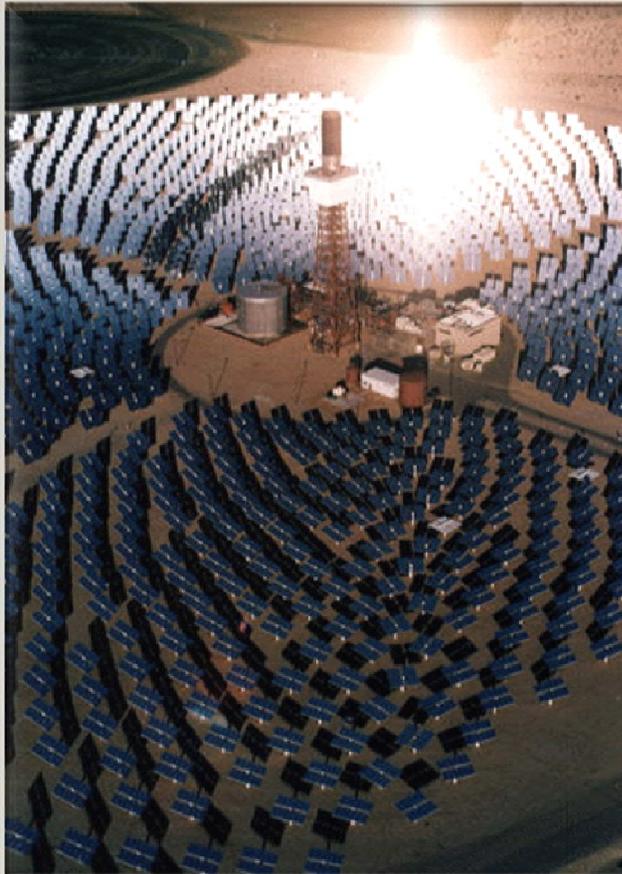




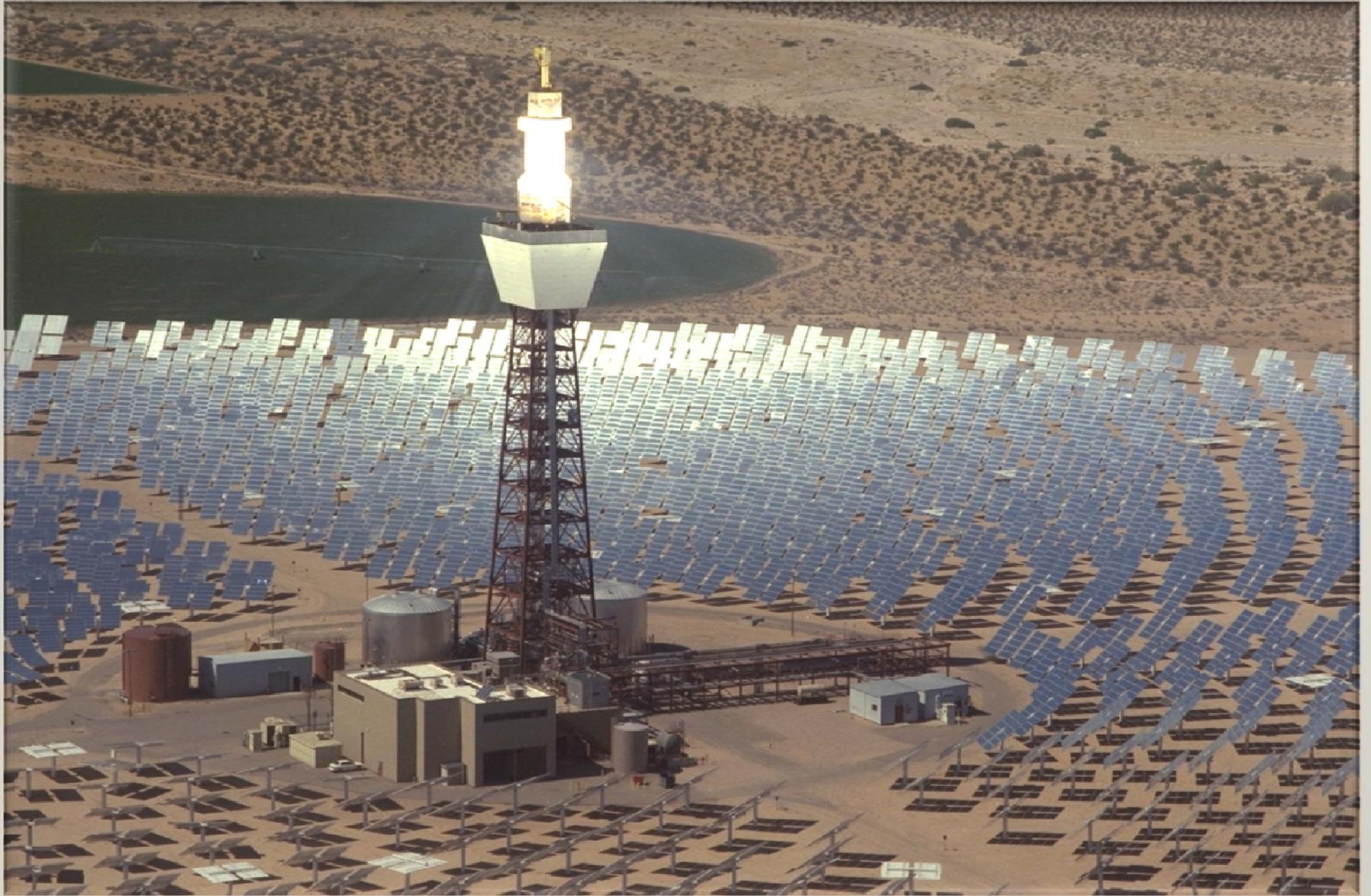








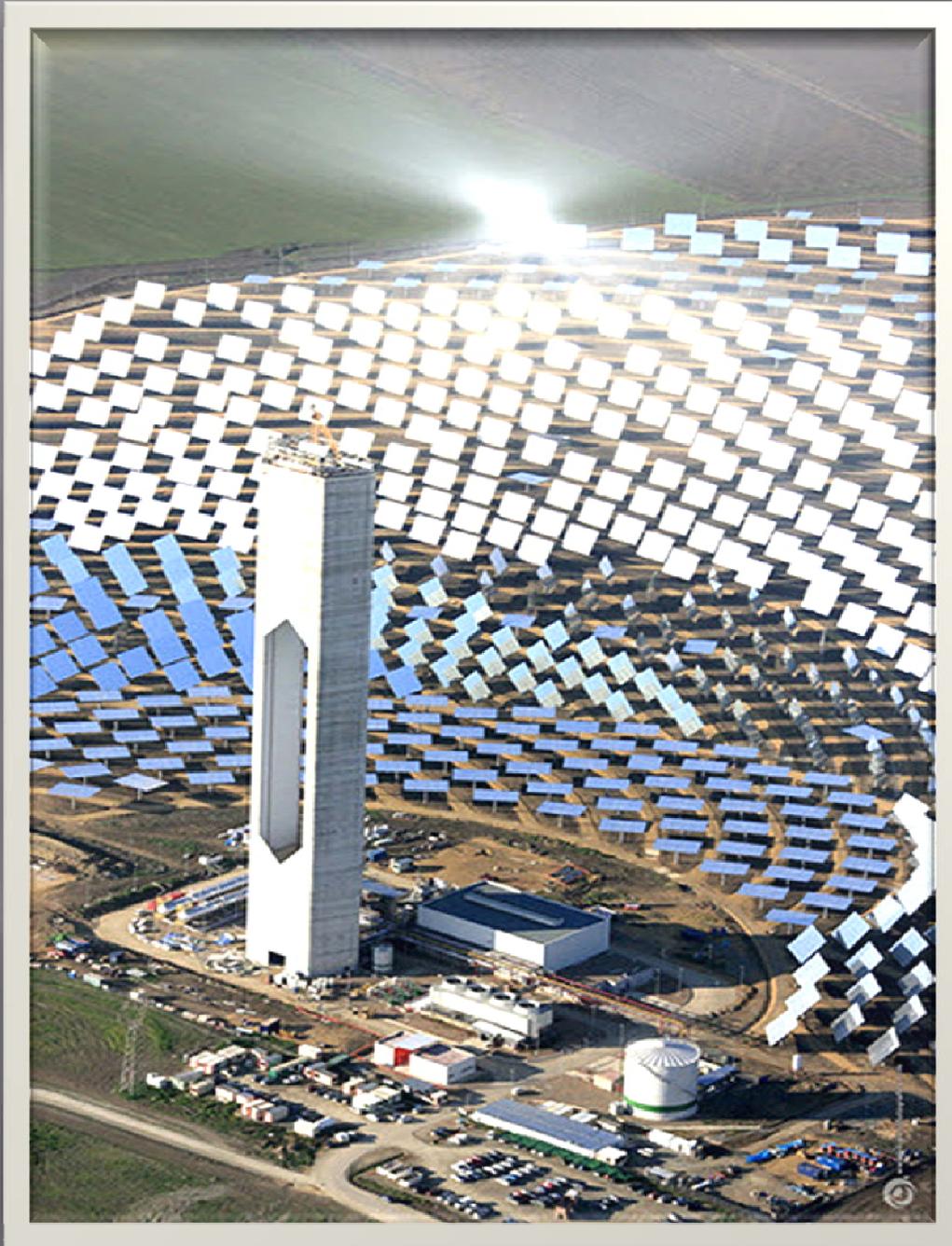




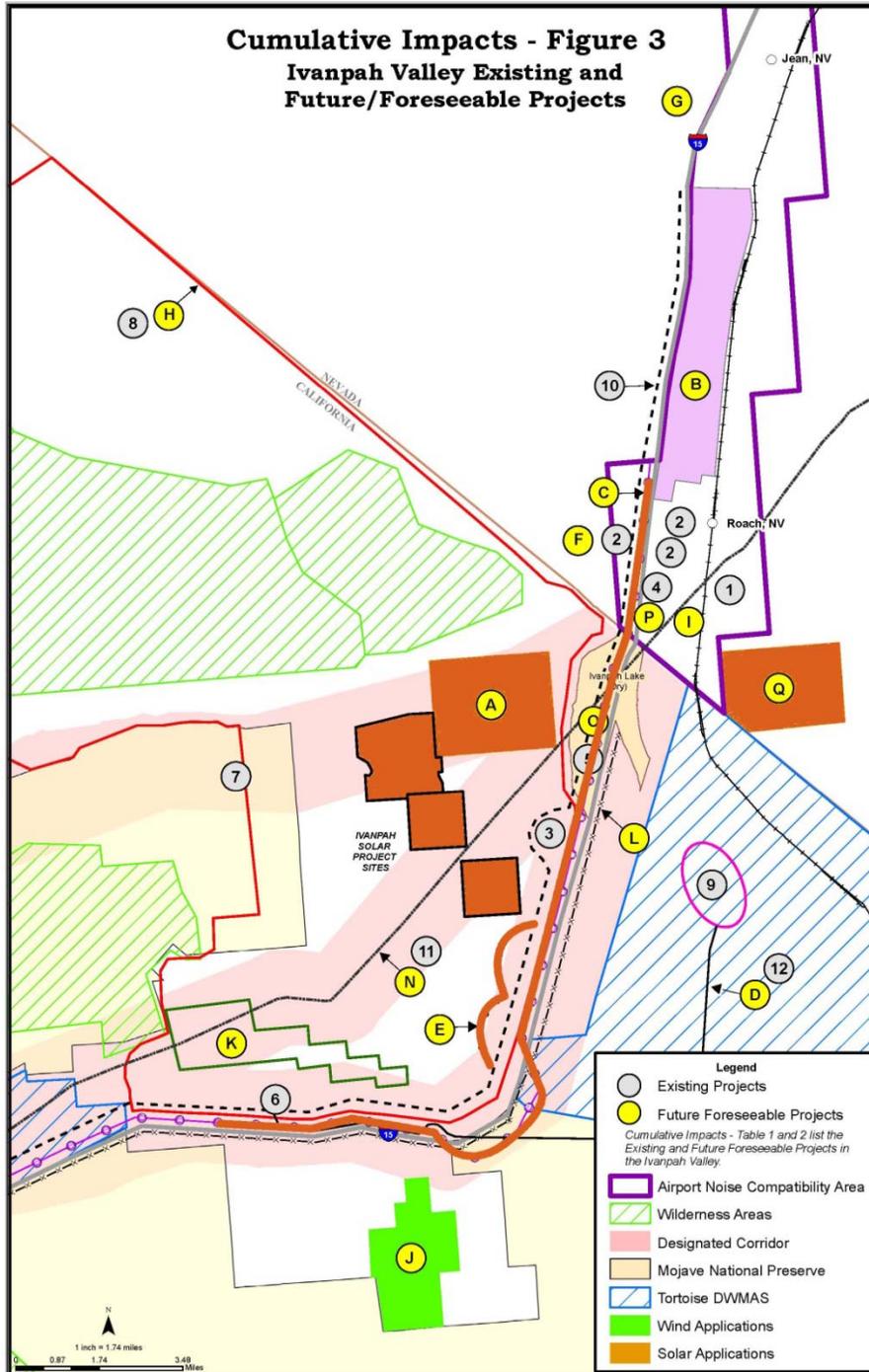






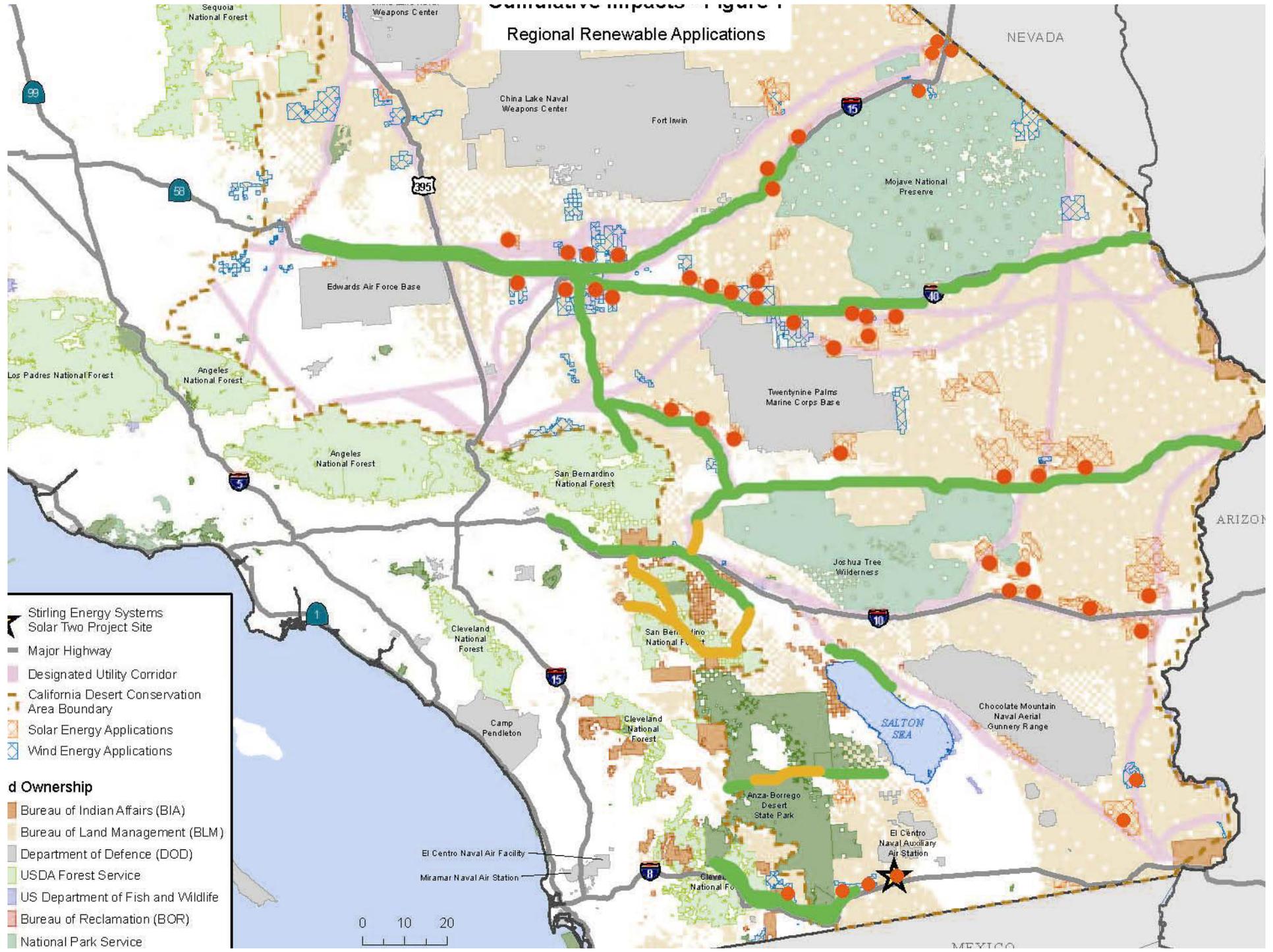


**Cumulative Impacts - Figure 3**  
**Ivanpah Valley Existing and**  
**Future/Foreseeable Projects**



Cumulative Impacts Figure 1

Regional Renewable Applications



- Stirling Energy Systems Solar Two Project Site
- Major Highway
- Designated Utility Corridor
- California Desert Conservation Area Boundary
- Solar Energy Applications
- Wind Energy Applications

- d Ownership**
- Bureau of Indian Affairs (BIA)
  - Bureau of Land Management (BLM)
  - Department of Defence (DOD)
  - USDA Forest Service
  - US Department of Fish and Wildlife
  - Bureau of Reclamation (BOR)
  - National Park Service





**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT  
COMMISSION OF THE STATE OF CALIFORNIA  
1516 NINTH STREET, SACRAMENTO, CA 95814  
1-800-822-6228 – WWW.ENERGY.CA.GOV**

APPLICATION FOR CERTIFICATION  
FOR THE *IVANPAH SOLAR ELECTRIC  
GENERATING SYSTEM*

DOCKET No. 07-AFC-5  
PROOF OF SERVICE  
(Revised 11/23/09)

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**DECLARATION OF SERVICE**

I, Maria Santourdjian, declare that on December 15, 2009, I served and filed copies of the attached, Staff's Description of Its Visual Resources Photos – Exhibit 301 dated, December 14, 2009. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at:  
[www.energy.ca.gov/sitingcases/ivanpah].

The documents have been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

*(Check all that Apply)*

**FOR SERVICE TO ALL OTHER PARTIES:**

  x   sent electronically to all email addresses on the Proof of Service list;

  x   by personal delivery or by depositing in the United States mail at Sacramento, California with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses **NOT** marked "email preferred."

**AND**

**FOR FILING WITH THE ENERGY COMMISSION:**

  x   sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (*preferred method*);

**OR**

       depositing in the mail an original and 12 paper copies, as follows:

**CALIFORNIA ENERGY COMMISSION**

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Sacramento, CA 95814-5512  
[docket@energy.state.ca.us](mailto:docket@energy.state.ca.us)

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

Original Signature in Dockets  
**Maria Santourdjian**