



**LAND USE SERVICES DEPARTMENT**  
**PLANNING DIVISION**  
**PLANNING COMMISSION STAFF REPORT**



**HEARING DATE: February 6, 2014**

Project Description

**AGENDA ITEM # 2**

Vicinity Map

|                    |                                                                                                                          |
|--------------------|--------------------------------------------------------------------------------------------------------------------------|
| <b>APNs:</b>       | 0470-041-01, 0470-011-35, 0470-021-09, 0470-051-14, 0470-051-15, 0470-051-17                                             |
| <b>Applicant:</b>  | Alamo Solar                                                                                                              |
| <b>Community:</b>  | Helendale/1 <sup>st</sup> District                                                                                       |
| <b>Location:</b>   | North and south side of Turner Road, and North of Melrose Avenue                                                         |
| <b>Project No:</b> | P2013002044/CUP                                                                                                          |
| <b>Staff:</b>      | Chris Conner                                                                                                             |
| <b>Rep:</b>        | Jen Bradford, E.ON Climate and Renewables                                                                                |
| <b>Proposal:</b>   | Conditional Use Permit to establish a 20-megawatt commercial solar photovoltaic energy generating facility on 175 acres. |



50 Hearing Notices Sent On: January 24, 2014

Field Review: February 3, 2014

Report Prepared By: Chris Conner

Reviewed By: Commissioner Coleman

**SITE INFORMATION**

**Parcel Size:** 175 Acres

**Terrain:** Relatively flat desert terrain.

**Vegetation:** Minimal vegetation due to past agricultural uses

**SURROUNDING LAND DESCRIPTION:**

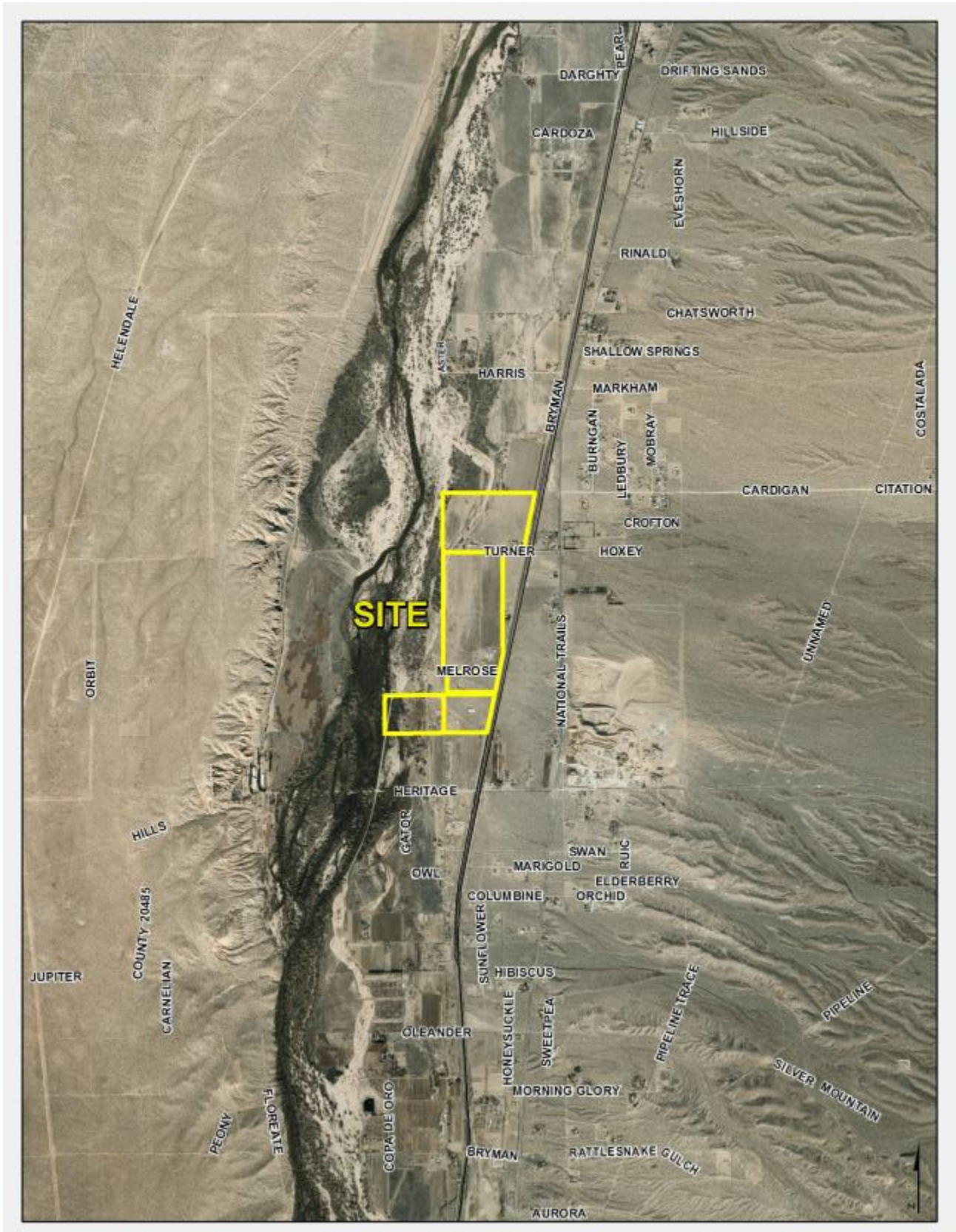
| AREA  | EXISTING LAND USE              | OFFICIAL LAND USE DISTRICT |
|-------|--------------------------------|----------------------------|
| Site  | Single-Family Residence/Vacant | AG/RL-5                    |
| North | Vacant                         | RL-5                       |
| South | Vacant                         | AG                         |
| East  | Rail Road/Residential          | RL                         |
| West  | Vacant/Mojave River            | FW/RL-5                    |

|                           | <b><u>AGENCY</u></b> | <b><u>COMMENT</u></b>     |
|---------------------------|----------------------|---------------------------|
| City Sphere of Influence: | N/A                  | N/A                       |
| Water Service:            | N/A                  | EHS approved on-site well |
| Septic Service            | N/A                  | Not required              |

In accordance with Section 86.08.010 of the San Bernardino County Development Code, this action may be appealed to the Board of Supervisors.

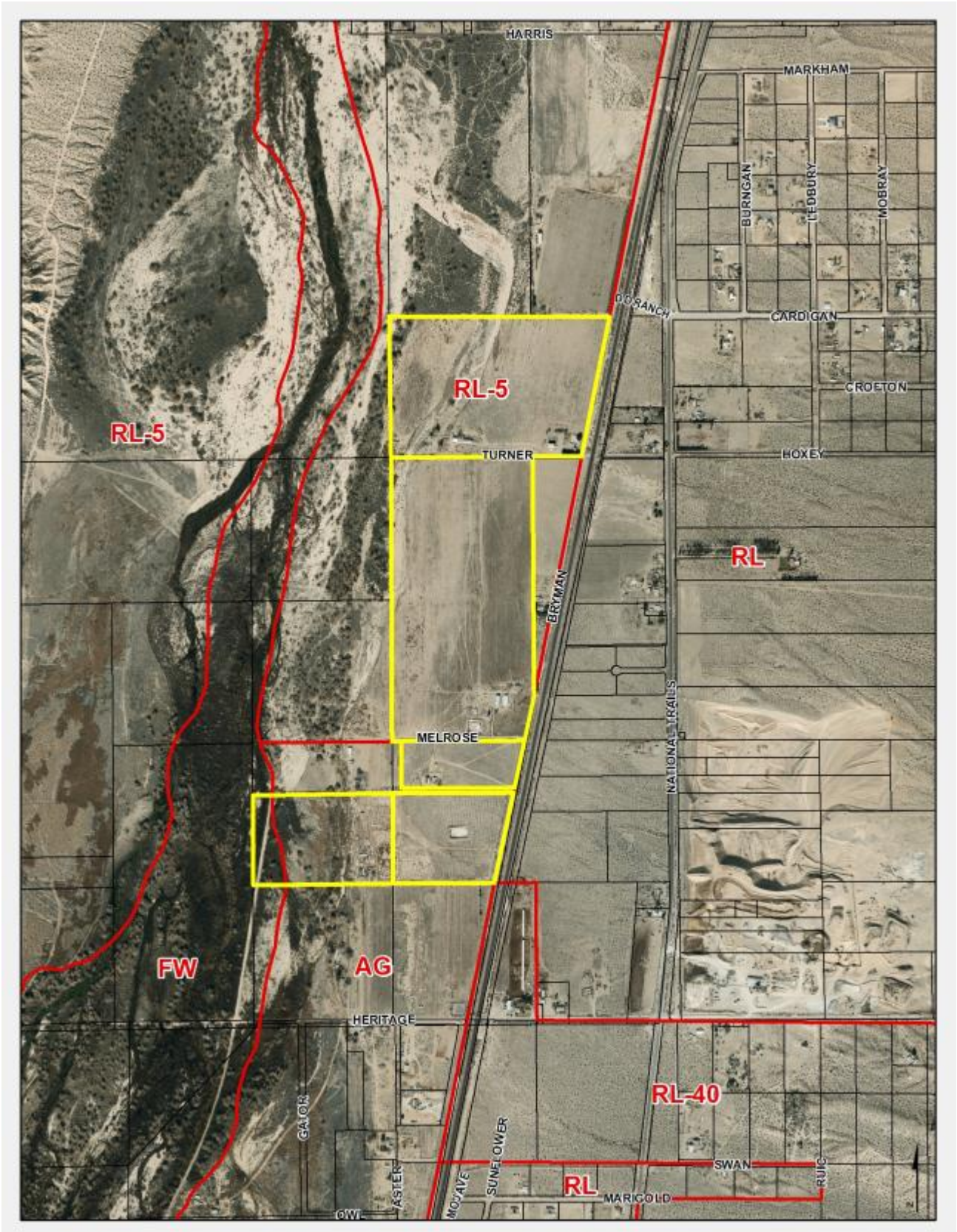
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# VICINITY MAP





# OFFICIAL LAND USE DISTRICT MAP







### SITE PHOTOS

Facing west from Route 66 and Cardigan Road near the northeast corner of the project site



Facing southwest from Route 66 and Turner Road



### SITE PHOTOS (cont.)

Facing northeast toward an offsite farmstead and Melrose Road



Facing northwest towards agricultural field, bluff and Mojave River



## **PROJECT DESCRIPTION AND BACKGROUND:**

**Project:** The proposed Conditional Use Permit (CUP) is to establish a 20 megawatt photovoltaic (PV) solar electric power generating facility (Project) within an approximately 123-acre portion of a 175-acre site in the unincorporated community of Helendale. Upon completion, the Project will be unmanned.

**Location and Access:** The proposed site is situated in the Desert Region of the County, in the unincorporated community of Helendale, approximately one-tenth of a mile east of the seasonal Mojave River, and approximately 3 miles north of Oro Grande, 3.5 miles south of Helendale, 7.5 miles northeast of Adelanto. The primary facility access point is proposed as a private access easement from Heritage Way to the south of the project site, traversing through APN 0470-011-10.

**Environmental Setting:** The site is relatively flat with elevations ranging from approximately 2,490 feet above sea level (asl) to 2,520 feet asl, with topography gradually sloping to the north-northwest. The site is within potential habitat area for Desert Tortoise and Burrowing Owl. The site is relatively devoid of native vegetation due to agricultural activities that have occurred onsite over the past decade. The area consists largely of vacant residential and agricultural properties. The site is bordered by the railroad to the east and the Mojave River to the west. Several residential structures exist onsite and are proposed to be demolished.

**Solar Array Operation:** Project facilities are proposed to include photovoltaic panels mounted on single axis trackers, supported by steel piers driven into the ground to a depth, determined by soil conditions. The height of the panels will not exceed 10 feet. The trackers will form rows running north and south. The design proposes a maximum of 20 inverters and transformers that would be installed on small concrete pads and a 200 square foot unmanned supervisory control and data acquisition system to monitor and control facility operations. The Project will tie in electrically to a new project substation, proposed near the northwest corner of Melrose Road and Bryman Road. This substation will be the project's point of change of ownership from the project developer to the interconnection utility, Southern California Edison (SCE). From the substation the Project will connect electrically with the existing SCE Victor-Helendale 33-kV transmission line that runs north-south along National Trails Highway (Route 66). SCE will undertake distribution line upgrades and modifications along this line that include pole replacement and electrical line upgrades. The site will be surrounded by a 6 to 8 foot high chain link fence. The electricity produced by the Project will be sold to Southern California Edison under a long-term Power Purchase Agreement executed in September, 2012 with an online target date of March, 2015.

## **ANALYSIS:**

**Consistency with General Plan and Zoning Regulations:** The proposed Project is consistent with the County General Plan and Development Code. The current General Plan land use designation for the proposed Project area is Agriculture (AG) and Rural Living 5 acre minimum parcel size (RL-5), both of which allow development of renewable energy generation facilities with a CUP. The proposed Project meets the standards of the

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San Bernardino County Development Code (Development Code) Chapter 84.29 - "Renewable Energy Generation Facilities" in effect at the time of the application acceptance (see Solar Energy Project Moratorium) and will be required to comply with all CUP conditions of approval.

General Plan Policy: The County General Plan establishes goals for renewable energy for the County. Conservation Element Policy CO 4.12 states that the County shall promote siting of renewable energy resources. Conservation Element Goal CO 8 aims to minimize energy consumption and promote safe energy extraction, uses and systems to benefit local, regional and global environmental goals. Policies under this goal include, Policy CO 8.3, which states that the County will assist in efforts to develop alternative energy technologies that have minimum adverse effect on the environment, and explore and promote newer opportunities for the use of alternative energy sources. This Project supports the objectives of these goals and policies.

Aesthetics/Visual: The current visual character of the site and vicinity consists of the Mojave River to the west, the Agcon sand and gravel mine to the southeast, fallow agricultural fields, sparse residential development, and nearby undisturbed desert habitat. The proposed Project will result in only minimal removal of vegetation on the site. Photovoltaic panels and other appurtenant structures will be sited to minimize ground disturbance. An access road and eight-foot high chain link fence will also be constructed around the perimeter of the site.

The proposed Project has a low profile and will have little potential to create glare, because the PV panels are designed to absorb sunlight with no reflection. Minimal lighting will be used at night, in compliance with County Development Code standards for preservation of night skies. Therefore, the Project will not substantially degrade the existing visual character or quality of the site and its surroundings.

Biology: A General Biological Assessment along with Focused Surveys for Desert Tortoise and Burrowing Owl were conducted by URS in 2013. The site is located in an area known to contain habitat to support the Desert Tortoise and Burrowing Owl. In addition, the Mojave River is known to contain habitat suitable for the Southwestern Willow Flycatcher and Least Bell's Vireo however the project avoids the River corridor and includes no suitable habitat for these species. The survey results found no signs of Desert Tortoise or Burrowing Owl onsite; however, a single Mojave desert tortoise was identified approximately four miles south of the project boundary and approximately 10 feet from proposed transmission line upgrades. Proposed mitigation measures including a Worker Environmental Awareness Program, Biological Monitor, Desert Tortoise exclusion fencing, and pre-construction surveys will reduce potential impacts to a level below significant.

Migratory Birds: The US Fish and Wildlife Service (USFWS) indicates that solar energy projects can result in a loss of breeding and foraging habitat that can affect migratory bird populations protected by the Migratory Bird Treaty Act. The Service also indicates that migratory birds can mistake solar panel arrays as water bodies and die as a result of collisions. The Project site does not include any project-specific impacts to migratory bird habitat and therefore would not contribute to any direct, indirect or cumulative loss of

migratory bird habitat. The solar panels to be used would include silver frames and would be expected to keep the facility from looking like a water body; this design feature should avoid or minimize bird collisions at the site. Although impacts are expected to be less than significant, the applicant has agreed to work with USFWS to contribute to a fund to identify and reduce sources of mortality of migratory birds in the region.

Traffic: Impacts to traffic in the area will be negligible upon construction of the Project. It is anticipated that onsite maintenance will result in approximately 96 round trips annually. Construction activities are anticipated to be conducted for approximately 8 months and the workforce is estimated to vary from a low of 10 during Month 1 to a high of approximately 176 workers during Months 5 and 6. Monthly construction deliveries are provided below and, based on 6-day work weeks, are expected to vary from a low of 59 deliveries per day in Month 1 to a high of 124 to 129 deliveries per day in Months 5 and 6 based on 26 working days per month. A traffic control/traffic management plan is proposed to reduce impacts to local traffic during construction.

Renewable Energy Mandates: The California Renewable Portfolio Standard (RPS) legislation established in 2002 (Senate Bill 1078), and accelerated in 2006 (Senate Bill 107), requires retail sellers of electricity to obtain 20 percent of their supply of electricity from renewable energy sources by 2010 and 33 percent of electricity from renewable energy sources by 2020. The proposed Project will assist in the State's efforts to meet the RPS standard and increased demands for electricity.

Greenhouse Gas Emissions Reduction: In 2006, the State of California passed the California Global Warming Solutions Act (Assembly Bill 32) which requires the state to reduce emissions of carbon dioxide (CO<sub>2</sub>) and other greenhouse gases (GHG) to 1990 emission levels (a 30 percent reduction) by 2020. Senate Bill 1368, enacted in 2006, prohibits California electric utilities from constructing power plants or entering into long-term energy purchase contracts with facilities that do not meet the GHG emissions standard. In December, 2011 the County adopted a GHG reduction plan that established a review criteria for GHG emissions. The proposed Project will assist in efforts to meet the California GHG emissions legislation, consistent with the County GHG reduction plan.

## **SOLAR ENERGY PROJECT MORATORIUM**

On July 23, 2013, the Board of Supervisors adopted an extension of an interim urgency ordinance originally adopted on June 12, 2013 establishing a temporary moratorium on approval of new commercial solar energy generation projects. The moratorium was established to allow time for the County to consider potential amendments to the County Development Code that would enhance compatibility of solar energy generation projects with residential land uses. On December 3, 2013, an ordinance was adopted by the Board of Supervisors to amend Chapter 84.29 of the County Development Code establishing new regulations for establishment of commercial solar energy generating systems. The moratorium did not apply to applications that were already in process at the time of adoption of the interim urgency ordinance. The application for the subject Project had been accepted as complete prior to June 12, 2013, and therefore is not subject to the provisions

contained in the interim urgency ordinance. In addition, because the application was accepted as complete prior to the enactment of the moratorium, the Project is also not subject to the ordinance adopted on December 3, 2013.

## **PUBLIC COMMENTS**

Project notices were distributed to surrounding property owners within 1,300 feet of the Project boundary on June 12, 2013. No responses to the notices were received.

## **ENVIRONMENTAL REVIEW**

An Initial Study (IS) was prepared for the Project pursuant to County Guidelines under Ordinance 3040 and Section 15063 of the California Environmental Quality Act (CEQA) Guidelines. A Notice of Intent to Adopt a Mitigated Negative Declaration was prepared for the Project and submitted to the State CEQA Clearinghouse on November 4, 2013. A 30-day CEQA public comment period ended on December 3, 2013. Comments were received from the California Department of Transportation (CalTrans), California Department of Fish and Wildlife (CDFW), Lahontan Regional Water Quality Control Board (LRWQCB), Southern California Edison (SCE), Lozeau Drury LP, Matt Hagemann, and Dr. Shawn Smallwood.

CalTrans commented that they had reviewed the project and determined that the project would not impact the State Highway System. CDFW provided comments in regards to surveys completed for Desert Tortoise and Burrowing Owl and recommends surveys be conducted for Desert Kit Fox. Christopher Julian, Biologist for URS, has prepared a response to these comments (see Exhibit E) that detail survey protocols and the recommended mitigation measures that reduce biological impacts of the Project to a level below significant. Comments from LRWQCB discuss potential impacts to the Mojave River due to the proximity of the project to the River and impacts to water quality in the area. As detailed in Exhibit F, the proposed Project boundary maintains a minimum 25 foot setback from the flood plain boundary as mapped by FEMA. In addition, a Water Quality Management Plan has been prepared for the Project that incorporates best management practices to reduce water quality impacts. SCE recommends minor modifications to the IS/MND. These changes have been incorporated into the final document.

Comments from Lozeau Drury LP, Matt Hagemann, and Dr. Shawn Smallwood, state that the proposed MND fails to establish an accurate environmental setting, that the project may significantly impact air quality, and negatively affect Least Bell's Vireo and the Southwestern Willow Flycatcher; other concerns raised are relative to a negative project impact on wildlife movement, migratory birds, and desert tortoise, as well as the potential for the project construction to cause valley fever, and the failure to adequately analyze cumulative project impacts. The proposed IS/MND provides a detailed environmental setting that is based upon surveys by qualified biologists. The analysis of potential impacts and proposed mitigation measures in the areas of air quality, and biology including desert tortoise, Least Bell's Vireo, Southwestern Willow Flycatcher, wildlife movement, and

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migratory birds are based upon technical reports prepared for this Project. The implementation of a Dust Control Plan will reduce any potential risk of exposure to valley fever. Cumulative impacts are discussed in the proposed IS/MND and are not anticipated to be significant due to there being no planned projects in the vicinity of this site. Exhibit G contains responses to these comments prepared by the applicant's technical experts.

In conclusion, the Initial Study concludes that the proposed use, with the proposed mitigation measures and Conditions of Approval, will not have a significant effect on the environment and a Mitigated Negative Declaration is recommended for adoption.

### **SUMMARY:**

The proposed Project will assist in meeting the renewable resource targets for retail sellers of electricity in California and it is consistent with the State's GHG emissions goals, policies and standards. In addition, the proposed Project is consistent with the applicable County goals and policies regarding renewable energy. Therefore, Planning Staff recommends approval of the Project.

### **RECOMENDATION:** That the Planning Commission:

- 1) **ADOPT** the Mitigated Negative Declaration and find that the Initial Study has been completed in compliance with CEQA, that it has been reviewed and considered prior to approving the Project and that the Initial Study/Mitigated Negative Declaration reflects the independent judgment of San Bernardino County;
- 2) **APPROVE** a Conditional Use Permit to establish a 20 MW commercial photovoltaic solar energy generating facility on 175 acres subject to the recommended conditions of approval;
- 3) **ADOPT** the Findings for approval of the Conditional Use Permit; and
- 4) **FILE** a Notice of Determination.

### **ATTACHMENTS:**

|                   |                                                                   |
|-------------------|-------------------------------------------------------------------|
| <b>Exhibit A:</b> | <b>Findings</b>                                                   |
| <b>Exhibit B:</b> | <b>Conditions of Approval</b>                                     |
| <b>Exhibit C:</b> | <b>Initial Study</b>                                              |
| <b>Exhibit D:</b> | <b>Correspondence</b>                                             |
| <b>Exhibit E:</b> | <b>Response to CDFW comments</b>                                  |
| <b>Exhibit F:</b> | <b>Response to Lahontan RWQCB</b>                                 |
| <b>Exhibit G:</b> | <b>Response to Lozeau Drury, Hagemann, and Smallwood Comments</b> |

# EXHIBIT 1

## Findings

APN: 0470-041-01, 0470-011-35, 0470-021-09, 0470-051-14, 0470-051-15, 0470-051-17

Alamo Solar, LLC

P201300204/CUP

Planning Commission Hearing – February 6, 2014

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**FINDINGS: Conditional Use Permit to establish a 20 megawatt commercial photovoltaic solar energy generating facility on 175 acres**

1. The site for the proposed use is adequate in terms of shape and size to accommodate the proposed use and all setbacks and other required features pertaining to the application. A Lot Merger application is required to be approved prior to any land disturbance to merge the parcels into a single property. Upon completion of the merger, the 175-acre site is sufficient in size to accommodate all required setbacks and access roads. The design includes 26-foot wide perimeter access roads and 20-foot wide interior access roads to allow for emergency access. The project has been designed to meet or exceed required setbacks from all property lines. The project has been designed to minimize impacts to the existing drainage features without affecting downstream properties. The site is able to accommodate the proposed solar panels and all ancillary facilities associated with the project with proper setbacks and access.
2. The site for the proposed use has adequate access, which means that the site design incorporates appropriate street and highway characteristics to serve the proposed use. The site will be accessed from Heritage Way via an access easement through the adjacent property to the south providing legal and physical access to the site. In addition, the 20-foot wide interior access roads will allow access for emergency vehicles. Heritage Way is required to be paved to County standards as a Condition of Approval. The fences and gates, one for primary access and the other for emergency access, are 15 feet inside the property lines so that incoming vehicles will be able to park at the gate, outside of the right-of-way.
3. The proposed use will not have a substantial adverse effect on abutting properties or the allowed use of the abutting properties, which means that the use as designed and conditioned will not generate excessive noise, traffic, vibration, lighting, glare, or other disturbance that would affect adjacent properties. The design of the solar arrays is required to operate within the standards of the County Development Code relating to noise, lighting, and the general performance standards including those for glare and vibration. A temporary increase in traffic will occur during construction however impacts will not be substantial. The project will generate minimal traffic once constructed and the use will not substantially interfere with the present or future ability to use solar energy systems, as this project is a solar energy project.
4. The proposed use and manner of development are consistent with the goals, maps, policies, and standards of the General Plan and any applicable community or specific plan, as this project specifically supports the following General Plan Goals/Policies:
  - *Conservation Element Policy CO 4.12*, which states that the County shall promote siting or use of renewable energy sources; and



**APN: 0470-041-01, 0470-011-35, 0470-021-09, 0470-051-14, 0470-051-15, 0470-051-17**

**Alamo Solar, LLC**

**P201300204/CUP**

Planning Commission Hearing – February 6, 2014

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- *Conservation Element Goal CO 8*, which aims to minimize energy consumption and promote safe energy extraction, uses and systems to benefit local regional and global environmental goals. Specifically, Policy CO 8.3, states that the County will assist in efforts to develop alternative energy technologies that have minimum adverse effect on the environment, and explore and promote newer opportunities for the use of alternative energy sources.
5. There is supporting infrastructure, existing or available, consistent with the intensity of the development to accommodate the proposed solar power facility without significantly lowering service levels. Heritage Way via National Trails Highway provides for the transportation needs of the site... The site will connect to the existing electrical grid via the existing line along National Trails Highway. Southern California Edison will undertake distribution line upgrades and modifications along this line that include pole replacement and electrical line upgrades in conjunction with this project.
  6. The lawful conditions stated in the approval are deemed reasonable and necessary to protect the overall public health, safety and general welfare, because adequate onsite setbacks, security fencing, and access for emergency equipment have been required.
  7. The design of the site has considered the potential for the use of solar energy systems and passive or natural heating and cooling opportunities, as the project is a photovoltaic solar energy generating facility.
  8. There is no substantial evidence that the project will have a significant effect on the environment, as determined and justified in the Initial Study for the project, which has been completed in compliance with the California Environmental Quality Act. The Mitigated Negative Declaration reflects the County's independent judgment.

## **EXHIBIT B**

### **Conditions of Approval**

## CONDITIONS OF APPROVAL

### GENERAL REQUIREMENTS

Conditions of Operation and Procedure

*[Not subject to Condition Compliance Release Form (CCRF) signatures]*

LAND USE SERVICES – Planning Division (909) 387-8311

1. Project Approval Description. This Conditional Use Permit (CUP) project is approved to be constructed and operated in compliance with the San Bernardino County Code (SBCC), California Building Codes (CBC), the following conditions of approval, the approved site plan, and all other required and approved reports and displays (e.g. elevations). This CUP project is approved to establish a 20-megawatt (MW) solar power generation facility on 175 acres. The arrays of PV panels will be mounted on fixed tilt or single-axis tracking systems and will have a maximum height of 10 feet. Substantial on-site grading (i.e. disking or scarification) or vegetation removal shall not occur during the installation of the proposed project. Each solar module shall be fastened to the ground surface via driven piles resulting in minimal disturbance to topsoil and allowing retention of much of the on-site vegetation. The project site will be surrounded by an eight-foot high chain link fence. No barbed wire or other sharp pointed material shall be allowed. Any proposed change to this Project Description including maximum height and/or tracking systems shall require a Revision to an Approved Action application to be filed with County Planning.

The developer shall provide a copy of the approved conditions and the site plan to every current and future project tenant, lessee, and property owner to facilitate compliance with these conditions of approval and continuous use requirements for the Project Site with APNs: 0470-021-09, 0470-041-01, 0470-051-14, 0470-051-15, 0470-0051-17, 0470-011-35, and 0470-011-10 and Project Number: P201300204.

2. Project Location. The project site in an unincorporated area of the County of San Bernardino (County) east of Bryman Road, north and south of Melrose Avenue. The project site is in the unincorporated community of Helendale in the First Supervisorial District.
3. Zoning Standards. The project site is located in the Desert Region within the Rural Living 5 acre minimum parcel size (RL-5) and Agriculture (AG) Land Use Zoning Districts. Development Standards are listed in SBCC Chapter 82.03 and 82.04. The following standards apply to the project:
  - Solar energy generating equipment and their mounting structures and devices shall be set back from the property lines either pursuant to the standards in the Land Use Zoning District, or 130 percent of maximum height of the mounted structure, whichever is greater.



4. Facility Design. The facility design shall incorporate the following guidelines:
  - The applicant shall arrange the arrays in a logical, orderly manner and pattern.
  - The applicant shall maintain the panels, inverters, and transformers so that electrical interference will not affect adjacent properties.
  - The applicant shall perform any repairs or upgrades to the components of the solar power facility at such times and in such a manner that noise and glare will not be significantly disruptive to adjacent properties, roads, or traffic.
  
5. Continuous Maintenance. The project property owner shall continually maintain the property so that it is not dangerous to the health, safety, and general welfare of both on-site users (e.g. employees) and surrounding properties. The developer shall ensure that all facets of the development are regularly inspected, maintained and that any defects are timely repaired. The elements to be maintained, include but are not limited to:
  - Annual maintenance and repair inspections shall be conducted for all structures, fencing/walls, driveways, and signs to assure proper structural, electrical, and mechanical safety.
  - Graffiti and debris shall be removed within 48 hours of notification.
  - Dust control measures shall be maintained on any undeveloped areas where landscaping has not been provided.
  - Erosion control measures shall be maintained to reduce water runoff, siltation, and promote slope stability.
  - Signage. All on-site signs, including posted area signs (e.g. "No Trespassing") shall be maintained in a clean readable condition at all times and all graffiti and vandalism shall be removed and repaired on a regular basis. Signs on the site shall be of the size and general location as shown on the approved site plan or subsequently County Planning-approved sign plan.
  - Fire Lanes. All markings required by the Fire Department, including "No Parking" designations and "Fire Lane" designations shall be clearly defined and shall be maintained in good condition at all times.
  
6. Performance Standards. The approved land uses shall operate in compliance with the general performance standards listed in the SBCC Chapter 83.01, regarding air quality, electrical disturbance, fire hazards (storage of flammable or other hazardous materials), heat, noise, vibration, and the disposal of liquid waste. In addition to these, none of the following shall be perceptible without instruments at any point outside the project boundaries at adjoining property lines:
  - Odors: No offensive or objectionable odor.
  - Smoke: No smoke of a greater density than that described in No. 2 on the Ringelmann Chart, as published currently by the United States Bureau of Mines, shall be emitted from any project source.
  - Radiation: No dangerous amount of radioactive emissions.
  - Toxic Gases: No emission of toxic, noxious or corrosive fumes of gases.

- Glare: No intense glare that is not effectively screened from view at any point outside the project boundary.
7. Revisions. Any proposed change to the approved use/activity on the site (e.g. from solar facility to other uses); or any increase in the developed area of the site or expansion to the approved facilities, including changes to structures, tracking system, equipment, elevations, heights, signs, parking allocation, lighting, or a proposed change in the conditions of approval, including operational restrictions from those shown either on the approved site plan and/or in the conditions of approval shall require that an additional land use application (e.g. Revision to an approved Action) be approved by the County. The developer shall prepare, submit with fees, and obtain approval of the application prior to implementing any such revision or modification. (SBCC §86.06.070)
  8. Continuous Effect/Revocation. All of the conditions of approval applied to this project shall be effective continuously throughout the operative life of the project for all approved structures and approved land uses/activities. Failure of the property owner or developer to comply with any or all of the conditions at any time may result in a public hearing and possible revocation of the approved land use, provided adequate notice, time, and opportunity is provided to the property owner, developer, or other interested party to correct the non-complying situation.
  9. Developer Defined. The term “developer” as used in these conditions of approval for this project and for any development of this project site, includes all of the following: the applicant, the property owner, and any lessee, tenant or sub-tenant, operator and/or any other agent or other interested party of the subject project and/or project site and/or any heir or any other successor in interest in the project site or project land use by sale or by lease of all or of a portion of the project site or project land uses and/or any other right given to conduct any land use in any or all of the project structures or any area on the project site.
  10. Indemnification. In compliance with SBCC §81.01.070, the developer shall agree to defend, indemnify, and hold harmless the County or its “indemnities” (herein collectively the County’s elected officials, appointed officials [including Planning Commissioners], Zoning Administrator, agents, officers, employees, volunteers, advisory agencies or committees, appeal boards or legislative body) from any claim, action, or proceeding against the County or its indemnitees to attack, set aside, void, or annul an approval of the County by an indemnitee concerning the map or permit or any other action relating to or arising out of County approval, including the acts, errors, or omissions of any person and for any costs or expenses incurred by the indemnitees on account of any claim, except where such indemnification is prohibited by law. In the alternative, the developer may agree to relinquish such approval.

Any condition of approval imposed in compliance with the County Development Code or County General Plan shall include a requirement that the County acts reasonably to promptly notify the developer of any claim, action, or proceeding and that the County cooperates fully in the defense. The developer shall reimburse the County and its indemnitees for all expenses resulting from such actions, including any court costs and attorney's fees, which the County or its indemnitees may be required by a court to pay as a result of such action.

At its sole discretion, the County may participate at its own expense in the defense of any such action, but such participation shall not relieve the developer of their obligations under this condition to reimburse the County or its indemnitees for all such expenses.

This indemnification provision shall apply regardless of the existence or degree of fault of indemnitees. The developer's indemnification obligation applies to the indemnitee's "passive" negligence but does not apply to the indemnitee's "sole" or "active" negligence or "willful misconduct" within the meaning of Civil Code Section 2782.

11. Local Labor. *The developer shall give preference to and employ San Bernardino County residents as much as practicable during construction and operation of the facility.*
12. Development Impact Fees. Additional fees may be required prior to issuance of development permits. Fees shall be paid as specified in adopted fee ordinances.
13. Project Account. The Job Costing System (JCS) account number is P201300204. This is an actual cost project with a deposit account to which hourly charges are assessed by various county agency staff (e.g. Land Use Services, Public Works, and County Counsel). Upon notice, the developer shall deposit additional funds to maintain or return the account to a positive balance. The developer is responsible for all expenses charged to this account. Processing of the project shall cease, if it is determined that the account has a negative balance and that an additional deposit has not been made in a timely manner. A minimum balance of \$1,000.00 shall be in the project account at the time of project approval and the initiation of the Condition Compliance Review. Sufficient funds shall remain in the account to cover all estimated charges that may be made during each compliance review. All fees required for processing shall be paid in full prior to final inspection, occupancy, and/or operation of each approved use in each approved structure or land use activity area. There shall be sufficient funds (\$500.00 minimum) remaining in the account to properly fund file closure and any other required post-occupancy compliance review and inspection requirements (e.g. landscape performance).

14. Expiration/CUP. This project permit approval shall expire and become void if it is not exercised within three years of the effective date of this approval, unless an extension of time is approved. The permit is deemed exercised when either:
- The permittee has commenced actual construction or alteration under a validly issued Building Permit or
  - The permittee has substantially commenced the approved land use or activity on the project site, for those portions of the project not requiring a Building Permit. (SBCC 86.06.060)

Occupancy of completed structures and operation of the approved exercised land use remains valid continuously for the life of the project and the approval runs with the land, unless one of the following occurs:

- Construction permits for all or part of the project are not issued or the construction permits expire before the structure is completed and the final inspection is approved.
- The land use is determined by the County to be abandoned or non-conforming.
- The land use is determined to be not operating in compliance with these conditions of approval, the County Code, or other applicable laws, ordinances, or regulations. In these cases, the land use may be subject to a revocation hearing and possible termination.

PLEASE NOTE: This will be the ONLY notice given of the expiration date. The developer is responsible for initiation of any Extension of Time application.

15. Extension of Time/CUP. Extensions of time to the expiration date (listed above or as otherwise extended) may be granted in increments each not to exceed an additional three years beyond the current expiration date. An application to request consideration of an extension of time may be filed with the appropriate fees no less than 30 days before the expiration date. Extensions of time may be granted based on a review of the application, which includes a justification of the delay in construction and a plan of action for completion. The granting of such an extension request is a discretionary action that may be subject to additional or revised conditions of approval or site plan modifications. (SBCC §86.06.060)
16. Condition Compliance. In order to obtain construction permits for grading, building, final inspection and/or tenant occupancy for each approved building, the developer shall process a Condition Compliance Release Form (CCRF) for each respective building and/or phase of the development through County Planning in accordance with the directions stated in the Approval letter. County Planning shall release their holds on each phase of development by providing to County Building and Safety the following:
- Grading Permits – a copy of the signed CCRF for grading/land disturbance and two “red” stamped and signed approved copies of the grading plans.
  - Building Permits – a copy of the signed CCRF for building permits and three “red” stamped and signed approved copies of the final approved site plan.

- Final Inspection – a copy of the signed CCRF for final inspection of each respective building, after an on-site compliance inspection by County Planning.
17. Additional Permits. The property owner, developer, and land use operator are all responsible to ascertain and comply with all laws, ordinances, regulations, and any other requirements of Federal, State, County, and Local agencies as are applicable to the development and operation of the approved land use and project site. These include:
    - a) FEDERAL: U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service
    - b) STATE: California Department of Fish and Wildlife, Mojave Desert Air Quality Management District, Colorado Regional Water Quality Control Board, California Energy Commission
    - c) COUNTY: Land Use Services – Planning/Building and Safety/Code Enforcement/Land Development, County Fire, Environmental Health Services, and Public Works
    - d) LOCAL: N/A
  18. Lighting. Any lighting shall be maintained so that all lights are operating properly for safety purposes and shall not project onto adjoining properties or roadways. Lighting shall adhere to San Bernardino County Desert and Mountain night light regulations.
  19. Clear Sight Triangle. Adequate visibility for vehicular and pedestrian traffic shall be provided at clear sight triangles at all 90-degree angle intersections of public rights-of-way and private driveways. All signs, structures, and landscaping located within any clear sight triangle shall comply with the height and location requirements specified by County Development Code (SBCC 83.02.030) or as otherwise required by County Traffic.
  20. Human Remains. **In the event human remains are encountered during implementation archaeological investigations or during construction, ground disturbance in the area of the remains shall cease, and the remains shall be protected in place pending identification by the San Bernardino County Coroner. The San Bernardino County Coroner shall be contacted to determine the origin of the remains. In the event the remains are Native American in origin, the Native American Heritage Committee (NAHC) shall be contacted to determine necessary procedures in conjunction with the on-site Native American Monitor for protection and preservation of the remains, including reburial, as provided in the State of California Environmental Quality Act (CEQA) Guidelines, Section 15064.5(e), “CEQA and Archaeological Resources,” CEQA Technical Advisory Series (California Resources Agency 2004). [MM CUL-4]**

21. **AQ/Construction and Operational Mitigation.** Operation of all off-road and on-road diesel vehicles/equipment shall comply with the County Diesel Exhaust Control Measures [SBCC §83.01.040 (c)] and the California Air Resources Board's In-Use-Off-Road Diesel Vehicle Regulations, including but not limited to:
- Equipment/vehicles shall not be left idling for period in excess of five minutes
  - Engines shall be maintained in good working order to reduce emissions
  - Onsite electrical power connections shall be made available where feasible
  - Ultra low-sulfur diesel fuel shall be utilized (State law)
  - Electric and gasoline powered equipment shall substituted for diesel powered equipment where feasible
  - Signs shall be posted requiring all vehicle drivers and equipment operators to turn off engines when not in use.
  - In addition, all on-road diesel trucks shall not idle more than five minutes per truck trip or per day on the project site (State law).
  - All transportation refrigeration units (TRU's) shall be provided electric connections.

**[MM AQ-1]**

22. **Noise.** The following noise attenuation measures shall be implemented:
- Exterior construction activities shall be limited between 7 a.m. and 7 p.m. There shall be no exterior construction activities on Sundays or National Holidays.
  - Muffling of construction equipment shall be per manufacturer's specifications.
  - All stationary construction and operations equipment shall be placed in a manner so that emitted noise is directed away from sensitive receptors nearest the project site.

**LAND USE SERVICES – Code Enforcement (909) 387-8311**

23. **Enforcement.** If any County enforcement activities are required to enforce compliance with the conditions of approval, the property owner shall be charged for such enforcement activities in accordance with the County Code Schedule of Fees.
24. **Weed Abatement.** In conjunction with required permits, the applicant shall comply with San Bernardino County Desert Area Fire Hazard Abatement regulations [SBCC§ 23.031-23.043] and periodically clear the site of all non-complying vegetation. This includes removal of all Russian thistle (tumbleweeds).

**LAND USE SERVICES – Building and Safety (909) 387-8311**

25. **Walls.** Submit plans and obtain separate building permits for any required walls, retaining walls, or trash enclosures.



PUBLIC HEALTH – Environmental Health Services [DEHS] (800) 442-2283

26. Water. If the developer makes any changes to the proposed Project operation that would require the site to obtain water and/or sanitary facilities other than as described in the CUP application and subsequent CEQA analysis, the project will have to be revised and conditioned by the DEHS.

SAN BERNARDINO COUNTY FIRE – (760) 995-8190

27. Jurisdiction. The above referenced project is under the jurisdiction of the San Bernardino County Fire Protection District, herein “Fire Department”. Prior to any construction occurring on any parcel, the developer shall contact the Fire Department for verification of current fire protection requirements. All new construction shall comply with the current Uniform Fire Code requirements and all applicable statutes, codes, ordinances, and standards of the Fire Department.
28. Additional Requirements. In addition to the Fire requirements stated herein, other requirements from the Solar Photovoltaic Installation Guideline from the California State Fire Marshal may arise at the time of field inspection.

LAND USE SERVICES - Land Development – Drainage (909) 387-8311

29. FEMA Flood Zone. The project is located within Flood Zone AE according to FEMA Panel Number 5150H dated 08/28/2008. Flood hazards are undetermined in this area, but possible.
30. Tributary Drainage. Adequate provisions should be made to manage the tributary off-site/on-site drainage flows around and through the site in a manner that will not adversely affect adjacent or downstream properties.
31. Natural Drainage. The natural drainage courses traversing the site shall not be occupied or obstructed.
32. Additional Drainage Requirements. In addition to drainage requirements stated herein, other on-site and/or off-site improvements may be required that cannot be determined from tentative plans at this time and would have to be reviewed after more complete improvement plans and profiles have been submitted to this office.

LAND USE SERVICES - Land Development– Roads (909) 387-8311

33. Road Standards. All required street improvements shall comply with the latest San Bernardino County Road Planning and Design Standards and the San Bernardino County Standard Plans.

**PRIOR TO ANY LAND DISTURBANCE OR ISSUANCE OF ANY GRADING PERMITS,**  
Completion of the following must occur, with CCRF signatures

LAND USE SERVICES – Building and Safety (909) 387-8311

34. Runoff. Applicant must hold all runoff to pre-development levels per Section 82.13.080 of the San Bernardino County Development Code.
35. Erosion and Sediment Control Plan. Applicant shall submit an erosion and sediment control plan and permit application to Building and Safety for review and approval prior to any land disturbance.
36. Preconstruction Inspection. A preconstruction inspection, tree removal plan and permit in compliance with the County's Plant Protection and Management Ordinance, shall be approved prior to any land disturbance and/or removal of any trees or plants.
37. Grading Plans. If grading exceeds fifty (50) cubic yards, plans are required to be submitted to and approved by Building Safety.
38. NPDES Permit. A National Pollutant Discharge Elimination System (NPDES) permit – Notice of Intent (NOI) is required on all grading of one acre or more prior to issuance of a grading/construction permit. Contact the Regional Water Quality Control Board (RWQCB), Lahontan Region, for specifics.
39. RWQCB Permit. Prior to permit issuance, CONSTRUCTION projects involving one or more acres must be accompanied by a copy of the Regional Board permit letter with the WDID#. Construction activity includes clearing, grading, or excavation that results in the disturbance of at least one acre of land total.

LAND USE SERVICES – Planning (909) 387-8311

40. Landscape Buffers/Translocation Plan. The Developer shall leave in place existing native landscaping buffers between the solar panel field and the adjacent properties. Native vegetation that is removed due to construction shall be transplanted into the required setback areas in accordance with best nursery practices.
41. Lot Merger. The applicant shall submit and receive approval of a voluntary lot merger to merge APNs 0470-021-09, 0470-041-01, 0470-051-14, 0470-051-15, 0470-0051-17, 0470-011-35, and 0470-011-10 into one parcel.
42. **AQ/Dust Control Plan.** The developer shall prepare, submit and obtain approval from County Planning of a Dust Control Plan (DCP) consistent with MDAQMD guidelines and a letter agreeing to include in any construction

contracts/ subcontracts a requirement that project contractors adhere to the requirements of the DCP. [MM AQ-2]

43. **Worker Environmental Awareness Program.** Prior to any construction activities on the project site or within the gen-tie improvement corridor, the Applicant will implement a Worker Environmental Awareness Program (WEAP) to educate on-site workers about sensitive environmental issues associated with the Project. The program will be administered to all on-site personnel, including the Applicant's personnel, contractors, and all subcontractors, on the first day of work prior to the employee's commencing work on the site. The WEAP will place special emphasis on the protected species that have potential to occur within the Alamo site, including the Mojave desert tortoise, burrowing owl, nesting birds, and desert kit fox, among other plant and wildlife species.

The program will include the following elements:

- A presentation, developed by or in consultation with a qualified biologist, discussing the sensitive biological resources with potential to occur on-site, and explaining the reasons for protecting these resources and penalties for non-compliance;
- Brochures or booklets, containing written descriptions and photographs of protected species as well as a list of site rules pertaining to biological resources, to be provided to all WEAP participants;
- Contact information for the project biological monitor, and instructions to contact the monitor with any questions regarding the WEAP presentation or booklets;
- An acknowledgement form, to be signed by each worker indicating that they received WEAP training and will abide by the site rules protecting biological resources; and,
- Conspicuous stickers, identifying the project and signifying WEAP completion, to be distributed immediately following WEAP training and required on personnel hard hats.

The project Applicant will be responsible for ensuring that all on-site personnel, throughout the duration of project construction, receive WEAP training. A training log, to be signed by all on-site personnel immediately following WEAP training, will be maintained on the project site during construction to document compliance with this measure. [MM BIO-1]

44. **Biological Monitor.** Prior to issuance of a grading permit, a qualified biologist shall be retained by the Applicant as the biological monitor subject to the approval of the County of San Bernardino. The biological monitor shall be present at all times during vegetation clearing or ground disturbance, and shall ensure that impacts to biological resources are avoided or minimized to the fullest extent possible. When construction activities have progressed to the point where biological resources are no longer present, as determined by the biological monitor, biological monitoring in the area may be reduced or discontinued with approval from the County of San Bernardino. The biological monitor shall have the authority to stop specific grading or construction activities if violations of mitigation measures or any local, state, or federal laws are suspected. [MM BIO-2]
45. **Mojave Desert Tortoise Exclusion Fencing.** Prior to initiation of construction activities along the gen-tie improvement corridor, the activity footprint of each work location will be surveyed for the Mojave desert tortoise by a qualified biologist. If Mojave desert tortoises or their recent sign are detected, the Applicant shall not initiate construction, and shall instead contact the USFWS and CDFW to develop an avoidance strategy. No relocation of other take of desert tortoise is anticipated or proposed. Within 24 hours following completion of the survey (assuming negative survey results), either a desert tortoise exclusion fence shall be installed surrounding the disturbance area or all construction activities shall be subject to 100% biological monitoring if fencing proves impractical along the long gen-tie improvement corridor. Any exclusionary fencing used shall be installed in accordance with the specifications set forth in Chapter 8 of the USFWS' *Desert Tortoise Field Manual* (USFWS 2009), and installation of the fence shall be overseen by a biologist familiar with the installation of tortoise exclusion fencing. If tortoise exclusion fences are left in place for a period exceeding one week at any location, the fences will be inspected weekly for any signs of damage or wear that could potentially compromise the integrity of the exclusion perimeter. If damage or excessive wear is observed, the exclusion fence will be repaired immediately. Results of any necessary fence inspections will be maintained to document compliance with this provision.

As noted, should exclusionary fencing prove impractical along the long gen-tie improvement corridor, SCE may elect instead to have all vehicular movements and construction activities monitored by qualified biologists to ensure desert tortoise are avoided. [MM BIO-3]

46. **Pre-construction Mojave Desert Tortoise Surveys and Avoidance.** Within 14 days prior to construction-related ground clearing and/or grading, the Applicant shall retain a qualified biologist to conduct surveys for signs of occupancy by the Mojave desert tortoise. Surveys shall cover the entire area proposed for disturbance, shall be conducted by walking parallel transects spaced no more than 10 meters apart, and shall focus on detecting any live tortoises or their sign, including carcasses, burrows, palates, tracks, and scat. Should any sign indicating the presence of Mojave desert tortoise be detected, the Applicant shall not proceed with ground clearing and/or grading activities in the area of the find, and shall instead contact the USFWS and CDFW to develop an avoidance strategy and/or seek authorization for incidental take of Mojave desert tortoise.

The results of the pre-construction surveys, including graphics showing the locations of any tortoise sign detected, and documentation of any avoidance measures taken, shall be submitted to the USFWS, CDFW, and the County of San Bernardino within 14 days of completion of the pre-construction surveys or construction monitoring to document compliance with applicable federal and state laws pertaining to the protection of Mojave desert tortoise. [MM BIO-4]

47. **Pre-construction Nesting Bird Surveys and Avoidance.** Within 30 days prior to vegetation clearing or ground disturbance associated with construction or grading that would occur during the nesting/breeding season (February through August, unless determined otherwise by a qualified biologist based on observations in the region), the Applicant shall retain a qualified biologist to determine if active nests of species protected by the Migratory Bird Treaty Act or the California Fish and Game Code are present within or adjacent to the disturbance zone or within 100 feet (300 feet for raptors) of the disturbance zone. The surveys shall be conducted no more than seven days prior to initiation of disturbance work. If ground disturbance activities are delayed, then additional pre-disturbance surveys shall be conducted such that no more than seven days will have elapsed between the survey and ground disturbance activities.

If active nests are found, clearing and construction within 100 feet of the nest (or a lesser distance if approved by the USFWS) shall be postponed or halted, until the nest is vacated and juveniles have fledged, as determined by the biologist. Avoidance buffers shall be established in the field with highly visible construction fencing or flagging, and construction personnel shall be instructed on the sensitivity of nest areas. A qualified biologist shall serve as

a construction monitor during those periods when construction activities will occur near active nests to ensure that no inadvertent impacts on these nests occur.

The results of pre-construction nesting bird surveys, including graphics showing the locations of any nests detected, and documentation of any avoidance measures taken, shall be submitted to the County of San Bernardino and CDFW within 14 days of completion of the pre-construction surveys or construction monitoring to document compliance with applicable state and federal laws pertaining to the protection of native birds. [MM BIO-5]

48. **Pre-construction Desert Kit Fox Surveys and Passive Relocation.** To avoid unauthorized take of the desert kit fox, the project Applicant shall retain a qualified biologist to conduct preconstruction surveys for this species within 14 days prior to ground disturbance. The survey shall be conducted by walking parallel transects spaced no more than 20 meters apart, and shall be focused on detecting any desert kit fox individuals or dens within the disturbance footprint. If dens are detected, each den shall be classified as inactive, potentially active, or definitely active based on field observations. If necessary, motion-sensitive cameras or a tracking medium shall be used to determine whether a den is active.

Inactive dens in areas that would be impacted by construction activities shall be excavated by hand and/or mechanically and backfilled to prevent reuse by desert kit fox.

Active and potentially active dens in areas that would be impacted by construction activities shall be monitored by a qualified biologist for three consecutive nights using a tracking medium (such as diatomaceous earth or fire clay) and/or infrared camera stations at the entrance. If no tracks are observed in the tracking medium or no photos of the target species are captured after three nights, the den shall be excavated and backfilled by hand to prevent reuse. If tracks are observed, the den shall be classified as active. Outside the desert kit fox pupping season (January 15 through July 31, unless determined otherwise by a qualified biologist based on observations in the region), the den may be progressively blocked with natural materials (rocks, dirt, sticks, and vegetation piled in front of the entrance) for the next three to five nights to discourage the kit fox from continuing to use the den. After verification that the den is unoccupied, it shall then be excavated and backfilled by hand to prevent reuse, while ensuring that no kit fox are trapped



in the den. No excavation of active desert kit fox dens shall be permitted during the pupping season.

The Applicant shall submit a report to the County of San Bernardino and CDFW within 30 days of completion of preconstruction desert kit fox surveys describing the survey methods, results, and details of any dens backfilled or foxes observed. [MM BIO-6]

49. **Authorizations for Impacts to Ephemeral Washes.** If feasible, the Applicant shall avoid filling or altering the ephemeral desert washes that traverse the gen-tie improvement corridor during construction. If avoidance is not feasible, prior to undertaking any activity that would divert, fill, obstruct, or substantially alter any of the washes, the project Applicant will enter into a Streambed Alteration Agreement with the CDFW authorizing the proposed activity as required by Section 1602 of the California Fish and Game Code. The project Applicant will ensure that all project personnel comply with all stated terms and conditions of the Agreement, including any seasonal or weather-related restrictions on work activities within the streambeds, construction site housekeeping practices, or other limitations the CDFW may impose. The Applicant shall also contact the Los Angeles District of the U.S. Army Corps of Engineers, and shall obtain a Section 404 Permit for the proposed work if required. [MM BIO-7]
50. **Avoidance of Joshua Trees and Cacti.** If feasible, the Applicant shall avoid the need to remove Joshua trees, Mojave yucca, or cacti during construction activities along the gen-tie improvement corridor. If avoidance is not feasible, the Applicant shall acquire a permit from the County of San Bernardino as required by Section 88.01.050 of the San Bernardino County Development Code prior to removing these species. [MM BIO-8]
51. **Migratory Bird Fund Contribution.** The Applicant shall work with the USFWS to make a mutually agreeable contribution to a fund designed to identify and reduce sources of mortality of migratory birds in the region. The contribution level shall reflect that project impacts to migratory bird populations are expected to be small and less than significant. [MM BIO-9]
52. **Raven Management.** Alamo Solar Project, LLC and SCE shall implement the following measures to mitigate project-specific impacts that could result in a local increase in common ravens:

- **Dispose of all trash and food-related waste in secure, self-closing receptacles to prevent the introduction of subsidized food resources for common ravens.**
- **Use water for construction, operation and maintenance in a manner that does not result in puddling.**
- **The biological monitor identified in mitigation measure BIO-2 shall implement the following at the project site:**
  - **Remove and dispose of road kills of common wildlife species from the project site and access road. No species protected by federal or state law would be removed.**
  - **Document common raven use of the project site and access road on a daily basis, during vegetation clearing and ground disturbance, (per MM BIO 2). If frequently used perching locations are identified, use physical, auditory or visual bird deterrents to discourage use by common ravens.**
  - **Remove any inactive raven nests in the project site or along the access road.**
- **SCE will address common raven nests according to existing procedures or permits applicable to transmission line upgrades and maintenance activities.**

**Alamo Solar Project, LLC and SCE would implement the following measure to mitigate indirect and cumulative impacts it cannot fully eliminate:**

**Contribute to the Regional Raven Management Plan. The contribution shall consist of a one-time total payment of \$105 per acre of disturbance, including the project site and gen-tie improvement corridor. [MM BIO-10]**

53. **Avian Mortality Monitoring.** In an effort to contribute meaningful data regarding the effects of industrial-scale photovoltaic solar projects on migratory birds, the Applicant shall perform construction-phase and operations-phase avian mortality monitoring at the Alamo project site. Prior to issuance of a grading permit for the project, the Applicant shall submit an Avian Protection Plan to the County of San Bernardino and the USFWS ensuring that any birds encountered dead or injured on the project site are documented. At a minimum, the plan shall include the following elements:

**1. *Bird Encounter Protocol during Construction***

**This section of the plan will include a protocol to be used upon discovery of a dead or injured bird during project construction to ensure timely and**

consistent data collection. At a minimum, the plan will require the Applicant and on-site biological monitor to determine pertinent information, such as the following:

- The species, life stage (adult or juvenile), and sex (if practical) of the bird;
- The likely cause of injury or death, if apparent; and,
- The approximate date of death, for individuals that have been dead for a period prior to discovery.

## **2. *Construction-Phase Reporting Requirements***

This section of the plan will require that avian injury/mortality data be compiled and transmitted to the County of San Bernardino and the USFWS on a periodic basis, and will specify the frequency and method by which this notification should be made. However, in the event that avian species listed as Threatened or Endangered under the Endangered Species Act are encountered, the plan shall require that the USFWS be notified immediately. Additionally, the applicant shall not destroy, collect, or remove bird remains from the site without first obtaining any required permits from the USFWS and/or CDFW.

## **3. *Operations-Phase Mortality Monitoring***

This section of the plan will require that the Applicant retain a qualified biologist to conduct periodic avian mortality monitoring during operations at the Alamo site, and will detail the methods by which this monitoring should be conducted. The plan shall require monitoring for a minimum period of two years following completion of construction. A minimum of five monitoring events shall be conducted during each year, and will be scheduled to coincide with peak migration periods. However, one monitoring event each year will be conducted during the winter months (November through January), to assess any mortality of wintering birds.

## **4. *Adaptive Management***

This section of the plan will set forth a process through which changes to the monitoring schedule or methods may be implemented if warranted due to unforeseen circumstances or other factors. During the construction- and operations-phase avian mortality monitoring, the Applicant and monitoring biologist will keep the County of San Bernardino and USFWS informed of monitoring progress and will alert these agencies if it appears that changes to the monitoring schedule or methods are needed. If it is apparent that substantial project-related

**injury or mortality of birds may be occurring, or if there are substantial unresolved questions regarding the Project's effects on avian species, then the monitoring period, methods, or frequency may be modified to address these concerns. In addition, if specific project elements are resulting in substantial avian injury or mortality, the plan shall direct that the Applicant work with the USFWS to identify and implement reasonable measures to modify these elements in a manner that lessens the effects on migratory birds. [MM BIO-11]**

- 54. Avoid CA-SBR-183. CA-SBR-183 and adjacent areas outside of the solar facility footprint shall be illustrated on construction site plans as an Environmentally Sensitive Area to be avoided during construction. Temporary exclusionary fencing shall be used to keep construction personnel and equipment outside the recorded site boundary. [MM CUL-1]**
- 55. Archaeological and Native American Monitoring. Prior to construction, an archaeological monitoring plan shall be prepared and implemented to the satisfaction of the San Bernardino County Museum. Archaeological and Native American monitors shall be present during ground-disturbing activities during construction, including vegetation clearing, grubbing, grading, filling, drilling, and trenching. At a minimum, monitors shall be present during ground-disturbing activities that affect surface and near-surface soils, defined here as 0 to 24 inches below grade. If deeper A-horizon soils are discovered, or if actual subsurface archaeological deposits are discovered, archaeological and Native American monitoring shall continue until the archaeologist determines daily monitoring can be shifted to periodic spot checks.**

**If potentially significant archaeological deposits are encountered, all ground disturbance near the find shall halt and the Project Archaeologist shall contact the San Bernardino County Museum and interested Native Americans to develop and implement a plan that would reduce potential impacts through avoidance or, if avoidance is not practicable, data recovery. Archaeological remains shall be recorded on the appropriate California Department of Parks and Recreation (DPR) 523 Series Forms. Discovery of potentially significant archaeological deposits and subsequent investigations may result in the preparation of additional archaeological technical reports. After ground-disturbing construction activities have been completed, an archaeological construction monitoring report shall be completed. Technical reports, the monitoring report, collected artifacts, and other necessary archaeological documentation shall be submitted to the San Bernardino County Museum for permanent curation. [MM CUL-2]**

56. **Construction Worker Educational Workshop.** Prior to construction, the qualified archaeological monitor or qualified designee shall conduct a brief educational workshop such that all construction personnel understand monitoring requirements, roles and responsibilities of the monitors, and penalties for unauthorized artifact collecting or intentional disturbance of archaeological resources. The construction worker training shall include an overview of potential cultural and paleontological resources that could be encountered during ground-disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to a designated on-site cultural monitor for further evaluation and action, as appropriate. [MM CUL-3]
57. **Paleontological Monitoring.** A qualified paleontologist shall develop a paleontological mitigation program including, but not limited to, a field survey before grading, monitoring during grading, and recovery, preparation, identification, reporting, and curation of recovered fossils. The paleontological monitor shall have the authority to halt grading to collect uncovered paleontological resources. However, if geotechnical evidence prior to construction reveals that undisturbed Pleistocene sediments will not be impacted by excavations, paleontological monitoring would not be required.

PUBLIC WORKS – Surveyor (909) 387-8149

58. **ROS.** A Record of Survey or Corner Record is required to be filed per the Business and Professions Code, to facilitate the location of the property lines for the proposed chain link fencing and due to bearings and distances being shown on the Site Plan that are not of record.
59. **Monumentation.** If any activity on this project will disturb **any** land survey monumentation, including but not limited to vertical control points (benchmarks), said monumentation shall be located and referenced by or under the direction of a licensed land surveyor or registered civil engineer authorized to practice land surveying **prior** to commencement of any activity with the potential to disturb said monumentation, and a corner record or record of survey of the references shall be filed with the County Surveyor (Section 8771(b) Business and Professions Code).

LAND USE SERVICES - Land Development– Drainage (909) 387-8311

60. **Drainage Facility Design.** A Registered Civil Engineer shall investigate and design adequate drainage facilities to intercept and conduct the off-site and on-site drainage flows around and through the site in a manner, which will not adversely affect adjacent or downstream properties. Submit drainage study for

review and obtain approval. A \$520 deposit for drainage review will be collected upon submittal to the Land Development Division.

61. FEMA Flood Zone. Northwestern portion of the project is located within Flood Zone AE according to FEMA Panel Number 5150H dated 08/28/2008 and will require the first floor to be elevated a minimum 1 foot above highest known flood elevation in compliance with FEMA/SBC regulations. (Elevation Certificate will be required if the proposed improvements are located within flood zone AE).
62. Topo Map. A topographic map shall be provided to facilitate the design and review of necessary drainage facilities.
63. LDD/Grading Plans. Applicant shall submit grading plans to the Land Development Division, Drainage Section for review and approval. The Land Development Division will collect a \$520 deposit for grading review upon submittal.
64. Natural Drainage. The natural drainage courses traversing the site shall not be occupied or obstructed.
65. Permit. A permit, or authorized clearance, shall be obtained from County Public Works prior to issuance of a grading permit by County Building and Safety.

#### PUBLIC WORKS – Solid Waste Management Division (909) 386-8701

66. C&D Plan – Part 1. The developer shall prepare, submit, and obtain approval from Solid Waste Management Division (SWMD) of a “Construction Waste Management Recycling Plan (C&D Plan), Part I”. The C&D Plan shall list the types and volumes of solid waste materials expected to be generated from grading and construction. The Plan shall include options to divert from landfill disposal materials for reuse or recycling by a minimum of 50 percent of total volume.

Upon completion of construction, the developer shall complete SWMD’s C&D Plan Part 2”. This summary shall provide documentation of diversion of materials including but not limited to receipts or letters from diversion facilities or certification regarding reuse of materials on site.

#### SAN BERNARDINO COUNTY FIRE – (760) 995-8190

67. Access. The development shall have a minimum of TWO point of vehicular access. These are for fire/emergency equipment access and for evacuation routes. Standard 902.2.1

Single Story Road Access Width: All buildings shall have access provided by approved roads, alleys and private drives with a minimum twenty six (26) foot



unobstructed width and vertically to fourteen (14) feet six (6) inches in height. Other recognized standards may be more restrictive by requiring wider access provisions.

Multi-Story Road Access Width: Buildings three (3) stories in height or more shall have a minimum access of thirty (30) feet unobstructed width and vertically to fourteen (14) feet six (6) inches in height. [F41]

68. Access - 150+ feet. Roadways exceeding one hundred fifty (150) feet in length shall be approved by the Fire Department. These shall be extended to within one hundred fifty (150) feet of and shall give reasonable access to all portions of the exterior walls of the first story of any building. Standard 902.2.1 [F45]
69. Access - 30% slope. Where the natural grade between the access road and building is in excess of thirty percent (30%), an access road shall be provided within one hundred and fifty (150) feet of all buildings. Where such access cannot be provided, a fire protection system shall be installed. Plans shall be submitted to and approved by the Fire Department. Standard 902.2.1 [F46]
70. Combustible Vegetation. Combustible vegetation shall be removed as follows:
- "Where the average slope of the site is less than 15% - Combustible vegetation shall be removed a minimum distance of thirty (30) feet from all structures or to the property line, whichever is less.
  - "Where the average slope of the site is 15% or greater - Combustible vegetation shall be removed a minimum one hundred (100) feet from all structures or to the property line, whichever is less. County Ordinance # 3586 [F52]

PUBLIC WORKS – Traffic Division (909) 386-8186

71. Road Maintenance Agreement. The developer shall enter into a maintenance agreement with the Department of Public Works, Transportation Operations Division to insure all County maintained roads utilized by the construction traffic shall remain in acceptable condition during construction.

**PRIOR TO ISSUANCE OF BUILDING PERMITS,**  
Completion of the following must occur, with CCRF signatures

LAND USE SERVICES / Land Development– Roads (909) 387-8311

72. Road Dedication/Improvement. The developer shall submit for review and obtain approval from the Land Use Services Department of the following dedications, plans and permits for the listed required improvements, designed by a Registered Civil Engineer (RCE), licensed in the State of California. These shall be submitted to the Land Use Services Department (LUSD), located at 385 N. Arrowhead Ave, San Bernardino CA 92415-0187. Phone: (909) 387-8311.
- Offsite Street Improvements. Design a 26' paved road section within a 40' road right of way from the main project entrance to the nearest paved maintained road. Obtain additional road right-of-way as needed.
73. Road Design. Road sections within and/or bordering the project site shall be designed and constructed to Desert Road Standards of San Bernardino County, and to the policies and requirements of the County Department of Public Works and in accordance with the Master Plan of Highways.
74. Street Improvement Plans. The developer shall submit for review and obtain approval of street improvement plans prior to construction.
75. Utilities. Final plans and profiles shall indicate the location of any existing utility facility or utility pole which would affect construction, and any such utility shall be relocated as necessary without cost to the County.
76. Encroachment Permits. Prior to installation of road and drainage improvements, a permit is required from County Public Works, Transportation Operations Division, Permit Section, (909) 387-8039, as well as other agencies prior to work within their jurisdiction.
77. Soils Testing. Any grading within the road right-of-way prior to the signing of the improvement plans shall be accomplished under the direction of a soils testing engineer. Compaction tests of embankment construction, trench back fill, and all sub-grades shall be performed at no cost to San Bernardino County and a written report shall be submitted to the Transportation Operations Division, Permits Section of County Public Works, prior to any placement of base materials and/or paving.
78. Open Roads/Cash Deposit. Existing County roads, which will require reconstruction, shall remain open for traffic at all times, with adequate detours, during actual construction. A cash deposit shall be made to cover the cost of grading and paving prior to issuance of road encroachment permit. Upon completion of the road and drainage improvement to the satisfaction of the Department of Public Works, the cash deposit may be refunded.

79. Transitional Improvements. Right-of-way and improvements (including off-site) to transition traffic and drainage flows from proposed to existing, shall be required as necessary.
80. Street Gradients. Road profile grades shall not be less than 0.5% unless the engineer at the time of submittal of the improvement plans provides justification to the satisfaction of County Public Works confirming the adequacy of the grade.

LAND USE SERVICES – Building and Safety (909) 387-8311

81. Erosion Control Devices. Prior to issuance of building permits, erosion control devices must be installed at all perimeter openings and slopes. No sediment is to leave the job site.
82. Erosion Control Devices Installed. All erosion control planting, landscaping and devices shall be installed upon completion of rough grading.
83. Compaction Report. Upon completion of rough grading and prior to footing excavations, a compaction report shall be submitted to Building and Safety for review and approval.
84. Building Plans. Any building, sign, or structure to be constructed or located on site will require professionally prepared plans approved by the Building and Safety Division.
85. Drainage Approval. Approval from the Drainage Section - Land Development is required for all new construction in the FP Zone.

SAN BERNARDINO COUNTY FIRE – (760) 995-8190

86. Building Plans. No less than three (3) complete sets of Building Plans shall be submitted to the Fire Department for review and approval. [F42]
87. Street Sign. This project is required to have an approved street sign (temporary or permanent). The street sign shall be installed on the nearest street corner to the project. Installation of the temporary sign shall be prior any combustible material being placed on the construction site. Prior to final inspection and occupancy of the first structure, the permanent street sign shall be installed. Standard 901.4.4 [F72]

LAND USE SERVICES – Planning (909) 387-8311

88. Decommissioning Requirements. In accordance with SBCC 84.29.060, Decommissioning Requirements, the Developer shall submit a Closure Plan to the Planning Division for review and approval. The Decommissioning Plan shall satisfy the following requirements:

- a) Closure Plan. Following the operational life of the project, the project owner shall perform site closure activities to meet federal, state, and local requirements for the rehabilitation and re-vegetation of the project Site after decommissioning. The applicant shall prepare a Closure, Re-vegetation, and Rehabilitation Plan and submit to the Planning Division for review and approval prior to building permit issuance. Under this plan, all aboveground structures and facilities shall be removed to a depth of three feet below grade, and removed off-site for recycling or disposal. Concrete, piping, and other materials existing below three feet in depth may be left in place. Areas that had been graded shall be restored to original contours unless it can be shown that there is a community benefit for the grading to remain as altered. Succulent plant species native to the area shall be salvaged prior to construction, transplanted into windrows, and maintained for later transplanting following decommissioning. Shrubs and other plant species shall be re-vegetated by the collection of seeds and re-seeding following decommissioning.
- b) Closure Compliance. Following the operational life of the project, the developer shall perform site closure activities in accordance with the approved closure plan to meet federal, state, and local requirements for the rehabilitation and re-vegetation of the project site after decommissioning. Project decommissioning shall be performed in accordance with all other plans, permits, and mitigation measures that would assure the project conforms to applicable requirements and would avoid significant adverse impacts. These plans shall include the following as applicable:
- Water Quality Management Plan
  - Erosion and Sediment Control Plan
  - Drainage Report
  - Notice of Intent and Stormwater Pollution Prevention Plan
  - Air Quality Permits
  - Biological Resources Report
  - Incidental Take Permit, Section 2081 of the Fish and Game Code
  - Cultural Records Report
- c) Abandoned Site. If the solar field is not operational for twelve consecutive months, it shall be deemed abandoned. The solar field shall be removed within 60 days from the date a written notice of the declaration of abandonment by the County is sent to the developer. Within this 60-day period, the developer may provide the Land Use Services Director with a written request to modify this condition at a public hearing before the Planning Commission requesting an extension of time for an additional twelve months. In no case shall the Planning Commission authorize an extension of time beyond two years from the date the solar field was deemed abandoned without requiring financial assurances to guarantee the removal of the solar field, and that portion of the support structure lying above the natural grade level, in the form of a corporate surety bond, irrevocable letter of credit, or an irrevocable certificate of deposit wherein the County is named as the sole beneficiary. In no case shall a solar field, which has been deemed

abandoned, be permitted to remain in place for more than 48 months from the date the solar field was first deemed abandoned.

- d) Environmental Site Assessment. The County may require a Phase 1 Environmental Site Assessment be performed at the end of decommissioning to verify site conditions.

**PRIOR TO FINAL INSPECTION OR OCCUPANCY,**  
Completion of the following must occur, with CCRF signatures

SAN BERNARDINO COUNTY FIRE – (760) 995-8190

89. Haz-Mat Approval. The applicant shall contact the San Bernardino County Fire Department/Hazardous Materials Division (909) 386-8400 for review and approval of building plans, where the planned use of such buildings will or may use hazardous materials or generate hazardous waste materials. [F94]
90. Commercial Addressing. Commercial and industrial developments of 100,000 sq. ft or less shall have the street address installed on the building with numbers that are a minimum six (6) inches in height and with a three quarter (3/4) inch stroke. The street address shall be visible from the street. During the hours of darkness, the numbers shall be electrically illuminated (internal or external). Where the building is two hundred (200) feet or more from the roadway, additional non-illuminated contrasting six (6) inch numbers shall be displayed at the property access entrances. Standard 901.4.4 [F82]
91. Inspection by Fire Department. Permission to occupy or use the building (Certification of Occupancy or Shell Release) will not be granted until the Fire Department inspects, approves and signs off on the Building and Safety job card for "fire final". [F03]

COUNTY FIRE DEPARTMENT – Hazardous Materials Division (909) 386-8401

92. Emergency/Contingency Plan. Prior to occupancy, the operator shall submit a Business Emergency/Contingency Plan for emergency release or threatened release of hazardous materials and wastes or a letter of exemption. For information, contact the Office of the Fire Marshall, Hazardous Materials Division at (909) 386-8401.
93. Permits. Prior to occupancy, the applicant shall be required to apply for one or more of the following: a Hazardous Materials Handler Permit, a Hazardous Waste Generator Permit, and/or an Underground Storage Tank Permit. For information, contact the Office of the Fire Marshall, Hazardous Materials Division at (909) 386-8401.

PUBLIC WORKS – Solid Waste Management Division (909) 386-8701

94. C&D Plan – Part 2. The developer shall complete SWMD's C&D Plan Part 2". This summary shall provide documentation of diversion of materials including but not limited to receipts or letters from diversion facilities or certification reuse of materials on site. The C&D Plan – Part 2 shall provide evidence to the satisfaction of County Solid Waste that demonstrates that the project has diverted from landfill disposal

materials for reuse or recycling by a minimum of 50 percent of total volume of all construction waste.

This summary shall provide documentation of diversion of materials including but not limited to receipts or letters documenting material types and weights from diversion facilities or certification reuse of materials on site.

#### LAND USE SERVICES - Land Development– Drainage (909) 387-8311

95. Drainage Improvements. All required drainage improvements shall be completed by the applicant, then inspected and approved by County Public Works.

#### LAND USE SERVICES - Land Development– Roads (909) 387-8311

96. Road Improvements. All required on-site and off-site improvements shall be completed by the applicant and inspected and approved by County Public Works.
97. Structural Section Testing. A thorough evaluation of the structural road section, to include parkway improvements, from a qualified materials engineer, shall be submitted to County Public Works.

#### PUBLIC WORKS – Traffic Division (909) 387-8186

98. Local Transportation Fees. This project falls within the Helendale/Oro Grande Local Area Transportation Facilities Fee Plan. This fee shall be paid by cashier's check to the Department of Public Works Business Office.
99. RMA Compliance. The developer shall comply with maintenance agreement during construction if applicable and/or assure that all County maintained roads affected by the project during construction shall be restored to pre-construction condition. Please contact the County Department of Public Works, Transportation Operations Division at (909) 387-7995 for inspection prior to occupancy.

#### LAND USE SERVICES – Building and Safety (909) 387-8311

100. Final Occupancy. Prior to occupancy, all Planning Division requirements and sign-offs shall be completed.

#### LAND USE SERVICES – Planning (909) 387-8311

101. CCRF/Occupancy. Prior to occupancy/use, all Condition Compliance Release Forms (CCRF) shall be completed to the satisfaction of County Planning with appropriate authorizing signatures from each affected agency.

102. **AQ – Installation.** The developer shall submit for review and obtain approval from County Planning evidence that all air quality mitigation measures have been installed properly and that specified performance objectives are being met to the satisfaction of County Planning and County Building and Safety. [MM AQ-3]
103. **Dust Control – Operation.** Prior to final inspection, the Applicant shall develop an Operational Dust Control Plan that shall be approved and implemented prior to energization of the solar facility. The Operational Dust Control Plan shall include Dust Control Strategies sufficient to ensure that areas within the project site shall not generate visible fugitive dust (as defined in Mojave Desert Air Quality Management District's [MDAQMD's] Rule 403.2) such that dust remains visible in the atmosphere beyond the property boundary. During high wind events, Dust Control Strategies shall be implemented so as to minimize the Project site's contribution to visible fugitive dust beyond that observed at the upwind boundary.
104. **Special Use Permit.** The developer shall submit for review and gain approval for a Special Use Permit (SUP) from County Code Enforcement. Thereafter, the SUP shall be renewed annually subject to annual inspections. The annual SUP inspections shall review & confirm continuing compliance with the listed conditions of approval, including all mitigation measures. This comprehensive compliance review shall include evaluation of the maintenance of all storage areas, landscaping, screening and buffering. Failure to comply shall cause enforcement actions against the developer. Such actions may cause a hearing or an action that could result in revocation of this approval and imposition of additional sanctions and/or penalties in accordance with established land use enforcement procedures. Any additional inspections that are deemed necessary by the Code Enforcement Supervisor shall constitute a special inspection and shall be charged at a rate in accordance with the County Fee Schedule, including travel time, not to exceed three (3) hours per inspection.
105. **Removal Surety.** Surety in a form and manner determined acceptable to County Counsel and the Land Use Services Director shall be required for the closure costs and complete removal of the solar energy generating facility and other elements of the facility. The developer shall either:
- a) Post a performance or other equivalent surety bond issued by an admitted surety insurer to guarantee the closure costs and complete removal of the solar panels and other elements of the facility in a form or manner determined acceptable to County Counsel and the Land Use Services Director in an amount equal to 120% of the cost estimate generated by a licensed civil engineer and approved by the Land Use Services Director; OR
  - b) Cause the issuance of a certificate of deposit or an irrevocable letter of credit payable to the County of San Bernardino issued by a bank or savings association authorized to do business in this state and insured by the Federal



Deposit Insurance Corporation for the purpose of guaranteeing the closure costs and complete removal of the solar panels and other elements of the facility in a form or manner determined acceptable to County Counsel and the Land Use Services Director in an amount equal to 120% of the cost estimate generated by a licensed civil engineer and approved by the Land Use Services Director.

106. Install On-site Improvements. All required on-site improvements shall be installed.

107. Fees Paid. Prior to final inspection by Building and Safety Division and/or issuance of a Certificate of Conditional Use by the Planning Division, the applicant shall pay in full all fees required under actual cost job number P201300204.

**END OF CONDITIONS**

## **EXHIBIT C**

### **Initial Study**

**SAN BERNARDINO COUNTY**  
**INITIAL STUDY ENVIRONMENTAL CHECKLIST FORM**

This form and the descriptive information in the application package constitute the contents of Initial Study pursuant to County Guidelines under Ordinance 3040 and Section 15063 of the State CEQA Guidelines.

**PROJECT LABEL:**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| <p><b>APN:</b> 0470-021-09, 0470-041-01, 0470-051-14, 0470-051-15, and 0470-0051-17, 0470-011-35 and 0470-011-10</p> <p><b>APPLICANT:</b> ALAMO SOLAR, LLC</p> <p><b>COMMUNITY:</b> HELENDALE/FIRST SUPERVISORIAL DISTRICT</p> <p><b>LOCATION:</b> WEST OF NATIONAL TRAILS HIGHWAY/STATE ROUTE 66 (SR 66), WEST OF BRYMAN ROAD/ASTER ROAD AND NORTH OF HERITAGE WAY.</p> <p><b>PROJECT NO:</b> P201300204/CUP</p> <p><b>STAFF:</b> CHRISTOPHER CONNER</p> <p><b>REP('S):</b> JEN BRADFORD</p> <p><b>PROPOSAL:</b> A CONDITIONAL USE PERMIT TO BUILD AND OPERATE A 20 MEGAWATT UTILITY SCALE PHOTOVOLTAIC FACILITY ON APPROXIMATELY 123 ACRES OF THE 175-ACRE SITE.</p> | <p><b>USGS Quad:</b> Helendale</p> <p><b>T, R, Section:</b> T7 R4W Sec. SW/4<br/>N 18 &amp; and<br/>19 W/2</p> <p><b>Thomas Bros.:</b> page 3934 Grid: H-6</p> <p><b>Planning Area:</b> Desert Region</p> <p><b>Land Use:</b> RL-5 (Rural Living – 5 acres)</p> <p><b>Zoning:</b></p> <p><b>Overlays:</b> BIO (Biological Resources, Desert Tortoise – Medium Population, Burrowing Owl); Floodplain (FP-1); Dam Inundation</p> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**PROJECT CONTACT INFORMATION:**

**Lead agency:** County of San Bernardino  
Land Use Services Department  
385 N. Arrowhead Avenue  
San Bernardino, CA 92415-0182

**Contact person:** Christopher Conner, Senior Planner  
**Phone No:** (909) 387-4425 Fax No: (909) 387-3223  
**E-mail:** Christopher.Conner@lus.sbcounty.gov

**Project Sponsor:** Alamo Solar LLC, Attn: Jen Bradford  
20 California Street, Suite 500  
San Francisco, CA 94111

APNs: 0470-021-09, 0470-041-01, 0470-051-14, 0470-051-15, 0470-0051-17, 0470-011-35, and 0470-011-10

Alamo Solar, LLC

Project #: P201300204

October 2013/Revised January, 2014

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## **PROJECT DESCRIPTION:**

The Alamo Solar Project (“Project”) is being developed by Alamo Solar, LLC (Applicant) to provide solar photovoltaic (PV) power to serve the electrical load requirements of California. The Project will generate approximately 20 MW of alternating current photovoltaic modules on approximately 123 acres of the 175-acre site. The Project will tie in electrically to a new project substation, to be located near the northwest corner of Melrose Road and Bryman Road. This substation will be the project’s point of change of ownership from the project developer to the interconnection utility, Southern California Edison (SCE). From the substation the Project will connect electrically with the existing Southern California Edison (SCE) Victor-Helendale 33-kV transmission line that runs north-south along National Trails Highway (Route 66). SCE will undertake distribution line upgrades and modifications along this line that are described in the following pages, and that will be evaluated as part of this project. The electricity produced by the Project will be sold through a long-term power purchase agreement.

The Project is designed to have a useful life of 20 to 30 years, although the life span could be extended by upgrades and refurbishments. In the event that the Project is decommissioned, the facility would be removed and the site prepared for subsequent land use.

In addition to seeking County approval to construct and operate the facility, the Applicant will also seek County approval to merge the lots (parcels) within the facility.

## **Project Location and Setting**

The Project site is situated in the western Mojave Desert, approximately one-tenth of a mile east of the seasonal Mojave River, and approximately 3 miles north of Oro Grande, 3.5 miles south of Helendale, 7.5 miles northeast of Adelanto, and approximately 10.5 miles northwest of downtown Victorville, California. The Project site is bordered to the north by agricultural lands; to the east by Bryman Road, the Atchison, Topeka & Santa Fe (AT&SF) Railroad, National Trails Highway State Route 66 (SR-66) and agricultural uses and vacant undeveloped lands; to the south by a combination of rural residential development and fallow agricultural land; and to the west by the Mojave River and agricultural uses.

The project site is relatively flat. Elevation of the site ranges from approximately 2,490 feet above sea level (asl) to 2,520 feet asl, with topography gradually sloping to the north-northwest. Rural residences are scattered locally near the Mojave River, and dirt roads delineating residential parcels are dense to the west and south of the site. Undeveloped areas are found in the Mojave River and to the east and north of the site. The Mojave National Preserve is located approximately 75.0 miles to the northeast.

The proposed Project area has been mapped by FEMA for flood zone hazards.<sup>1</sup> The 100-year floodplain of the Mojave River crosses through the northwestern corner of the project site, but would not encroach into the proposed solar footprint and facilities. Thus, the 100-year floodplain would be avoided during construction and operation of the proposed solar facility. From north to south, the project site includes Assessor Parcel Numbers 0470-021-09, 0470-041-01, 0470-051-14, 0470-051-

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<sup>1</sup> (<http://msc.fema.gov/>) FEMA Flood Insurance Rate Map (FIRM) panel ID numbers 06071C5150H.

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15, and 0470-0051-17, 0470-011-35 (access road only) and 0470-011-10 (access road only). The parcels that make up this project area are primarily fallowed agricultural land with houses and outbuildings, all of which will be cleared prior to construction. The parcels' land use zoning district is RL-5 (Rural Living – 5 acre parcel minimum). The RL land use zoning district provides for rural residential uses, incidental agricultural uses, and similar and compatible uses. Under County Code Chapter 82.04, an energy generating facility would be permitted through a Conditional Use Permit (CUP). The proposed Project is bound to the west by RL-5 and floodway (FW), north by RL-5, east by RL. Existing uses surrounding the project site include undeveloped land, agricultural land and county lands, floodway and a few scattered single family residences, most of which are abandoned. All residences within the proposed solar site will be abandoned and cleared prior to construction.

### **Proposed Project Layout**

The proposed site plan and typical elevation are provided in the CUP Application. As proposed, the Project layout would exclude any activity within jurisdictional waters of the Mojave River. There would also be no operational ground-disturbing activity within 25-feet of the Mojave River's ordinary high water mark. The facility would include the following major components: non-reflective PV solar module arrays mounted on fixed tilt or single-axis trackers and a racking system supported by embedded piers, a maximum of 20 inverters and transformers on small concrete pad pads, buried collector lines, and switchgear. The solar power generation facility would also include a small, unmanned communications enclosure that would house the supervisory control and data acquisition (SCADA) system to monitor and control facility operations. The enclosure would measure approximately 200 square feet in size (10' x 20') and would be approximately 8 to 12 feet high.

Internal site circulation would include a 26-foot-wide perimeter road with an all-weather surface, and 12-foot wide access ways (minimally graded, dirt or gravel) to provide maintenance access to the solar panels. A six-to-eight foot high chain link security fence will be installed around the facility, within the required setbacks from the property boundary. All Project lighting will be designed to provide the minimum illumination needed to achieve safety and security objectives. Lighting is planned to be installed at the exterior of the SCADA building and the project switchyard. Lighting will be directed downward and shielded to focus illumination on the desired areas.

External site access would be provided from Route 66, then by turning west along Heritage Way, and then by turning north along a new road segment that would run along the eastern edge of parcel 0470-011-10. Heritage Way will be expanded within its legal right-of-way. Both Heritage Way and the new access road will be between 26 feet and 36 feet wide, and will be surfaced with all-weather material.

The current site plan would result in a small (less than 5 percent) increase in impervious area of the site due to the construction of piles, concrete pads, and the access roads.

### **Interconnection and Distribution System Upgrades**

The project includes distribution system upgrades that SCE will make from the project site to a point approximately five miles south near Oro Grande Canyon Road. These upgrades include wooden pole replacement and reconductoring. Construction of the upgrades will include staging areas, temporary

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construction easements and SCE's existing permanent 10-foot wide easement. Some new poles will also be required.

Gen-tie line upgrades for this project are planned to begin at the project substation near the northwest corner of Melrose Road and Bryman/Aster Road, which represents the point of change of ownership between the project owner and SCE. Near the project substation, the project owner will install a new customer-owned switch, and SCE will install a closer pole and a metering pole.

From the project substation, the current gen-tie line runs east for about 1,500 feet along the Melrose Road alignment, and then turns south along National Trails Highway. Along the Melrose Road alignment, SCE will replace the existing 40-foot poles that now support a 4 kV line with taller, 50-foot poles to support both the existing 4 kV circuit and a new 33.5 kV circuit. Three new poles are planned to be added along this segment; two within the project site and one additional pole at the intersection of the Melrose Road alignment and National Trails Highway.

From the intersection of Melrose Road and National Trails Highway, the line will run south for about 2,500 feet to the intersection of National Trails Highway and Bryman Road. Along this segment, the line will use the existing SCE right-of-way for approximately 1,500 feet. SCE will replace the 40-foot poles with 50-foot poles, and add a third circuit of 33 kV to the two existing 33 kV and 4 kV circuits. The number and positions of all poles along this segment will remain the same. After running 1,500 feet south, the line will shift approximately 40 feet west before continuing to run south within the public right-of-way along National Trails Highway. Approximately four new poles will be added within this 1,000 foot segment before the line reaches the intersection of Bryman Road and National Trails Highway. The four new poles will assume roughly the same horizontal positions as the poles that run along the existing alignment.

From the intersection of Bryman Road and National Trails Highway, the line continues south within its present alignment for approximately 1.75 miles. Existing wires will be upgraded along this segment, and some poles will be replaced due to age, though all poles will remain in the same location.

Just south of the intersection of Barbosa Road and National Trails Highway, the line breaks from the right-of-way of National Trails Highway and proceeds south along the east side of the highway within SCE's current right-of-way. This segment will be upgraded with new wires. Poles will be replaced on a one for basis with new poles being approximately five feet taller than the existing poles to compensate for the greater sag of the larger conductor.

SCE's upgrades will be consistent with standards outlined by the Avian Powerline Interaction Committee. For example, avian hoods will be used at new circuits to avoid or minimize effects on large birds such as raptors.

The final portion of the project's distribution upgrades will occur in an area that is not contiguous to the other upgrades and approximately 3.8 miles to the southeast of the terminus of the distribution feeder. This section occurs at the intersection of Village Drive and Rancho Road. The circuit starts at a riser pole on Village Road, runs south to Ranch Road, and proceeds west to a second riser pole. The overall length of the affected duct bank is approximately 1,850 feet. Because the existing circuit was installed in conduit, the new conductors can be installed without modification to the conduit duct

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bank. Upgrades to this segment will occur without ground disturbance, and construction duration is not expected to take more than 8 hours.

## **Project Operations**

The proposed solar facility would be unmanned. Several part-time employees would visit the site periodically (i.e., monthly or bi-monthly). A few times per year, a designated representative would visit the site to wash the PV panels. Panel washing would require approximately 1 acre-foot of water per year. Water during operations would be purchased and trucked from a local licensed purveyor and/or supplied by one or more existing onsite wells. The existing onsite well would be used if it meets current Department of Water Resources (DWR) standards. If it does not, it may be upgraded, or the project would purchase and truck in water. Based on an assumed use of medium-sized water tankers, purchasing the water would require approximately 80 truckloads for delivery of this water. Water or dust palliatives would be used if needed to control wind and water erosion during operations.

If the existing onsite groundwater wells are to be used, operations would be conducted in compliance with requirements of the County of San Bernardino Division of Environmental Health Services, California Department of Water Resources and the Lahontan Regional Water Quality Control Board (Basin Plan). Provided that the well water will be used for non-potable uses (solar panel washing and dust control), the County of San Bernardino will require the well(s) to meet California Department of Water Resources standards for an industrial water well. This includes a minimum depth of annular surface seal of 50 feet. Allowances for a shallower seal may be accommodated based on the total well depth.

Extraction of groundwater through the use of existing wells or the purchase of water would include coordination and compliance with the Mojave Water Agency's requirements because the groundwater basin is adjudicated. Although the total amount of groundwater extraction is not high (estimated to be a total of 10-15 af during construction and 1 afy during operation), use of groundwater within an adjudicated basin requires coordination with MWA, particularly if the water use will exceed 10 afy.

## **Project Construction and Schedule**

Construction of the proposed Project is estimated to require approximately 160 workers at its peak. SCE has indicated the need for approximately 19 additional full-time equivalent positions for upgrading its distribution line. Construction is estimated to start in mid-to-late 2014 and would take approximately eight months to complete. Approximately 10 to 15 acre-feet of water would be used during construction for dust suppression and ancillary construction activities.

Construction activities at the Project site include removal of several abandoned residences and structures, vegetation clearing, grubbing, grading, trenching for buried cables and installation of pier foundations. Existing vegetation is minimal and would be either mowed or removed as a result of construction activities. Existing structures will be removed and will require proper grading and compaction but mass grading is not expected given the relatively flat terrain of the site and the absence of heavy groundcover (Cut and fill is expected to affect only about 8,000 cubic yards of material).

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At locations where foundations are installed for the inverters, it is expected that minor cuts would be required to place the foundations on a level pad. It is expected that the fill from these cuts would be placed around the pre-cast foundation in order to divert small, localized flows away from the foundation and prevent undermining of the same.

Mass grading is not proposed; these activities are expected to require approximately 8,000 cubic yards of cut and fill, which is expected to have minimal impact to existing drainage patterns and overall topography of the site. Where grading is required, cut-and-fill is expected to be balanced onsite, resulting in little or no import or export of earthen material.

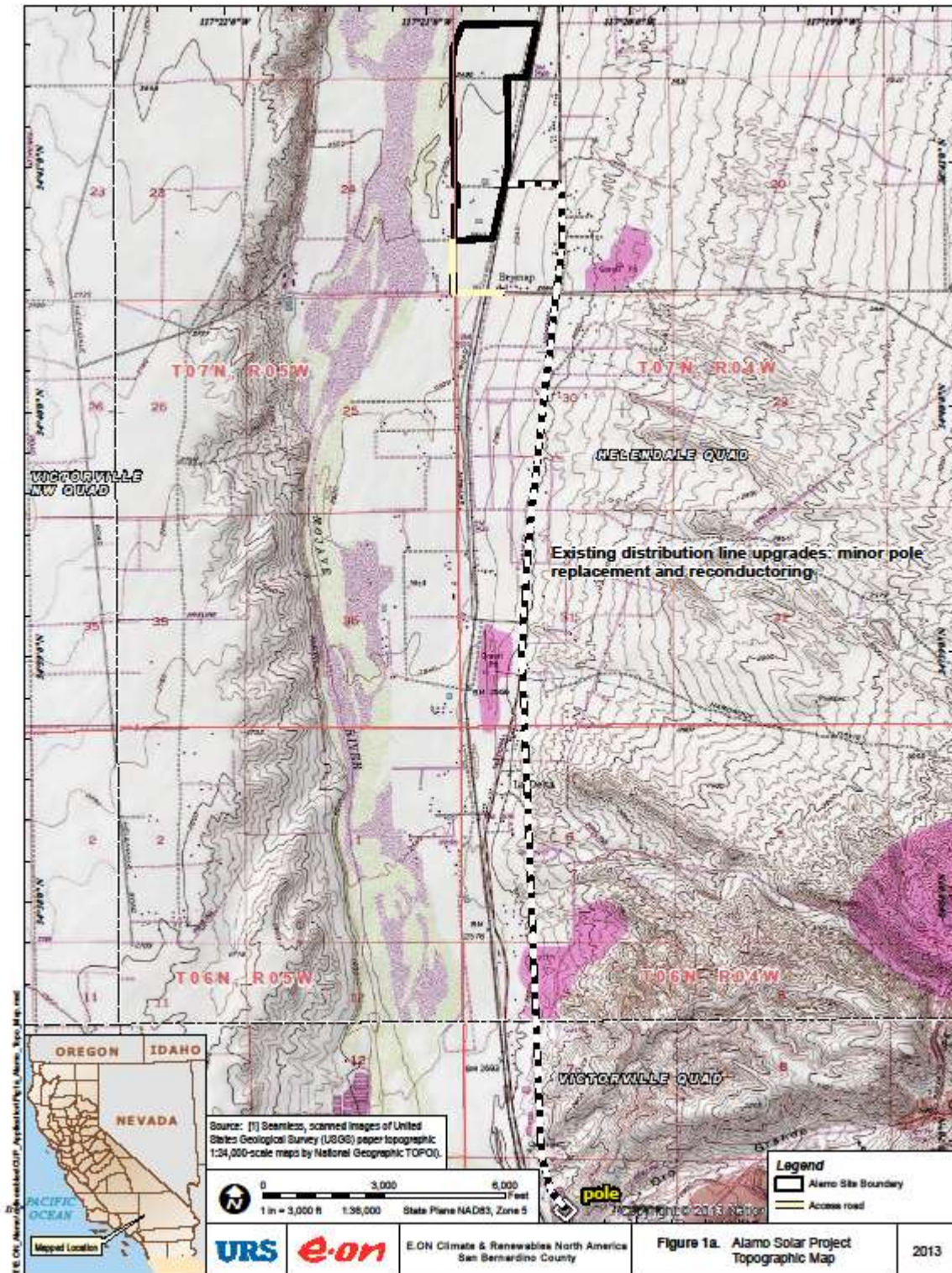
Any water used to control dust during construction would either be provided by existing onsite wells or purchased and trucked from a local licensed purveyor. If one or more existing onsite groundwater wells are to be used, such uses would be conducted in compliance with requirements of the County of San Bernardino Division of Environmental Health Services, California Department of Water Resources and the Lahontan Regional Water Quality Control Board (Basin Plan).

Best management practices for erosion control would be used to avoid and minimize impacts on the environment during construction and operations and maintenance. A Stormwater Pollution Prevention Plan and an Erosion and Sediment Control Plan will be prepared and implemented to avoid and minimize impacts on water quality during construction and operation.



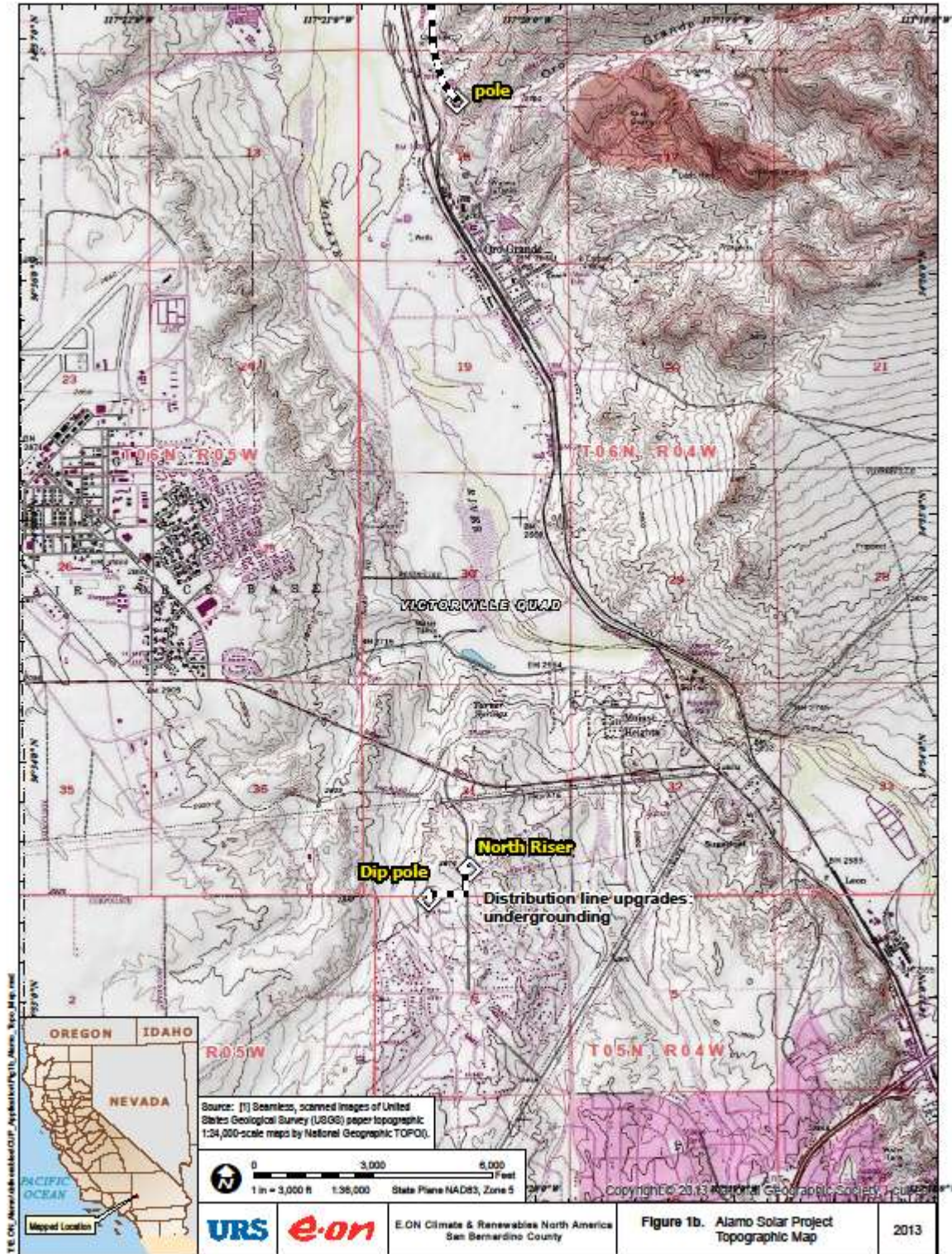
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### Figures 1a-b Location Maps





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## **ENVIRONMENTAL/EXISTING SITE CONDITIONS:**

### **Environmental Setting and Surrounding Uses**

The Mojave Desert is a subsection of the Basin and Range Physiographic Province, which is characterized by long, north-south-trending mountain ranges separated by broad valleys. The project site is relatively flat. Elevation of the site ranges from approximately 2,490 feet above sea level (asl) to 2,520 feet asl, with topography gradually sloping to the north-northwest. Rural residences are scattered locally near the Mojave River, and dirt roads delineating residential parcels occur to the west and south of the site. Undeveloped areas are found in the Mojave River and to the east and north of the site. The Mohave National Preserve is located approximately 75.0 miles to the northeast.

The proposed Project area has been mapped by FEMA for flood zone hazards.<sup>2</sup> The northwestern corner of the site lies within the 100-year floodplain of the Mojave River but this area is not part of the proposed Project and would be avoided during construction and operation of the proposed solar facility. The 100-year floodplain limit is shown on Figure 2.

From north to south, the project site includes Assessor Parcel Numbers (APNs) 0470-021-09, 0470-041-01, 0470-051-14, 0470-051-15, and 0470-0051-17, 0470-011-35 (access road only) and 0470-011-10 (access road only).

### **Existing Land Uses**

The project site is currently vacant. The property is zoned RL-5 (Rural Living – 5 acre parcel minimum). The RL land use zoning district provides for rural residential uses, incidental agricultural uses, and similar and compatible uses. Under County Code Chapter 82.04, an energy generating facility would be permitted through a Conditional Use Permit (CUP). The proposed Project is bound to the west by RL-5 and floodway (FW), north by RL-5, east by RL. Existing uses surrounding the project site include undeveloped land, agricultural land, and county lands, floodway and a few scattered single family residences. All residences within the proposed solar site are abandoned and will be demolished during construction.

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<sup>2</sup> (<http://msc.fema.gov/>) FEMA Flood Insurance Rate Map (FIRM) panel ID numbers 06071C5150H.

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## Figure 4 Site Photos

Photo 1: Facing west from Route 66 and Cardigan Road near the northeast corner of the project site



Photo 2: Facing southwest from Route 66 and Turner Road



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Photo 3: Facing northeast toward an offsite farmstead and Melrose Road



Photo 4: Facing northwest towards agricultural field, bluff and Mojave River





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Photo 5: Facing northwest towards agricultural field, bluff and Mojave River from along Turner Road west of the railroad tracks



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| AREA  | EXISTING LAND USE                                                | OFFICIAL LAND USE DISTRICT               |
|-------|------------------------------------------------------------------|------------------------------------------|
| SITE  | 2 Single Family Residences (to be demolished)                    | Rural Living (RL-5) and Agriculture (AG) |
| North | 1 Single Family Residence                                        | Rural Living (RL-5)                      |
| South | Vacant; several Single Family Residences adjacent to access road | Agriculture (AG) and Floodway (FW)       |
| East  | Largely vacant; 1 Single Family Residence, Railroad,             | Rural Living (RL-5) and Floodway (FW_    |
| West  | Largely vacant, several Single Family Residences                 | Rural Living (RL)                        |

Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.):

Federal Government: Fish and Wildlife Services

State of California: Colorado River Basin Regional Water Quality Control Board (CRBRWQCB), Mojave Desert Air Quality Management District (MDAQMD), California Department of Fish and Wildlife

County of San Bernardino: Land Use Services – Planning, Code Enforcement, Building and Safety, Land Development; Public Health-Environmental Health Services, Public Works – Surveyor, Traffic; County Fire – Community Safety, Hazardous Materials



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## **EVALUATION FORMAT**

This initial study is prepared in compliance with the California Environmental Quality Act (CEQA) pursuant to Public Resources Code Section 21000, et seq. and the State CEQA Guidelines (California Code of Regulations Section 15000, et seq.). Specifically, the preparation of an Initial Study is guided by Section 15063 of the State CEQA Guidelines. This format of the study is presented as follows. The project is evaluated based upon its effect on seventeen (17) major categories of environmental factors. Each factor is reviewed by responding to a series of questions regarding the impact of the project on each element of the overall factor. The Initial Study Checklist provides a formatted analysis that provides a determination of the effect of the project on the factor and its elements. The effect of the project is categorized into one of the following four categories of possible determinations:

|                                |                                                    |                       |           |
|--------------------------------|----------------------------------------------------|-----------------------|-----------|
| Potentially Significant Impact | Less than Significant With Mitigation Incorporated | Less than Significant | No Impact |
|--------------------------------|----------------------------------------------------|-----------------------|-----------|

Substantiation is then provided to justify each determination. One of the four following conclusions is then provided as a summary of the analysis for each of the major environmental factors.

1. **No Impact:** No impacts are identified or anticipated and no mitigation measures are required.
2. **Less than Significant Impact:** No significant adverse impacts are identified or anticipated and no mitigation measures are required.
3. **Less than Significant Impact with Mitigation Incorporated:** Possible significant adverse impacts have been identified or anticipated and the following mitigation measures are required as a condition of project approval to reduce these impacts to a level below significant. The required mitigation measures are: (List of mitigation measures)
4. **Potentially Significant Impact:** Significant adverse impacts have been identified or anticipated. An Environmental Impact Report (EIR) is required to evaluate these impacts, which are (List of the impacts requiring analysis within the EIR).

At the end of the analysis the required mitigation measures are restated and categorized as being either self- monitoring or as requiring a Mitigation Monitoring and Reporting Program.

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## ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- |                                                   |                                                             |                                                             |
|---------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|
| <input type="checkbox"/> Aesthetics               | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality                        |
| <input type="checkbox"/> Biological Resources     | <input type="checkbox"/> Cultural Resources                 | <input type="checkbox"/> Geology / Soils                    |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials      | <input type="checkbox"/> Hydrology / Water Quality          |
| <input type="checkbox"/> Land Use/ Planning       | <input type="checkbox"/> Mineral Resources                  | <input type="checkbox"/> Noise                              |
| <input type="checkbox"/> Population / Housing     | <input type="checkbox"/> Public Services                    | <input type="checkbox"/> Recreation                         |
| <input type="checkbox"/> Transportation / Traffic | <input type="checkbox"/> Utilities / Service Systems        | <input type="checkbox"/> Mandatory Findings of Significance |

## DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation, the following finding is made:

|                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/>            | The proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION shall be prepared.                                                                                                                                                                                                                                                                                                                                                                     |
| <input checked="" type="checkbox"/> | Although the proposed Project could have a significant effect on the environment, there shall not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION shall be prepared.                                                                                                                                                                                                           |
| <input type="checkbox"/>            | The proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.                                                                                                                                                                                                                                                                                                                                                                         |
| <input type="checkbox"/>            | The proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. |
| <input type="checkbox"/>            | Although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.                                   |

\_\_\_\_\_  
Signature: prepared by Christopher Conner, Senior Planner

10/28/2013

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature: David Prusch, Supervising Planner

10/28/2013

\_\_\_\_\_  
Date

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| <b>Issues</b>                                                                                                                                          | <i>Potentially<br/>Significant<br/>Impact</i> | <i>Less than<br/>Significant<br/>with Mitigation<br/>Incorporated</i> | <i>Less than<br/>Significant</i>    | <i>No<br/>Impact</i>     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------|-------------------------------------|--------------------------|
| <b>I. AESTHETICS – Would the project</b>                                                                                                               |                                               |                                                                       |                                     |                          |
| a) Have a substantial adverse effect on a scenic vista?                                                                                                | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway? | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings?                                                    | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?                                 | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

**SUBSTANTIATION:** (Check  if project is located within the view-shed of any Scenic Route listed in the General Plan):

- a) **Less than Significant Impact.** No designated scenic vistas are located within visible distance of the Project.

The County General Plan Open Space Element, Policy OS 5.1. states that a feature or vista can be considered scenic if it:

- Provides a vista of undisturbed natural areas;
- Includes a unique or unusual feature that comprises an important or dominant portion of the viewshed; or,
- Offers a distant vista that provides relief from less attractive views of nearby features such as views of mountain backdrops from urban areas).

The project site is zoned RL-5 and relatively flat. The solar equipment on site would consist of PV modules mounted on fixed-tilt foundations or tracker units, and associated electrical equipment will maintain a low profile. The project will also include access roads and a six-to eight foot chain link perimeter fence topped by a one-foot section of barbed wire. None of the proposed equipment would have a substantial adverse effect on any scenic vista. No designated scenic views, scenic vistas or scenic resources are known to occur in the vicinity of the Project. Moreover, most viewers would be motorists along SR-66 and views from that location are dominated by the high western escarpment along the Mojave River (see Figure 4 Site Photographs); installation of the solar field at a much lower elevation would not affect

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the view of the escarpment nor is it likely to attract particular attention.

- b) **Less than Significant Impact.** The Project would not substantially damage scenic resources such as trees, rock outcroppings, and historic buildings within a state scenic highway. The nearest single family residence is approximately 40 feet outside of the eastern property boundary. East of the railroad tracks there are several residences located along US Highway 66 (SR 66). The nearest of these residences is approximately 425 feet from the eastern property boundary. There are a dozen additional residences within the vicinity, most to the northeast and over 1,000 feet from the project site. Nearby residences would have unobstructed views of the Project. Most viewers would be motorists along SR 66 who would have temporary views; however, SR 66 is not a state or County designated scenic highway or a scenic byway. Moreover, views west from the highway are dominated by the high western escarpment along the Mojave River; installation of the solar field at a much lower elevation would not affect the skyline nor is it likely to attract particular attention. Therefore the Project would have no impact to scenic resources along a state scenic highway.

The interconnection and distribution system upgrades will have no appreciable visual changes to current conditions. SCE will replace the 40-foot poles with 50-foot poles, and add a third circuit of 33 kV to the two existing 33 kV and 4 kV circuits. Some new poles will be added. The height change of these poles and the addition of a small number of new poles will not substantially change the visual character of the environment or damage scenic resources.

- c) **Less than Significant Impact.** The Project will not substantially degrade the existing character or quality of the site and its surroundings. The project area is rural in character with a wide variety of developments, including scattered ranch structures, electrical transmission lines, a mining operation to the south, as well as the railroad, dirt roads and SR-66. The Project will be compatible with the area's rural and agricultural uses, and the general character of the area.
- d) **Less than Significant Impact.** The Project is not expected to create a substantial new source of light or glare. The facility will be unmanned, and therefore nighttime lighting will be used to the extent needed to maintain safety and security objectives. Lighting fixtures will be hooded and directed downward to avoid spillage on adjacent properties. Additionally, the Project will comply with San Bernardino County Code section 84.29.040 which regulates glare, outdoor lighting, and night sky protection. All lighting associated with the proposed Project will be subject to County approval and compliance with San Bernardino County requirements. As such, the Project will have less than significant impacts in terms of lighting.

The Project is unlikely to create a substantial source of sustained glare. Because the Project is low in height, incorporates non-reflective materials, and largely blends with the

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existing vegetation and structural components of this landscape, viewers are not expected to experience increased glare as a result of the Project. The small scale of the Project within the larger landscape, combined with the fact that the Project will comply with San Bernardino County Ordinance Standards 84.29.040 which states that solar energy facilities shall be designed to preclude daytime glare on any abutting residential land use zoning district, residential parcel, or public right-of-way, will minimize any potential for impacts associated with glare. The proposed Project will have less than significant impacts in terms of light and glare. No cumulatively considerable impacts are expected.

**No significant adverse impacts are identified or anticipated and no mitigation measures are required.**

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| <b>Issues</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <i>Potentially<br/>Significant<br/>Impact</i> | <i>Less than<br/>Significant<br/>with Mitigation<br/>Incorporated</i> | <i>Less than<br/>Significant</i> | <i>No<br/>Impact</i>                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------|----------------------------------|-------------------------------------|
| <p><b>II. AGRICULTURE AND FORESTRY RESOURCES</b> – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:</p> |                                               |                                                                       |                                  |                                     |
| <p>a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input type="checkbox"/>         | <input checked="" type="checkbox"/> |
| <p>b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input type="checkbox"/>         | <input checked="" type="checkbox"/> |
| <p>c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input type="checkbox"/>         | <input checked="" type="checkbox"/> |
| <p>d) Result in the loss of forest land or conversion of forest land to non-forest use?</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input type="checkbox"/>         | <input checked="" type="checkbox"/> |
| <p>e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input type="checkbox"/>         | <input checked="" type="checkbox"/> |

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**SUBSTANTIATION:** (Check  if project is located in the Important Farmlands Overlay):

- a) **Less than Significant Impact.** The Project would convert Prime Farmland and Farmland of Statewide Importance (Farmland) to non-agricultural use. The California Department of Conservation Farmland Mapping and Monitoring Program identifies the project area as Prime Farmland and Farmland of Statewide Importance. However, the Project will not preclude future use of the site for agriculture use and therefore, the impact is considered less than significant.

The interconnection and distribution system upgrades will not convert Unique Farmland, Prime Farmland or Farmland of Statewide Importance to non-agricultural use. This work will be within temporary construction easements and SCE's existing permanent 10-foot wide easement.

- b) **No Impact.** The proposed Project does not conflict with any agricultural zoning or Williamson Act land conservation contract. The site is vacant and is not used for agricultural uses. The property is zoned RL-5 (Rural Living-5 acre minimum parcel size), and is intended for rural residential uses, incidental agricultural and recreational uses, and similar compatible uses. Under County Code Chapter 82.04, electrical power generation is categorized as a transportation, communications and infrastructure use and is allowed in the RL zone upon approval of a Conditional Use Permit (CUP). The proposed Project area is not under a Williamson Act contract.

The interconnection and distribution system upgrades will not conflict with any agricultural zoning or Williamson Act land conservation contract. This work will be within temporary construction easements and SCE's existing permanent 10-foot wide easement.

- c) **No Impact.** The proposed Project would not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)). The proposed Project area is currently vacant land or within an existing utility easement, which has never been designated as forest land or timberland. No rezoning of the project site would be required as the proposed Project is compatible with the current zoning designation, with a Conditional Use Permit (CUP).

- d) **No Impact.** The proposed Project would not result in the loss of forest land or conversion of forest land to non-forest use. The proposed Project area is currently vacant land or within an existing utility easement and has never been designated as forest land or timberland.

- e) **No Impact.** The proposed Project will not involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to a non-agricultural use because the Project is limited to the existing site. The off-site improvements proposed are within an existing utility easement and will not result in the

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conversion of farmland to non-agricultural uses.

**No significant adverse impacts are identified or anticipated and no mitigation measures are required.**



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| <b>Issues</b>                                                                                                                                                                                                                                                                               | <i>Potentially<br/>Significant<br/>Impact</i> | <i>Less than<br/>Significant<br/>with Mitigation<br/>Incorporated</i> | <i>Less than<br/>Significant</i>    | <i>No<br/>Impact</i>                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------|-------------------------------------|-------------------------------------|
| <b>III. AIR QUALITY</b> – Where available, the significance criteria established by the applicable air quality management or air pollution control district might be relied upon to make the following determinations. Would the project:                                                   |                                               |                                                                       |                                     |                                     |
| a) Conflict with or obstruct implementation of the applicable air quality plan?                                                                                                                                                                                                             | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?                                                                                                                                                                          | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d) Expose sensitive receptors to substantial pollutant concentrations?                                                                                                                                                                                                                      | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| e) Create objectionable odors affecting a substantial number of people?                                                                                                                                                                                                                     | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

***SUBSTANTIATION:*** *(Discuss conformity with the South Coast Air Quality Management Plan, if applicable):*

- a) **Less than Significant Impact.** The proposed Project will not conflict with or obstruct implementation of the applicable air quality plan. The project site is located within the Mojave Desert Air Basin (MDAB) and is within the jurisdiction of the Mojave Desert Air Quality Management District (MDAQMD). The Air Quality Management Plan (AQMP) provides a program for obtaining attainment status for key monitored air pollution standards, based on existing and future air pollution emissions resulting from employment and residential growth projections. The AQMP is developed using input from various agencies' General Plans and other projections for population and employment growth. While the proposed Project is not identified specifically in the County of San Bernardino General Plan, it will not generate new homes or employment opportunities that will change the County's projections. Given that the proposed Project will not alter the population or employment projections considered during the development of the AQMP, and considering the minor emissions attributable to the proposed Project during operation (refer to discussion in item III (b) below), impacts

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associated with AQMP consistency will be less than significant. In order to limit the production of fugitive dust during construction of the proposed Project, construction activities will be conducted in accordance with MDAQMD Rules 403 – Fugitive Dust and 403.2 – Fugitive Dust Control for the Mojave Desert Planning Area. This includes using water trucks to minimize the production of visible dust emissions to 20 percent opacity in areas where grading, blasting or vegetation removal occurs, within the staging areas, and on any unpaved roads utilized during project construction.

Over its lifetime, the proposed Project will not violate the regulations set forth by the MDAQMD Rule Book or CEQA. Currently the proposed Project will not utilize equipment that requires permits from the MDAQMD. Photovoltaic systems do not generate chemical emissions that negatively impact air quality. The proposed Project is designed to limit the amount of blasting and grading required for construction, which will limit fugitive dust generated during the life of the project.

- b) **Less than Significant Impact.** The proposed Project is not expected to violate any air quality standard or contribute substantially to an existing or projected air quality violation. Potential air quality impacts include construction exhaust emissions generated from construction equipment, vegetation clearing and earth movement activities (if necessary), construction workers' commute, construction material hauling for the entire construction period. These activities will involve the use of diesel- and gasoline-powered equipment that will generate emissions of criteria pollutants such as Carbon Monoxide (CO), Nitrogen Oxides (NO<sub>x</sub>), Reactive Organic Gases (ROG) or Volatile Organic Compounds (VOC), Sulfur Oxides (SO<sub>x</sub>), Particulate Matter less than 10 microns (PM<sub>10</sub>), and Particulate Matter less than 2.5 microns (PM<sub>2.5</sub>). The project construction activities also represent sources of vehicle re-entrained fugitive dust (which includes PM<sub>10</sub>), a potential concern because the proposed Project is in a non-attainment area for ozone and PM<sub>10</sub>.

Construction-related increases in emissions of fugitive dust, exhaust from construction equipment, and employee commute vehicles will be temporary and localized during construction. Estimated quantities of unmitigated construction-related criteria pollutants from the Project in the MDAQMD are presented in Table 1. These data indicate that all construction-related emissions are below MDAQMD thresholds for California Environmental Quality Act (CEQA) review. Table 1 includes both the onsite activity of off-road equipment and the on-road mobile sources making deliveries to the site during the construction phase. A portion of these deliveries will occur in the South Coast Air Basin under the jurisdiction of the SCAQMD. Estimated emissions in the SCAQMD are presented in Table 2 and demonstrate that mobile sources associated with the construction activities in the South Coast Air Basin are not significant.

The proposed Project will also include dust abatement measures that will limit the generation of pollutants, including particulate matter 10 microns or less in diameter (PM<sub>10</sub>), consistent with Rule 403.2 Fugitive Dust Control for the Mojave Desert Planning Area. This includes

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using water trucks to apply water and/or palliatives to minimize the production of visible dust emissions to 20 percent opacity in areas where grading or vegetation removal occurs, within the staging areas, and on any unpaved roads used during project construction. These measures will further reduce fugitive dust emissions. In the context of the project design and construction features, proposed Project construction-related air quality impacts will be negligible.

Electricity generation via the use of PV systems does not generate chemical emissions that will negatively affect air quality. Over its lifetime, the proposed Project will not violate the regulations set forth by the MDAQMD Rule Book or CEQA and Federal Conformity Guidelines. Emissions from this unmanned facility during operations will be from periodic security checks of the site, periodic site maintenance, and trucks associated with routine panel washing that would be conducted approximately 2–4 times per year. Periodic equipment maintenance will require truck visits, deliveries, and could require minor use of solvents, paints, coatings, etc.

Table 3 presents the estimated operational emissions for all mobile sources. It has been conservatively assumed that all operational emissions are generated in the MDAQMD, given there are no long distance deliveries required during the operational phase. These emissions are all below the annual thresholds of the MDAQMD.

**TABLE 1  
CONSTRUCTION PHASE EMISSIONS WITHIN  
MDAQMD FOR ALAMO SOLAR PROJECT**

| Criteria Pollutant                                   | Unmitigated Construction Sources (tons/yr) | MDAQMD Threshold (tons/yr) |
|------------------------------------------------------|--------------------------------------------|----------------------------|
| Carbon Monoxide (CO)                                 | 13.05                                      | 100                        |
| Oxides of Nitrogen (NO <sub>x</sub> )                | 18.67                                      | 25                         |
| Volatile Organic Compounds (VOC)                     | 2.57                                       | 25                         |
| Oxides of Sulfur (SO <sub>x</sub> )                  | 0.03                                       | 25                         |
| Particulate Matter (PM <sub>10</sub> ) <sup>1</sup>  | 1.81                                       | 15                         |
| Particulate Matter (PM <sub>2.5</sub> ) <sup>1</sup> | 1.03                                       | 15                         |

Note: <sup>1</sup> Exhaust and Fugitive Dust.

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**TABLE 2**  
**MOBILE SOURCE EMISSIONS FROM CONSTRUCTION**  
**ACTIVITIES IN SCAQMD PORTION OF SAN BERNARDINO**  
**COUNTY FOR ALAMO SOLAR PROJECT**

| Criteria Pollutant                                   | Unmitigated Mobile Sources (tons/yr) | Unmitigated Mobile Sources (lb/day) | SCAQMD Mass Daily Thresholds Construction (lb/day) |
|------------------------------------------------------|--------------------------------------|-------------------------------------|----------------------------------------------------|
| Carbon Monoxide (CO)                                 | 0.07                                 | 0.68                                | 550                                                |
| Oxides of Nitrogen (NO <sub>x</sub> )                | 0.20                                 | 1.95                                | 100                                                |
| Volatile Organic Compounds (VOC)                     | 0.02                                 | 0.20                                | 75                                                 |
| Oxides of Sulfur (SO <sub>x</sub> )                  | 0                                    | 0                                   | 150                                                |
| Particulate Matter (PM <sub>10</sub> ) <sup>1</sup>  | 0.28                                 | 2.73                                | 150                                                |
| Particulate Matter (PM <sub>2.5</sub> ) <sup>1</sup> | 0.01                                 | 0.10                                | 55                                                 |

Note: <sup>1</sup> Exhaust and Fugitive Dust.

**TABLE 3**  
**OPERATIONAL EMISSIONS**  
**FOR ALAMO SOLAR PROJECT**

| Criteria Pollutant                                   | Operational Emissions (tons/yr) | MDAQMD Threshold (tons/yr) |
|------------------------------------------------------|---------------------------------|----------------------------|
| Carbon Monoxide (CO)                                 | 0.03                            | 100                        |
| Oxides of Nitrogen (NO <sub>x</sub> )                | 0.02                            | 25                         |
| Volatile Organic Compounds (VOC)                     | 0.00                            | 25                         |
| Oxides of Sulfur (SO <sub>x</sub> )                  | 0.00                            | 25                         |
| Particulate Matter (PM <sub>10</sub> ) <sup>1</sup>  | 0.11                            | 15                         |
| Particulate Matter (PM <sub>2.5</sub> ) <sup>1</sup> | 0.01                            | 15                         |

Note: <sup>1</sup> Exhaust and Fugitive Dust.

- c) **Less than Significant Impact.** The proposed Project will not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors). The project will contribute criteria pollutants in the area during the short-term project construction period (see Table 1, above). None of the activities associated with the proposed Project will create a substantial permanent increase in the emissions of criteria pollutants that will be cumulatively considerable. Periodic panel washing, occasional patrolling and routine maintenance and repairs of the unmanned solar facility will have no cumulatively considerable impact on the emissions of criteria pollutants (see Table 2, above). There are no sources of potential long-term air impacts associated with the implementation of the proposed Project. Therefore, impacts will be less than significant. Moreover, the proposed

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solar electricity Project would reduce criteria pollutant emissions compared to emissions associated with generation of comparable amounts of electricity from fossil fuels.

- d) **Less than Significant Impact.** The proposed Project will not expose sensitive receptors to substantial pollutant concentrations. The MDAQMD defines sensitive receptors as residences, schools, daycare centers, playgrounds and medical facilities (MDAQMD 2009). Residences in the project area may be exposed to short-term construction air quality impacts associated with construction exhaust emissions generated from construction equipment, vegetation clearing, construction workers' commute, and construction material hauling during the construction period. There will be no air quality impacts from project operation: electricity generation via the use of photovoltaic systems does not generate chemical emissions that will negatively contribute to air quality. The County's general conditions and standards as well as project-specific design and construction features incorporated into the proposed Project such as dust suppression techniques per MDAQMD's Rule 403 will reduce any potential impacts from the project.
- e) **No Impact.** The proposed Project will not create objectionable odors that will affect a substantial number of people. Electricity generation via the use of photovoltaic systems does not generate chemical emissions that will negatively affect air quality or produce objectionable odors. Potential odor generation associated with the proposed Project will be limited to construction sources such as diesel exhaust and dust but these will be temporary and not be substantial. No significant odor impacts related to project implementation are anticipated due to the nature and short-term extent of potential sources, as well as the intervening distance to sensitive receptors. Therefore, the operation of the project will have a less than significant impact associated with the creation of objectionable odors affecting a substantial number of people.

**Although impacts to Air Quality are considered to be less than significant the following mitigation measures are required as conditions of project approval.**

#### **MM# Mitigation Measures**

**AQ-1 AQ/Construction and Operational Mitigation.** Operation of all off-road and on-road diesel vehicles/equipment shall comply with the County Diesel Exhaust Control Measures [SBCC §83.01.040 (c)] including but not limited to:

- a) Equipment/vehicles shall not be left idling for period in excess of five minutes
- b) Engines shall be maintained in good working order to reduce emissions
- c) Onsite electrical power connections shall be made available where feasible
- d) Ultra low-sulfur diesel fuel shall be utilized (State law)
- e) Electric and gasoline powered equipment shall substituted for diesel powered equipment

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where feasible

f) Signs shall be posted requiring all vehicle drivers and equipment operators to turn off engines when not in use.

g) In addition, all on-road diesel trucks shall not idle more than five minutes per truck trip or per day on the project site (State law).

h) All transportation refrigeration units (TRU's) shall be provided electric connections. [Mitigation Measure **AQ-1** - General Requirements/Planning]

**AQ-2 AQ/Dust Control Plan.** The developer shall prepare, submit and obtain approval from County Planning of a Dust Control Plan (DCP) consistent with MDAQMD guidelines and a letter agreeing to include in any construction contracts/ subcontracts a requirement that project contractors adhere to the requirements of the DCP. [Mitigation Measure AQ-2 – Building Permit/Planning]

**AQ-3 AQ – Installation.** The developer shall submit for review and obtain approval from County Planning evidence that all air quality mitigation measures have been installed properly and that specified performance objectives are being met to the satisfaction of County Planning and County Building and Safety. [Mitigation Measure **AQ-3** – Final Inspection/Planning]

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| <b>Issues</b>                                                                                                                                                                                                                                                                                                  | <i>Potentially<br/>Significant<br/>Impact</i> | <i>Less than<br/>Significant<br/>with Mitigation<br/>Incorporated</i> | <i>Less than<br/>Significant</i>    | <i>No<br/>Impact</i>                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------|-------------------------------------|-------------------------------------|
| <b>IV. BIOLOGICAL RESOURCES – Would the project:</b>                                                                                                                                                                                                                                                           |                                               |                                                                       |                                     |                                     |
| a) Have substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/>                      | <input checked="" type="checkbox"/>                                   | <input type="checkbox"/>            | <input type="checkbox"/>            |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?                                                           | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc...) through direct removal, filling, hydrological interruption, or other means?                                         | <input type="checkbox"/>                      | <input checked="" type="checkbox"/>                                   | <input type="checkbox"/>            | <input type="checkbox"/>            |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?                                                                             | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?                                                                                                                                                                            | <input type="checkbox"/>                      | <input checked="" type="checkbox"/>                                   | <input type="checkbox"/>            | <input type="checkbox"/>            |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?                                                                                                                            | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**SUBSTANTIATION:** (Check if project is located in the Biological Resources Overlay or contains habitat for any species listed in the California Natural Diversity Database ): Category «CAT»

- a) **Less than Significant with Mitigation Incorporated.** As described more fully in the Biological Resources Assessment Report for the Project (URS 2013), the Alamo site has been degraded by past agricultural land uses and no longer supports natural vegetation. Biological investigations of the site indicated that the predominant vegetation present is

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Russian thistle (*Salsola tragus*) and hedge mustard (*Sisymbrium officinale*), two invasive weeds. Several agricultural buildings and residences are present within the site, and around the buildings are ornamental plantings including tamarisk (*Tamarix* spp.) and other trees that are not found elsewhere on site. A few living creosote bush (*Larrea tridentata*) and *Atriplex* shrubs were observed, but were sparsely distributed. Habitat conditions on-site are not characteristic of natural Mojave Desert environments, and the site is not suitable for occupation by most of the sensitive species that occur in the surrounding desert. Biological surveys of the Project site and gen-tie improvement corridor, described in detail in the Biological Resources Assessment Report for the Project (URS 2013), did not detect any sensitive species within the Project site. Surveys did identify a single Mojave desert tortoise (*Gopherus agassizii*) approximately four miles south of the project boundary, and approximately 10 feet from the proposed gen-tie improvement corridor.

While the Mojave River corridor, which is adjacent to the site's western boundary, contains suitable habitat for a variety of special-status species, these plants and animals are not expected to use the Project site due to the disturbed nature of the site and the absence of habitat. Even riparian species that are known to utilize adjacent uplands for foraging purposes, such as the federally- and state-listed endangered southwestern willow flycatcher (*Empidonax traillii extimus*) and least Bell's vireo (*Vireo bellii pusillus*), are unlikely to find prey in an area that is largely unvegetated and whose sparse vegetation is dominated by Russian thistle. The same is true of mammal species that likely occur in the River corridor, such as the Mojave river vole (*Microtus californicus mohavensis*) and pallid San Diego pocket mouse (*Perognathus fallax pallidus*); while these species occur in proximity to the Project site, the site does not provide suitable habitat for these species during any life stage and the species are not likely to venture onto the site. During a site visit on January 15, 2013, representatives from the California Department of Fish and Wildlife (CDFW) concurred with this interpretation, and indicated that conducting surveys for these species on the Project site was unnecessary due to the absence of suitable habitat. In a July 12, 2013 letter to the County Land Use Services Department, the USFWS concurs that further survey for these species is not necessary.

The Mojave desert tortoise, a federally- and state-listed threatened species, is not believed to occur within the Project site, but was detected during protocol surveys within the transmission corridor where gen-tie improvements are proposed, approximately four miles south of the proposed Project boundary. Within the Project site, the absence of natural vegetation results in unsuitable habitat conditions for this species, and the Mojave desert tortoise was not detected during multiple, full-coverage transect surveys of the site. (Transect surveys were performed pursuant to the burrowing owl survey protocol, but are very likely to have detected the Mojave desert tortoise, if present, due to the similarity in the survey methods. Protocol surveys for the Mojave desert tortoise were limited to the western portion of APN 0470-021-09 outside the site boundary and the gen-tie improvement corridor, per direction received from CDFW representatives during the January 15, 2013 site visit.) The documented occurrence within the gen-tie improvement corridor was located within creosote bush scrub habitat, which is the preferred habitat association for this species, and was detected approximately four miles south of the site's southern boundary (URS 2013).



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As requested by CDFW during the site visit on January 15, 2013, protocol surveys for the burrowing owl were performed throughout the Project site and gen-tie improvement corridor in accordance with the current survey protocol for this species (CDFW 2012). As described in the Biological Resources Assessment Report for the Project (URS 2013), no burrowing owls were detected during these surveys.

Floristic surveys were conducted during the early (late March) and late (early July) 2013 season to encompass the flowering periods of sensitive plants that occur in the region. Comprehensive lists of plants occurring within the site and gen-tie improvement corridor were compiled (see URS 2013), but no sensitive plants were identified.

Considering the information above, the Project's effects on special-status species would be limited to potential effects on the Mojave desert tortoise identified adjacent to the gen-tie improvement corridor.

Common plants and wildlife species that currently utilize the Project site could be impacted by construction and operation of the proposed Project. Generally speaking, short-term impacts could potentially include injury or mortality of wildlife during construction. Long-term habitat loss would not occur, as natural habitats do not occur within the 175-acre site under existing conditions. Nonetheless, the limited existing plants within proposed disturbance zones would be eliminated during grading or site preparation activities. For the common wildlife that inhabit the site, ground disturbance has potential to cause injury and/or mortality of individuals. The extent to which species would be impacted would depend on several factors, including the species' mobility and the extent to which the species relies on the site for life history requirements. Species of low mobility, or those that use the site during particularly vulnerable portions of the life history, such as nesting periods, would be expected to sustain greater impacts than highly mobile species or those whose use of the site is transitory. Because development of the Project site would not disturb natural habitat areas, regionally abundant plants and wildlife species would not be substantially affected by the Project.

Within the gen-tie improvement corridor, existing wooden electrical poles would be re-conducted, and in some cases replaced with newer poles. Ground disturbance associated with these improvements would be minor and would include approximately 400 square feet at each pole location. While the long-term effects of this activity would be insignificant due to the temporary nature of the impacts and the limited acreage involved, common plants and wildlife located within these impact footprints would be susceptible to injury or destruction during construction. For common species, this impact would be less than significant because these species are abundant and well-represented in the vicinity and the region. Potential impacts to special status species are discussed below.

**Impacts to Migratory Birds.** The USFWS (2013) indicates that solar energy projects can result in a loss of breeding and foraging habitat that can affect migratory bird populations protected by the Migratory Bird Treaty Act. The Service also indicates that migratory birds can mistake solar panel arrays as water bodies and die as a result of collisions. Birds can also collide with electrical power lines. The Alamo Solar Project does not include any project-specific impacts to migratory bird habitat and therefore would not contribute to any direct, indirect or cumulative loss of migratory bird habitat. Solar panels to be used at the

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Alamo Solar Project would use silver frames and would be expected to keep the facility from looking like a water body; this design feature should avoid or minimize bird collisions at the site. The gen-tie Interconnection consists of the addition of a few new poles but most interconnection activities consist of upgrades to an existing distribution line and therefore the project is not expected to substantially increase the potential for bird collisions with electrical lines. SCE will follow standards of the Avian Powerline Interaction Committee to reduce the potential for electrocution of large birds such as raptors. As a result, project-specific impacts to migratory birds are considered less than significant. Although residual impacts are expected to be less than significant and thus require no mitigation, the USFWS recommends the Applicant work with the USFWS to contribute to a fund to identify and reduce sources of mortality of migratory birds in the region. Although the project is not expected to result in a significant impact on migratory birds, and thus no mitigation is required, the Applicant will work voluntarily with USFWS to identify a mutually agreeable contribution that reflects the small-scale of expected residual impact. See mitigation measure BIO-9

**Impacts to Southwestern Willow Flycatcher (*Empidonax trailii extimus*) and Least Bell's Vireo (*Vireo bellii pusillus*).** As noted above, these federally- and state-listed endangered species are known to occur along the Mojave River corridor but the project avoids this area and includes no suitable habitat for these species. While these species are known to utilize adjacent uplands for foraging purposes, they are unlikely to find prey in the site because it is largely unvegetated and the sparse vegetation that remains is dominated by Russian thistle. Both the CDFW and USFWS indicate that further biological surveys for these species are unnecessary. The USFWS (2013) also comments that a study has shown that solar panels can attract some types of aquatic insects and suggests that this in turn could attract the southwestern willow flycatcher and least Bell's vireo to the solar site. The USFWS also notes that solar panels bordered in white or crisscrossed by white strips can greatly reduce the attraction of aquatic insects. The Alamo Solar Project is not expected to result in a substantial increase in aquatic insect use during operations because the solar panels will have light-colored (silver) frames and, moreover, only a small fraction of the quarter-mile wide riparian corridor is adjacent to the site. As a result, the Alamo Solar Project is not expected to lead to increased foraging by these species that would have substantial adverse effects.

**Impacts to the Mojave Desert Tortoise (*Gopherus agassizii*).** Protocol surveys were conducted in April 2013 in accordance with the USFWS (2010) survey protocol for this species (see URS 2013). No tortoise were noted at or adjacent to the project site, which lacks suitable habitat. One live adult tortoise was detected in a burrow in creosote bush scrub habitat approximately four miles south of the project site, and approximately 10 feet from the gen-tie improvement corridor. Pole replacement and re-conductoring activities along with associated movement of personnel and equipment would disturb the ground surface and may compact shallow subsurface soils. If these activities were to occur in an area where Mojave desert tortoises are present, it is foreseeable that this species could be injured or killed by contact with construction equipment. Tortoises in subterranean burrows are often difficult to detect, and could also be crushed or entombed during construction.

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Absent mitigation, these impacts would be significant.

Because the Mojave desert tortoise is listed under the Endangered Species Act and California Endangered Species Act as a threatened species, the Project would either need to avoid the potential to take this species or would require incidental take authorization under these statutes. Project-related take of this species would be prevented and potential impacts reduced to a less than significant level through Mitigation Measures requiring the implementation of a Worker Environmental Awareness Program (BIO-1), presence of a biological monitor during construction (BIO-2), installation of tortoise exclusion fencing around disturbance zones (BIO-3), and pre-construction surveys and installation of tortoise exclusion fencing around disturbance zones if necessary for this species (BIO-3 and 4). In addition, mitigation measure BIO-10 would minimize potential impacts to desert tortoise from local or regional increases in common raven populations, discussed further below.

The Common raven preys on the desert tortoise and the Bureau of Land Management (BLM), the USFWS, and other agencies have determined that land development projects in the California desert, including solar facilities and power lines, can lead to local increases in common ravens as a result of human-provided subsidies of food, water and nesting sites. An increase in local raven populations could lead to increased depredation ([http://www.dmg.gov/documents/20101130\\_RPT\\_Common\\_Raven\\_Predation\\_on\\_DT\\_USFWS.pdf](http://www.dmg.gov/documents/20101130_RPT_Common_Raven_Predation_on_DT_USFWS.pdf)). The USFWS with the support of other federal, state and local agencies involved in managing land development projects in the California Desert have identified measures to mitigate impacts of raven predation on the desert tortoise. On a project-specific basis, the USFWS recommends designing projects to exclude ravens to the extent practicable and implementing measures to eliminate or minimize the availability of food, water and other human subsidies to ravens throughout construction, operation, maintenance and decommissioning. Recognizing that it is not possible to completely exclude ravens from using project infrastructure (e.g., buildings, fences, solar structures, transmission lines), the USFWS developed the Regional Common Raven Management Program to offset indirect and cumulative impacts from development projects. Such impacts can be offset (mitigated) by making a one-time contribution to the program based on the permitted duration of a project and the number of acres that would be affected. The Alamo Solar Project has a projected duration of 20 to 30 years and the USFWS has determined the appropriate funding for such a project would vary from a total of \$64 to \$105 per acre of disturbance, including both the site and the gen-tie improvement corridor. For example, a 30-year project affecting 125-acres would contribute a one-time payment of \$13,125 (125 ac x \$105).

The Alamo Solar Project could potentially contribute to temporary local increases of raven populations during construction as a result of increases in:

- Water availability as a result of puddling from onsite dust suppression activities, equipment cleaning and maintenance, etc;

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- Potential perching, roosting or nesting sites;
- Food sources from soil disturbance and road kill; and
- Food sources and attractants from human activities

Potential construction-related impacts from increased water and food availability would be effectively mitigated by ensuring water does not pond and food waste from workers is covered and does not accumulate. The presence of up to 176 construction workers and equipment is likely to discourage use of the project site for perching, roosting or nesting.

The solar project would provide a fence, small structures and a small number of new power poles that could be used by ravens for perching, roosting or nesting during operations. The facility will be unmanned and the few people that would visit periodically for maintenance and panel washing are not expected to result in any substantial increase in food or water that would attract ravens.

Mitigation measure BIO-10 would reduce project-specific, indirect and cumulative impacts of raven depredation of desert tortoise to less than significant levels.

**Impacts to the Desert Kit Fox (*Vulpes macrotis arsipus*).** The desert kit fox is a small fox native to the Mojave and Sonoran deserts of California, Oregon, Nevada, Utah, Colorado, Texas, New Mexico, and Arizona, as well as parts of Mexico. While the desert kit fox is not designated by federal, state, or local agencies as a special-status species, CDFW regulations at 14 CCR 460 prohibit the take of this species. Thus, to be compliant with CDFW regulations, the project must be accomplished without hunting, shooting, catching, capturing, or killing desert kit foxes, or attempting these activities. Although this species was not detected within the Project site or gen-tie improvement corridor during biological surveys, there is nonetheless a moderate probability that desert kit fox could use the site considering this species' high mobility and willingness to tolerate human disturbance and utilize disturbed habitats. Because the desert kit fox does not carry an applicable designation as a sensitive or special-status species, project impacts to this species would be less than significant. However, the survey and passive relocation requirements specified in Mitigation Measure BIO-6 would further reduce the potential for the project to impact this species, and would ensure compliance with CDFW regulations.

- b) **Less than Significant.** As described in the Biological Resources Assessment Report for the Project, vegetation within the Alamo site is significantly disturbed and includes two mapped (see Sawyer *et al.* 2009) plant communities: Russian thistle stands and hedge mustard stands. (The site also contains areas mapped as developed/ornamental, but these are not formally-defined plant communities). Native habitats, including riparian habitats and other communities designated by the CDFW as sensitive, do not occur within the site boundaries. The gen-tie improvement corridor contains a variety of vegetation communities and land covers, including residential and industrial developments, ornamental landscaping,

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ruderal vegetation associated with edges of development, and intact desert scrub habitats. Riparian vegetation communities or other habitats that are considered sensitive by the CDFW are not present. Considering this information, the Project's impacts on existing vegetation would be less than significant.

- c) **Less than Significant with Mitigation Incorporated.** As described and illustrated in the Biological Resources Assessment Report and Jurisdictional Determination Report for the Project (URS 2013 and URS 2012, respectively), jurisdictional delineations indicate the Project site is located adjacent to the Mojave River corridor, but that the jurisdictional limits of the river are beyond the site boundaries. No wetlands are present on-site, and development of the Alamo site would not directly impact jurisdictional wetlands or waters. Indirect impacts associated with the potential for construction-related runoff to enter the Mojave River are addressed in Item IX of this MND.

A number of ephemeral drainages traverse the gen-tie improvement corridor, although they lack sufficient hydrology to support riparian vegetation or exhibit wetland characteristics. These features exhibit defined beds and banks, and are regulated under Section 1600 *et seq.* of the California Fish and Game Code which specifies that a Streambed Alteration Agreement must be obtained from the CDFW prior to undertaking an activity that would divert, obstruct, or substantially alter the streambeds. Federal protection under the Clean Water Act may also apply if the ephemeral drainages bear significant nexus to the Mojave River. Because the extent of disturbance proposed along the gen-tie improvement corridor is minimal, and because Southern California Edison will retain flexibility to avoid sensitive resources during final site design, it is unlikely that ephemeral washes would be affected by the Project. If they occurred, impacts to desert washes would be significant, absent mitigation. However, to ensure compliance with applicable laws, Mitigation Measure BIO-7 would require the project applicant or SCE to acquire a Section 404 Permit and Streambed Alteration Agreement prior to filling or altering desert washes along the gen-tie improvement corridor. Implementation of this mitigation measure would reduce potential impacts to a less than significant level.

- d) **Less than Significant Impact.** The Alamo site is located in proximity to the Mojave River, a regionally important feature that provides stopover habitat and drinking water for a wide variety of wildlife species that traverse the desert during migration. However, as described in the proposed Project's General Biological Resources Assessment Report (URS 2013), the Alamo Project site has been previously disturbed and no longer contains intact habitats. The proposed limits of disturbance are confined to areas of former agricultural use, and no construction personnel or equipment would be allowed to enter the riparian area. The river corridor in the vicinity of the Project site has a width of approximately 0.4 mile, allowing wildlife to avoid temporary indirect impacts such as construction noise by moving within the river corridor if needed. The site perimeter fencing that would be installed around the site is not expected to hinder wildlife movement or habitat connectivity because the lands to be fenced do not contain natural habitat, and because most of the proposed fences would be

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installed in locations that are generally similar to the alignments of existing agricultural fencing.

Because the proposed impacts within the gen-tie improvement corridor would be minor and temporary, impacts in this area would not affect wildlife movement or habitat connectivity.

Considering this information, impacts of the proposed Project on wildlife movement and habitat connectivity would be less than significant.

- e) **Less than Significant with Mitigation Incorporated.** The proposed Alamo Solar Project has been designed with consideration for the policies and ordinances of San Bernardino County, and the proposed Project is consistent with these policies and ordinances. However, in some instances, these ordinances may impose additional requirements on the Project. Sections 88.01.050 and 88.01.060 of the San Bernardino County Development Code require that where removal of Joshua trees or cacti is proposed, all individuals to be removed shall be transplanted or stockpiled for future transplanting wherever possible. Development of the proposed Project would not require Joshua trees or cacti to be removed, however, as these species do not occur within the Project site. Although limited numbers of Joshua trees, Mojave yucca, and cacti occur within the gen-tie improvement corridor, the density of these plants is low enough that they could easily be avoided during construction.

Absent any sort of strategy for avoiding or salvaging Joshua trees or cacti during the proposed gen-tie line improvements, the Project would potentially conflict with Sections 88.01.050 and 88.01.060 of the San Bernardino County Development Code. This conflict would represent a potentially significant impact, absent mitigation. However, avoidance of Joshua trees and cacti, per mitigation measure BIO-8, would ensure consistency with the Development Code and reduce this potential impact (resulting from conflict with local policies or ordinances protecting biological resources) to a less than significant level.

- f) **No Impact.** The Alamo site is not enrolled in any formal Habitat Conservation Plan or Natural Community Conservation Plan. However, several large-scale conservation plans are being developed in the region, and the Project's expected consistency with these plans is described below. It is important to note that because these plans have not yet been formally approved they are without regulatory weight, and may be subject to significant change prior to approval.

Following issuance of California Executive Order S-14-08 in November 2008, a team of federal and state agencies began work on the Desert Renewable Energy Conservation Plan (DRECP), a comprehensive planning document intended to provide binding, long-term endangered species permit assurances and to facilitate the review and approval of compatible renewable energy projects within the Mojave and Sonoran deserts of Southern California. The four agencies, which include the Bureau of Land Management (BLM), the U.S. Fish and Wildlife Service, the California Energy Commission, and the CDFW,

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collectively form the “Renewable Energy Action Team” (REAT) responsible for preparing the DRECP. As of August 2013, a draft of the DRECP document has not been made available for public review and environmental review under NEPA and CEQA has not yet occurred. Based on information released by the REAT in January 2013, the DRECP will identify “Development Focus Areas,” within which the DRECP’s planned comprehensive incidental take authorizations and streamlined approval process would be applicable. Outside designated Development Focus Areas, projects on private land would continue to be approved through existing local government review processes; the DRECP would not prohibit development on private lands (REAT 2013). Because the DRECP has not yet been finalized, it is not known whether or not the Alamo project site would be situated within a Development Focus Area. However, because the site is under private ownership, it appears that the DRECP would not prohibit development of the site in either case. The expected date of a final, effective DRECP is not known but is likely to be substantially beyond the approval and construction timeline of the Alamo project, due to the large-scale, complex nature of the DRECP.

In 2006, the BLM adopted the West Mojave Plan, a habitat conservation plan and federal land use plan amendment that presents a comprehensive strategy to conserve and protect sensitive biological resources within approximately 6.2 million acres in the western Mojave Desert while also providing a streamlined program for complying with state and federal endangered species laws. Two state agencies and 15 local jurisdictions, including the County of San Bernardino, worked closely with the BLM during preparation of the West Mojave Plan. The two species of primary importance covered in the West Mojave Plan are the Mojave desert tortoise and Mohave ground squirrel. Because these species have not been detected within the Alamo site, the development of the site would not pose significant conflicts with this plan. Because the proposed activities within the gen-tie improvement corridor are associated with modernizing an existing transmission facility, and would not involve any changes in land use, these activities would not conflict with the West Mojave Plan. It should be noted that the BLM’s approval of the West Mojave Plan has been the subject of recent litigation, and that the legal process may necessitate some deviation from the version approved in 2006. Thus, some uncertainty exists regarding the exact terms of this plan. By court order, the BLM is required to prepare a revised plan prior to March 31, 2014.

The project will have no impact relative to approved conservation plans.

**Possible significant adverse impacts have been identified or anticipated and the following mitigation measures are required as conditions of project approval to reduce these impacts to a level below significant.**

#### **MM# Mitigation Measures**

**BIO-1 Worker Environmental Awareness Program.** Prior to any construction activities on the project site or within the gen-tie improvement corridor, the Applicant will implement a

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Worker Environmental Awareness Program (WEAP) to educate on-site workers about sensitive environmental issues associated with the Project. The program will be administered to all on-site personnel, including the Applicant's personnel, contractors, and all subcontractors, on the first day of work prior to the employee's commencing work on the site. The WEAP will place special emphasis on the protected species that have potential to occur within the Alamo site, including the Mojave desert tortoise, burrowing owl, nesting birds, and desert kit fox, among other plant and wildlife species.

The program will include the following elements:

- A presentation, developed by or in consultation with a qualified biologist, discussing the sensitive biological resources with potential to occur on-site, and explaining the reasons for protecting these resources and penalties for non-compliance;
- Brochures or booklets, containing written descriptions and photographs of protected species as well as a list of site rules pertaining to biological resources, to be provided to all WEAP participants;
- Contact information for the project biological monitor, and instructions to contact the monitor with any questions regarding the WEAP presentation or booklets;
- An acknowledgement form, to be signed by each worker indicating that they received WEAP training and will abide by the site rules protecting biological resources; and,
- Conspicuous stickers, identifying the project and signifying WEAP completion, to be distributed immediately following WEAP training and required on personnel hard hats.

The project Applicant will be responsible for ensuring that all on-site personnel, throughout the duration of project construction, receive WEAP training. A training log, to be signed by all on-site personnel immediately following WEAP training, will be maintained on the project site during construction to document compliance with this measure.

**BIO-2 Biological Monitor.** Prior to issuance of a grading permit, a qualified biologist shall be retained by the Applicant as the biological monitor subject to the approval of the County of San Bernardino. The biological monitor shall be present at all times during vegetation clearing or ground disturbance, and shall ensure that impacts to biological resources are avoided or minimized to the fullest extent possible. When construction activities have progressed to the point where biological resources are no longer present, as determined by the biological monitor, biological monitoring in the area may be reduced or discontinued with approval from the County of San Bernardino. The biological monitor shall have the authority to stop specific grading or construction activities if violations of mitigation measures or any local, state, or federal laws are suspected.

**BIO-3 Preconstruction Surveys for Mojave Desert Tortoise.** Prior to initiation of construction activities along the gen-tie improvement corridor, the activity footprint of each work location will be surveyed for the Mojave desert tortoise by a qualified biologist. If Mojave



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desert tortoises or their recent sign are detected, the Applicant shall not initiate construction, and shall instead contact the USFWS and CDFW to develop an avoidance strategy. No relocation or other take of desert tortoise is anticipated or proposed. Following completion of the survey (assuming negative survey results), either a desert tortoise exclusion fence shall be installed surrounding the disturbance area or all construction activities shall be subject to 100% biological monitoring if fencing proves impractical within construction area that contain desert tortoise habitat along the long gen-tie improvement corridor. Any exclusionary fencing used shall be installed in accordance with the specifications set forth in Chapter 8 of the USFWS' *Desert Tortoise Field Manual* (USFWS 2009), and installation of the fence shall be overseen by a biologist familiar with the installation of tortoise exclusion fencing. If tortoise exclusion fences are left in place for a period exceeding one week at any location, the fences will be inspected weekly for any signs of damage or wear that could potentially compromise the integrity of the exclusion perimeter. If damage or excessive wear is observed, the exclusion fence will be repaired immediately. Results of any necessary fence inspections will be maintained to document compliance with this provision.

As noted, should exclusionary fencing prove impractical within construction area that contain desert tortoise habitat along the long gen-tie improvement corridor, SCE may elect instead to have all vehicular movements and construction activities monitored by qualified biologists to ensure desert tortoise are avoided. The monitors shall have authority to slow, halt or re-direct all construction traffic to ensure avoidance. No tortoise relocation or other forms of take are anticipated or proposed.

**BIO-4 Pre-construction Mojave Desert Tortoise Surveys and Avoidance.** Within 14 days prior to construction-related ground clearing and/or grading, the Applicant shall retain a qualified biologist to conduct surveys for signs of occupancy by the Mojave desert tortoise. Surveys shall cover the entire area proposed for disturbance, shall be conducted by walking parallel transects spaced no more than 10 meters apart, and shall focus on detecting any live tortoises or their sign, including carcasses, burrows, palates, tracks, and scat. Should any sign indicating the presence of Mojave desert tortoise be detected, the Applicant shall not proceed with ground clearing and/or grading activities in the area of the find, and shall instead contact the USFWS and CDFW to develop an avoidance strategy and/or seek authorization for incidental take of Mojave desert tortoise.

The results of the pre-construction surveys, including graphics showing the locations of any tortoise sign detected, and documentation of any avoidance measures taken, shall be submitted to the USFWS, CDFW, and the County of San Bernardino within 14 days of completion of the pre-construction surveys or construction monitoring to document compliance with applicable federal and state laws pertaining to the protection of Mojave desert tortoise.

**BIO-5 Pre-construction Nesting Bird Surveys and Avoidance.** Within 30 days prior to

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vegetation clearing or ground disturbance associated with construction or grading that would occur during the nesting/breeding season (February through August, unless determined otherwise by a qualified biologist based on observations in the region), the Applicant shall retain a qualified biologist to determine if active nests of species protected by the Migratory Bird Treaty Act or the California Fish and Game Code are present within or adjacent to the disturbance zone or within 100 feet (300 feet for raptors) of the disturbance zone. The surveys shall be conducted no more than seven days prior to initiation of disturbance work. If ground disturbance activities are delayed, then additional pre-disturbance surveys shall be conducted such that no more than seven days will have elapsed between the survey and ground disturbance activities.

If active nests are found, clearing and construction within 100 feet of the nest (or other distance if approved by the qualified biologist) shall be postponed or halted, until the nest is vacated and juveniles have fledged, as determined by the biologist. Avoidance buffers shall be established in the field by a qualified biologist based upon their knowledge of bird behavior, species biology, and environmental requirements with highly visible construction fencing or flagging, and construction personnel shall be instructed on the sensitivity of nest areas. A qualified biologist shall serve as a construction monitor during those periods when construction activities will occur near active nests to ensure that no inadvertent impacts on these nests occur.

The results of pre-construction nesting bird surveys, including graphics showing the locations of any nests detected, and documentation of any avoidance measures taken, shall be submitted to the County of San Bernardino and CDFW within 14 days of completion of the pre-construction surveys or construction monitoring to document compliance with applicable state and federal laws pertaining to the protection of native birds.

**BIO-6 Pre-construction Desert Kit Fox Surveys and Passive Relocation.** To avoid unauthorized take of the desert kit fox, the project Applicant shall retain a qualified biologist to conduct preconstruction surveys for this species within 14 days prior to ground disturbance. The survey shall be conducted by walking parallel transects spaced no more than 20 meters apart, and shall be focused on detecting any desert kit fox individuals or dens within the disturbance footprint. If dens are detected, each den shall be classified as inactive, potentially active, or definitely active based on field observations. If necessary, motion-sensitive cameras or a tracking medium shall be used to determine whether a den is active.

Inactive dens in areas that would be impacted by construction activities shall be excavated by hand and/or mechanically and backfilled to prevent reuse by desert kit fox.

Active and potentially active dens in areas that would be impacted by construction activities shall be monitored by a qualified biologist for three consecutive nights using a tracking medium (such as diatomaceous earth or fire clay) and/or infrared camera stations at the entrance. If no tracks are observed in the tracking medium or no photos of the

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target species are captured after three nights, the den shall be excavated and backfilled by hand to prevent reuse. If tracks are observed, the den shall be classified as active. Outside the desert kit fox pupping season (January 15 through July 31, unless determined otherwise by a qualified biologist based on observations in the region), the den may be progressively blocked with natural materials (rocks, dirt, sticks, and vegetation piled in front of the entrance) for the next three to five nights to discourage the kit fox from continuing to use the den. After verification that the den is unoccupied, it shall then be excavated and backfilled by hand to prevent reuse, while ensuring that no kit fox are trapped in the den. No excavation of active desert kit fox dens shall be permitted during the pupping season.

The Applicant shall submit a report to the County of San Bernardino and CDFW within 30 days of completion of preconstruction desert kit fox surveys describing the survey methods, results, and details of any dens backfilled or foxes observed.

**BIO-7 Authorizations for Impacts to Ephemeral Washes.** If feasible, the Applicant shall avoid filling or altering the ephemeral desert washes that traverse the gen-tie improvement corridor during construction. If avoidance is not feasible, prior to undertaking any activity that would divert, fill, obstruct, or substantially alter any of the washes, the project Applicant will enter into a Streambed Alteration Agreement with the CDFW authorizing the proposed activity as required by Section 1602 of the California Fish and Game Code. The project Applicant will ensure that all project personnel comply with all stated terms and conditions of the Agreement, including any seasonal or weather-related restrictions on work activities within the streambeds, construction site housekeeping practices, or other limitations the CDFW may impose. The Applicant shall also contact the Los Angeles District of the U.S. Army Corps of Engineers, and shall obtain a Section 404 Permit for the proposed work if required.

**BIO-8 Avoidance of Joshua Trees and Cacti.** If feasible, the Applicant shall avoid the need to remove Joshua trees, Mojave yucca, or cacti during construction activities along the gen-tie improvement corridor. If avoidance is not feasible, the Applicant shall acquire a permit from the County of San Bernardino as required by Section 88.01.050 of the San Bernardino County Development Code prior to removing these species.

**BIO-9 Migratory Bird Fund Contribution.** The Applicant shall work with the USFWS to make a mutually agreeable contribution to a fund designed to identify and reduce sources of mortality of migratory birds in the region. The contribution level shall reflect that project impacts to migratory bird populations are expected to be small and less than significant.

**BIO-10 Raven Management.** Alamo Solar Project, LLC and SCE shall implement the following measures to mitigate project-specific impacts that could result in a local increase in common ravens:

- Dispose of all trash and food-related waste in secure, self-closing receptacles to

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prevent the introduction of subsidized food resources for common ravens.

- Use water for construction, operation and maintenance in a manner that does not result in puddling.
- The biological monitor identified in mitigation measure BIO-2 shall implement the following at the project site:
  - Remove and dispose of road kills of common wildlife species from the project site and access road. No species subject to the Endangered Species Act would be removed.
  - Document common raven use of the project site and access road on a daily basis. If frequently used perching locations are identified, use physical, auditory or visual bird deterrents to discourage use by common ravens.
  - Remove any inactive raven nests in the project site or along the access road.
- SCE will address common raven nests according to existing procedures or permits applicable to transmission line upgrades and maintenance activities.

Alamo Solar Project, LLC and SCE would implement the following measure to mitigate indirect and cumulative impacts it cannot fully eliminate:

- Contribute to the Regional Raven Management Plan. The contribution shall consist of a one-time payment of a total of \$105 per acre of disturbance, including the project site and gen-tie improvement corridor.

**BIO-11 Avian Mortality Monitoring.** In an effort to contribute meaningful data regarding the effects of industrial-scale photovoltaic solar projects on migratory birds, the Applicant shall perform construction-phase and operations-phase avian mortality monitoring at the Alamo project site. Prior to issuance of a grading permit for the project, the Applicant shall submit an Avian Protection Plan to the County of San Bernardino and the USFWS ensuring that any birds encountered dead or injured on the project site are documented. At a minimum, the plan shall include the following elements:

*1. Bird Encounter Protocol during Construction*

This section of the plan will include a protocol to be used upon discovery of a dead or injured bird during project construction to ensure timely and consistent data collection. At a minimum, the plan will require the Applicant and on-site biological monitor to determine pertinent information, such as the following:

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- The species, life stage (adult or juvenile), and sex (if practical) of the bird;
- The likely cause of injury or death, if apparent; and,
- The approximate date of death, for individuals that have been dead for a period prior to discovery.

## 2. *Construction-Phase Reporting Requirements*

This section of the plan will require that avian injury/mortality data be compiled and transmitted to the County of San Bernardino and the USFWS on a periodic basis, and will specify the frequency and method by which this notification should be made. However, in the event that avian species listed as Threatened or Endangered under the Endangered Species Act are encountered, the plan shall require that the USFWS be notified immediately. Additionally, the applicant shall not destroy, collect, or remove bird remains from the site without first obtaining any required permits from the USFWS and/or CDFW.

## 3. *Operations-Phase Mortality Monitoring*

This section of the plan will require that the Applicant retain a qualified biologist to conduct periodic avian mortality monitoring during operations at the Alamo site, and will detail the methods by which this monitoring should be conducted. The plan shall require monitoring for a minimum period of two years following completion of construction. A minimum of five monitoring events shall be conducted during each year, and will be scheduled to coincide with peak migration periods. However, one monitoring event each year will be conducted during the winter months (November through January), to assess any mortality of wintering birds.

## 4. *Adaptive Management*

This section of the plan will set forth a process through which changes to the monitoring schedule or methods may be implemented if warranted due to unforeseen circumstances or other factors. During the construction- and operations-phase avian mortality monitoring, the Applicant and monitoring biologist will keep the County of San Bernardino and USFWS informed of monitoring progress and will alert these agencies if it appears that changes to the monitoring schedule or methods are needed. If it is apparent that substantial project-related injury or mortality of birds may be occurring, or if there are substantial unresolved questions regarding the Project's effects on avian species, then the monitoring period, methods, or frequency may be modified to address these concerns. In addition, if specific project elements are resulting in substantial avian injury or mortality, the plan shall direct that the Applicant work with the USFWS to identify and implement reasonable measures to modify these elements in a manner that lessens the effects on migratory birds.

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| <b>Issues</b>                                                                                                 | <i>Potentially<br/>Significant<br/>Impact</i> | <i>Less than<br/>Significant<br/>with Mitigation<br/>Incorporated</i> | <i>Less than<br/>Significant</i> | <i>No<br/>Impact</i>                |
|---------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------|----------------------------------|-------------------------------------|
| <b>V. CULTURAL RESOURCES – Would the project</b>                                                              |                                               |                                                                       |                                  |                                     |
| a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?    | <input type="checkbox"/>                      | <input checked="" type="checkbox"/>                                   | <input type="checkbox"/>         | <input type="checkbox"/>            |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | <input type="checkbox"/>                      | <input checked="" type="checkbox"/>                                   | <input type="checkbox"/>         | <input type="checkbox"/>            |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?       | <input type="checkbox"/>                      | <input checked="" type="checkbox"/>                                   | <input type="checkbox"/>         | <input type="checkbox"/>            |
| d) Disturb any human remains, including those interred outside of formal cemeteries?                          | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input type="checkbox"/>         | <input checked="" type="checkbox"/> |

**SUBSTANTIATION:** (Check if the project is located in the Cultural  or Paleontologic  Resources overlays or cite results of cultural resource review):

a) **Less than Significant with Mitigation Incorporated.**

The Project site consists of fallow agricultural lands and typical rural developments, including scattered residences, dirt roads, distribution lines and other structures. The 190-acre Project site has been subject to several recent surface and subsurface archaeological studies (URS December 2011, March 2013, July 2013) as well as an architectural survey and evaluation (URS). In addition, SCE has conducted a cultural resources survey of the Project's distribution line (SCE 2013). The results of these studies are summarized below.

**Archaeological Resources.** In 2011 URS Corporation conducted an archaeological survey of two parcels for a 128-acre solar development (URS 2011). Prior to the survey a site record and literature search was conducted by the San Bernardino Archaeological Information Center (SBAIC) housed at San Bernardino County Museum of Natural History. The record search indicated that the Project site was located within the recorded boundary of CA-SBR-183, a poorly-defined prehistoric habitation site first recorded by Gerald Smith in 1940. The 2011 record search also indicated a prehistoric and historic trail alignment is mapped along the east side of the Mojave River in or near the western edge of the Project site. Field survey located and mapped a small prehistoric artifact scatter at the location of CA-SBR-183; no evidence of the trail was discovered (URS December 2011).

Subsequent to the 2011 survey, the Project was redesigned to avoid CA-SBR-183 and was enlarged to its current 175-acre size. Areas not investigated in 2011 were subject to an

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updated site records review and archaeological surface survey (URS April 2013). Collectively, the archaeological surveys demonstrate that CA-SBR-183 is the only archaeological resource within or immediately adjacent to the currently proposed Alamo Solar Project.

Subsurface archaeological survey conducted in the western portion of the Project area adjacent to CA-SBR-183 found no evidence of intact archaeological deposits despite the excavation of 13 trenches and dry-screening more than 400 gallons of excavated soil (URS July 2013). The investigation was conducted by URS archaeologists and a Native American monitor representing the San Manuel Band of Mission Indians. Only two artifacts were recovered during screening and both were found in the disturbed plowzone (0–14 inches) of a single trench, including one small pottery sherd and one small fragment of burned bone. These results indicate that although areas around CA-SBR-183 contain a very low density of surface and near-surface artifacts in the plowzone, there is no evidence of subsurface archaeological deposits within the area tested. These results indicate that the solar project will not have a direct effect on CA-SBR-183. Surface grading and trenching near the archaeological site can be expected to affect a low density scatter of previously disturbed surface and near-surface artifacts in the plowzone which extends from the existing ground surface to a depth of approximately 12–14 inches. Given the nearness of the prehistoric site, there also is a low potential that isolated features or pockets of cultural materials could be discovered during ground disturbance. Finally, without effective means of ensuring avoidance, movement of heavy equipment during construction could inadvertently affect archaeological site CA-SBR-183. Mitigation measures CUL-1 through CUL-5 would reduce such impacts to less than significance.

**Architectural Resources.** An architectural resources survey and evaluation of the Project site was conducted (URS February 2013). Eight historic-period built environment properties were identified. After applying the procedures and criteria for the California Register of Historical Resources (CRHR) eligibility, as well as other means by which properties can be considered historical resources for the purposes of CEQA (as defined in CEQA), it was determined that none of the eight properties appear to be eligible for listing in the CRHR, or to be considered historical resources for purposes of CEQA. The Project would not have a significant effect on historic-era cultural resources.

SCE's cultural resources survey of areas that would be affected by upgrades to the distribution line were negative; upgrades along the distribution line would not have a significant effect on cultural resources.

- b) **Less than Significant with Mitigation Incorporated.** See discussion of Item a), above.
- c) **Less than Significant with Mitigation Incorporated.** A paleontological assessment (URS July 2013) indicates the Project site is located in sediments mapped as Holocene deposits (Q and Qw), which are thought to be too young to contain significant paleontological

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resources. The SCE distribution line passes through well dissected alluvial fan deposits of Pleistocene age (Qod) that lie at the surface or a shallow depth below the surface and are considered to have high paleontological sensitivity. Thus, earth-moving activities in conjunction with reconductoring the distribution line may have affect significant nonrenewable paleontological resources. Mitigation measure CUL-5 would reduce such impacts to less than significance.

- d) **No Impact.** This project will not disturb any human remains, including those interred outside of formal cemeteries, because no such burial grounds are identified on this project site and none are expected. If any human remains are discovered, during construction of this project, the developer is required to contact the County Coroner and the County Museum for a determination of appropriate measures to be taken. A Native American representative shall also be consulted, if the remains are determined to be of Native American origin.

**Possible significant adverse impacts have been identified or anticipated and the following mitigation measures are required as conditions of project approval to reduce these impacts to a level below significant.**

#### **MM# Mitigation Measures**

**CUL-1: Avoid CA-SBR-183.** CA-SBR-183 and adjacent areas outside of the solar facility footprint shall be illustrated on construction site plans as an Environmentally Sensitive Area to be avoided during construction. Temporary exclusionary fencing shall be used to keep construction personnel and equipment outside the recorded site boundary.

**CUL-2: Archaeological and Native American Monitoring.** Prior to construction, an archaeological monitoring plan shall be prepared and implemented to the satisfaction of the San Bernardino County Museum. Archaeological and Native American monitors shall be present at the Alamo solar project site during ground-disturbing activities during construction, including vegetation clearing, grubbing, grading, filling, drilling, and trenching. At a minimum, monitors shall be present during ground-disturbing activities that affect surface and near-surface soils, defined here as 0 to 24 inches below grade. If deeper A-horizon soils are discovered, or if actual subsurface archaeological deposits are discovered, archaeological and Native American monitoring shall continue until the archaeologist determines daily monitoring can be shifted to periodic spot checks.

If potentially significant archaeological deposits are encountered, all ground disturbance near the find shall halt and the Project Archaeologist shall contact the San Bernardino County Museum and interested Native Americans to develop and implement a plan that would reduce potential impacts through avoidance or, if avoidance is not practicable, data recovery. Archaeological remains shall be recorded on the appropriate California Department of Parks and Recreation (DPR) 523 Series Forms. Discovery of potentially significant archaeological deposits and subsequent investigations may result in the preparation of additional archaeological technical reports. After ground-disturbing construction activities have been completed, an archaeological construction monitoring report shall be completed. Technical reports, the monitoring report, collected artifacts, and other necessary archaeological documentation shall be submitted to the San Bernardino County Museum for permanent curation.



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**CUL 3 Construction Worker Educational Workshop.** Prior to construction, the qualified archaeological monitor or qualified designee shall conduct a brief educational workshop such that all construction personnel understand monitoring requirements, roles and responsibilities of the monitors, and penalties for unauthorized artifact collecting or intentional disturbance of archaeological resources. The construction worker training shall include an overview of potential cultural and paleontological resources that could be encountered during ground-disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to a designated on-site cultural monitor for further evaluation and action, as appropriate. The Construction Worker Education Workshop should clearly address communication and procedure protocols for construction workers in the event of unanticipated discovery of culture/paleontological resources when no monitors are present.

**CUL-4: Human Remains.** In the event human remains are encountered during implementation archaeological investigations or during construction, ground disturbance in the area of the remains shall cease, and the remains shall be protected in place pending identification by the San Bernardino County Coroner. The San Bernardino County Coroner shall be contacted to determine the origin of the remains. In the event the remains are Native American in origin, the Native American Heritage Committee (NAHC) shall be contacted to determine necessary procedures in conjunction with the on-site Native American Monitor for protection and preservation of the remains, including reburial, as provided in the State of California Environmental Quality Act (CEQA) Guidelines, Section 15064.5(e), "CEQA and Archaeological Resources," CEQA Technical Advisory Series (California Resources Agency 2004).

**CUL-5 Paleontological Monitoring.** A qualified paleontologist shall develop a paleontological mitigation program including, but not limited to, a field survey before grading, monitoring during grading, and recovery, preparation, identification, reporting, and curation of recovered fossils. The paleontological monitor shall have the authority to halt grading to collect uncovered paleontological resources. However, if geotechnical evidence prior to construction reveals that undisturbed Pleistocene sediments will not be impacted by excavations, paleontological monitoring would not be required.

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| <b>Issues</b>                                                                                                                                                                                                                                                                          | <i>Potentially<br/>Significant<br/>Impact</i> | <i>Less than<br/>Significant<br/>with Mitigation<br/>Incorporated</i> | <i>Less than<br/>Significant</i>    | <i>No<br/>Impact</i>                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------|-------------------------------------|-------------------------------------|
| <b>VI. GEOLOGY AND SOILS – Would the project:</b>                                                                                                                                                                                                                                      |                                               |                                                                       |                                     |                                     |
| a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:                                                                                                                                                       |                                               |                                                                       |                                     |                                     |
| i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map Issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| ii. Strong seismic ground shaking?                                                                                                                                                                                                                                                     | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| iii. Seismic-related ground failure, including liquefaction?                                                                                                                                                                                                                           | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| iv. Landslides?                                                                                                                                                                                                                                                                        | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil?                                                                                                                                                                                                                          | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off site landslide, lateral spreading, subsidence, liquefaction or collapse?                                                      | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d) Be located on expansive soil, as defined in Table 18-1-B of the California Building Code (2001) creating substantial risks to life or property?                                                                                                                                     | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?                                                                                                     | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**SUBSTANTIATION:** (Check  if project is located in the Geologic Hazards Overlay District):

- a) **i) Less than Significant Impact.** The entire San Bernardino County area is particularly susceptible to strong ground shaking and other geologic hazards from numerous

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earthquake fault zones, including the San Andreas Fault, among others. A review of California Geological Survey – Alquist-Priolo Earthquake Fault Zones maps indicates the proposed Project is located approximately 0.8 mile northeast of the Helendale-South Lockhart fault zone which locally trends along Highway 18. While the potential for onsite ground rupture cannot be totally discounted (e.g., unmapped faults could conceivably underlie the project site), the likelihood of such an occurrence is considered low due to the absence of known faults within the site.

The proposed Project will not include any habitable structures. Nonetheless, the design of any structures onsite will incorporate measures to accommodate seismic loading, pursuant to existing guidelines such as the “Greenbook” Standard Specifications for Public Works Construction (2006) and the International Code Council’s (ICC) 2007 California Building Code (CBC). Specific standards that may be used for the proposed Project include but are not limited to proper fill composition and compaction, anchoring (or other means of securing application structures); and use of appropriate materials, dimensions and flexible joints where appropriate. Therefore, impacts from proximity to fault zones are considered less than significant.

**ii) Less than Significant Impact.** The subject site is within an area that is subject to strong earthquakes but no habitable structures are proposed. Due to economic considerations, it is not generally considered reasonable to design a structure that is not susceptible to earthquake damage. Therefore, significant damage to structures may be unavoidable during large earthquakes. The proposed structures should, however, be designed to resist structural collapse through incorporation of California Building Standards Code design guidelines and thereby provide reasonable protection from serious injury, catastrophic property damage and loss of life. With compliance with the California Building Standards Code, impacts are considered less than significant.

**iii) Less than Significant Impact.** The project site is expected to experience earthquake activity that is typical of the Southern California area. However, the site is characterized by deep, well-drained alluvial soils and groundwater in the region is low. The potential for liquefaction at this site is considered to be low. Furthermore, the proposed Project design and construction will incorporate requirements of the California Building Code that would address potential seismic-related effects such as liquefaction, settlement, and lateral spreading. Based on incorporation of applicable standards, potential project impacts associated with seismic-related ground failure will be less than significant.

**iv) No Impact.** The proposed Project would not have any risks associated with landslides. Landslides are the downslope movement of geologic materials. The stability of slopes is related to a variety of factors, including the slope's steepness, the strength of geologic materials, and the characteristics of bedding planes, joints, faults, vegetation, surface water, and groundwater conditions. The project area is relatively flat terrain where landslides have not historically been an issue; therefore, no significant impacts are anticipated with respect

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to seismic-related (or other) landslide hazards.

- b) **Less than Significant Impact.** The proposed Project's hydrological report (URS June 2012) indicates substantial soil erosion or the loss of topsoil is not expected. Site soils are well-drained and any rain or wash water on the solar panels would drain freely to the ground. Based on the volume of water falling from each panel during storm events, the height of the fall, and site soil conditions, it is not expected that erosion beyond a micro level will occur. Water will fall from the PV panels and pond at a drip point before infiltrating or gradually migrating into the existing drainage patterns. If, overtime, minor erosion were noted at the drip points, small gravel pads could be added to help dissipate the energy of the falling water. If minor erosion were noted near the foundations, minor grading could restore support for the individual foundations, and keep surface flows from undermining the foundations in future storm events.

Erosion control plans will be required to be submitted, approved and implemented. Measures to reduce and control erosion of soil during construction and long term operation are required by MDAQMD through its Rule 403 for control of fugitive dust, the Colorado River Basin Regional Water Quality Control Board (RWQCB) under its administration of the State's General Construction Permit, and the County of San Bernardino Public Works Department through its Storm Water Management Program. Implementation of requirements under MDAQMD Rule 403 for control of fugitive dust would reduce or eliminate the potential for soil erosion due to wind. The proposed Project would result in a minor increase in impervious surfaces and implementation of Best Management Practices (BMPs) that would be included in the applicant's Storm Water Pollution Prevention Plan (SWPPP) would reduce soil erosion due to storm water or water associated with construction.

- c) **Less than Significant Impact.** Mapped soil types—primarily well-drained alluvial soils—appear to be conducive to the development of the proposed Project. The Project design and construction methods, including use of embedded pier foundations and recompaction of surface soils where needed, will stabilize project components; thereby, reducing potential impacts of the mapped soils to a less than significant level.

The project area is relatively flat terrain where landslides have not historically been an issue. Potential liquefaction (and related settlement and lateral spreading effects) and landslide impacts are discussed above in Sections VI.a.iii and VI.a.iv, respectively. Based on the described conditions and project design and construction methods, no significant impacts related to geologic instability are anticipated as a result of project implementation.

- d) **Less than Significant Impact.** Site soils are well-drained to excessively well-drained and are not considered expansive soils.
- e) **No Impact.** The proposed Project is an unmanned facility. No septic or other wastewater

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disposal systems will be utilized as part of this project.

**No significant adverse impacts are identified or anticipated and no mitigation measures are required.**

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| <b>Issues</b> |                                                                                                                                                | <i>Potentially Significant Impact</i> | <i>Less than Significant with Mitigation Incorporated</i> | <i>Less than Significant</i>        | <i>No Impact</i>                    |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------------------------------|-------------------------------------|-------------------------------------|
| <b>VII</b>    | <b>GREENHOUSE GAS EMISSIONS – Would the project:</b>                                                                                           |                                       |                                                           |                                     |                                     |
|               | a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?                    | <input type="checkbox"/>              | <input type="checkbox"/>                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
|               | b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases? | <input type="checkbox"/>              | <input type="checkbox"/>                                  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

***SUBSTANTIATION:***

- a) **Less than Significant Impact.** The County’s *Greenhouse Gas Emissions Reduction Plan* (GHG Plan) was adopted on December 6, 2011 and became effective on January 6, 2012. The GHG Plan establishes a GHG emissions reduction target for the year 2020 that is 15 percent below 2007 emissions. The Plan is consistent with AB 32 and sets the County on a path to achieve more substantial long-term reduction in the post-2020 period. Achieving this level of emissions will ensure that the contribution to greenhouse gas emissions from activities covered by the GHG Plan will not be cumulatively considerable.

In 2007, the California State Legislature adopted Senate Bill 97 (SB 97) requiring that the CEQA Guidelines be amended to include provisions addressing the effects and mitigation of GHG emissions. New CEQA Guidelines have been adopted that require: inclusion of a GHG analyses in CEQA documents; quantification of GHG emissions; a determination of significance for GHG emissions; and, adoption of feasible mitigation to address significant impacts. The CEQA Guidelines [Cal. Code of Regulations Section 15083.5 (b)] also provide that the environmental analysis of specific projects may be tiered from a programmatic GHG plan that substantially lessens the cumulative effect of GHG emissions. If a public agency adopts such a programmatic GHG Plan, the environmental review of subsequent projects may be streamlined. A project’s incremental contribution of GHG emissions will not be considered cumulatively significant if the project is consistent with the adopted GHG plan.

Implementation of the County’s GHG Plan is achieved through the Development Review Process by applying appropriate reduction requirements to projects, which reduce GHG emissions. All new development is required to quantify the project’s GHG emissions and adopt feasible mitigation to reduce project emissions below a level of significance. A review standard of 3,000 metric tons of carbon dioxide equivalent (MTCO<sub>2e</sub>) per year is used to identify and mitigate project emissions. For projects exceeding 3,000 MTCO<sub>2e</sub> per year of

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GHG emissions, the developer may use the GHG Plan Screening Tables as a tool to assist with calculating GHG reduction measures and the determination of a significance finding. Projects that garner 100 or more points in the Screening Tables do not require quantification of project-specific GHG emissions. The point system was devised to ensure project compliance with the reduction measures in the GHG Plan such that the GHG emissions from new development, when considered together with those from existing development, will allow the County to meet its 2020 target and support longer-term reductions in GHG emissions beyond 2020. Consistent with the CEQA Guidelines, such projects are consistent with the Plan and therefore are determined to have a less than significant individual and cumulative impact for GHG emissions.

Greenhouse gas emissions resulting from the construction and operation of the proposed Project were quantified and reported in a technical memorandum (URS April 2013). Results of the analysis show that construction and operation emissions over 30 years will be approximately 250 MTCO<sub>2</sub>e per year, far below San Bernardino County's significance threshold of 3,000 MTCO<sub>2</sub>e per year. These project GHG emissions are consistent with the County of San Bernardino's September 2011 *Greenhouse Gas Emissions Reduction Plan* and would present a less than significant impact for GHG emission.

Moreover, the construction of this solar facility will generate "green" electric power generation that would otherwise be produced with fossil fuels with much higher GHG emissions. The proposed Project thus would result in a net environmental benefit regarding GHG emissions.

- b) **No Impact.** The proposed Project would produce solar electricity and is consistent with the *County of San Bernardino Greenhouse Gas Emissions Reduction Plan*. (See discussion above in Item a).

**No significant adverse impacts are identified or anticipated and no mitigation measures are required.**

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| <b>Issues</b>                                                                                                                                                                                                                                                    | <i>Potentially Significant Impact</i> | <i>Less than Significant with Mitigation Incorporated</i> | <i>Less than Significant</i>        | <i>No Impact</i>                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------------------------------|-------------------------------------|-------------------------------------|
| <b>VIII HAZARDS AND HAZARDOUS MATERIALS – Would the project:</b>                                                                                                                                                                                                 |                                       |                                                           |                                     |                                     |
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?                                                                                                                          | <input type="checkbox"/>              | <input type="checkbox"/>                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?                                                                  | <input type="checkbox"/>              | <input type="checkbox"/>                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?                                                                                                  | <input type="checkbox"/>              | <input type="checkbox"/>                                  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?                                   | <input type="checkbox"/>              | <input type="checkbox"/>                                  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/>              | <input type="checkbox"/>                                  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?                                                                                                      | <input type="checkbox"/>              | <input type="checkbox"/>                                  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?                                                                                                                                        | <input type="checkbox"/>              | <input type="checkbox"/>                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |



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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

### ***SUBSTANTIATION:***

- a) **Less than Significant Impact.** The proposed Project will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, because no use approved on the site is anticipated to be involved in such activities. If such uses are proposed on-site in the future, they will be subject to permit and inspection by the Hazardous Materials Division of the County Fire Department and in some instances additional land use review.

Construction will involve short-term use of hazardous substances such as fuels, lubricants, adhesives, solvents and asphalt wastes. (PCBs in oil for transformer work)The potential risk associated with the accidental discharge during use and storage of such construction-related hazardous materials is considered low because the handling of any such materials will be addressed through the implementation of Best Management Practices (BMPs) pursuant to the National Pollutant Discharge Elimination System (NPDES) Construction General Permit.

The AC/DC collection system may be installed in shallow subsurface trenches and/or on an above-grade raceway suspended on stakes. Collection trenches would likely be mechanically excavated, though in some cases targeted shallow trench blasting may be required as a construction technique due to near-surface bedrock. Therefore, Construction may involve short-term use of explosives.

If explosives are to be used, the applicant will be required to obtain all necessary permits and approvals through the San Bernardino County Fire Department's Hazardous Materials Division (HMD). This may include preparing a Business Emergency Contingency Plan and securing a Certified Unified Program Agency (CUPA) Permit for hazardous materials handling and/or hazardous waste generation, as required by the HMD. The applicant and/or its construction firm and/or relevant subcontractors responsible for blasting activities will engage the HMD to perform a pre-construction site tour, to assist with worker training as necessary, and to perform a site closure inspection once any required blasting has been completed. Explosives will be transported, handled and used in accordance with all applicable laws and regulations. Therefore impacts would be less than significant.

- b) **Less than Significant Impact.** The project will not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. With the exception of typical construction-related hazards such as fuels, lubricants, adhesives, solvents and asphalt wastes, the proposed Project will not generate or require the use or storage of significant

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quantities of hazardous substances. The photovoltaic panels used in the proposed Project are environmentally sealed collections of photovoltaic cells that require no chemicals and produce no waste materials. Batteries used for construction or operation will be stored and disposed of according to Department of Toxic Substances Control (DTSC) the Universal Waste Rule or EPA Hazardous Waste Battery Regulations. Furthermore, standard operating procedures will prevent the use of materials from causing a significant hazard to the public or environment.

Agricultural chemicals were not observed on the property during the Phase I Environmental Site Assessment (URS March 2013). However, based on the historical agricultural use of the property, chemical retention in surface and/or subsurface soils could be present. Most agricultural chemicals degrade rapidly in the presence of ultraviolet light from the sun and most newer-formulated chemicals have lower retention time especially at the lower application concentrations directed by regulatory agencies.

- c) **No Impact.** There are no existing or proposed schools within one-quarter mile of the proposed Project site.
- d) **No Impact.** The project site is not located on a known site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and will not create a significant hazard to the public or the environment.
- e) **No Impact.** The project site is not located within an airport land use plan or within two miles of an airport. The nearest airport is the Southern California Logistics Airport located approximately 4.5 miles south of the solar site.
- f) **No Impact.** The proposed Project area is located within 1 mile of a private airstrip; therefore, it would not result in a safety hazard for people residing or working in the project area. The private airstrip is Palisades Ranch Airport.
- g) **Less than Significant Impact.** The project will not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. External site access from the south would be provided west from Route 66 along Heritage Way then north to the site along a new road segment running along the eastern edge of parcel 0470-011-0351. The access road would be 26 to 36 feet wide, surfaced with all-weather material and will include adequate access for emergency vehicles.

The interconnection and distribution system upgrades will not change any access plans nor require any additional emergency response plan or emergency evacuation plan.

- h) **Less than Significant Impact.** Any development, along with the associated human activity, in previously undeveloped areas increases the potential of the occurrence of wildfires in the region. Comprehensive safety measures that comply with federal, state, and local worker

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safety and fire protection codes and regulations will be implemented for the proposed Project and will minimize the occurrences of fire due to project activities during construction and for the life of the project. Therefore, less than significant impacts are anticipated.

**No significant adverse impacts are identified or anticipated and no mitigation measures are required.**

| <i>Issues</i>                                                                                                                                                                                                                                                                                                                                                                                  | <i>Potentially Significant Impact</i> | <i>Less than Significant with Mitigation Incorporated</i> | <i>Less than Significant</i>        | <i>No Impact</i>                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------------------------------|-------------------------------------|-------------------------------------|
| <b>IX HYDROLOGY AND WATER QUALITY – Would the project:</b>                                                                                                                                                                                                                                                                                                                                     |                                       |                                                           |                                     |                                     |
| a) Violate any water quality standards or waste discharge requirements?                                                                                                                                                                                                                                                                                                                        | <input type="checkbox"/>              | <input type="checkbox"/>                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level, which would not support existing land uses or planned uses for which permits have been granted)? | <input type="checkbox"/>              | <input type="checkbox"/>                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or offsite?                                                                                                                                                               | <input type="checkbox"/>              | <input type="checkbox"/>                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?                                                                                                                       | <input type="checkbox"/>              | <input type="checkbox"/>                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?                                                                                                                                                                                                         | <input type="checkbox"/>              | <input type="checkbox"/>                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| f) Otherwise substantially degrade water quality?                                                                                                                                                                                                                                                                                                                                              | <input type="checkbox"/>              | <input type="checkbox"/>                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| g) Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?                                                                                                                                                                                                                           | <input type="checkbox"/>              | <input type="checkbox"/>                                  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| h) Place within a 100-year flood hazard area structure which would impede or redirect flood flows?                                                                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| j) Inundation by seiche, tsunami, or mudflow?                                                                                                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

### ***SUBSTANTIATION:***

- a) **Less than Significant Impact.** According to the Project's Hydrologic Analysis Addendum (URS March 2013), and Alamo Solar Site Hydrologic Analysis (URS December 2011) the project will not violate any water quality standards or waste discharge requirements. Potential water quality impacts from the proposed Project could be associated with short-term (construction-related) erosion/sedimentation and hazardous material use/discharge. Water used during construction and operations would be obtained from existing onsite wells and/or a local purveyor. Any use of existing onsite wells would be conducted according to requirements of the County of San Bernardino Division of Environmental Health Services, California Department of Water Resources and the Lahontan Regional Water Quality Control Board (Basin Plan). During operations, the expected pollutants of concern at this unmanned facility include trash and debris and potentially oil and grease from maintenance vehicles visiting the site periodically for panel washing (several times per year) and general site maintenance (as needed).

The facility will be unmanned. Solar panels will be elevated above the existing grade and supported by a metal frame and individual embedded piers. The ground shall be minimally graded. The proposed Project also includes construction of various concrete pads and gravel internal access roads but the Hydrological Analysis (URS March 2013) indicates less than 5 percent of the site will be covered with impervious surfaces. The remaining 95 percent will remain as native soil or graded to improve and control surface drainage.

Furthermore, potential erosion/sedimentation and hazardous materials impacts will be avoided or reduced below a level of significance through conformance with applicable elements of the NPDES Construction General Permit. As part of the permit requirements, a Stormwater Pollution Prevention Plan (SWPPP) will be prepared for the project. The SWPPP provides detailed descriptions of water quality management measures to be used (e.g., site design and construction BMPs).

Maintenance of the unmanned facility Project will primarily involve panel washing and repairs or replacement of panels or other electrical equipment. Panel washing would be conducted as needed but is expected to occur quarterly or bi-annually. Panels would be power-washed with clean water that will contain no cleaning agents or other additives.

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The construction of the interconnection and distribution system upgrades will also be incorporated in the Construction SWPPP and BMPs will be designed implemented to avoid hazardous waste discharge.

- b) **Less than Significant Impact.** The proposed Project may obtain construction and operational water either by purchasing it from a local purveyor or by using existing onsite wells or a combination of both. The Mojave Groundwater basin is one of the 19 adjudicated groundwater basins within California and as such, the water extracted from that basin is closely accounted for by the Mojave Water Agency (MWA) Watermaster; water pumped from each specific subbasin beyond a specified volume per year is subject to recharge costs. The MWA indicates the current owner has water rights as a “minimal producer” to extract up to 10 af per year from the local Alto Subbasin without further notification. Water demand during construction is estimated at a total of 10-15 af; demand in excess of 10 af would be either obtained from a local purveyor or the well owner would join/stipulate the rules of the adjudication. Regardless of source, most (89 percent) of the ground surface within the proposed Project area will be permeable and operational water use will be small, estimated at approximately 1 acre-feet per year or less. The small amount of water to be used and the large amount of permeable surface within the solar site would not deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Onsite wells, if used, would meet Department of Water Resources well standards for an industrial well which includes a minimum depth of the annular seal of 50 feet. The existing well condition will be evaluated prior to operation and brought up to the industrial well standards if necessary.
- c) **Less than Significant Impact.** The proposed Project will have a less than significant impact on the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that will result in substantial erosion or siltation on- or offsite. The proposed Project’s Hydrologic Analysis (URS December 2011 and March 2013) includes a conceptual drainage plan that would maintain the Turner Road channel on-site. The proposed Project would result in only a negligible effect to the current runoff rates, offsite drainage patterns, or quantity of runoff. Furthermore, potential erosion/sedimentation and hazardous materials impacts will be avoided or reduced below a level of significance through conformance with applicable elements of the NPDES Construction General Permit. As part of the permit requirements, a Stormwater Pollution Prevention Plan (SWPPP) will be prepared for the project.

The Project site is situated within the Mojave Desert and has a slope of approximately 1 percent overall. The overall off-site watershed has area of approximately 1,545 acres. Because the imperviousness of the site would not be greatly changed as a result of the construction, the impact of increased rainfall runoff due to construction would be negligible.

During operation, the panels shall drain freely to the ground any rainwater that hits them.

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Based on the volume of water falling from each panel, the height of the fall, and the soil conditions, it is not expected that erosion beyond an immediate micro level shall occur. Site soils are well-drained to excessively well-drained. Water from the PV panels infiltrate or gradually migrate into the existing drainage patterns. If, over time, minor erosion is noted at the drip points or foundations, small gravel pads can be added to help dissipate the energy of the falling water. If, over time, minor erosion is noted near the foundations, minor grading can restore support for the individual foundations and keep surface flows from undermining the foundations in future storm events.

- d) **Less than Significant Impact.** Site topography is uniform in surface profile with a slight slope in the northwesterly direction. Under existing conditions, during heavy rain events, small washes onsite become conduits for stormwater flow. Runoff discharges directly to the Mojave River from the western perimeter of the site, but the central to northern part of the site drain to a channel that runs along Turner Road, which directs flows west through the site to the river. Runoff from the watershed upstream of the Project site passes through dual three foot-diameter culverts that run under the railroad track and discharge to the channel. Since this site is bordered on the east by the AT&SF Railroad, which acts as a dam with a controlled discharge from the dual culverts, the slight increase in runoff as a result of construction will cause very little effect on backup. Also, because the flows from the site discharge directly into the Mojave River, the potential to cause concentrated flows downstream as a result of drainage changes at the site is non-existent. Since the results from the preliminary hydrology study demonstrate that the increase in runoff volume associated with Project development is negligible.

According to the Project's Hydrologic Analysis (URS December 2011 and March 2013), the project will not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.

- e) **Less than Significant Impact.** According to the Project's Hydrologic Analysis (URS December 2011 and March 2013), the proposed Project would result in a negligible increase in runoff compared to existing conditions and thus will not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff [please refer to discussion above in item (d).] The Hydrologic Analysis indicates the conceptual drainage plan will not substantially increase the volume of stormwater flows originating from or altered by the project. The Hydrologic Analysis was developed in consultation with and has been reviewed and accepted by the County. All necessary drainage improvements will be required by the County as conditions of project approval.
- f) **Less than Significant Impact.** The proposed Project would not otherwise substantially degrade water quality because appropriate measures relating to water quality protection, including erosion control measures, are required. Potential erosion/sedimentation and

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hazardous materials impacts will be avoided or reduced below a level of significance through conformance with applicable elements of the Construction General Permit. As part of the permit requirements, a Stormwater Pollution Prevention Plan (SWPPP) will be prepared for the project.

- g) **No Impact.** The project will not place unprotected housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, because the project does not propose housing.
- h) **Less than Significant Impact.** The northwestern corner of the site lies within the Federal Emergency Management Agency (FEMA) designated 100-year floodplain of the Mojave River. However, the development area for the Project is outside of the 100-year floodplain. Therefore, the project will not place within a 100-year flood hazard area structures which would impede or redirect flood flows, because the development is not located within a 100-year flood hazard area.
- i) **Less than Significant Impact.** The San Bernardino County Land Use Plan Hazard Overlay map for the Helendale area indicates the western half of the Project site is located in an area that could be subject to dam inundation. The project will be unmanned and would not expose people to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. Some solar panels and fencing and other equipment could be affected by inundation.
- j) **Less than Significant Impact.** See i), above.

**No significant adverse impacts are identified or anticipated and no mitigation measures are required.**

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| <i>Issues</i>                                                                                                                                                                                                                                                                                               | <i>Potentially Significant Impact</i> | <i>Less than Significant with Mitigation Incorporated</i> | <i>Less than Significant</i> | <i>No Impact</i>                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------------------------------|------------------------------|-------------------------------------|
| <b>X. LAND USE AND PLANNING – Would the project:</b>                                                                                                                                                                                                                                                        |                                       |                                                           |                              |                                     |
| a) Physically divide an established community?                                                                                                                                                                                                                                                              | <input type="checkbox"/>              | <input type="checkbox"/>                                  | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/>              | <input type="checkbox"/>                                  | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan?                                                                                                                                                                                                           | <input type="checkbox"/>              | <input type="checkbox"/>                                  | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

#### ***SUBSTANTIATION:***

- a) **No Impact.** The project would not physically divide an established community. The proposed Project area is located in an unincorporated part of the County that has sparse residential development in the immediate area. Therefore, the proposed Project would not divide an established community.
- b) **No Impact.** The property is zoned RL-5 (Rural Living – 5 acre parcel minimum). The RL land use zoning district provides for rural residential uses, incidental agricultural uses, and similar and compatible uses. Under County Code Chapter 82.04, an energy generating facility would be permitted through a Conditional Use Permit (CUP). The development standards for solar energy facilities are identified in County Code Chapter 84.29.040. The standards require setbacks from property lines either as identified in the Land Use Zoning District or 130 percent of the mounted structure height, whichever is greater. The Project layout includes the required setbacks in the Land Use Zoning District which will be greater than 130 percent of the mounted structure height of the PV solar module array. The development standards also require that solar facilities be designed to preclude daytime glare on any abutting residential land use zoning district, residential parcel or public right-of-way. The design of the solar arrays include non-reflective PV solar module arrays. Therefore, the Project will be consistent with all applicable land use policies and standards associated with the requirements of the CUP.
- c) **No Impact.** The proposed Project and the interconnection and distribution system upgrades do not conflict with any applicable habitat conservation plans or natural community conservation plans, because there is no habitat conservation plan or natural community conservation plan applicable to the Project area

**No significant adverse impacts are identified or anticipated and no mitigation measures are required.**



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| <b>Issues</b>                                                                                                                                                         | <i>Potentially Significant Impact</i> | <i>Less than Significant with Mitigation Incorporated</i> | <i>Less than Significant</i> | <i>No Impact</i>                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------------------------------|------------------------------|-------------------------------------|
| <b>XI. MINERAL RESOURCES – Would the project:</b>                                                                                                                     |                                       |                                                           |                              |                                     |
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?                                | <input type="checkbox"/>              | <input type="checkbox"/>                                  | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | <input type="checkbox"/>              | <input type="checkbox"/>                                  | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

**SUBSTANTIATION:** (Check  if project is located within the Mineral Resource Zone Overlay):

- a) **No Impact.** The Project will not result in the loss of availability of a known mineral resource that will be of value to the region and the residents of the state, because there are no identified important mineral resources on the project site and the site is not within a Mineral Resource Zone Overlay.
- b) **No Impact.** The Project will not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan, because there are no identified important mineral resources on the project site and the site is not within a Mineral Resource Zone Overlay.

**No significant adverse impacts are identified or anticipated and no mitigation measures are required.**

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|---------------|---------------------------------------|-----------------------------------------------------------|------------------------------|------------------|
|---------------|---------------------------------------|-----------------------------------------------------------|------------------------------|------------------|

**XII. NOISE – Would the project result in:**

- |                                                                                                                                                                                                                                                                     |                          |                          |                                     |                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?                                                                                 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?                                                                                                                                                             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?                                                                                                                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?                                                                                                                          | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?                                                                                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**SUBSTANTIATION:** (Check if the project is located in the Noise Hazard Overlay District  or is subject to severe noise levels according to the General Plan Noise Element ):

- a) **Less than Significant Impact.** With the exception of a few scattered residences, the proposed Project is adjacent to undeveloped and vacant land. Construction of the proposed Project, including the interconnection and distribution system upgrades, may potentially create some elevated short-term construction noise and vibration impacts to existing residents in the area; however these activities would be limited to day time hours and will comply with the noise and vibration standards of the San Bernardino Development Code. Construction noise and vibration is exempt from 7:00 A.M. to 7:00 P.M. Monday through Saturday. (County of San Bernardino, CA, County Development Code Chapter 83.01.080 and 83.01.090.) Operation of the proposed unmanned solar facility would not generate

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audible levels of noise or perceptible levels of vibration in the surrounding area. There would be no permanent substantial change in noise or vibration levels. During operations, some noise is produced by the inverter/transformer installations. Such noise is expected to be around 50 to 60 dBA at 50 feet, depending on the design and vendor for the equipment. Based on typical solar array configurations, and assuming that the inverter stations are located on the interior of the nearest array, the nearest existing residence would be about 145 feet from the nearest inverter stations. At this distance, the inverter noise is expected to be at or below the County maximum daytime noise limit of 55 dBA  $L_{eq}$ . Vehicle trips generated during operations for maintenance and security would be periodic and would not violate noise standards.

- b) **Less than Significant Impact.** The Project will not create exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels, because the project is required to comply with the vibration standards of the County Development Code and no vibration exceeding these standards is anticipated to be generated by the proposed uses.
- c) **No Impact.** The Project will not generate a substantial permanent increase in ambient noise levels in the project vicinity above levels existing or allowed without the project. The Project will comply with the noise standards of the County Development Code.
- d) **Less than Significant Impact.** The project will not generate a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing or allowed without the project because construction equipment shall not operate during evening hours and construction noise and vibration is exempt from noise/vibration standards from 7:00 a.m. to 7:00 p.m. Monday-Saturday, and the project is required to comply with the noise standards of the County Development Code.
- e) **No Impact.** The proposed Project area is not located an airport land use plan or within two miles of a public airport or public use airport.
- f) **No Impact.** The proposed Project area is not located within the vicinity of a private airstrip. The nearest private airstrip, Palisades Ranch Airport, is approximately one mile north of the project site.

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| <b>Issues</b>                                                                                                                                                                                             | <i>Potentially<br/>Significant<br/>Impact</i> | <i>Less than<br/>Significant<br/>with Mitigation<br/>Incorporated</i> | <i>Less than<br/>Significant</i> | <i>No<br/>Impact</i>                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------|----------------------------------|-------------------------------------|
| <b>XIII. POPULATION AND HOUSING – Would the project:</b>                                                                                                                                                  |                                               |                                                                       |                                  |                                     |
| a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input type="checkbox"/>         | <input checked="" type="checkbox"/> |
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?                                                                                     | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input type="checkbox"/>         | <input checked="" type="checkbox"/> |
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?                                                                                               | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input type="checkbox"/>         | <input checked="" type="checkbox"/> |

#### ***SUBSTANTIATION:***

- a) **No Impact.** The project will not induce substantial population growth in an area either directly or indirectly. The proposed Project is an unmanned solar generating facility and interconnection and distribution system upgrades. The power and infrastructure associated with the Project will assist in supplying upgrades to a larger electrical network and not directly for the immediate area. The proposed construction schedule will require 160-200 workers at its peak. During operations the facility will be unmanned. Several part-time employees or contractors would visit the site periodically for maintenance and several times a year employees or a contractor would visit the site to wash the PV panels.
- b) **No Impact.** The proposed Project site is vacant land except for two residences that will be vacated and demolished prior to construction. This will not displace substantial numbers of existing housing units or require construction of replacement housing.
- c) **No Impact.** The proposed Project would not displace substantial numbers of people.

**No significant adverse impacts are identified or anticipated and no mitigation measures are required.**

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|---------------|---------------------------------------|-----------------------------------------------------------|------------------------------|------------------|
|---------------|---------------------------------------|-----------------------------------------------------------|------------------------------|------------------|

**XIV. PUBLIC SERVICES**

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

|                          |                          |                          |                                     |                                     |
|--------------------------|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| Fire Protection?         | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Police Protection?       | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Schools?                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Parks?                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Other Public Facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**SUBSTANTIATION:**

a) **Less than Significant Impact.** The proposed Project will not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services, including fire and police protection, schools, parks or other public facilities.

**Fire Protection – Less than Significant Impact.** The proposed Project would not result in the need for additional fire protection services that would require construction of new facilities. The nearest fire stations, Apple Valley Fire Protection District and Victorville Fire Department, are located approximately 12 miles southeast and 11 miles south of the project site, respectively. Any development in previously undeveloped areas increases human presence and the potential for fire. The fire threat is considered moderate at the project site. The San Bernardino County fire Department has identified fire protection measures that will be required as conditions of approval for this project in order to comply with applicable ordinances, codes and/or recognized fire protection standards. These include Fire

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Department review and approval of all final onsite and off-site improvements; inspection, approval and signing a Building and Safety job card for “fire final”; vegetation clearance around buildings and structures; and road designs required to ensure adequate Fire Department access, among others. . During construction, some public services including fire protection may be required but these would be short-term and would not result in increase in the level of service offered or affect these agencies’ response times. Because of the low probability and short-term nature of potential fire protection needs during construction, and conditions of approval required by the County Fire Department, the proposed Project would not result in associated significant impacts to fire protection.

**Police Protection – Less than Significant Impact.** The proposed Project would not result in the need for additional police protection services that would require construction of new facilities. The proposed Project area is served by the San Bernardino County Sheriff’s Department. The Apple Valley Substation is located approximately 12 miles to the southeast of the project site. In addition, the Victorville Substation is approximately 12 miles to the south of the project site. Due to the large expanse that the substations cover, deputies are regularly assisted by California Highway Patrol, Big Bear Lake, Hesperia, Victorville and the Town of Apple Valley police, and BLM Rangers. The proposed Project would not impact service ratios, response times, or other performance objectives related to police protection. During construction, some public services including police protection may be required but these would be short-term and would not result in a need for new facilities or an increase in the level of service offered or affect these agencies’ response times. The project will include a six-to-eight foot high chain link security fence, installed at the property setback and lighting will be designed to provide the minimum illumination needed to achieve the project’s security objectives.

**Schools – No Impact.** Long-term operations of the proposed solar facility would place no demand of school services because it does not include the construction of residences. The project would not introduce temporary or permanent population into the area; therefore no impacts to schools would occur.

**Parks – No Impact.** Long-term operation of the proposed unmanned solar facility would place no demand on parks because it does not include the construction of residences or the extension of roads or other infrastructure that could induce population growth

**Other Public Facilities – No Impact.** The proposed Project would not result in the introduction and/or an increase in new residential homes or otherwise induce population growth that could require new public facilities.

**No significant adverse impacts are identified or anticipated and no mitigation measures are required.**

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| <b>Issues</b>                                                                                                                                                                                                  | <i>Potentially<br/>Significant<br/>Impact</i> | <i>Less than<br/>Significant<br/>with Mitigation<br/>Incorporated</i> | <i>Less than<br/>Significant</i> | <i>No<br/>Impact</i>                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------|----------------------------------|-------------------------------------|
| <b>XV. RECREATION</b>                                                                                                                                                                                          |                                               |                                                                       |                                  |                                     |
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input type="checkbox"/>         | <input checked="" type="checkbox"/> |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?                        | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input type="checkbox"/>         | <input checked="" type="checkbox"/> |

### ***SUBSTANTIATION:***

- a) **No Impact.** The proposed Project will not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated because the Project will be unmanned and does not include construction of any new residential units or infrastructure extensions that would induce population growth.
- b) **No Impact.** The proposed solar facility will be unmanned and does not include recreational facilities or require the construction or expansion of recreational facilities.

**No significant adverse impacts are identified or anticipated and no mitigation measures are required.**

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| <b>Issues</b>                                                                                                                                                                                                                                                                                                                                                                                                                  | <i>Potentially<br/>Significant<br/>Impact</i> | <i>Less than<br/>Significant<br/>with Mitigation<br/>Incorporated</i> | <i>Less than<br/>Significant</i>    | <i>No<br/>Impact</i>                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------|-------------------------------------|-------------------------------------|
| <b>XVI. TRANSPORTATION/TRAFFIC – Would the project:</b>                                                                                                                                                                                                                                                                                                                                                                        |                                               |                                                                       |                                     |                                     |
| a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and greenways, pedestrian and bicycle paths, and mass transit. | <input type="checkbox"/>                      | <input checked="" type="checkbox"/>                                   | <input type="checkbox"/>            | <input type="checkbox"/>            |
| b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.                                                                                                                                                                  | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?                                                                                                                                                                                                                                                                | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?                                                                                                                                                                                                                                                                         | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| e) Result in inadequate emergency access?                                                                                                                                                                                                                                                                                                                                                                                      | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?                                                                                                                                                                                                                                         | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

### **SUBSTANTIATION:**

- a) **Less than Significant Impact With Mitigation Incorporated.** The proposed Project is an unmanned facility that would be visited intermittently by part-time employees or contractors for maintenance, panel washing and security. Given that the facility would be unmanned and operational trips would be infrequent, the proposed Project would not create a substantial permanent increase in traffic as part of project operations. County policy D/CI 1.1 indicates that all new development shall not degrade Levels of Service (LOS) on major arterials below LOS C. National Trails Highway (formerly State Route 66)



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provides primary north-south access to the project site. It is a two-lane highway within the vicinity of the Project. From the National Trails Highway, the project site is accessed via a westerly route on Heritage Way, a local east-west roadway. The proposed project would widen Heritage Way within the existing right-of-way and construct a new access road segment north to the site to accommodate Project traffic.

During construction, short-term temporary construction activities would generate additional vehicle trips along National Trails Highway and SR-18 as a result of worker commutes and construction deliveries (see Tables 4 and 5 below). Construction activities are anticipated to be conducted for approximately 8 months and the workforce is estimated to vary from a low of 10 during Month 1 to a high of approximately 176 workers during Months 5 and 6. In addition, SCE has indicated that approximately 19 full-time equivalent positions would be needed at the peak of upgrading its distribution line. Half of the workers are anticipated to commute from Victorville via National Trails Highway and the other half from Apple Valley via SR-18 (Happy Trails Highway) and National Trails Highway. Typically on-site work hours are 7 AM to 3:30 PM. Under this scenario, most workers (e.g., 95%) arrive before the 7-9 AM peak hours and leave before the 4-6 PM peak hours.

If 10-hour days are scheduled, workers would still arrive before the AM peak hours but all would leave at approximately 5:30 PM. Conservatively assuming 10-hour workdays, during peak construction Months 5 and 6, construction workers could temporarily generate 176 trips in the PM peak hours. The aforementioned 10-hour work day schedules are anticipated to be infrequent and will be implemented on as-needed basis.

Monthly construction deliveries are provided below and, based on 6-day work weeks, are expected to vary from a low of 59 deliveries per day in Month 1 to a high of 124 to 129 deliveries per day in Months 5 and 6 based on 26 working days per month. Construction deliveries are anticipated to occur throughout the day and are not expected to have a significant impact on traffic circulation. Mitigation measure TR-1 further would reduce impacts.

Existing traffic volume along SR-18 at Apple Valley Road is approximately 45,500 vehicles per day. Additional project construction traffic along this route (approximate 176 trips per day) is not expected to cause a significant traffic impact either individually or cumulatively, based on the short-term construction timetable.

The unmanned solar facility would not result in operational traffic that would reduce LOS.

The temporary increase in delivery and worker vehicle trips during project construction may impact public roadways during project construction activities. Therefore, mitigation measure TR-1 has been added to reduce potential construction related impacts.

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**TABLE 4**  
**CONSTRUCTION LABOR FORCE ESTIMATES**

|                                      | Month 1 | Month 2 | Month 3 | Month 4 | Month 5 | Month 6 | Month 7 | Month 8 |
|--------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| Working Hours Per Day                | 10      | 10      | 10      | 10      | 10      | 10      | 10      | 8       |
| Working Days per Week                | 6       | 6       | 6       | 6       | 6       | 6       | 6       | 5       |
| Workforce Estimates (No. of workers) | 10      | 20      | 50      | 60      | 176     | 176     | 66      | 39      |

**TABLE 5**  
**CONSTRUCTION DELIVERY ESTIMATES**

| Vehicle Type                          | Month 1 | Month 2 | Month 3 | Month 4 | Month 5 | Month 6 | Month 7 | Month 8 |
|---------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| Material delivery trucks <sup>1</sup> |         | 80      | 160     | 80      | 22      |         |         |         |
| Water truck (average) <sup>1</sup>    | 1,536   | 1,690   | 1,664   | 1,728   | 3,200   | 3,456   | 1,664   | 1,408   |
| Total Per Month <sup>2</sup>          | 1,536   | 1,770   | 1,824   | 1,808   | 3,222   | 3,456   | 1,664   | 1,408   |

<sup>1</sup> Heavy Duty Diesel (80,000 lbs gross vehicle weight).

<sup>2</sup> Assumed 4,000 gallon water trucks. Water used for dust control.

- b) **Less Than Significant Impact.** San Bernardino Associated Government (SANBAG) acts as the transportation planning agency for San Bernardino County that is responsible for the cooperative regional planning of local and regional roadway improvements, train and bus transportation, deployment of intelligent transportation systems and long-term planning studies (SBC 2007). The proposed Project is subject to the provisions of SANBAG's Congestion Management Program (CMP) for San Bernardino County. According to page C-2 of the CMP, a project should be evaluated for potential impacts if a project or groups of projects are forecast to equal or exceed the CMP threshold of 250 two-way peak hour trips. Pass-by trips are not considered in the threshold determination. If a project is forecast to generate 100 to 250 peak hour trips and expects to add at least 50 peak hour trips to a State highway facility, the jurisdiction should consult with Caltrans to determine the need for a Traffic Impact Assessment [TIA] report. It is assumed the Project would generate approximately 96 round trips to the site per year for part-time workers and approximately 163 truckloads of water for panel washing. Since the proposed project would be unmanned and operational trips would be intermittent by part-time employees or contractors for maintenance, panel washing and security; the proposed Project would not generate a substantial permanent increase in traffic as part of daily project operations. Additional traffic during operations would fall below the CMP thresholds and warrants no further traffic analysis.

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- c) **No Impact.** The proposed Project will not affect air traffic patterns. Operation of the proposed Project is not dependent upon air transport related material, labor force, or service and would not result in an increase to air traffic levels. Therefore, no change in air traffic patterns, volume and safety are anticipated.
- d,e) **Less Than Significant Impact.** The project would be constructed in accordance with County requirements and would not introduce design features such as sharp curves or dangerous intersections or an incompatible use within the vicinity of the project site. Internal site circulation would include a 25-foot-wide perimeter road with an all-weather surface and 12-foot wide access ways (minimally graded, dirt or gravel) to provide maintenance access to the solar panels. External project site access from the south would be provided west from Route 66 along Heritage Way then north to the site along a new road segment. The project site is located within a rural area and would not generate substantial numbers of vehicle trips as part of project operations. Per standard development procedures, all site plans are reviewed by the County to ensure that proposed roadway improvements and new access roads adequately meet all safety and design requirements.
- f) **No Impact.** The proposed Project would not conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks) and/or decrease the performance of facilities. The project is located within a rural area and would be unmanned. The nearest public bus route to the project site is Route 22 operated by the Victor Valley Transit Authority. Route 22 has a stop at National Trails Highway and Bryman (Google 2013). The project site is located to the northwest of the bus stop and would not impact bus service.

**Possible significant adverse impacts have been identified or anticipated and the following mitigation measures are required as conditions of project approval to reduce these impacts to a level below significant.**

**MM# Mitigation Measures**

**TR-1 Traffic Control Plan.** A Traffic Control/Traffic Management Plan would be prepared to minimize project impacts on public roads and highways. The traffic plan may include provisions for signage and noticing to inform the public about work before any disruptions occur, the use of flagmen and/or escort vehicles to control and direct traffic flow, and scheduling roadway work during periods of minimum traffic flow.

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| <b>Issues</b>                                                                                                                                                                                                                      | <i>Potentially<br/>Significant<br/>Impact</i> | <i>Less than<br/>Significant<br/>with Mitigation<br/>Incorporated</i> | <i>Less than<br/>Significant</i>    | <i>No<br/>Impact</i>                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------|-------------------------------------|-------------------------------------|
| <b>XVII. UTILITIES AND SERVICE SYSTEMS – Would the project:</b>                                                                                                                                                                    |                                               |                                                                       |                                     |                                     |
| a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?                                                                                                                                | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?                             | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?                                      | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded, entitlements needed?                                                                            | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| f) Be served by a landfill(s) with sufficient permitted capacity to accommodate the project's solid waste disposal needs?                                                                                                          | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| g) Comply with federal, state, and local statutes and regulations related to solid waste?                                                                                                                                          | <input type="checkbox"/>                      | <input type="checkbox"/>                                              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

### **SUBSTANTIATION:**

- a) **No Impact.** The proposed Project does not involve construction of facilities that would generate wastewater; therefore it would not exceed applicable wastewater treatment requirements. The project will use uncontaminated water to clean the solar panels. The proposed project's water discharge does not require treatment or permitting according to the regulations of the Colorado River RWQCB.
- b) **No Impact.** The proposed Project will not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities. During construction approximately 10–15 acre feet of water would be utilized for dust suppression. The solar

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facility would be unmanned. Several part-time employees would visit the site periodically (e.g., monthly or bi-monthly). A few times per year, a designated representative would visit the site to wash the PV panels. Panel washing would require approximately 1 acre-foot of water per year or less and, based on an assumed use of medium-sized water tankers, would require approximately 80 truckloads for delivery of this water. Water also may be provided by one or more on-site wells. Water or dust palliatives would be used if needed to control wind and water erosion during operations.

Water used during construction, operations, or both, may be purchased from a local purveyor or provided by onsite wells. Regardless of water supply source, the proposed Project would not require construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

- c) **Less than Significant Impact.** The proposed Project would not require the construction or expansion of storm water drainage facilities. Most of the project site would remain pervious and existing soils are predominantly well drained. Minor washes onsite would be filled and their stormwater flows re-directed to other existing washes onsite via perimeter swales. The project's Hydrologic Analysis Addendum, (URS March 2013) indicates this conceptual drainage plan would maintain adequate runoff through the Project site without causing backup for flows upstream or concentrated flows downstream. The proposed Project would result in only a negligible effect to the existing runoff rates, offsite drainage patterns, or quantity of runoff. Furthermore, potential erosion/sedimentation and hazardous materials impacts will be avoided or reduced below a level of significance through conformance with applicable elements of the NPDES Construction General Permit. As part of the permit requirements, a Stormwater Pollution Prevention Plan (SWPPP) will be prepared for the project for construction.
- d) **No Impact.** Construction and operational water needs of the proposed Project will be provided by existing onsite water wells and/or by a local water purveyor that would truck the water to the site. A total of approximately 10 to 15 acre-feet of water could be required during construction for dust suppression. The project's operational water demand is estimated at no more than 1 acre-foot per year for panel washing. The unmanned facility requires no water or sewer hookups or related entitlements. Water use for construction and operation of the proposed Project is negligible relative to existing supply (19th Annual Report of the Mojave Basin Area Watermaster, May 1, 2013, Appendix B, Alto Subarea) and the Mojave Water Agency (MWA), which serves as the Watermaster, has indicated that existing water rights allow onsite pumping of up to 10-acre feet per year of water without incurring additional costs. Should water needs exceed 10-acre feet, additional water could be purchased from the MWA or through the transfer of un-pumped water from another water producer in the Alto subarea (David Seielstad, personal communication June 19, 2013)
- e) **No Impact.** The proposed unmanned solar facility would not require or result in the construction of new wastewater treatment facilities or the expansion of existing wastewater

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treatment facilities. A local portable toilet contractor would meet the wastewater needs of the approximately 160–200 workers during construction.

- f) **No Impact.** The Project would be served by landfills with sufficient capacity to accommodate the minor amount of solid waste that would be generated. The proposed Project is an unmanned solar electricity generating facility that would generate no process waste and only small amounts of solid waste requiring disposal. Solid waste generated during short-term construction activities will include demolition of existing buildings and structures onsite and generation of minor quantities of construction debris. Solid waste associated with the proposed Project will be disposed as appropriate in local landfill or at a recycling facility.

The proposed Project area is served by the two regional Class III landfills. The Landers Sanitary Landfill (Class III) is located approximately 31 miles southeast of the project and has a remaining capacity of 765,098 Cubic Yards (CYs). The Victorville Sanitary Landfill is located approximately 25 miles northwest has a remaining capacity of 81,510,000 CYs. These landfills have sufficient permitted capacity to accommodate the project's solid waste disposal needs.

The panels and tracking system may eventually need to be decommissioned or recycled. Most parts of the proposed PV system are recyclable. Panels typically consist of silicon, glass, and an aluminum frame. Tracking systems (not counting the motors and control systems) typically consist of steel and concrete. All of these materials can be recycled. Demolished concrete shall be recycled through local recyclers. Metal and scrap equipment and parts that do not have free flowing oil will be sent for salvage. Equipment containing any free flowing oil shall be managed as hazardous waste and shall be evaluated before disposal at a properly permitted disposal facility. Oil and lubricants removed from equipment shall be managed as used oil and disposed in accordance with applicable State hazardous waste disposal requirements. County Code Chapter 84.29.070 Decommissioning Requirements requires the removal of all structures and facilities to a depth of three feet below grade and offsite recycling and/or disposal compliant with all Federal, state and local disposal requirements.

- g) **Less than Significant Impact.** The proposed Project would comply with all federal, state, and local statutes and regulation related to solid waste. Accordingly, no significant impacts related to landfill capacity are anticipated from the proposed Project.

**No significant adverse impacts are identified or anticipated and no mitigation measures are required.**

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| <b>Issues</b> | <i>Potentially<br/>Significant<br/>Impact</i> | <i>Less than<br/>Significant<br/>with Mitigation<br/>Incorporated</i> | <i>Less than<br/>Significant</i> | <i>No<br/>Impact</i> |
|---------------|-----------------------------------------------|-----------------------------------------------------------------------|----------------------------------|----------------------|
|---------------|-----------------------------------------------|-----------------------------------------------------------------------|----------------------------------|----------------------|

**XVIII. MANDATORY FINDINGS OF SIGNIFICANCE:**

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                          |                                     |                                     |                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|
| a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?                                                                                                           | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Does the project have environmental effects, which shall cause substantial adverse effects on human beings, either directly or indirectly?                                                                                                                                                                                                                                                                                                            | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

**SUBSTANTIATION:**

- a) **Less than Significant Impact with Mitigation Incorporated.** Implementation of the proposed Project, with mitigation, will not degrade the overall quality of the region’s environment, or substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.

Refer to *Section III, Air Quality*, where short-term (construction) air quality impacts are discussed. Implementation of mitigation measures AQ-1, AQ-2 and AQ-3 would further reduce air quality impacts to a less than significant level.

Refer to *Section IV, Biological Resources*. The project has the potential to affect, either directly or through habitat modifications, species and/or sensitive natural communities identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game. The proposed Project has the potential to reduce the number of a rare or endangered plant or animal

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species identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game. Implementation of mitigation measures BIO-1 through BIO-8 will reduce potential impacts to a level considered less than significant.

Refer to *Section V Cultural Resources*. Heavy equipment movement during construction has the potential to affect a known archaeological resource adjacent to the project unless avoidance measures are implemented. The project has a low potential to encounter and disturb unrecorded archaeological resources during project construction. Implementation of mitigation measures CUL-1 through CUL-5 would reduce potential cultural resource impacts to less than significant levels.

- b) **Less than Significant Impact.** The project does not have impacts that are individually limited but cumulatively considerable. The sites of projects in the area to which this project would add cumulative impacts are capable of absorbing such uses without generating any cumulatively significant impacts.
- c) **Less than Significant Impact.** The incorporation of design features, County policies, standards, and guidelines would ensure that there would be no substantial adverse effects on human beings, either directly or indirectly. Impacts of the proposed Project would be less than significant.



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## XIX. MITIGATION MEASURES

(The following mitigation measures, which are also included within the Conditions of Approval and coupled with the required Condition Compliance Release Forms (CCRF) shall serve as the Mitigation Monitoring and Reporting Program for this project.)

- AQ-1 AQ/Construction and Operational Mitigation.** Operation of all off-road and on-road diesel vehicles/equipment shall comply with the County Diesel Exhaust Control Measures [SBCC §83.01.040 (c)] including but not limited to:
- a) Equipment/vehicles shall not be left idling for period in excess of five minutes
  - b) Engines shall be maintained in good working order to reduce emissions
  - c) Onsite electrical power connections shall be made available where feasible
  - d) Ultra low-sulfur diesel fuel shall be utilized (State law)
  - e) Electric and gasoline powered equipment shall substituted for diesel powered equipment where feasible
  - f) Signs shall be posted requiring all vehicle drivers and equipment operators to turn off engines when not in use.
  - g) In addition, all on-road diesel trucks shall not idle more than five minutes per truck trip or per day on the project site (State law).
  - h) All transportation refrigeration units (TRU's) shall be provided electric connections. [Mitigation Measure AQ-1 – General Requirements/Planning]
- AQ-2 AQ/Dust Control Plan.** The developer shall prepare, submit and obtain approval from County Planning of a Dust Control Plan (DCP) consistent with MDAQMD guidelines and a letter agreeing to include in any construction contracts/ subcontracts a requirement that project contractors adhere to the requirements of the DCP.
- AQ-3 AQ – Installation.** The developer shall submit for review and obtain approval from County Planning evidence that all air quality mitigation measures have been installed properly and that specified performance objectives are being met to the satisfaction of County Planning and County Building and Safety. [Mitigation Measure **AQ-3** – Final Inspection/Planning]
- BIO-1 Worker Environmental Awareness Program.** Prior to any construction activities on the project site or within the gen-tie improvement corridor, the Applicant will implement a

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Worker Environmental Awareness Program (WEAP) to educate on-site workers about sensitive environmental issues associated with the Project. The program will be administered to all on-site personnel, including the Applicant's personnel, contractors, and all subcontractors, on the first day of work prior to the employee's commencing work on the site. The WEAP will place special emphasis on the protected species that have potential to occur within the Alamo site, including the Mojave desert tortoise, burrowing owl, nesting birds, and desert kit fox, among other plant and wildlife species.

The program will include the following elements:

- A presentation, developed by or in consultation with a qualified biologist, discussing the sensitive biological resources with potential to occur on-site, and explaining the reasons for protecting these resources and penalties for non-compliance;
- Brochures or booklets, containing written descriptions and photographs of protected species as well as a list of site rules pertaining to biological resources, to be provided to all WEAP participants;
- Contact information for the project biological monitor, and instructions to contact the monitor with any questions regarding the WEAP presentation or booklets;
- An acknowledgement form, to be signed by each worker indicating that they received WEAP training and will abide by the site rules protecting biological resources; and,
- Conspicuous stickers, identifying the project and signifying WEAP completion, to be distributed immediately following WEAP training and required on personnel hard hats.

The project Applicant will be responsible for ensuring that all on-site personnel, throughout the duration of project construction, receive WEAP training. A training log, to be signed by all on-site personnel immediately following WEAP training, will be maintained on the project site during construction to document compliance with this measure.

**BIO-2 Biological Monitor.** Prior to issuance of a grading permit, a qualified biologist shall be retained by the Applicant as the biological monitor subject to the approval of the County of San Bernardino. The biological monitor shall be present at all times during vegetation clearing or ground disturbance, and shall ensure that impacts to biological resources are avoided or minimized to the fullest extent possible. When construction activities have progressed to the point where biological resources are no longer present, as determined by the biological monitor, biological monitoring in the area may be reduced or discontinued with approval from the County of San Bernardino. The biological monitor shall have the authority to stop specific grading or construction activities if violations of mitigation measures or any local, state, or federal laws are suspected.

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**BIO-3 Preconstruction Surveys for Mojave Desert Tortoise.** Prior to initiation of construction activities along the gen-tie improvement corridor, the activity footprint of each work location will be surveyed for the Mojave desert tortoise by a qualified biologist. If Mojave desert tortoises or their recent sign are detected, the Applicant shall not initiate construction, and shall instead contact the USFWS and CDFW to develop an avoidance strategy. No relocation or other take of desert tortoise is anticipated or proposed. Following completion of the survey (assuming negative survey results), either a desert tortoise exclusion fence shall be installed surrounding the disturbance area or all construction activities shall be subject to 100% biological monitoring if fencing proves impractical within construction area that contain desert tortoise habitat along the long gen-tie improvement corridor. Any exclusionary fencing used shall be installed in accordance with the specifications set forth in Chapter 8 of the USFWS' *Desert Tortoise Field Manual* (USFWS 2009), and installation of the fence shall be overseen by a biologist familiar with the installation of tortoise exclusion fencing. If tortoise exclusion fences are left in place for a period exceeding one week at any location, the fences will be inspected weekly for any signs of damage or wear that could potentially compromise the integrity of the exclusion perimeter. If damage or excessive wear is observed, the exclusion fence will be repaired immediately. Results of any necessary fence inspections will be maintained to document compliance with this provision.

As noted, should exclusionary fencing prove impractical within construction area that contain desert tortoise habitat along the long gen-tie improvement corridor, SCE may elect instead to have all vehicular movements and construction activities monitored by qualified biologists to ensure desert tortoise are avoided. The monitors shall have authority to slow, halt or re-direct all construction traffic to ensure avoidance. No tortoise relocation or other forms of take are anticipated or proposed.

**BIO-4 Pre-construction Mojave Desert Tortoise Surveys and Avoidance.** Within 14 days prior to construction-related ground clearing and/or grading, the Applicant shall retain a qualified biologist to conduct surveys for signs of occupancy by the Mojave desert tortoise. Surveys shall cover the entire area proposed for disturbance, shall be conducted by walking parallel transects spaced no more than 10 meters apart, and shall focus on detecting any live tortoises or their sign, including carcasses, burrows, palates, tracks, and scat. Should any sign indicating the presence of Mojave desert tortoise be detected, the Applicant shall not proceed with ground clearing and/or grading activities in the area of the find, and shall instead contact the USFWS and CDFW to develop an avoidance strategy and/or seek authorization for incidental take of Mojave desert tortoise.

The results of the pre-construction surveys, including graphics showing the locations of any tortoise sign detected, and documentation of any avoidance measures taken, shall be

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submitted to the USFWS, CDFW, and the County of San Bernardino within 14 days of completion of the pre-construction surveys or construction monitoring to document compliance with applicable federal and state laws pertaining to the protection of Mojave desert tortoise.

**BIO-5 Pre-construction Nesting Bird Surveys and Avoidance.** Within 30 days prior to vegetation clearing or ground disturbance associated with construction or grading that would occur during the nesting/breeding season (February through August, unless determined otherwise by a qualified biologist based on observations in the region), the Applicant shall retain a qualified biologist to determine if active nests of species protected by the Migratory Bird Treaty Act or the California Fish and Game Code are present within or adjacent to the disturbance zone or within 100 feet (300 feet for raptors) of the disturbance zone. The surveys shall be conducted no more than seven days prior to initiation of disturbance work. If ground disturbance activities are delayed, then additional pre-disturbance surveys shall be conducted such that no more than seven days will have elapsed between the survey and ground disturbance activities.

If active nests are found, clearing and construction within 100 feet of the nest (or other distance if approved by the qualified biologist) shall be postponed or halted, until the nest is vacated and juveniles have fledged, as determined by the biologist. Avoidance buffers shall be established in the field by a qualified biologist based upon their knowledge of bird behavior, species biology, and environmental requirements with highly visible construction fencing or flagging, and construction personnel shall be instructed on the sensitivity of nest areas. A qualified biologist shall serve as a construction monitor during those periods when construction activities will occur near active nests to ensure that no inadvertent impacts on these nests occur.

The results of pre-construction nesting bird surveys, including graphics showing the locations of any nests detected, and documentation of any avoidance measures taken, shall be submitted to the County of San Bernardino and CDFW within 14 days of completion of the pre-construction surveys or construction monitoring to document compliance with applicable state and federal laws pertaining to the protection of native birds.

**BIO-6 Pre-construction Desert Kit Fox Surveys and Passive Relocation.** To avoid unauthorized take of the desert kit fox, the project Applicant shall retain a qualified biologist to conduct preconstruction surveys for this species within 14 days prior to ground disturbance. The survey shall be conducted by walking parallel transects spaced no more than 20 meters apart, and shall be focused on detecting any desert kit fox individuals or dens within the disturbance footprint. If dens are detected, each den shall be classified as inactive, potentially active, or definitely active based on field observations. If necessary, motion-sensitive cameras or a tracking medium shall be used to determine whether a den

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is active.

Inactive dens in areas that would be impacted by construction activities shall be excavated by hand and/or mechanically and backfilled to prevent reuse by desert kit fox.

Active and potentially active dens in areas that would be impacted by construction activities shall be monitored by a qualified biologist for three consecutive nights using a tracking medium (such as diatomaceous earth or fire clay) and/or infrared camera stations at the entrance. If no tracks are observed in the tracking medium or no photos of the target species are captured after three nights, the den shall be excavated and backfilled by hand to prevent reuse. If tracks are observed, the den shall be classified as active. Outside the desert kit fox pupping season (January 15 through July 31, unless determined otherwise by a qualified biologist based on observations in the region), the den may be progressively blocked with natural materials (rocks, dirt, sticks, and vegetation piled in front of the entrance) for the next three to five nights to discourage the kit fox from continuing to use the den. After verification that the den is unoccupied, it shall then be excavated and backfilled by hand to prevent reuse, while ensuring that no kit fox are trapped in the den. No excavation of active desert kit fox dens shall be permitted during the pupping season.

The Applicant shall submit a report to the County of San Bernardino and CDFW within 30 days of completion of preconstruction desert kit fox surveys describing the survey methods, results, and details of any dens backfilled or foxes observed.

**BIO-7 Authorizations for Impacts to Ephemeral Washes.** If feasible, the Applicant shall avoid filling or altering the ephemeral desert washes that traverse the gen-tie improvement corridor during construction. If avoidance is not feasible, prior to undertaking any activity that would divert, fill, obstruct, or substantially alter any of the washes, the project Applicant will enter into a Streambed Alteration Agreement with the CDFW authorizing the proposed activity as required by Section 1602 of the California Fish and Game Code. The project Applicant will ensure that all project personnel comply with all stated terms and conditions of the Agreement, including any seasonal or weather-related restrictions on work activities within the streambeds, construction site housekeeping practices, or other limitations the CDFW may impose. The Applicant shall also contact the Los Angeles District of the U.S. Army Corps of Engineers, and shall obtain a Section 404 Permit for the proposed work if required.

**BIO-8 Avoidance of Joshua Trees and Cacti.** If feasible, the Applicant shall avoid the need to remove Joshua trees, Mojave yucca, or cacti during construction activities along the gen-tie improvement corridor. If avoidance is not feasible, the Applicant shall acquire a permit from the County of San Bernardino as required by Section 88.01.050 of the San

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Bernardino County Development Code prior to removing these species.

**BIO-9 Migratory Bird Fund Contribution.** The Applicant shall work with the USFWS to make a mutually agreeable contribution to a fund designed to identify and reduce sources of mortality of migratory birds in the region. The contribution level shall reflect that project impacts to migratory bird populations are expected to be small and less than significant.

**BIO-10 Raven Management.** Alamo Solar Project, LLC and SCE shall implement the following measures to mitigate project-specific impacts that could result in a local increase in common ravens:

- Dispose of all trash and food-related waste in secure, self-closing receptacles to prevent the introduction of subsidized food resources for common ravens.
- Use water for construction, operation and maintenance in a manner that does not result in puddling.
- The biological monitor identified in mitigation measure BIO-2 shall implement the following at the project site:
  - Remove and dispose of road kills of common wildlife species from the project site and access road. No species protected by state or federal law would be removed.
  - Document common raven use of the project site and access road on a daily basis. If frequently used perching locations are identified, use physical, auditory or visual bird deterrents to discourage use by common ravens.
  - Remove any inactive raven nests in the project site or along the access road.
- SCE will address common raven nests according to existing procedures or permits applicable to transmission line upgrades and maintenance activities.

Alamo Solar Project, LLC and SCE would implement the following measure to mitigate indirect and cumulative impacts it cannot fully eliminate:

Contribute to the Regional Raven Management Plan. The contribution shall consist of a one-time total payment of \$105 per acre of disturbance, including the project site and genetic improvement corridor.

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**BIO-11 Avian Mortality Monitoring.** In an effort to contribute meaningful data regarding the effects of industrial-scale photovoltaic solar projects on migratory birds, the Applicant shall perform construction-phase and operations-phase avian mortality monitoring at the Alamo project site. Prior to issuance of a grading permit for the project, the Applicant shall submit an Avian Protection Plan to the County of San Bernardino and the USFWS ensuring that any birds encountered dead or injured on the project site are documented. At a minimum, the plan shall include the following elements:

*1. Bird Encounter Protocol during Construction*

This section of the plan will include a protocol to be used upon discovery of a dead or injured bird during project construction to ensure timely and consistent data collection. At a minimum, the plan will require the Applicant and on-site biological monitor to determine pertinent information, such as the following:

- The species, life stage (adult or juvenile), and sex (if practical) of the bird;
- The likely cause of injury or death, if apparent; and,
- The approximate date of death, for individuals that have been dead for a period prior to discovery.

*2. Construction-Phase Reporting Requirements*

This section of the plan will require that avian injury/mortality data be compiled and transmitted to the County of San Bernardino and the USFWS on a periodic basis, and will specify the frequency and method by which this notification should be made. However, in the event that avian species listed as Threatened or Endangered under the Endangered Species Act are encountered, the plan shall require that the USFWS be notified immediately. Additionally, the applicant shall not destroy, collect, or remove bird remains from the site without first obtaining any required permits from the USFWS and/or CDFW.

*3. Operations-Phase Mortality Monitoring*

This section of the plan will require that the Applicant retain a qualified biologist to conduct periodic avian mortality monitoring during operations at the Alamo site, and will detail the methods by which this monitoring should be conducted. The plan shall require monitoring for a minimum period of two years following completion of construction. A minimum of five monitoring events shall be conducted during each year, and will be scheduled to coincide with peak migration periods. However, one monitoring event each year will be conducted during the winter months (November through January), to assess any mortality of wintering

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birds.

#### 4. Adaptive Management

This section of the plan will set forth a process through which changes to the monitoring schedule or methods may be implemented if warranted due to unforeseen circumstances or other factors. During the construction- and operations-phase avian mortality monitoring, the Applicant and monitoring biologist will keep the County of San Bernardino and USFWS informed of monitoring progress and will alert these agencies if it appears that changes to the monitoring schedule or methods are needed. If it is apparent that substantial project-related injury or mortality of birds may be occurring, or if there are substantial unresolved questions regarding the Project's effects on avian species, then the monitoring period, methods, or frequency may be modified to address these concerns. In addition, if specific project elements are resulting in substantial avian injury or mortality, the plan shall direct that the Applicant work with the USFWS to identify and implement reasonable measures to modify these elements in a manner that lessens the effects on migratory birds.

**CUL-1 Avoid CA-SBR-183.** CA-SBR-183 and adjacent areas outside of the solar facility footprint shall be illustrated on construction site plans as an Environmentally Sensitive Area to be avoided during construction. Temporary exclusionary fencing shall be used to keep construction personnel and equipment outside the recorded site boundary.

**CUL-2 Archaeological and Native American Monitoring.** Prior to construction, an archaeological monitoring plan shall be prepared and implemented to the satisfaction of the San Bernardino County Museum. Archaeological and Native American monitors shall be present at the Alamo solar project site during ground-disturbing activities during construction, including vegetation clearing, grubbing, grading, filling, drilling, and trenching. At a minimum, monitors shall be present during ground-disturbing activities that affect surface and near-surface soils, defined here as 0 to 24 inches below grade. If deeper A-horizon soils are discovered, or if actual subsurface archaeological deposits are discovered, archaeological and Native American monitoring shall continue until the archaeologist determines daily monitoring can be shifted to periodic spot checks.

If potentially significant archaeological deposits are encountered, all ground disturbance near the find shall halt and the Project Archaeologist shall contact the San Bernardino County Museum and interested Native Americans to develop and implement a plan that would reduce potential impacts through avoidance or, if avoidance is not practicable, data recovery. Archaeological remains shall be recorded on the appropriate California Department of Parks and Recreation (DPR) 523 Series Forms. Discovery of potentially significant archaeological deposits and subsequent investigations may result in the preparation of additional archaeological technical reports. After ground-disturbing



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construction activities have been completed, an archaeological construction monitoring report shall be completed. Technical reports, the monitoring report, collected artifacts, and other necessary archaeological documentation shall be submitted to the San Bernardino County Museum for permanent curation.

**CUL 3 Construction Worker Educational Workshop.** Prior to construction, the qualified archaeological monitor or qualified designee shall conduct a brief educational workshop such that all construction personnel understand monitoring requirements, roles and responsibilities of the monitors, and penalties for unauthorized artifact collecting or intentional disturbance of archaeological resources. The construction worker training shall include an overview of potential cultural and paleontological resources that could be encountered during ground-disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to a designated on-site cultural monitor for further evaluation and action, as appropriate. The Construction Worker Education Workshop should clearly address communication and procedure protocols for construction workers in the event of unanticipated discovery of culture/paleontological resources when no monitors are present.

**CUL-4 Human Remains.** In the event human remains are encountered during implementation archaeological investigations or during construction, ground disturbance in the area of the remains shall cease, and the remains shall be protected in place pending identification by the San Bernardino County Coroner. The San Bernardino County Coroner shall be contacted to determine the origin of the remains. In the event the remains are Native American in origin, the Native American Heritage Committee (NAHC) shall be contacted to determine necessary procedures in conjunction with the on-site Native American Monitor for protection and preservation of the remains, including reburial, as provided in the State of California Environmental Quality Act (CEQA) Guidelines, Section 15064.5(e), "CEQA and Archaeological Resources," CEQA Technical Advisory Series (California Resources Agency 2004).

**CUL-5 Paleontological Monitoring.** A qualified paleontologist shall develop a paleontological mitigation program including, but not limited to, a field survey before grading, monitoring during grading, and recovery, preparation, identification, reporting, and curation of recovered fossils. The paleontological monitor shall have the authority to halt grading to collect uncovered paleontological resources. However, if geotechnical evidence prior to construction reveals that undisturbed Pleistocene sediments will not be impacted by excavations, paleontological monitoring would not be required.

**TR-1 Traffic Control Plan.** A Traffic Control/Traffic Management Plan would be prepared to minimize project impacts on public roads and highways. The traffic plan may include provisions for signage and noticing to inform the public about work before any disruptions occur, the use of flagmen and/or escort vehicles to control and direct traffic flow, and

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scheduling roadway work during periods of minimum traffic flow.

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July 2013

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## **GENERAL REFERENCES**

Alquist-Priolo Special Studies Zone Act Map Series (PRC 27500)

California Environmental Quality Act (CEQA) Guidelines, Appendix G.

California Fish and Game Code, Migratory Bird Treaty Act and Section 3503.

California Standard Specifications, July 1992

California Natural Diversity Database, accessed at [www.dfg.ca.gov/biogeodata/cnddb/](http://www.dfg.ca.gov/biogeodata/cnddb/).

California Department of Resources Recycling and Recovery (CalRecycle) Accessed at <http://www.calrecycle.ca.gov/SWFacilities/Landfills/> on August 17, 2012.

California Department of Conservation. County of San Bernardino Important Farmland Map. 2010.

California Geological Survey. Alquist-Priolo Earthquake Fault Zones Maps. Assessed at <http://www.consrv.ca.gov/cgs/rghm/ap/Pages/index.aspx> on August 16, 2012.

Water Quality Control Plan – Colorado River Basin Region 7. Colorado River Regional Water Quality Control Board (CRRWQB) approved by the State Water Resources Control Board on February 17, 1994

Federal Emergency Management Agency (FEMA). *Flood Insurance Rate Map and Flood Boundary Map*.

*Mojave Desert Air Quality Management District California Environmental Quality Act (CEQA) and Federal Conformity Guidelines (2009)*

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San Bernardino County. *Development Code*, 2007

San Bernardino County. *General Plan*, adopted 2007.

APNs: 0470-021-09, 0470-041-01, 0470-051-14, 0470-051-15, 0470-0051-17, 0470-011-35, and 0470-011-10  
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San Bernardino County of, Road Planning and Design Standards.

San Bernardino County Sheriff's Department. Accessed on August 15, 2012 at <http://www.sbcounty.gov/sheriff/index.asp>.

San Bernardino County Fire Department. Accessed on August 14, 2012 at [http://www.sbcfire.org/fire\\_rescue/Division2/Division2\\_stations.aspx](http://www.sbcfire.org/fire_rescue/Division2/Division2_stations.aspx)

South Coast Air Quality Management District, [CEQA Air Quality Handbook](#), November 1993.

Mojave Basin Area Watermaster, 19th Annual Report of the published on May 1, 2013. Accessed online at [www.mojavewater.org/files](http://www.mojavewater.org/files).

### **PROJECT SPECIFIC STUDIES:**

*Alamo Solar Site Hydrologic Analysis*. Prepared by URS. December 2011.

*Alamo Solar Site Hydrologic Analysis Addendum*. Technical memorandum prepared by URS. March 2013.

*Archaeological Subsurface Survey Report, Alamo Solar Project, San Bernardino County, California*. Prepared by URS. July 2013.

*Architectural History Survey and Evaluation Report for the Alamo Solar Project, San Bernardino County, California*. Prepared by URS. February 2013.

*Comprehensive Biological Resources Assessment Report – Alamo Solar Project*. Prepared by URS. August 2013.

*Criteria Pollutant Emissions from the Proposed Alamo Solar Project, CUP Application (P201300204), San Bernardino County, California*. Technical memorandum prepared by URS. April, 2013.

APNs: 0470-021-09, 0470-041-01, 0470-051-14, 0470-051-15, 0470-0051-17, 0470-011-35, and 0470-011-10  
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*Draft Water Quality Management Plan.* Prepared by URS. April 2013.

*Greenhouse Gas Emissions from the Proposed Alamo Solar Project, San Bernardino County, California.* Technical memorandum prepared by URS. April 2013.

*Paleontological Resources Assessment of the Alamo Solar Project, San Bernardino County, California.* Prepared by URS. July 2013

*Phase I Cultural Resources Survey Report, Alamo Solar Project, San Bernardino County, California.* Prepared by URS. December 2011.

*Phase I Cultural Resources Survey Report Addendum for the Alamo Solar Project, San Bernardino County, California.* Prepared by URS. April 2013.

*Phase I Environmental Site Assessment for the Alamo Solar Site, San Bernardino County, California.* Prepared by URS. March 2013.

**OTHER REFERENCES:**

David Seielstad, Senior Watermaster Services Technician, Mojave Water Agency. Email to Jen Bradford dated June 19, 2013.

United States Fish and Wildlife Service 2013 letter dated July 12, 2013 to the San Bernardino County Land Use Services Department

## **EXHIBIT D**

### **Correspondence**



State of California – Natural Resources Agency  
 DEPARTMENT OF FISH AND WILDLIFE  
 Inland Deserts Region  
 3602 Inland Empire Boulevard, Suite C-220  
 Ontario, CA 91764  
 www.wildlife.ca.gov

**EDMUND G. BROWN JR., Governor**  
**CHARLTON H. BONHAM, Director**



December 2, 2013

Mr. Chris Conner  
 Senior Planner  
 San Bernardino County Land Use Services Department  
 385 North Arrowhead Ave, 1<sup>st</sup> Floor  
 San Bernardino, CA 92415-0181

**Subject: Comments for the Alamo Solar, LLC; Biological Surveys/Reports for Conditional Use Permit Application P201300204; State Clearinghouse Number (SCH#) 2013111011.**

Dear Mr. Conner:

The California Department of Fish and Wildlife (Department) has reviewed the Conditional Use Permit (CUP) for the Alamo Solar, LLC photovoltaic (PV) electrical power generating facility, hereinafter referred to as the "Project". The Department appreciates this opportunity to comment on the above-referenced Project, and provide input and recommendation relative to impacts to biological resources.

The proposed Project includes the construction, operation, and maintenance of a 20 megawatt (MW) solar photovoltaic (PV) electrical power generating facility on approximately 190 acres in Township 7 North, Range 4 West, Sections 18, 19 and 24, San Bernardino Base and Meridian. The Project is located approximately one-tenth of a mile east of the Mojave River, approximately 3 miles north of Oro Grande, 3.5 miles south of Helendale, 7.5 miles northeast of Adelanto, and approximately 10.5 miles northwest of downtown Victorville, California. The Project site is bordered to the north by agricultural lands; to the east by the Railroad, State Route 66, and agricultural land and vacant undeveloped lands; to the south by rural residential development and fallow agricultural land; and to the west by the Mojave River. Site access can be achieved from Bryman Road/Aster Road and SR 66 to the east. Regional site access is provided by Interstate 15 from the west and by U.S. Route 395 from the east.

The Department is a Trustee Agency pursuant to the California Environmental Quality Act (CEQA). A Trustee Agency has jurisdiction over certain resources held in trust for the people of California. Trustee agencies are generally required to be notified of CEQA documents relevant to their jurisdiction, whether or not these agencies have actual permitting authority or approval power over aspects of the underlying project (CEQA Guidelines, Section 15386). As the trustee agency for fish and wildlife resources, the Department provides requisite biological expertise to review and comment upon CEQA documents, and makes recommendations regarding those resources held in trust for the people of California.

*Conserving California's Wildlife Since 1870*

Mr. Chris Conner  
 December 2, 2013  
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The Department may also assume the role of Responsible Agency. A Responsible Agency is an agency other than the lead agency that has a legal responsibility for carrying out or approving a project. A Responsible Agency actively participates in the Lead Agency's CEQA process, reviews the Lead Agency's CEQA document and uses that document when making a decision on the project. The Responsible Agency must rely on the Lead Agency's environmental document to prepare and issue its own findings regarding the project (CEQA Guidelines, Sections 15096 and 15381). The Department most often becomes a responsible agency when a Lake or Streambed Alteration Agreement, pursuant to Section 1600 et seq of the Fish and Game Code, or a 2081 (b) California Endangered Species Act Incidental Take Permit is needed for a project. The Department relies on the environmental document prepared by the Lead Agency to make a finding and decide whether or not to issue the permit or agreement. It is important that the Lead Agency's CEQA document considers the Department's responsible agency requirements.

The Department offers the following comments on the proposed Project:

### **General Comment**

The Comprehensive Biological Resources Assessment Report, Table 1 indicates that protocol desert tortoise surveys and the protocol burrowing owl surveys were done on the same day (April 30, 2013 and May 2, 2013) by the same investigators during the same time period. Protocol surveys require an experienced surveyors' focus to the individual species to ensure a complete and comprehensive survey especially when covering a large project area. The Department recommends that separate surveys for each species be conducted using established survey protocols and qualified survey personnel. Protocol surveys for burrowing owl require multiple visits during the breeding and non-breeding season and are most successful when conducted from sunrise to 10:00 AM and from two hours before sunset to twilight. Protocol surveys for desert tortoise are based on active seasons and have specific temperate requirements. These surveys are required to determine tortoise density as well as tortoise locations within the Project site even if presence has been determined. This information is necessary for a Desert Tortoise Translocation Plan, most likely a requirement of the Project. The most current survey protocol for desert tortoise can be found at the United States Fish and Wildlife Service (USFWS) web site at [http://www.fws.gov/ventura/species\\_information/protocols\\_guidelines](http://www.fws.gov/ventura/species_information/protocols_guidelines). The survey protocol for burrowing owl can be found on the Department's website at [http://www.dfg.ca.gov/wildlife/nongame/survey\\_monitor.html](http://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html).

### **Desert Kit Fox (DKF)**

DKF is addressed in Title 14 of the California Code of Regulations: §460. "Fisher, marten, river otter, desert kit fox and red fox may not be taken at any time." It is also covered under the F&G Code (FGC) §4000. "Fur-bearing mammals enumerated. The following are fur-bearing mammals: pine marten, fisher, mink, river otter, gray fox, red fox, kit fox, raccoon, beaver, badger, and muskrat." The Department's interpretation is that trapping or handling of kit foxes is not allowed due to the regulations cited above.



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Passive relocation is currently the only strategy for excluding DKF from project sites, provided the fox is not in a natal den.

The Department recommends that surveys be conducted to determine DKF presence and numbers on project sites well in advance of project approval and construction. A solid understanding of DKF numbers and locations is needed before starting passive exclusion. Activity at burrow sites can be evaluated using motion-activated cameras, which are less labor intensive. It can also be evaluated by checking for tracks using diatomaceous earth at den openings or just smoothing the sand at the openings. Project applicants will need to have a specific plan for addressing DKF passive relocation, with adequate scheduling built into it. Passive relocation should not take place while young are still in dens and dependent on the parents for food, or while females may be pregnant (either could directly cause death of pups). This most likely rules out passive relocation between mid January through June or July, or until biologists can document that pups are independent enough to travel with the parents off-site. This is why it is imperative to know in advance how many DKF burrows are within the Project footprint, how many are active and inactive, and what the construction schedule is for the Project, so adequate time is allowed for passive relocation planning and implementation.

### **Jurisdictional Drainages**

The Project may require notification for a Lake or Streambed Alteration Agreement, pursuant to Fish and Game Code (FGC) Section 1600 et. seq. FGC Section 1600 requires the project applicant to notify the Department of any activity that will divert, obstruct, or change the natural flow of the bed, channel or bank (which includes associated riparian habitat) of a river, stream or lake, or use material from a streambed prior to the applicant's commencement of the activity. Streams include, but are not limited to, intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams and watercourses with subsurface flow. Departmental jurisdiction under §1600 et. seq. may apply to all lands within the 100-year floodplain. Early consultation with the Department is recommended, since modification of the proposed project may be required to avoid or reduce impacts to fish and wildlife resources.

### **Desert Tortoise**

According to the 2010 USFWS survey protocol, tortoise sign encountered within the action area during the survey effort confirms presence of desert tortoise within the Project area. Since desert tortoise was observed within the action area surveys, presence is confirmed and an Incidental Take Permit (ITP) pursuant to Fish and Game Code § 2080 may be necessary to ensure that the unlawful take of desert tortoise would not occur.

### **Burrowing Owl**

The Department recommends the Lead Agency require pre-construction burrowing owl surveys. If burrowing owl are observed during the pre-construction survey, the Department recommends the Lead Agency require burrowing owl mitigation measures

Mr. Chris Conner  
December 2, 2013  
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as detailed in the Department's 2012 Staff Report on Burrowing Owl Mitigation (2012 Staff Report). The 2012 Staff Report provides conservation and mitigation strategies to reduce potential impacts to burrowing owl as well as protocol survey guidelines (Appendix D). The primary goal of this document is avoidance which may include but is not limited to: avoid disturbing occupied burrows during the nesting season (September 1 through January 31), avoid impacting occupied burrows during the non-breeding season by migratory or resident burrowing owl, and avoid direct destruction of burrows.

If the above avoidance requirements cannot be met, on-site passive relocation should be implemented. Passive relocation is defined as encouraging owls to move from occupied burrows to alternate natural or artificial burrows. The 2012 Staff Report includes studies that show passive relocation was successful when artificial burrows were constructed within 75 meters of the occupied burrow and sufficient adjacent foraging habitat was present. Relocation of owls should only be implemented by a qualified biologist during the non-breeding season, before breeding behavior is exhibited and after the burrow is confirmed empty. On-site habitat where owls are relocated should be preserved in a conservation easement and managed to promote burrowing owls' use of the site. Prior to exclusion or relocation of any burrowing owl, a Burrowing Owl Exclusion Plan should be prepared and submitted to the Department for review and approval. Appendix E of the 2012 Staff Report provides detailed examples of the type of information that should be included in the plan.

Permanent loss of occupied burrow and habitat shall be mitigated for in coordination with the Department. As compensation for the direct loss of burrowing owl nesting and foraging habitat, the project proponent shall mitigate by acquiring and permanently protecting known burrowing owl nesting and foraging habitat. The project proponent shall establish a long-term endowment account for the long-term management and maintenance of the preservation site for burrowing owls. The site shall be managed for the benefit of burrowing owls. The preservation site, site management, and endowment shall be approved by the Lead Agency after consultation with the Department. The 2012 Staff Report offers guidance on mitigation including mitigation monitoring and reporting requirements.

Thank you for this opportunity to comment. Questions regarding this letter and further coordination on these issues should be directed to Ms. Wendy Campbell, Environmental Scientist, at (760) 258-6921 or by email at [WCampbell@wildlife.ca.gov](mailto:WCampbell@wildlife.ca.gov).

Sincerely,



Heidi A. Sickler  
Senior Environmental Scientist

cc: Chron  
Wendy Campbell

**DEPARTMENT OF TRANSPORTATION**

DISTRICT 8

PLANNING (MS 725)

464 WEST 4th STREET, 6<sup>th</sup> FLOOR

SAN BERNARDINO, CA 92401-1400

PHONE (909) 383-4557

FAX (909) 383-5936

TTY 711

www.dot.ca.gov/dist8

FISCAL ADMIN

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*Flex your power!  
Be energy efficient!*

November 18, 2013

County of San Bernardino  
Attn: Chris Conner  
385 N. Arrowhead Ave, 1<sup>st</sup> Floor  
San Bernardino, CA 92415

Dear Ms. Conner:

Alamo Solar- Conditional Use Permit P201300204, 08-SBd-395 PM 18.05

We have received the Notice of Completion & Environmental Document Transmittal for the above referenced project, located near United States 395.

Your project does not appear to have impacts to the State Highway System. However, the California Department of Transportation reserves the right to comment on any future revisions to this project.

Should this proposal be later modified please forward copies of revised plans as necessary so that we may reevaluate all proposed changes for potential impact to US395.

If you have any questions regarding this letter, please contact me at (909)-383-4557 or Dina Harrell at (909) 388-7139 for assistance.

Sincerely,

A handwritten signature in cursive script, appearing to read "Daniel Kopulsky".

DANIEL KOPULSKY  
Office Chief  
Community and Regional Planning

EDMUND G. BROWN JR.  
GOVERNORMATTHEW RODRIGUEZ  
SECRETARY FOR  
ENVIRONMENTAL PROTECTION

## Lahontan Regional Water Quality Control Board

November 26, 2013

File: Environmental Doc Review  
San Bernardino County

Chris Conner, Senior Planner  
County of San Bernardino  
Land Use Services Department, Planning Division  
385 N. Arrowhead Avenue, 1<sup>st</sup> Floor  
San Bernardino, CA 92415  
Email: [cconner@lud.sbcountry.gov](mailto:cconner@lud.sbcountry.gov)

### COMMENTS ON THE NOTICE OF COMPLETION OF A MITIGATED NEGATIVE DECLARATION, ALAMO SOLAR, CONDITIONAL USE PERMIT P201300204, SAN BERNARDINO COUNTY, STATE CLEARINGHOUSE NUMBER 2013111011

The California Regional Water Quality Control Board, Lahontan Region (Water Board) staff received a Notice of Completion of an Initial Study Environmental Checklist and Mitigated Negative Declaration (IS/MND) for the above-referenced project (Project) on November 7, 2013. The IS/MND was prepared by the San Bernardino County Land Use Services Department (County) and submitted in compliance with provisions of the California Environmental Quality Act (CEQA). Water Board staff, acting as a responsible agency, is providing these comments to specify the scope and content of the environmental information germane to our statutory responsibilities pursuant to CEQA Guidelines, California Code of Regulations, title 14, section 15096. Based on our review of the materials provided, we have determined that the Project has the potential to impede flood flows and may discharge chemical constituents to shallow groundwater at concentrations that could impair beneficial uses. Such impacts on water quality and hydrology resources could potentially be significant and may not necessarily be reduced to a less than significant level with mitigation incorporated. The County should evaluate Project alternatives at the Environmental Impact Report level that **avoid** and **minimize** impacts on environmental resources and develop adequate mitigations that reduce Project impacts to a less than significant level. Water Board staff recommend that the Project proponent consider locating the Project in an area outside of the floodplain of the Mojave River in order to best protect water quality.

### PROJECT DESCRIPTION

The proposed Project is a 20 megawatt (MW) photovoltaic solar generating facility on approximately 175 contiguous acres near Helendale, San Bernardino County. The Project site is bound to the south by Bryman Road, to the west by the Mojave River, and to the east by the Atchison, Topeka & Santa Fe Railroad. Ancillary Project components include inverter pads, access roads, and overhead and underground utilities.

PETER C. PUMPHREY, CHAIR | PATTY Z. KOUYOUMDJIAN, EXECUTIVE OFFICER

14440 Civic Drive, Suite 200, Victorville, CA 92392 | [www.waterboards.ca.gov/lahontan](http://www.waterboards.ca.gov/lahontan)



The Project also includes approximately 5 miles of new and existing distribution line to connect the Project to the existing Victor-Helendale transmission line.

## **WATER BOARD'S AUTHORITY**

All groundwater and surface waters are considered waters of the State. Surface waters include streams, lakes, ponds, and wetlands, and may be ephemeral, intermittent, or perennial. All waters of the State are protected under California law. State law assigns responsibility for protection of water quality in the Lahontan Region to the Lahontan Water Board. Some waters of the State are also waters of the U.S. The Federal Clean Water Act (CWA) provides additional protection for those waters of the State that are also waters of the U.S.

The *Water Quality Control Plan for the Lahontan Region* (Basin Plan) contains policies that the Water Board uses with other laws and regulations to protect the quality of waters of the State within the Lahontan Region. The Basin Plan sets forth water quality standards for surface water and groundwater of the Region, which include designated beneficial uses as well as narrative and numerical objectives which must be maintained or attained to protect those uses. The Basin Plan can be accessed via the Water Board's web site at [http://www.waterboards.ca.gov/lahontan/water\\_issues/programs/basin\\_plan/references.shtml](http://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/references.shtml).

## **SPECIFIC COMMENTS ON THE ENVIRONMENTAL REVIEW**

Our comments on the Project are outlined below.

1. The Project site is located, in part, within the active floodplain of the Mojave River. The Mojave River performs a number of hydrologic and water quality functions including surface and subsurface water storage and exchange; sediment transport, storage, and deposition; filtering and nutrient cycling; and wildlife movement and migration. These functions support a number of beneficial uses such as groundwater recharge, flood peak attenuation, water quality enhancement, wildlife habitat, and recreation. The Water Board is charged with protecting the beneficial uses and associated functions and values of the water resources in our region, including the Mojave River and its floodplain. Construction within a floodplain has the potential to result in hydrologic modifications such as impeded flood flows and altered flow regimes. Construction in a floodplain can lead to disruption of local drainage, loss of floodwater storage, and downstream flooding. The environmental document must fully describe how the Project will or will not alter or modify existing hydrology on the site and identify specific mitigations that, when implemented, will reduce potential hydrology impacts to a less than significant level.
2. Shallow groundwater is known to exist in the vicinity of the site and the potential to discharge chemical constituents to groundwater, both during construction and during site operations, is a concern with respect to water quality. The environmental document must identify and evaluate all potential chemical

constituents and source pathways that may impact both surface waters and groundwater. The environmental document must then propose adequate mitigation to reduce potential water quality impacts to a less than significant level.

3. The environmental review should identify the water quality standards that could potentially be violated by the Project and utilize these standards when evaluating thresholds of significance for Project impacts. The Project site is situated within the Upper Mojave Hydrologic Area 628.20 (Mojave Hydrologic Unit 628.00) of the Lahontan Region as well as the Upper Mojave River Valley (Groundwater Basin 6-42). Water quality objectives and standards, both numerical and narrative, for waters of the State, including surface waters and groundwater within the Lahontan Region, are outlined in Chapter 3 of the Basin Plan. Water quality objectives and standards are intended to protect the public health and welfare, and to maintain or enhance water quality in relation to the existing and/or potential beneficial uses of the water.
4. The *Alamo Solar Site Hydrologic Analysis*, prepared by URS and dated December 2011, states that vegetation or dust palliatives may be used during operations (post-construction) to control wind and water erosion. The primary environmental concern with chemical dust suppressants is the potential to impact the quality of groundwater and surface waters, wildlife, and plant communities. As this Project is proposed to be built in the floodplain of the Mojave River, where water is expected to flow at some point in the future, the environmental document must evaluate the potential for water pollution by application of such chemical dust suppressants. In addition, the environmental document must identify the potential chemical dust suppressants to be used and evaluate, for each, what effect its application may have on the surrounding environment. Specific mitigation measures must be identified that, when implemented, minimize impacts to a less than significant level to ensure that no water pollution will occur and no net loss of function and value will result from Project implementation.
5. All surface waters are waters of the State. Some waters of the State are "isolated" from waters of the U.S. Determinations of the jurisdictional extent of the waters of the United States are made by the United States Army Corps of Engineers (USACE) on a project-by-project basis. We request that the Project proponent consult with the USACE and the Water Board and perform the necessary jurisdictional determinations for surface waters within the Project area to ensure that the full extent of both State and federal jurisdictional areas are accurately documented. The discharge of waste<sup>1</sup> to waters of the State, either onsite or offsite, is subject to regulation by the Water Board.

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<sup>1</sup> "Waste" is defined in the Basin Plan to include sewage and any waste substance or deleterious material including, but not limited to, waste earthen materials (such as soil, silt, sand, clay, rock, or other organic or mineral material) and any other waste associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation as defined in the California Water Code, section 13050(d).



6. Post-construction storm water management must be considered a significant Project component, and BMPs that effectively treat post-construction storm water runoff should be included as part of the Project. Of particular concern is the collection of onsite storm water runoff and the concentrated discharge of that storm water to the Mojave River. Design alternatives that are compatible with low impact development (LID) should be considered. LID components include: maintaining natural drainage paths and landscape features to slow and filter runoff and maximize groundwater recharge; managing runoff as close to the source as possible; and maintaining vegetated areas for storm water management and onsite infiltration.
7. Vegetation clearing should be kept to a minimum. Where feasible, existing vegetation should be mowed so that after construction the vegetation could reestablish and help mitigate for potential storm water impacts.
8. The Project, as well as construction staging areas, should be sited in upland areas outside stream channels and other surface waters on or around the Project site. Buffer areas should be identified and exclusion fencing used to protect the water resource and prevent unauthorized vehicles or equipment from entering or otherwise disturbing any stream channels. Construction equipment should use existing roadways to the extent feasible.
9. All temporary impacts should be restored (recontoured and revegetated) to match pre-Project conditions.
10. Obtaining a permit and conducting monitoring does not constitute adequate mitigation. Development and implementation of acceptable mitigation is required. The environmental document must specifically describe the BMPs and other measures used to mitigate Project impacts.

## **PERMITTING REQUIREMENTS**

A number of activities associated with the proposed Project appear to have the potential to impact waters of the State and, therefore, may require permits issued by either the State Water Resources Control Board (State Water Board) or Lahontan Water Board. The required permits may include:

11. Land disturbance of more than 1 acre may require a CWA, section 402(p) storm water permit, including a NPDES General Construction Storm Water Permit, Water Quality Order (WQO) 2009-0009-DWQ, obtained from the State Water Board, or individual storm water permit obtained from the Lahontan Water Board;
12. Water diversion and/or dewatering activities may be subject to discharge and monitoring requirements under either NPDES General Permit, Limited Threat Discharges to Surface Waters, Board Order R6T-2008-0023, or General Waste Discharge Requirements for Discharges to Land with a Low Threat To Water Quality, WQO-2003-0003, both issued by the Lahontan Water Board; and

13. Streambed alteration and/or discharge of fill material to a surface water may require a CWA, section 401 water quality certification for impacts to federal waters (waters of the U.S.), or dredge and fill waste discharge requirements for impacts to non-federal waters, both issued by the Lahontan Water Board. As part of the certification process, the Project proponent must conduct a thorough alternatives analysis to demonstrate to the Water Board that the Project impacts are unavoidable and minimized and that mitigation is adequate.

Please be advised of the permits that may be required for the proposed Project, as outlined above. We request that specific Project activities that may trigger these permitting actions be identified in the appropriate sections of the environmental document. Should Project implementation result in activities that will trigger these permitting actions, the Project proponent must consult with Water Board staff. Information regarding these permits, including application forms, can be downloaded from our web site at <http://www.waterboards.ca.gov/lahontan/>.

Thank you for the opportunity to comment on the IS/MND. If you have any questions regarding this letter, please contact me at (760) 241-7376 ([jan.zimmerman@waterboards.ca.gov](mailto:jan.zimmerman@waterboards.ca.gov)) or Patrice Copeland, Senior Engineering Geologist, at (760) 241-7404 ([patrice.copeland@waterboards.ca.gov](mailto:patrice.copeland@waterboards.ca.gov)).



Jan M. Zimmerman, PG  
Engineering Geologist

cc: State Clearinghouse (SCH 2013111011)  
(via email, [state.clearinghouse@opr.ca.gov](mailto:state.clearinghouse@opr.ca.gov))  
Tobi Tyler, Lahontan Water Board  
(via email, [tobi.tyler@waterboards.ca.gov](mailto:tobi.tyler@waterboards.ca.gov))  
California Department of Fish and Wildlife, Inland Deserts Region  
(via email, [askregion6@wildlife.ca.gov](mailto:askregion6@wildlife.ca.gov))  
Mindy Davis, San Bernardino County Department of Public Works  
(via email, [mindy.davis@dpw.sbcounty.gov](mailto:mindy.davis@dpw.sbcounty.gov))





Beverly Powell  
Region Manager  
Public Affairs

December 4, 2013

Chris Conner  
Land Use Services – Planning  
County of San Bernardino  
385 N. Arrowhead Avenue, 1<sup>st</sup> Floor  
San Bernardino, CA 92415

Re: The Alamo Solar Project

Dear Mr. Conner:

Southern California Edison (SCE) appreciates the opportunity to provide comment on the above-referenced project. Please review Attachment A for specific comments regarding the Alamo Solar Project Initial Study.

Southern California Edison Company's rights-of-ways and fee-owned properties are purchased for the exclusive use of SCE to operate and maintain its present and future facilities. Any proposed use will be reviewed on a case-by-case basis by SCE. Approvals or denials will be in writing, based upon review of the maps provided by the developer and compatibility with SCE right-of-way constraints and rights.

Please be advised if development plans result in the need to build new or relocate existing SCE electrical facilities that operate at or above 50kV, the SCE construction may have environmental consequences subject to CEQA review, as required by the California Public Utilities Commission (CPUC). If those environmental consequences are identified and addressed by the local agency in the CEQA process for the larger project, SCE may not be required to pursue a later, separate, mandatory CEQA review through the CPUC's General Order 131-D (GO 131-D) process. If the SCE facilities are not adequately addressed in the CEQA review for the larger project, and the new facilities could result in significant environmental impacts, the required additional CEQA review at the CPUC could delay approval of the SCE power line portion of the project for two years or longer.

Once again, we appreciate the opportunity to comment on the project. If you have any questions regarding this letter, please do not hesitate to contact me at (909) 307-6742.

Sincerely,

A handwritten signature in blue ink that reads "Beverly Powell".

Beverly Powell

287 Tennessee St.  
Redlands, CA 92373  
909-307-6742  
Fax 909-307-6795

## Attachment A

## WDT 491 Alamo

| Initial Study Text Location                                                  | Subject Matter Expert                    | Initial Study Text                                                                                                                                                                                                                                                                                                                                                                                                                     | Comment                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Project Description, Interconnection and Distribution System Upgrades</i> |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                               |
| Page 4, fourth complete paragraph                                            | Shawn Burt-<br>Technical<br>Planner      | From the intersection of Bryman Road and National Trails Highway, the line continues south within its present alignment for approximately 1.75 miles. New wires will be installed along this segment, and some poles will be replaced due to age, though all poles will remain in the same location.                                                                                                                                   | The wires along this section will not be new. Instead the existing wires will be upgraded in size.                                                                                                                                                                                                                                                                                                            |
| Page 4, fifth complete paragraph                                             | Shawn Burt-<br>Technical<br>Planner      | This segment will be upgraded with new wires. Due to the heavier conductor, some poles along this approximately 35-pole segment will be added to shorten the spans, and some poles will be replaced due to age. It is expected that approximately 11 new poles will be added and 9 poles will be replaced.                                                                                                                             | SCE will no longer be intersetting poles. SCE will be replacing poles on a one for one basis at the same location. The new poles will be 5 feet taller than the existing poles to compensate for the greater sag of the larger conductor.                                                                                                                                                                     |
| <i>Biological Resources</i>                                                  |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                               |
| Page 33, first paragraph                                                     | Jennifer<br>Campbell<br>Young, Biologist | Project-related take of this species would be prevented and potential impacts reduced to a less than significant level through Mitigation Measures requiring the implementation of a Worker Environmental Awareness Program (BIO-1), presence of a biological monitor during construction (BIO-2), installation of tortoise exclusion fencing around disturbance zones (BIO-3), and pre-construction surveys for this species (BIO-4). | Please revise the title of BIO-3 (highlighted text) to state 'pre-construction survey for Mojave Desert Tortoise.' BIO-3 requires pre-construction surveys for Mojave Desert Tortoise, but identifies either exclusionary fencing OR construction monitoring, depending upon feasibility. In addition, please revise the text throughout the document to reflect this change to the mitigation measure title. |

## Attachment A

## WDT 491 Alamo

| Initial Study Text Location           | Subject Matter Expert              | Initial Study Text                                                                                                                                                                                                                                                                                                                                                                                                     | Comment                                                                                                                                                                                                                                                                                                     |
|---------------------------------------|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Page 39, first paragraph (BIO-3)      | Jennifer Campbell Young, Biologist | No relocation or other take of desert tortoise is anticipated or proposed. Within 24 hours following completion of the survey (assuming negative survey results), either a desert tortoise exclusion fence shall be installed surrounding the disturbance area or all construction activities shall be subject to 100% biological monitoring if fencing proves impractical along the long gentle improvement corridor. | Delete, 'Within 24 hours' as this is not enough time to erect DT fencing.<br><br>Revise text to state ...'all construction activities located within habitat suitable for desert tortoise will be subject to biological monitoring.'                                                                        |
| Page 40, first full paragraph (BIO-5) | Jennifer Campbell Young, Biologist | If active nests are found, clearing and construction within 100 feet of the nest (or a lesser distance if approved by the USFWS) shall be postponed or halted, until the nest is vacated and juveniles have fledged, as determined by the biologist.                                                                                                                                                                   | Revise the parenthetical statement as follows: '(or a greater or lesser distance as established by a qualified biologist)'<br><br>Delete: 'if approved by the USFWS.' Consulting with an agency on every nest will be cumbersome, not only to the generator and SCE, but for the agency personnel, as well. |
| Page 40, first full paragraph (BIO-5) | Jennifer Campbell Young, Biologist | Avoidance buffers shall be established in the field with highly visible construction fencing or flagging, and construction personnel shall be instructed on the sensitivity of nest areas.                                                                                                                                                                                                                             | Add between "field" and "with": 'by a qualified biologist based upon their knowledge of bird behavior and species biological and environmental requirements'                                                                                                                                                |
| Page 42, BIO - 11                     | Jennifer Campbell                  | <b>BIO-11 Avian Mortality Monitoring</b>                                                                                                                                                                                                                                                                                                                                                                               | SCE requests the County state that this entire                                                                                                                                                                                                                                                              |

## Attachment A

## WDT 491 Alamo

| Initial Study Text Location | Subject Matter Expert          | Initial Study Text                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             | Young, Biologist               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | measure will be the responsibility of the generator only (not applicable to SCE). Note that monitoring is for both construction and operations.                                                                                                                                                                                                                                                                                                                                |
| <i>Cultural Resources</i>   |                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Page 46, First paragraph    | Natasha Tabares-Archaeologist  | The SCE distribution line passes through well dissected alluvial fan deposits of Pleistocene age (Qod) that lie at the surface of a shallow depth below the surface and are considered to have high paleontological sensitivity.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Sentence should read: "...that lie at the surface or at a shallow depth below the surface..."                                                                                                                                                                                                                                                                                                                                                                                  |
| Page 46, CUL 2              | Desiree Martinez-Archaeologist | <b>CUL-2: Archaeological and Native American Monitoring.</b> Prior to construction, an archaeological monitoring plan shall be prepared and implemented to the satisfaction of the San Bernardino County Museum. Archaeological and Native American monitors shall be present during ground-disturbing activities during construction, including vegetation clearing, grubbing, grading, filling, drilling, and trenching. At a minimum, monitors shall be present during ground-disturbing activities that affect surface and near-surface soils, defined here as 0 to 24 inches below grade. If deeper A-horizon soils are discovered, or if actual subsurface archaeological deposits are discovered, archaeological and Native American monitoring shall | There are no cultural resources along the distribution line route, thus, no known cultural resources will be substantially adversely affected by the construction/upgrade of SCE's line. Therefore, archaeological or Native American monitoring are not necessary. SCE recommends that CUL-2 be edited to state that archaeological or Native American monitoring will occur solely on the Generator's Property or in areas within or adjacent to previously known resources. |

## Attachment A

## WDT 491 Alamo

| Initial Study Text Location     | Subject Matter Expert         | Initial Study Text                                                                                                                                                                                                                                                                                                                                                                                               | Comment                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                 |                               | continue until the archaeologist determines daily monitoring can be shifted to periodic spot checks.                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                       |
| Page 47, CUL -3                 | Natasha Tabares-Archaeologist | <b>CUL 3 Construction Worker Education Workshop.</b> The construction worker training shall include an overview of potential cultural and paleontological resources that could be encountered during ground-disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to a designated on-site cultural monitor for further evaluation and action, as appropriate. | Please add the following text to the end of CUL-3, in support of monitoring not being necessary for the gentie route: 'The Construction Worker Education Workshop should clearly address communication and procedure protocols for construction workers in the event of unanticipated discovery of cultural/ paleontological resources when no monitors are present.' |
| <i>XIX Mitigation Measures</i>  |                               |                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                       |
| Pages 81, 82, 84-85, 86, and 87 |                               | BIO-3, BIO-5, BIO-11, CUL-2, CUL-3                                                                                                                                                                                                                                                                                                                                                                               | Please see specific comments to these mitigation measures in the comments above.                                                                                                                                                                                                                                                                                      |



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*Via Email*

December 4, 2013

Mr. Chris Conner, Senior Planner  
San Bernardino County - Land Use Services  
385 N. Arrowhead Avenue, 1st Floor  
San Bernardino, CA 92415-0182  
[cconner@lusd.sbcounty.gov](mailto:cconner@lusd.sbcounty.gov)

**Re: LIUNA Comments on Initial Study/Mitigated Negative Declaration for the Alamo Solar Project (SCH # 2013111011; P201300204)**

Dear Mr. Conner:

I am writing on behalf of the Laborers International Union of North America, Local Union 783 and its members living in San Bernardino County ("LIUNA" or "Commenters") regarding the Alamo Solar Project (P201300204), including all actions referring or related to the development of a 20 megawatt (MW) solar photovoltaic (PV) project on approximately 123 acres of a 175-acre site, located west of National Trails Highway/State Route 66, west of Bryman Road/Aster Road and north of Heritage Way in Helendale ("Project").

Commenters urge the San Bernardino County ("County") to comply with the California Environmental Quality Act ("CEQA") and prepare an environmental impact report ("EIR") because the IS/MND prepared by the County is insufficient and an EIR is required where substantial evidence in the record supports a fair argument that the Project may have significant adverse impacts. However, the County proposes to proceed with adopting the IS/MND and approving the Project without fully complying with CEQA.

These comments are supported by expert comments of Mr. Matthew Hagemann and Dr. Shawn Smallwood. Mr. Hagemann is an expert in the fields of hydrogeology, toxics, and air quality. He is also the former Senior Science Policy Advisor, U.S. EPA Region 9. Mr. Hagemann's comments and curriculum vitae are attached hereto as Exhibit A and are incorporated herein by reference in their entirety. Dr. Smallwood is an expert wildlife biologist and ecologist who has expertise in the areas of rare and special status plants, animal density and distribution, habitat selection, habitat restoration, interactions between wildlife and human infrastructure and activities, conservation of rare and endangered species, the ecology of invading species, and other wildlife impacts relevant to this IS/MND.

His comments and curriculum vitae are attached hereto as Exhibit B and are incorporated by reference in their entirety.

Initially, the County must consider this Project in light of the current County-wide moratorium on approval of commercial solar energy generation projects, which the Board of Supervisors unanimously approved on June 12, 2013. (Exhibit C, Ordinance No. 4198.) According to the Staff Report, this Project is not directly affected by the moratorium because the application was deemed completed prior to when the moratorium was first adopted on June 12, 2013. (Staff Report, p. 8.) Nevertheless, the County must consider this Project carefully to carry out the purposes of the moratorium, which include immediate protection and preservation of the public peace, health, safety and welfare, coupled with CEQA's requirement that the County consider whether the Project would conflict with such an ordinance. (CEQA Guidelines, Appendix G, Section IX(b).)

The IS/MND falls short in the following ways:

1. The Project's IS/MND fails to accurately establish the Project's environmental setting or "baseline."
  - a. The IS/MND fails to analyze and mitigate the Project's impacts relating to residual pesticides.
  - b. The IS/MND also fails to adequately evaluate additional environmental conditions on the Project site.
  - c. The MND's baseline fails to acknowledge the likely presence of nesting pond turtles and desert tortoise traversing the site.
2. There is a fair argument that the Project may have significant unmitigated impacts on air quality.
3. There is a fair argument that the Project may have significant unmitigated impacts of valley fever.
4. There is a fair argument that the Project may have significant adverse effects on the endangered Least Bell's Vireo and Southwestern Willow Flycatcher because the project may attract their prey.
5. There is a fair argument that the Project may have significant impacts on avian species from collisions with the Project's solar panels, fencing and other features and electrocutions associated with the projects risers.
6. There is a fair argument that the Project may have significant impacts on wildlife movement and habitat fragmentation.

7. There is a fair argument that bird collisions with the Project's panels could have significant impacts on desert tortoises in the vicinity by increasing raven populations near the Project.
8. The IS/MND fails to analyze and mitigate the Project's cumulatively considerable impacts on air quality.

In addition, this comment letter supplements and incorporates by reference all prior written and oral comments submitted on the IS/MND for the Project by any commenting party or agency. Commenters request that the County decline to adopt the IS/MND and prepare an EIR. An EIR is required to analyze these and other impacts and to propose mitigation measures to reduce these impacts to the extent feasible.

## **PROJECT DESCRIPTION**

The Project proposes to construct and operate a 20-Megawatt (MW) photovoltaic (PV) solar energy generation facility on a 175-acre site, located west of National Trails Highway/State Route 66 (SR 66), West of Bryman Road/Aster Road and North of Heritage Way. The Project site is situated in the western Mojave Desert, approximately one-tenth of a mile east of the Mojave River. The Project site is primarily comprised of fallowed agricultural land with houses and outbuildings. The Project site is surrounded by agricultural lands, vacant undeveloped lands, rural residential developments and fallow agricultural land.

The Project would include the following major components: non-reflective PV solar module arrays mounted on fixed tilt or single-axis trackers and a racking system supported by embedded piers, a maximum of 20 inverters and transformers on small concrete pads, buried collector lines, and switchgear. The Project site would be surrounded by a six-to-eight foot high chain link security fence.

The Project will tie in electrically to a new project substation, to be located near the northwest corner of Melrose Road and Bryman Road. This substation will be the Project's point of change of ownership from the project developer, Alamo Solar, LLC, to the interconnection utility, Southern California Edison (SCE). From the substation the Project will connect electrically with the existing SCE Victor-Helendale 33-kV transmission line that runs north-south along Route 66.

The Project is designed to have a useful life of 20 to 30 years, which could be extended with upgrades and refurbishments. Upon decommissioning, the facility would be removed and the site prepared for subsequent land use.

## **STANDING**

"[U]nions have standing to litigate environmental claims." (*Bakersfield Citizens for Local Control v. Bakersfield* (2004) 124 Cal. App. 4th 1184, 1198, citing, *International Longshoremen's & Warehousemen's Union v. Board of Supervisors*



(1981) 116 Cal. App. 3d 265.) Members of LIUNA Local 783 live, work, and recreate in the immediate vicinity of the proposed Project site. These members will suffer the impacts of a poorly executed or inadequately mitigated Project, just as would the members of any nearby homeowners association, community group, or environmental group. Members of LIUNA Local 783 live and work in areas that will be affected by air pollution, hazardous materials, and impacts on plant and wildlife species generated by the Project.

In addition, construction workers in particular will suffer many of the most significant impacts from the Project as currently proposed, such as exposure to residual pesticides at the Project site that pose a risk to human health through dust inhalation and direct physical contact on the ground. Therefore, LIUNA Local 783 and its members have a direct interest in ensuring that the Project is adequately analyzed and that its environmental and public health impacts are mitigated to the fullest extent feasible.

Commenters are interested in participating in a full and open CEQA process to ensure that all of the Project's impacts are mitigated to the fullest extent feasible.

### LEGAL STANDARD

As the California Supreme Court has held, “[i]f no EIR has been prepared for a nonexempt project, but substantial evidence in the record supports a fair argument that the project may result in significant adverse impacts, the proper remedy is to order preparation of an EIR.” (*Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310, 319-320 (“*CBE v. SCAQMD*”), citing, *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 75 & 88; *Brentwood Assn. for No Drilling, Inc. v. City of Los Angeles* (1982) 134 Cal.App.3d 491, 504–505.) “The ‘foremost principle’ in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language.” (*Communities for a Better Environment v. Calif. Resources Agency* (2002) 103 Cal.App.4th 98, 109 [“*CBE v. CRA*”].)

The EIR is the very heart of CEQA. (*Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1214; *Pocket Protectors v. City of Sacramento* (2004) 124 Cal.App.4th 903, 927.) The EIR is an “environmental ‘alarm bell’ whose purpose is to alert the public and its responsible officials to environmental changes before they have reached the ecological points of no return.” (*Bakersfield Citizens*, 124 Cal.App.4th at 1220.) The EIR also functions as a “document of accountability,” intended to “demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action.” (*Laurel Heights Improvements Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 392.) The EIR process “protects not only the environment but also informed self-government.” (*Pocket Protectors*, 124 Cal.App.4th 927.)

An EIR is required if “there is substantial evidence, in light of the whole record before the lead agency, that the project may have a significant effect on the environment.” (Pub. Res. Code, § 21080(d); see also *Pocket Protectors*, 124 Cal.App.4th at 927.) In very limited circumstances, an agency may avoid preparing an EIR by issuing a negative declaration, a written statement briefly indicating that a project will have no significant impact (14 Cal. Code Regs., § 15371 [CEQA Guidelines]), only if there is not even a “fair argument” that the project will have a significant environmental effect. (Pub. Res. Code, §§ 21100, 21064.) Since “[t]he adoption of a negative declaration . . . has a terminal effect on the environmental review process,” by allowing the agency “to dispense with the duty [to prepare an EIR],” negative declarations are allowed only in cases where “the proposed project will not affect the environment at all.” (*Citizens of Lake Murray v. San Diego* (1989) 129 Cal.App.3d 436, 440.)

A negative declaration is improper, and an EIR is required, whenever substantial evidence in the record supports a “fair argument” that significant impacts may occur. Under the “fair argument” standard, an EIR is required if any substantial evidence in the record indicates that a project may have an adverse environmental effect—even if contrary evidence exists to support the agency’s decision. (CEQA Guidelines, § 15064(f)(1); *Pocket Protectors*, 124 Cal.App.4th at 931; *Stanislaus Audubon Society v. County of Stanislaus* (1995) 33 Cal.App.4th 144, 150-15; *Quail Botanical Gardens Found., Inc. v. City of Encinitas* (1994) 29 Cal.App.4th 1597, 1602.) The “fair argument” standard creates a “low threshold” favoring environmental review through an EIR rather than through issuance of negative declarations or notices of exemption from CEQA. (*Pocket Protectors*, 124 Cal.App.4th at 928.)

The “fair argument” standard is virtually the opposite of the typical deferential standard accorded to agencies. As a leading CEQA treatise explains:

This ‘fair argument’ standard is very different from the standard normally followed by public agencies in making administrative determinations. Ordinarily, public agencies weigh the evidence in the record before them and reach a decision based on a preponderance of the evidence. [Citations]. The fair argument standard, by contrast, prevents the lead agency from weighing competing evidence to determine who has a better argument concerning the likelihood or extent of a potential environmental impact. The lead agency’s decision is thus largely legal rather than factual; it does not resolve conflicts in the evidence but determines only whether substantial evidence exists in the record to support the prescribed fair argument.

(Kostka & Zishcke, *Practice Under CEQA*, §6.29, pp. 273-274.) The Courts have explained that “it is a question of law, not fact, whether a fair argument exists, and the courts owe no deference to the lead agency’s determination. Review is de novo,

with a ***preference for resolving doubts in favor of environmental review.***” (*Pocket Protectors*, 124 Cal.App.4th at 928 [emphasis in original].)

As a matter of law, “substantial evidence includes . . . expert opinion.” (Pub. Resources Code, § 21080(e)(1); CEQA Guidelines, § 15064(f)(5).) CEQA Guidelines demand that where experts have presented conflicting evidence on the extent of the environmental effects of a project, the agency must consider the environmental effects to be significant and prepare an EIR. (CEQA Guidelines § 15064(f)(5); Pub. Res. Code § 21080(e)(1); *Pocket Protectors*, 124 Cal.App.4th at 935.) “Significant environmental effect” is defined very broadly as “a substantial or potentially substantial adverse change in the environment.” (Pub. Resources Code, § 21068; see also Guidelines § 15382.) An effect on the environment need not be “momentous” to meet the CEQA test for significance; it is enough that the impacts are “not trivial.” (*No Oil, Inc.*, *supra*, 13 Cal.3d at 83.) In *Pocket Protectors* case, the court explained how expert opinion is considered. The Court limited agencies and courts to weighing the admissibility of the evidence. (124 Cal.App.4th at 935.) In the context of reviewing a Negative Declaration, “neither the lead agency nor a court may ‘weigh’ conflicting substantial evidence to determine whether an EIR must be prepared in the first instance.” (*Id.*) Where a disagreement arises regarding the validity of a negative declaration, the courts require an EIR. As the *Pocket Protectors* court explained, “[i]t is the function of an EIR, not a negative declaration, to resolve conflicting claims, based on substantial evidence, as to the environmental effects of a project.” (*Id.*)

## DISCUSSION

### **A. The County Must Consider this Project Carefully in Light of the County-Wide Moratorium on the Approval of Commercial Solar Energy Generation Projects.**

On June 12, 2013, the County Board of Supervisors (“Board”) unanimously adopted Interim Urgency Ordinance No. 4198, establishing a temporary (45-day) moratorium on approval of commercial solar energy generation projects. (Exhibit C, Ordinance No. 4198.) In adopting the moratorium, the Board found that County residents have reported adverse effects of solar generation projects which could adversely impact the quality of life for the residents and that “[t]here is a current and immediate threat to the public health, safety and welfare if permits or entitlements for construction of new solar energy generation projects are issued.” (Exhibit C, Ordinance No. 4198.) The moratorium, however, does not apply to applications for solar energy generation projects that have been accepted as complete prior to the June 12, 2013 Ordinance. (*Id.*)

On July 23, 2013, the Board extended the initial 45-day moratorium for an additional 10 months and 15 days, based on the same public welfare findings it made on June 12, 2013. The extended moratorium would allow the County to develop standards in the Development Code that will help ensure that such

developments are compatible with existing land uses, which will include the preparation of a Renewable Energy Element of the General Plan, with a complementary Regulatory System for renewable energy projects. Based on the extension, the moratorium is set to expire on June 11, 2014.

Even if this Project may not be affected by the moratorium because the application was deemed completed prior to when the moratorium was first adopted on June 12, 2013, CEQA nevertheless requires that the lead agency consider whether the project would conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. (CEQA Guidelines, Appendix G, Section IX(b).) Since the moratorium is an ordinance which was adopted by the County for the purpose of avoiding or mitigating environmental effects, the County must analyze whether the Project conflicts with it.

Additionally, the Board's adoption of such an urgency measure "necessary for the immediate protection and preservation of the public peace, health, safety and welfare" warrants a cautious and rigorous review of the instant Project. (See Exhibit C, Ordinance No. 4198.) Therefore, in reviewing this Project, the County must focus on the welfare of the County residents and the environment in which they reside. The County has made a formal finding that "[t]here is a current and immediate threat to the public health, safety and welfare if permits or entitlements for construction of new solar energy generation projects are issued." (Exhibit C, Ordinance No. 4198.) There is no logical reason that this finding does not apply equally to the instant Project. At the very least, the County must acknowledge all potentially significant environmental impacts that should be analyzed in an EIR.

Based on the arguments set forth below, substantial evidence supports a fair argument that the Project will have potentially significant impacts on the environment and an EIR is required to analyze such impacts and mitigate them to the extent feasible.

#### **B. The IS/MND Fails to Accurately Establish the Project's Environmental Setting or "Baseline."**

CEQA requires that an Initial Study include a description of the project's environmental setting or "baseline." (CEQA Guidelines, § 15063(d)(2).) The CEQA "baseline" is the set of environmental conditions against which to compare a project's anticipated impacts. (*Communities for a Better Environment v. So Coast Air Qual. Mgmt. Dist.* (2010) 48 Cal. 4th 310, 321.) CEQA Guidelines section 15125(a) states, in pertinent part, that a lead agency's environmental review under CEQA:

...must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time [environmental analysis] is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline

physical conditions by which a Lead Agency determines whether an impact is significant.

(See, *Save Our Peninsula Committee v. County of Monterey* (2001) 87 Cal.App.4th 99, 124-125.)

Here, the IS/MND is inadequate because it fails to establish an accurate environmental setting for the Project.

### **1. The IS/MND Fails to Disclose the Potential for Residual Pesticides at the Project Site.**

The IS/MND admits that the Project site is comprised of fallow agricultural lands. (IS/MND, pp. 3, 44.) Based on the historical agricultural use of the Project site, dating back to 1953, there is a fair argument, supported by substantial evidence that the Project may result in significant impacts to workers' exposure to hazardous materials. The Phase I Environmental Site Assessment (ESA) admits that the Project site was previously used for agriculture and "there is the potential for residual pesticide concentrations in the surface and subsurface soils" which "could be of concern." (Phase I ESA, p. 2-5.)

According to expert Matthew Hagemann, C.Hg., former director of US EPA's Western States Superfund Program and EPA Senior Science Advisor, agricultural use of the Project site may have involved the use of organochlorine pesticides, a condition that may have contaminated the soils. (Exhibit A, p. 1.) Because agricultural activities at the Project site date back to the 1950s, organochlorine pesticides which persist in soil for hundreds of years, including Dieldrin, 4,4'-DDE, and 4,4'-DDT, may have been used. (*Id.* at p. 2.)

Residual pesticides may pose a serious health risk to workers and site personnel, like Commenters, who may be exposed to these substances through dermal contact with the soil and through dust inhalation. (Exhibit A, p. 2.) Construction of the Project will involve vegetation clearing, grubbing, grading, trenching for buried cables and installation of pier foundations which will all generate dust that may disperse the residual pesticides. (*Id.*) Commenters are concerned about the potential health risks from such residual pesticides during construction. Moreover, nearby residents as close within 40 feet of the Project site could be sensitive individuals like children and elderly and susceptible to risks from inhalation of dust containing pesticide. (*Id.*)

The IS/MND, however, ignores the conclusion in the Phase I ESA and fails to account for the presence of the residual pesticides in establishing the environmental setting for the Project. (IS/MND, pp. 3, 44; Phase I ESA, pp. 2-5.) According to Mr. Hagemann, soil sampling, which includes at least 60 soil borings, for the analysis of organochlorine pesticides is necessary to determine the residual concentrations of pesticides that may be present in site soils. (Exhibit A, p. 3.) The sampling results

should be compared to human health screening levels and evaluated in an EIR. (*Id.*) Mr. Hagemann advises that mitigation measures to address any contaminants found to exceed hazardous waste levels or pose a risk to human health should be included in an EIR. (*Id.*)

As a result of its failure to establish an accurate baseline regarding the presence of hazardous materials, the IS/MND fails to analyze and mitigate potential impacts from such residual pesticides.

## **2. The IS/MND Fails to Adequately Evaluate Other Hazardous Conditions on the Project Site.**

As Mr. Hagemann explains, the Phase I ESA provides that there are additional environmental conditions which warrant further evaluation in an EIR:

Petroleum staining: “Apparent hydrocarbon impacted vegetation and soil was observed in several locations which formerly contained motors for the self-propelled wheel irrigation system” (Phase I ESA, p. 2-5).

Drums and containers: “Several drums and 5-gallon and smaller containers were observed on the property during the site reconnaissance within the ranch complexes. The drums appeared empty and several smaller containers appeared to contain fluid. No soil staining or unusual odors were observed associated with these containers” (Phase I ESA, p. 2-4).

Debris Piles: “Debris piles were observed within the ranch complexes during the site reconnaissance. Debris typically consisted of scrap metal, wood, and abandoned farm equipment” (Phase I ESA, p. 2-4).

Leaking Electrical Transformer: “One leaking pole mounted transformer was observed on-site adjacent to the pump house in the southern portion of the property” (Phase I ESA, p. 2-8). The Phase I states that the transformer was removed in 2011. The Phase I ESA states “However, there was reportedly no confirmation samples obtained at the time of removal of the transformer” (Phase I ESA, p. 2-8).

(Exhibit A, pp. 2-3.) According to Mr. Hagemann, each of the conditions identified by the Phase I ESA warrants further evaluation in an EIR. Based on the potential risk to construction workers and nearby residents that these conditions pose, Mr. Hagemann recommends that the EIR should include results of sampling from soil in the areas of these observations, along with the identification of appropriate measures to take if contamination is found in excess of hazardous waste concentrations or human health screening levels, including soil removal and offsite disposal at an appropriate facility. (Exhibit A, p. 3.)

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### **3. The Project's Baseline Fails to Acknowledge the Likely Presence of Nesting Pond Turtles and Desert Tortoise Traversing the Site.**

The MND's baseline for wildlife resources is inaccurate because it fails to acknowledge that the Project site may be a nesting location for pond turtles from the adjacent Mojave River. The baseline also errs by assuming that desert tortoises would not be traversing the site. Dr. Smallwood takes issue with the MND's statement that "*While the Mojave River corridor, which is adjacent to the site's western boundary, contains suitable habitat for a variety of special-status species, these plants and animals are not expected to use the Project site due to the disturbed nature of the site and the absence of habitat.*" MND, p. 30. Dr. Smallwood explains that "pond turtles, which were documented in the Mojave River within 5 miles of the project site (URS 2013a), nest in upland areas, and could nest on the project site." Smallwood Comments, p. 2. Likewise, Dr. Smallwood points out that "Desert tortoise and other special-status species likely traverse the site from one habitat area to another." *Id.* The MND's failure to assess the impacts on these special status species raises a fair argument that the Project may have significant adverse impacts on these species.

#### **4. Bats.**

Dr. Smallwood confirms that the project site is frequented by bats, yet no mention is made of potential impacts to bats by the project and its construction. Because the project may impact bats, an EIR must be prepared.

### **C. An EIR is Required Because the Project May Have Significant and Adverse Environmental Impacts.**

#### **1. The IS/MND Fails to Disclose the Full Extent of the Project's Impacts on Air Quality.**

According to Mr. Hagemann, the IS/MND applied the incorrect threshold of significance for NOx in reaching its conclusion of less than significant impact on air quality. (Exhibit A, p. 4.) The IS/MND only compared the Project construction emissions to the Mojave Desert Air Quality Management District's (MDAQMD) annual emissions thresholds for NOx and arrived at the erroneous conclusion that the construction-related air quality impacts would be less than significant. (*Id.*) Mr. Hagemann states that the 2011 MDAQMD CEQA Guidelines provide thresholds for daily construction emissions, which the IS/MND ignored. (*Id.*)

The MDAQMD CEQA Guidelines provide a threshold of 137 lbs/day for NOx. According to Mr. Hagemann, the Project will emit 18.67 tons of NOx "per year," which means for the duration of the 8-month construction period. (Exhibit A, p. 4.) Based on Mr. Hagemann's calculations, and the information contained in the IS/MND, 18.67 tons/year of NOx (in the shorter 8-month construction period) equals 186.7 lbs/day of NOx, which far exceeds the daily threshold of 137 lbs/day for NOx. (*Id.*) Because the Project is located in the Mojave Desert Air Basin, which is in

nonattainment for ozone (IS/MND, p. 24), the Project's emissions of ozone precursors like NO<sub>x</sub> will further contribute the Air Basin's ozone exceedances. (Exhibit A, p. 4.)

Mr. Hagemann states that the County should prepare an EIR to confirm if daily construction NO<sub>x</sub> emissions exceed the applicable MDAQMD threshold. (Exhibit A, pp. 4-5.) If so, the EIR should identify mitigation to reduce daily emissions to a less-than-significant level, to include consideration of measures taken elsewhere in the Mojave Desert Air Basin as identified in other CEQA documents where NO<sub>x</sub> has been estimated to exceed the threshold:

- For grading and trenching activities, the project operator shall reduce exhaust emissions during construction and, in particular, emissions of NO<sub>x</sub>, when using construction equipment and vehicles by implementing the following measures:
  - Require the use of diesel haul trucks (e.g., material delivery trucks and soil import/export) that meet U.S. Environmental Protection Agency 2007 model year NO<sub>x</sub> emissions requirements.
  - The following note shall be included on all grading plans: During project construction, all internal combustion engines/construction equipment operating on the project site shall meet U.S. Environmental Protection Agency-Certified Tier 3 emissions standards, or higher according to the following:
    - (i) January 1, 2012, to December 31, 2014: All off-road diesel-powered construction equipment greater than 50 horsepower shall meet Tier 3 off-road emissions standards.
    - (ii.) Post-January 1, 2015: All off-road diesel-powered construction equipment greater than 50 horsepower shall meet the Tier 4 emission standards, where available. In addition, all construction equipment shall be outfitted with best available control technology devices certified by California Air Resource Board. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by California Air Resources Board regulations. In addition, all construction equipment shall be outfitted with best available control technology devices certified by California Air Resources Board. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy.

(Exhibit A, p. 5.)

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## 2. Substantial Evidence Supports a Fair Argument That the Project May Result in Significant, Unmitigated Impacts from Valley Fever.

The IS/MND fails to consider the potential for the Project to cause an increase in the incidence of valley fever, a disease caused by inhalation of cocci spores of fungus found in soils. According to Mr. Hagemann, valley fever is endemic to arid regions in California including San Bernardino County. (Exhibit A, p. 6.) People contract valley fever by breathing dust containing cocci spores which are too small to be seen. (*Id.*) Symptoms of valley fever include fever, cough, headache, rash, muscle aches, joint pain, skin lesions, chronic pneumonia, meningitis, and bone or joint infection. (*Id.* at pp. 6-7.)

Despite the recent rise in incidences of valley fever in California, the IS/MND entirely fails to analyze the Project's impacts on incidences of valley fever. According to Mr. Hagemann, soil disturbance of the Project site has the potential to cause an increased incidence of valley fever. (Exhibit A, p. 7.) Construction activities, including clearing and grubbing of the site and grading the access roads, may disturb cocci spores that may be present in the soils at the Project site. (*Id.*) Disturbed cocci spores, which can be transported via dust, can then impact construction workers and nearby residents through inhalation. (*Id.*)

Mr. Hagemann recommends that the County prepare an EIR to identify the potential for an increase in the incidence of valley fever during Project construction and identify appropriate mitigation measures. (Exhibit A, p. 7.) The mitigation measures should include identification of best management practices (BMPs) for prevention and control of Valley Fever, as other counties like San Luis Obispo County has adopted. (*Id.*) Mr. Hagemann advises that reducing construction worker exposure should be a particular focus of mitigation, including consideration of the following measures:

- Use of personal protective equipment such as the use of respirators especially when digging or trenching;
- Provide HEPA-filtered air-conditioned enclosed cabs with two-way radios on heavy equipment;
- Pre-watering soil prior to disturbance;
- Prohibit eating and smoking at the worksite and require meals to be taken in separate areas with hand-washing facilities;
- Provide a worker training program, including training on the offsite transport of contaminated items;
- Prevent off-site spore transport through vehicle cleaning and boot washing; and
- Require an enhanced dust control plan that includes:
  - i) site worker use of dust masks (NIOSH N-95 or better) whenever visible dust is present;
  - ii) implementation of enhanced dust control methods (increased frequency of watering, use of dust suppression chemicals, etc.) immediately whenever

visible dust comes from or onto the site; and

iii) no downwind PM10 ambient concentrations to increase more than 50 micrograms per cubic meter above upwind concentrations as determined by simultaneous upwind and downwind sampling. High volume particulate matter samplers or other EPA-approved equivalent method(s) for PM10 monitoring shall be used. Samplers shall be:

a. Operated, maintained, and calibrated in accordance with 40 Code of Federal Regulations (CFR), Part 50, Appendix J, or appropriate EPA-published documents for EPA-approved equivalent methods(s) for PM10 sampling;

b. Reasonably placed upwind and downwind of construction activities based on prevailing wind direction and as close to the property line as feasible, such that other sources of fugitive dust between the sampler and the property line are minimized; and

c. Operated during active construction operations.

- Providing for tests of workers and potentially affected nearby public, through
  - microscopic identification of the fungal spherules in an infected tissue, sputum or body fluid sample;
  - growing a culture of *Coccidioides* spp. from a tissue specimen, sputum or body fluid; and
  - detection of antibodies (serological tests specifically for Valley Fever) against the fungus in blood serum or other body fluids.<sup>1</sup>

(Exhibit A, pp. 7-8.)

Based on the increased incidences of valley fever in arid regions of California in the recent years, the County must prepare an EIR to adequately analyze the potential impacts of valley fever as a result of the Project and mitigate such impacts to the extent feasible, as recommended by Mr. Hagemann above.

### **3. The Project May Have Significant Adverse Effects on the Endangered Least Bell's Vireo and Southwestern Willow Flycatcher Because the Project May Attract Their Prey Rather Than Remove It.**

The MND assumes that because the site is currently degraded and does not likely provide much prey for, among other species, the endangered Least Bell's vireo and Southwestern willow flycatcher, these species would also not use the Project site after it is built and, hence, the Project would not affect these species. MND, p. 32 ("While these species are known to utilize adjacent uplands for foraging purposes, they are unlikely to find prey in the site because it is largely unvegetated and the sparse vegetation that remains is dominated by Russian thistle"). Dr. Smallwood, after discussing his experience conducting thermal camera surveys and the attraction of birds to solar fields, opines that "Heat radiating from the panels

<sup>1</sup> <https://www.vfce.arizona.edu/ValleyFeverInPeople/Diagnosis.aspx>

might attract volant insects, or the insects might come due to the appearance of the PV panels as water bodies.” Smallwood Comments, p. 2. He identifies as pure speculation the MND’s notion that silver framing of the PV panels would repulse the aquatic insects upon which the birds feed. *Id.* Rather than assume simple fixes are available, a reasonable evaluation of the Project’s potential impact to these listed bird species would acknowledge, as Dr. Smallwood does, that “it remains unknown how insects or these endangered birds will respond to the PV panels” and, thus, to avoid impacts to these endangered birds and other birds, mitigations must include “meaningful, scientifically defensible post-construction monitoring of the project’s impacts” coupled with adaptive management. *Id.*

#### **4. The Project May Have Significant Impacts on Avian Species From Collisions With the Project’s Solar Panels, Fencing and Other Features, and Electrocutions Associated With the Project’s Risers.**

Although the collision risk posed by utility-scale solar projects to birds is not entirely understood, it is known to occur. Perhaps it is the glare similar to water that such facilities exhibit. Whatever the reason, bird collisions with solar facilities do occur. As discussed by expert wildlife biologist, Dr. Smallwood, the MND fails to assess the likely impacts of avian collisions with the Project’s panels and structures. Dr. Smallwood carefully analyzes the available collision study for a solar project. Adjusting that study’s methods to reflect more recent science, Dr. Smallwood predicts that the Project will kill from 43 to 216 birds per year. Smallwood Comments, p. 7. This is a certain impact to avian species, *i.e.*, the project may have an adverse environmental impact on birds crashing into its panels. Relatedly, the mitigation measures considered in an EIR should include robust mortality monitoring at the Project site and avian behavior surveys in advance of construction, in order to characterize avian flight paths and the types of behaviors of endemic species that could contribute to collision risk (Smallwood et al. 2009). *Id.*, pp. 8-10. By failing to address this likely impact, the MND is inappropriate as a matter of law and an EIR must be prepared.

The MND attempts to sidestep the avian collision impacts that will result from the Project by relying on speculation that merely framing the panels in silver framing will avoid any significant bird collision impacts. Dr. Smallwood, while hoping it were that simple, confirms that the MND’s “mitigation” is complete speculation:

Whereas I hope that this conclusion reflects reality, it appears to have been the product of speculation. To my knowledge there are no data available to support this conclusion. In fact, relying on the same level of speculation as San Bernardino County, one can also conclude that the silver frames might enhance the facility’s appearance of a water body.

Smallwood Comments, p. 4.

Other agencies with responsibility to evaluate solar PV projects pursuant to CEQA have determined that avian collisions with PV solar projects are certain to occur. For example, the California Energy Commission recently issued a final staff assessment for the Blythe Solar Power Project in Riverside County. Blythe Solar Power Project, Staff Assessment – Part B (October 11, 2013) (excerpts attached as Exhibit D) (“BSPP Staff Assessment”). The BSPP Staff Assessment acknowledges that, although “[t]he extent and severity of potential collision impacts on avian species under the modified BSPP is not quantifiable, they are ***certain to occur***. Based on the extent of injury or mortality, and the species affected, this effect will likely be significant. Impacts could remain cumulatively considerable after implementation of all feasible mitigation measures.” BSPP Staff Assessment, p. 4.2-88. See *id.*, pp. 4.2-7 – 4.2-8. Dr. Smallwood, although agreeing that uncertainty regarding predicting the number of avian collisions with a solar project plainly exist, he does not agree with the BSPP Staff Assessment’s notion that one cannot quantify a range of estimated collisions that take into account the uncertainty. See Smallwood Comments, pp. 5-7. The BSPP Staff Assessment provides a description of the likely causes of increased collisions with solar PV facilities such as proposed by the Project:

The reflective characteristics of PV panels likely vary depending on the position of the sun, viewing angle, tilt of the panels, and other variables. PV solar arrays sometimes reflect the sky, including clouds, and can appear lighter in color. At other times and under different conditions, the PV arrays may appear dark like a still body of water. While it remains unclear how wildlife (primarily birds and bats, but also insects) perceive solar fields, and if the solar collectors are attractive under certain conditions, it is well documented that solar fields, including large PV array fields, can pose risks to birds or bats

Blythe Assessment, p. 4.2-87. See also *id.*, p. 4.2-89 (“Avian species migrating nearby or over PV project sites may be drawn to the panels partly due to the polarization; however, many confounding variables exist, such as the potential for PV fields to appear as a body of water”).<sup>2</sup>

Given that many avian species are fully protected under California law, including all owls and raptors (see F&G Code 3503.5 [no take of even an individual owl or raptor]), it is untenable for the County and the MND to claim that a large 123-acre solar project will not adversely affect birds flying through the site. Even one owl

<sup>2</sup> See also *id.*, p. 4.2-5. (“Operation of the project may result in avian collisions with panels, power lines, or other project features. Aside from a risk of collision with power lines or project features, fully protected species associated with the site have the potential for risk of overheating, disorientation, and other anthropogenic forms of injury or mortality. Currently, the exact source of injury or mortality to birds on renewable energy sites is unclear, yet the risks are certain.”)

dying from a collision with the panels is a violation of F&G Code § 3503.5 and thus significant under CEQA.

In addition to the solar panel, the site will be surrounded by a 8-foot high fence. As Dr. Smallwood explains, “fences can entrap wildlife (Photo 1).” Smallwood, pp. 10-11. Dr. Smallwood provides a graphic photograph of a dead great-horned owl (individuals of which also are fully protected from take pursuant to F&G Code § 3503.5) illustrating the possible impacts a tall fence poses to avian species. As a result, an EIR must be prepared evaluating these collision impacts.

In addition to collisions, the Project poses a risk of electrocution of birds coming into contact with electrical risers associated with the Project. Dr. Smallwood, drawing from his extensive experience with electrical generating facilities in the Altamont Pass area, explains:

what is not said [in the MND] is that energy projects like Alamo Solar require riser elements to transfer electrical energy to the distribution lines. Riser elements are associated with raptor electrocutions 16 times other than expected (Smallwood and Karas, largely unpublished data, but also some reporting in BioResource Consultants 2009). Riser elements are difficult to insulate and to maintain the insulation. Insulators installed on riser elements in the Altamont Pass Wind Resource Area lasted no more than three years before insects, birds, and the weather caused warping and gapping, and raptor electrocutions have since been common.

Smallwood Comments, pp. 2-3. Thus, the MND’s assurance that the gen-tie interconnection part of the Project only involves replacing a few poles and upgrading lines and “therefore the project is not expected to substantially increase the potential for bird collisions with electrical lines,” overlooks the Project’s electrocution risks. MND, p. 31.

The combined risks of bird collisions and electrocutions resulting from the Project are substantial and cannot be fully addressed in a MND. Only an EIR can properly evaluate these potential significant impacts.

## **5. The Project May Have Significant Impacts on Wildlife Movement and Habitat Fragmentation.**

The Project may have significant direct and cumulative impacts on wildlife movement and habitat fragmentation. The Project is to be located immediately adjacent to an important wildlife movement corridor – the Mojave River and adjacent areas. The Project includes a perimeter fence that, by design, will impede the movement of numerous species. The MND attempts to reason its way around this simple fact by claiming that the site is not habitat – even for wildlife movement purposes – because it is somewhat degraded and the new fence would be similar to

existing agricultural fences. MND, p. 35. Dr. Smallwood explains the error of assuming even degraded lands are not important to wildlife movement:

This argument is based on the false premise that habitat lacks value unless it is “natural.” In fact, habitat is defined by the species’ use of the environment (Hall et al. 1997, Morrison and Hall 2002), and not on some convenient, vague classification by County staff. Habitat is species-specific, and often includes shifts into new environments created by humans. For example, kit fox will often exploit food resources created by human land conversions, such as to solar projects. San Bernardino County cannot simply dismiss the project site as wildlife habitat simply because it is something other than “natural habitat,” whatever that is. The cyclone fence around the project site will definitely hinder wildlife movement, as that is what a fence is designed to accomplish. The Alamo Solar Project will hinder wildlife movement and habitat connectivity, especially given its location adjacent to a riparian corridor in a desert environment.

Smallwood Comments, p. 3.

The MND relies on the incorrect assumption that the Project will not impede wildlife movement through the site to further conclude that the Project will not have any adverse impacts on habitat fragmentation. MND, pp. 35-36. Dr. Smallwood disagrees with this conclusion:

Habitat fragmentation is a process that is central to a project’s impacts on wildlife movement. It is recognized as one of the most serious threats to the continued existence of terrestrial wildlife (Wilcox and Murphy 1985). The Initial Study’s (San Bernardino County 2013) analysis of the project’s contribution to habitat fragmentation was restricted to the flawed argument that the perimeter fence will not impede wildlife movement because the site includes no natural habitat. As explained earlier, San Bernardino County’s understanding of the term *habitat* is incorrect. The perimeter fence will impede wildlife movement across the site, and so will contribute to habitat fragmentation. Furthermore, this fragmentation will happen along a key part of the landscape – a river corridor through the Mojave Desert. An EIR is needed to properly address the project’s impacts on wildlife movement and habitat fragmentation.

Smallwood Comments, pp. 7-8. Because the Project may impede wildlife movement and fragment habitat along the Mojave River, an EIR must be prepared.

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**6. Bird Collisions With the Project's Panels Could have Significant Impacts on Desert Tortoises in the Vicinity by Increasing Raven Populations Near the Project.**

Although the MND acknowledges that, during construction, the Project “could potentially contribute to temporary local increases of raven populations during construction....” MND, pp. 33-34. However, the MND fails to address the potential increase in ravens that will accompany bird fatalities resulting from collisions with the Project. Noting that bird collisions have been correlated with increased raven populations at other energy projects, Dr. Smallwood states that “San Bernardino County neglected to identify bird collisions with solar panels as a source of food for common ravens.” Smallwood Comments, p. 3. Dr. Smallwood identifies this potential impact as also requiring monitoring to implement potential mitigation measures: “It would be prudent to perform at least three years of post-construction fatality monitoring using scientifically acceptable methods to document the collision mortality, and to assess whether it would be cost-effective to collect collision victims before common ravens can find and consume them.” Smallwood Comments, p. 3. Increased ravens may adversely affect desert tortoise in the area. This potential impact must be analyzed in an EIR.

**7. The MND's Avian Fatality Monitoring Provisions are not Sufficient to Eliminate the Project's Potential Impacts**

Although the MND makes some provision for the future development of an avian plan and pays lip service to possible adaptive management, expert review of these measures indicates that they are not adequate to eliminate all possible significant impacts to birds resulting from the Project. Thus, for example, BIO-11 discusses an “Avian Protection Plan” that does not yet exist and won't exist for some time. Dr. Smallwood had nothing to review for this measure and, hence, the future plan is not evidence that bird collisions will somehow cease at the Project. As Dr. Smallwood states:

**BIO-11** consists of a scientifically indefensible avian fatality monitoring protocol. An Avian Protection Plan will be prepared at some unspecified, later date, and presented to the USFWS. Not only does BIO-11 defer the formulation of this critical mitigation measure, but it directs the measure to an agency (USFWS) that lacks expertise in avian fatality monitoring at energy projects. The expertise is in the private sector, which is why members of the USFWS often seek my input on avian fatality monitoring. An avian fatality monitoring plan should be presented in an EIR prepared for the project, just as I have done with renewable energy projects (Lamphier-Gregory et al. 2005, ICF International 2013).

Smallwood Comments, p. 9. Dr. Smallwood points out several components that are integral to monitoring for collision fatalities at a solar project. The MND suggests

that five searches per year for dead birds would be an adequate rate of collection. However, “[f]ive fatality searches per year would be entirely inadequate, because scavenger removal rates will leave very few birds smaller than 200 grams (Smallwood 2013b, Brown et al. 2013).” *Id.*, p. 9. “Searches should be every two weeks or shorter intervals, and they should last at least three years to address inter-annual variation.” *Id.* A legitimate monitoring plan must include field trials involving the regular placement of fresh carcasses to estimate the proportion of bird carcasses lost to predators and not detected by monitoring. *Id.* Nocturnal monitoring must also be conducted. *Id.* pp. 9-10. Dr. Smallwood also emphasizes the need to conduct behavioral monitoring prior to construction in order to determine changes to bird’s behavior once the Project is in place. *Id.*, p. 10.

And, monitoring for monitoring’s sake without a thoughtful adaptive management program will not reduce the Project’s anticipated bird impacts. The MND simply states that the future avian plan’s “adaptive management” portion “will set forth a process through which changes to the monitoring schedule or methods may be implemented if warranted due to unforeseen circumstances or other factors.” MND, p. 43. Dr. Smallwood points out that this is not what adaptive management is intended to accomplish:

However, this is not what adaptive management was designed to accomplish (Holling 1978, Walters 1986). Monitoring as part of adaptive management is for the parties to the management plan to test pre-defined hypotheses and to decide whether alternative *management* plans are to be implemented. San Bernardino County directs its so-called adaptive management to that part of the process that is intended to inform adaptive management, rather than to actions that will actually rectify, reduce, or compensate for the project’s impacts.

Smallwood Comments, p. 10. Dr. Smallwood’s objections to the MND’s monitoring discussion are substantial evidence of a fair argument that these aspects of the MND will not prevent significant impacts to avian species from collisions with the Project’s panels, fencing, and other components. Accordingly, an EIR must be prepared.

#### **8. The IS/MND Fails to Analyze or Mitigate the Project’s Potentially Cumulatively Considerable Impacts on Air Quality.**

The County fails to analyze the cumulative impacts of the Project in connection with other related past, present and future projects in the vicinity. An agency must make a “mandatory finding of significance” and may not issue a negative declaration if a proposed project will have “impacts that are individually limited, but cumulatively considerable.” (Pub. Resources Code, § 21083; CEQA Guidelines, § 15355.) “Cumulatively considerable means that the incremental effects of a project are considerable when viewed in connection with the effects of



past projects, the effects of other current projects, and the effects of probable future projects.” (CEQA Guidelines, Appendix G, Section XVII; CEQA Guidelines, section 15130(a).) “Cumulative impacts” are defined as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” (CEQA Guidelines, § 15355(a).) “[I]ndividual effects may be changes resulting from a single project or a number of separate projects.” (CEQA Guidelines, § 15355(a).)

“The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.” (*CBE v. CRA*, *supra*, 103 Cal.App.4th at 117; see CEQA Guidelines, § 15355(b).)

As the court stated in *CBE v. CRA*:

Cumulative impact analysis is necessary because the full environmental impact of a proposed project cannot be gauged in a vacuum. One of the most important environmental lessons that has been learned is that environmental damage often occurs incrementally from a variety of small sources. These sources appear insignificant when considered individually, but assume threatening dimensions when considered collectively with other sources with which they interact.

(*CBE v. CRA*, 103 Cal.App.4th at 114.)

The IS/MND fails to provide an adequate cumulative air quality impacts analysis. The IS/MND provides a conclusory analysis, without any supporting evidence, that despite the fact that the Project will contribute criteria pollutants to the area during construction, the Project will not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment. (IS/MND, pp. 26-27.)

The Mojave Desert Air Basin is in nonattainment for ozone precursors, including NO<sub>x</sub>, and PM<sub>10</sub>. The IS/MND recognizes that the Project will emit NO<sub>x</sub> and PM<sub>10</sub> during the 8-month long construction period. (IS/MND, pp. 25-26, 71.) Without more analysis and evidence, the IS/MND does not have adequate basis to conclude that the Project will not result in cumulatively considerable impacts.

The IS/MND does not provide a list of foreseeable projects in the Project’s vicinity. The IS/MND merely provides that “[t]he project does not have impacts that are individually limited but cumulatively considerable. The sites of projects in the area to which this project would add cumulative impacts are capable of absorbing such uses without generating any cumulatively significant impacts.” (IS/MND, p. 78.) However, it is not clear on what evidence and analysis the IS/MND can conclude

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that the Project's impacts will not be cumulatively considerable and any impacts are "capable of absorbing." The IS/MND does not even list any related, foreseeable projects in the Project's vicinity before reaching its "less than significant impact" conclusion.

According to Mr. Hagemann, an EIR is required which provides a list of such projects and estimated emissions of NOx and PM10 from those projects. (Exhibit A, pp. 5-6.) The County must identify other nearby projects and the NOx and PM emissions that are expected from construction of those projects which were not considered in the IS/MND. (*Id.*) Mr. Hagemann recommends that the County prepare a list of related, foreseeable projects within a six-mile radius of the Project site and provide the total estimate of NOx and PM emissions from those projects, in combination with the Project. (*Id.*)

### CONCLUSION

For the foregoing reasons, the IS/MND for the Project should be withdrawn, an EIR should be prepared and circulated for public review and comment in accordance with the requirements of the CEQA. Thank you for considering our comments.

Sincerely,



Michael R. Lozeau  
Cathy D. Lee  
Lozeau Drury LLP

# EXHIBIT A



Technical Consultation, Data Analysis and  
Litigation Support for the Environment

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November 21, 2013

Cathy Lee  
Lozeau | Drury LLP  
410 12th Street, Suite 250  
Oakland, CA 94607

**Subject: Comments on the Alamo Solar Project**

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Dear Ms. Lee:

I have reviewed the October 2013 Initial Study (IS) for the Alamo Solar Project (Project). The Project would produce 20 megawatts of energy generated from photovoltaic modules on 123 acres of a 175-acre site located in San Bernardino County, three miles north of the community of Oro Grande, California.

I reviewed the Project for issues associated with hazards and hazardous materials, air quality impacts and the potential to increase the incidence of Valley Fever. I have concluded that the IS fails to disclose baseline environmental conditions that may pose human health risks to construction workers and nearby residents during Project construction. The IS also fails to disclose air quality impacts that may affect nearby receptors and the air quality of the Mojave Desert Air Basin. The potential effects from exposure to Valley Fever are not adequately addressed.

**The IS fails to disclose a baseline description of hazardous conditions on the Project site**

Pesticide concentrations should be disclosed in an EIR. Agricultural use of the Project site may have involved the use of organochlorine pesticides, a condition that may have resulted in contamination of soils. A Phase I Environmental Site Assessment, attached to the IS as an Appendix, notes agricultural use of the Project site dating to 1953.<sup>1</sup> The Phase I concludes:

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<sup>1</sup> Phase I Environmental Site Assessment for the Alamo Solar Site, pp. 2-7

“Based on the historical agricultural use of the property, there is the potential for residual pesticide concentrations in the surface and subsurface soils.”<sup>2</sup>

The IS ignores this conclusion. There is no discussion in the IS about pesticide use and the potential for pesticides to remain in Project site soils at residual concentrations. The failure to disclose puts construction workers and adjacent residents at potential risk, and prevents the public from offering meaningful input on an issue that may affect their health.

Because agricultural activities at the Project site date to the 1950s, organochlorine pesticides -- which include Dieldrin, 4,4'-DDE, and 4,4'-DDT -- may have been used. These pesticides may persist in soil for hundreds of years despite being banned in the 1970s.<sup>3</sup> The U.S. EPA has determined Dieldrin, 4,4'-DDE, and 4,4'-DDT to be probable human carcinogens.<sup>4</sup> Exposure to DDT can result in headaches, nausea, and convulsions<sup>5</sup> as well as damage the liver, nervous, and reproductive system.<sup>6</sup>

Construction of the Project will involve vegetation clearing, grubbing, grading, trenching for buried cables and installation of pier foundations (p. 5). All these activities will generate dust that may be inhaled by construction workers and people in adjacent residences. The construction workers will also be exposed to soil through skin contact.

The IS does provide for mitigation of dust to include use of water trucks and preparation of a dust control plan consistent with Mojave Desert Air Quality Management District guidelines. These measures are inadequate, however, because they do not consider the specific need to address the potential for pesticides in protecting worker health and the health of the adjacent residents.

Knowing that persistent organochlorine pesticides and arsenic may exist at the Project site, as concluded in the Phase I ESA, soil sampling is necessary to protect the health of workers and the nearby residents. Soil sampling should be conducted, along with an analysis of the results, for inclusion in a DEIR.

The closest people living in proximity to the Project are found within 40 feet (p. 18). Other nearby residences are 425 feet from the eastern property boundary (p. 18). People in these residences, who may include sensitive individuals like small children or the elderly, may face

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<sup>2</sup> Ibid., p. 2-5

<sup>3</sup> Ibid., p. 3

<sup>4</sup> Agency for Toxic Substances and Disease Registry. Toxicological Profile for DDT, DDE, and DDD. <http://www.atsdr.cdc.gov/toxprofiles/tp35.pdf>, p. 7. Accessed January 28, 2013.

<sup>5</sup> U.S. EPA, DDE. <http://www.epa.gov/ttnatw01/hlthef/dde.html>. Accessed January 28, 2013.

<sup>6</sup> U.S. EPA, DDT. <http://www.epa.gov/pbt/pubs/ddt.htm>. Accessed January 28, 2013.

risks from inhalation of dust that may be laden with pesticides, a condition that is undisclosed in the IS.

Given the potential for pesticides to be present in site soils, and because people live in close proximity, a DEIR should be prepared for the Project that would include the collection of samples for the analysis of organochlorine pesticides. Samples from the Project site should be collected in accordance the California Department of Toxics Substances Control guidelines which state that for a site of the size of the Project, at least 60 soil borings would be required to define the potential for pesticide contamination.<sup>7</sup>

Sample results should be compared to regulatory screening levels, including the Department of Toxics Substances Control California Human Health Screening Levels<sup>8</sup> and the Regional Water Quality Control Board Environmental Screening Levels.<sup>9</sup> If sample results exceed the screening thresholds, a human health risk assessment should be conducted to better estimate health impacts on workers and the nearby residents. Mitigation, to include specific measures to address any contaminants found to exceed hazardous waste levels or to pose a risk to human health, should be included in the DEIR.

#### **Other hazardous conditions have not been evaluated completely**

Additional environmental conditions warrant further evaluation in a DEIR as identified in the Phase I ESA:

Petroleum staining: “Apparent hydrocarbon impacted vegetation and soil was observed in several locations which formerly contained motors for the self-propelled wheel irrigation system” (Phase I ESA, pp. 2-5).

Drums and containers: “Several drums and 5-gallon and smaller containers were observed on the property during the site reconnaissance within the ranch complexes. The drums appeared empty and several smaller containers appeared to contain fluid. No soil staining or unusual odors were observed associated with these containers” (Phase I ESA, pp. 2-4).

Debris Piles: “Debris piles were observed within the ranch complexes during the site reconnaissance. Debris typically consisted of scrap metal, wood, and abandoned farm equipment” (Phase I ESA, pp. 2-4).

<sup>7</sup> <http://www.dtsc.ca.gov/Schools/upload/Ag-Guidance-Rev-3-August-7-2008-2.pdf>, p. 8

<sup>8</sup> <http://www.calepa.ca.gov/Brownfields/documents/2005/CHHSLsGuide.pdf>

<sup>9</sup> [http://www.waterboards.ca.gov/rwqcb2/water\\_issues/programs/esl.shtml](http://www.waterboards.ca.gov/rwqcb2/water_issues/programs/esl.shtml)

Leaking Electrical Transformer: “One leaking pole mounted transformer was observed on-site adjacent to the pump house in the southern portion of the property” (Phase I ESA, pp. 2-8). The Phase I states that the transformer was removed in 2011. The Phase I ESA states “However, there were reportedly no confirmation samples obtained at the time of removal of the transformer” (Phase I ESA, pp. 2-8).

Each of these conditions warrants further evaluation in a DEIR. The DEIR should include results of sampling from soil in the areas of these observations, along with the identification of appropriate measures to take if contamination is found in excess of hazardous waste concentrations or human health screening levels, including soil removal and offsite disposal at an appropriate facility.

### **The IS does not disclose likely air quality impacts**

NOx emissions may be underestimated. The IS only compares the Project construction emissions to the Mojave Desert Air Quality Management District (MDAQMD) annual emissions thresholds for NOx (Table 1), and therefore may have mistakenly concluded that construction-related air quality impacts would be less than significant. Instead, a DEIR should be prepared to analyze daily construction emissions and compare those emissions to MDAQMD thresholds which are established in the 2011 MDAQMD CEQA Guidelines.<sup>10</sup> Such a comparison in a DEIR would likely show that the MDAQMD threshold of 137 pounds per day for NOx would be exceeded by Project construction emissions.

The Project will be completed in an eight-month, six day per week time frame (IS, p. 5 and p. 71) for a total of approximately 200 work days. Table 5 of the IS shows that the Project will emit 18.67 tons of NOx “per year.” Given that the Project is only eight months in duration, and given that no additional documentation of calculations that were performed were provided in the IS to show that emissions were annualized, we have interpreted the emissions of 18.67 tons of NOx to be the amount of NOx produced by the Project in the eight-month, 200 work-day construction period, not “per year.” Therefore, on a daily basis, the simple division shows that construction of the Project will emit 186.7 pounds per day of NOx, well in excess of the MDAQMD threshold of 137 pounds per day.

The area of the Mojave Desert Air Basin where the Project is located is in nonattainment for ozone (IS, p. 24). Because emissions of NOx are a precursor to ozone formation, Project construction will contribute to further degradation of air quality. A DEIR should be prepared to confirm if daily construction NOx emissions exceed the MDAQMD threshold. If so, the DEIR should identify mitigation to reduce daily emissions to a less-than-significant level, to include

<sup>10</sup> <http://www.mdaqmd.ca.gov/Modules/ShowDocument.aspx?documentid=1806>, p.10

consideration of measures taken elsewhere in the Mojave Desert Air Basin as identified in other CEQA documents where NO<sub>x</sub> has been estimated to exceed the threshold.<sup>11</sup> These include:

- For grading and trenching activities, the project operator shall reduce exhaust emissions during construction and, in particular, emissions of NO<sub>x</sub>, when using construction equipment and vehicles by implementing the following measures:
  - Require the use of diesel haul trucks (e.g., material delivery trucks and soil import/export) that meet U.S. Environmental Protection Agency 2007 model year NO<sub>x</sub> emissions requirements.
  - The following note shall be included on all grading plans: During project construction, all internal combustion engines/construction, equipment operating on the project site shall meet U.S. Environmental Protection Agency-Certified Tier 3 emissions standards, or higher according to the following:
    - January 1, 2012, to December 31, 2014: All off-road diesel-powered construction equipment greater than 50 horsepower shall meet Tier 3 off-road emissions standards.
    - Post-January 1, 2015: All off-road diesel-powered construction equipment greater than 50 horsepower shall meet the Tier 4 emission standards, where available. In addition, all construction equipment shall be outfitted with best available control technology devices certified by California Air Resource Board. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by California Air Resources Board regulations. In addition, all construction equipment shall be outfitted with best available control technology devices certified by California Air Resources Board. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy.

### **Cumulative Air Impacts**

The IS does not adequately address the cumulative impacts on air quality from Project construction in combination with construction of foreseeable projects in the area. A DEIR is

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<sup>11</sup> September 2013 Draft Environmental Impact Report Fremont Valley Preservation Project, [http://www.co.kern.ca.us/planning/pdfs/eirs/fremont\\_solar/fremont\\_solar\\_deir\\_vol1.pdf](http://www.co.kern.ca.us/planning/pdfs/eirs/fremont_solar/fremont_solar_deir_vol1.pdf), p. 4.3-33



necessary to evaluate a complete list of projects and the emissions of criteria air pollutants, to include NOx and PM10.

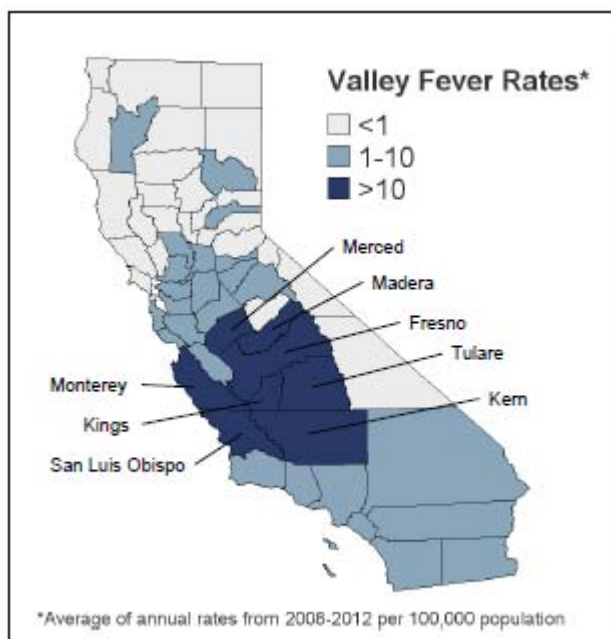
The IS states only, with respect to cumulative air impacts:

“The proposed Project will not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)” (p. 26).

No analysis is included in the IS to support this conclusion other than estimates of Project construction emissions of NOx and PM. The identification of other nearby projects and the NOx and PM emissions that are expected from construction of those projects were not included in the IS. A DEIR should be prepared to list and map other projects in a six-mile radius of the Project and to estimate the total NOx and PM emissions from those projects, in combination with the Project, in determining cumulative impacts.

### **Valley Fever impacts are not considered**

The DEIR fails to consider the potential for the Project to cause an increase in the incidence in Valley Fever, a disease caused by inhalation of cocci spores of a fungus found in soils. Valley fever is endemic to arid regions in California and a California Health and Human Services Agency map<sup>12</sup> (below) shows Valley Fever rates to be elevated in San Bernardino County.



<sup>12</sup> <http://www.cdph.ca.gov/HealthInfo/discond/Documents/VFGeneral.pdf>

People contract Valley Fever by breathing in dust containing cocci spores which are too small to be seen. Symptoms of Valley Fever include fever, cough, headache, rash, muscle aches, joint pain, skin lesions, chronic pneumonia, meningitis, and bone or joint infection. Treatment of Valley Fever may be delayed because the symptoms are similar to other more common illnesses.

There is no mention of the disease in the IS. Soil disturbance of has the potential to cause an incidence of Valley Fever. Construction activities (including vegetation clearing, grubbing, grading, trenching for buried cables and installation of pier foundations) may disturb cocci spores if present in Project soils, leading to aerial transport of spores via dust which may impact workers and nearby residents through inhalation.

A DEIR should be prepared to identify the potential for an increase in the incidence of Valley Fever during Project construction and to identify appropriate mitigation measures. The mitigation measures should include identification of best management practices (BMPs) for prevention and control of Valley Fever. Other solar projects, in areas where Valley Fever potential is high, have identified BMPs which focus on dust control measures specific to Valley Fever.<sup>13</sup> Reducing construction worker exposure should be a particular focus of mitigation, including consideration of the following measures:

- Use of personal protective equipment such as the use of respirators, especially when digging or trenching; Provide HEPA-filtered air-conditioned enclosed cabs with two-way radios on heavy equipment;
- Pre-watering soil prior to disturbance;
- Prohibit eating and smoking at the worksite, and require meals to be taken in separate areas with hand-washing facilities;
- Provide a worker training program, including training on the offsite transport of contaminated items;
- Prevent off-site spore transport through vehicle cleaning and boot washing; and
- Require an enhanced dust control plan that includes:
  - site worker use of dust masks (NIOSH N-95 or better) whenever visible dust is present;
  - implementation of enhanced dust control methods (increased frequency of watering, use of dust suppression chemicals, etc.) immediately whenever visible dust comes from or onto the site; and
  - no downwind PM10 ambient concentrations to increase more than 50 micrograms per cubic meter above upwind concentrations as determined by

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<sup>13</sup> [http://www.sloplanning.org/EIRs/CaliforniaValleySolarRanch/feir/c09\\_hazards.pdf](http://www.sloplanning.org/EIRs/CaliforniaValleySolarRanch/feir/c09_hazards.pdf), p. C.9-26

simultaneous upwind and downwind sampling. High volume particulate matter samplers or other EPA-approved equivalent method(s) for PM10 monitoring shall be used. Samplers shall be:

- operated, maintained, and calibrated in accordance with 40 Code of Federal Regulations (CFR), Part 50, Appendix J, or appropriate EPA-published documents for EPA-approved equivalent methods(s) for PM10 sampling;
- reasonably placed upwind and downwind of construction activities based on prevailing wind direction and as close to the property line as feasible, such that other sources of fugitive dust between the sampler and the property line are minimized; and
- operated during active construction operations.

Sincerely,



Matt Hagemann, P.G., C.Hg.



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**Matthew F. Hagemann, P.G., C.Hg., QSD, QSP**

**Geologic and Hydrogeologic Characterization  
 Industrial Stormwater Compliance  
 CEQA Review  
 Investigation and Remediation Strategies  
 Litigation Support and Testifying Expert**

**Education:**

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.

B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

**Professional Certification:**

California Professional Geologist

California Certified Hydrogeologist

Qualified SWPPP Developer and Practitioner

**Professional Experience:**

Matt has 25 years of experience in environmental policy, assessment and remediation. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) while also working with permit holders to improve hydrogeologic characterization and water quality monitoring.

Matt has worked closely with U.S. EPA legal counsel and the technical staff of several states in the application and enforcement of RCRA, Safe Drinking Water Act and Clean Water Act regulations. Matt has trained the technical staff in the States of California, Hawaii, Nevada, Arizona and the Territory of Guam in the conduct of investigations, groundwater fundamentals, and sampling techniques.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – present;
- Senior Environmental Analyst, Komex H2O Science, Inc (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

**Partner, SWAPE:**

With SWAPE, Matt’s responsibilities have included:

- Lead analyst and testifying expert in the review of numerous environmental impact reports under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, greenhouse gas emissions and geologic hazards.
- Stormwater analysis, sampling and best management practice evaluation at industrial facilities.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Technical assistance and litigation support for vapor intrusion concerns.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.
- Expert witness on two cases involving MTBE litigation.
- Expert witness and litigation support on the impact of air toxins and hazards at a school.
- Expert witness in litigation at a former plywood plant.

With Komex H2O Science Inc., Matt’s duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.
- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.
- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

**Executive Director:**

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

**Hydrogeology:**

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

### **Policy:**

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9. Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

**Geology:**

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

**Teaching:**

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt currently teaches Physical Geology (lecture and lab) to students at Golden West College in Huntington Beach, California.

**Invited Testimony, Reports, Papers and Presentations:**

**Hagemann, M.F.**, 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

**Hagemann, M.F.**, 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

**Hagemann, M.F.**, 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Colorado.

**Hagemann, M.F.**, 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

**Hagemann, M.F.**, 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.



Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

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**Other Experience:**

Selected as subject matter expert for the California Professional Geologist licensing examination, 2009-2011.

# EXHIBIT B

Shawn Smallwood, Ph.D.  
 3108 Finch Street  
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Attn.: Christopher Conner, Senior Planner  
 County of San Bernardino  
 Land Use Services Department  
 385 N. Arrowhead Avenue  
 San Bernardino, CA 95814

30 November 2013

RE: Comments on the proposed Alamo Solar Project

I have prepared the following comments on the Initial Study and Mitigated Negative Declaration (San Bernardino County 2013) and supporting documents (URS 2013a,b) prepared for the Alamo Solar Project, which I understand would be rated at a capacity of 20 MW on 123 acres of the Mojave Desert immediately adjacent to the Mojave River. My qualifications for preparing expert comments are the following. I earned a Ph.D. degree in Ecology from the University of California at Davis in 1990, where I subsequently worked for four years as a post-graduate researcher in the Department of Agronomy and Range Sciences. My research has been on animal density and distribution, habitat selection, habitat restoration, interactions between wildlife and human infrastructure and activities, conservation of rare and endangered species, and on the ecology of invading species. I have authored numerous papers on special-status species issues, including “Using the best scientific data for endangered species conservation,” published in *Environmental Management* (Smallwood et al. 1999), and “Suggested standards for science applied to conservation issues” published in the *Transactions of the Western Section of The Wildlife Society* (Smallwood et al. 2001). I served as Chair of the Conservation Affairs Committee for The Wildlife Society – Western Section. I am a member of The Wildlife Society and the Raptor Research Foundation, and I’ve been a part-time lecturer at California State University, Sacramento. I was also Associate Editor of wildlife biology’s premier scientific journal, *The Journal of Wildlife Management*, as well as of *Biological Conservation*, and I was on the Editorial Board of *Environmental Management*.

I have performed avian surveys in California for twenty-three years (Smallwood et al. 1996, Smallwood and Nakamoto 2009). Over these years, I studied the impacts of human activities and human infrastructure on birds and other animals, including on Swainson's hawks (Smallwood 1995), burrowing owls (Smallwood et al. 2007), and other species (Smallwood and Nakamoto 2009). I studied fossorial animals (i.e., animals that burrow into soil, where they live much of their lives), including pocket gophers (Smallwood and Geng 1997), ground squirrels, kangaroo rats, voles, harvester ants, and many other functionally similar groups. I performed focused studies of how wildlife interact with agricultural fields and associated cultural practices, especially with alfalfa production (Smallwood and Geng 1993, Erichsen et al. 1996, Smallwood et al. 1996, 2001).

I have worked in the Mojave Desert, including in the immediate area of the Alamo Solar project, since 1985. I performed mountain lion surveys near Victorville, and in many other locations across the Mojave Desert. I also live-trapped small mammals and did surveys for American

badger and burrowing owl at a proposed large solar project on the northern aspect of the Mojave Desert. I am familiar with the local ecology.

## IMPACTS ASSESSMENT

The biological surveys performed by the consultants appeared to have been done according to existing protocols in available guidelines, and were consistent with current professional standards. Of the environmental documentation I have reviewed among many proposed solar projects, the biological surveys that were done for this project rated as among the very best.

It was surprising, therefore, to read some of the conclusions in San Bernardino County's (2013) Initial Study. For example, San Bernardino County (2013:30), "*While the Mojave River corridor, which is adjacent to the site's western boundary, contains suitable habitat for a variety of special-status species, these plants and animals are not expected to use the Project site due to the disturbed nature of the site and the absence of habitat.*" However, pond turtles, which were documented in the Mojave River within 5 miles of the project site (URS 2013a), nest in upland areas, and could nest on the project site. Desert tortoise and other special-status species likely traverse the site from one habitat area to another. Also, the installation of solar panels might change the manner in which special-status species perceive and use the site, as explained below.

According to San Bernardino County (2013:32), "*As noted above, these federally- and state-listed endangered species [Least Bell's vireo and Southwestern willow flycatcher] are known to occur along the Mojave River corridor but the project avoids this area and includes no suitable habitat for these species. While these species are known to utilize adjacent uplands for foraging purposes, they are unlikely to find prey in the site because it is largely unvegetated and the sparse vegetation that remains is dominated by Russian thistle.*" The County goes on to speculate that the silver frames supporting the PV panels will somehow repulse aquatic insects, thereby not attracting the endangered birds under discussion. However, it remains unknown how insects or these endangered birds will respond to the PV panels. While performing nocturnal surveys with a FLIR thermal camera recently, I was surprised to see hundreds of bats foraging over the Altamont Landfill. Such an accumulation of bats was unexpected and undocumented until I went out there with a thermal camera and looked. Perhaps the landfill attracts an abundance of nocturnally volant insects, or perhaps the heat from the landfill accommodates bat foraging flights. Similar surprises likely await discovery over PV panels. Heat radiating from the panels might attract volant insects, or the insects might come due to the appearance of the PV panels as water bodies. Either way, it remains to be learned whether or how Least Bell's vireo and Southwestern willow flycatcher will respond to the project. But this learning can only happen if there is meaningful, scientifically defensible post-construction monitoring of the project's impacts.

According to San Bernardino County (2013:31), "*The gen-tie Interconnection consists of the addition of a few new poles but most interconnection activities consist of upgrades to an existing distribution line and therefore the project is not expected to substantially increase the potential for bird collisions with electrical lines.*" However, what is not said here is that energy projects like Alamo Solar require riser elements to transfer electrical energy to the distribution lines. Riser elements are associated with raptor electrocutions 16 times other than expected

(Smallwood and Karas, largely unpublished data, but also some reporting in BioResource Consultants 2009). Riser elements are difficult to insulate and to maintain the insulation. Insulators installed on riser elements in the Altamont Pass Wind Resource Area lasted no more than three years before insects, birds, and the weather caused warping and gapping, and raptor electrocutions have since been common.

According to San Bernardino County (2013:33-34), *“The Alamo Solar Project could potentially contribute to temporary local increases of raven populations during construction as a result of increases in:*

- *Water availability as a result of puddling from onsite dust suppression activities, equipment cleaning and maintenance, etc;*
- *Potential perching, roosting or nesting sites;*
- *Food sources from soil disturbance and road kill; and*
- *Food sources and attractants from human activities.”*

San Bernardino County neglected to identify bird collisions with solar panels as a source of food for common ravens. The common raven population in the Altamont Pass Wind Resource Area is especially large, due to the provision of wind turbine collision victims (see Smallwood et al. 2010). It would be prudent to perform at least three years of post-construction fatality monitoring using scientifically acceptable methods to document the collision mortality, and to assess whether it would be cost-effective to collect collision victims before common ravens can find and consume them.

Desert kit fox will likely visit the project site to collect collision victims. Measures should be taken to accommodate desert kit fox visits and to minimize the risk of accidents that could befall the fox. Portions of the cyclone fence should be raised to allow foxes the ability to enter and exit the solar project.

According to San Bernardino County (2013:35), *“The site perimeter fencing that would be installed around the site is not expected to hinder wildlife movement or habitat connectivity because the lands to be fenced do not contain natural habitat, and because most of the proposed fences would be installed in locations that are generally similar to the alignments of existing agricultural fencing.”* This argument is based on the false premise that habitat lacks value unless it is “natural.” In fact, habitat is defined by the species’ use of the environment (Hall et al. 1997, Morrison and Hall 2002), and not on some convenient, vague classification by County staff. Habitat is species-specific, and often includes shifts into new environments created by humans. For example, kit fox will often exploit food resources created by human land conversions, such as to solar projects. San Bernardino County cannot simply dismiss the project site as wildlife habitat simply because it is something other than “natural habitat,” whatever that is. The cyclone fence around the project site will definitely hinder wildlife movement, as that is what a fence is designed to accomplish. The Alamo Solar Project will hinder wildlife movement and habitat connectivity, especially given its location adjacent to a riparian corridor in a desert environment.

The Initial Study and URS (2013a) neglected to mention that alfalfa was grown on the project site until very recently, apparently when it was decided that solar panels were the preferred

future use of the site. Historical imagery gave away the fact that the site was used for alfalfa production, which was also reported in an obscure portion of URS (2013b). San Bernardino County (2013) therefore did not discuss the importance of alfalfa production to Swainson's hawks during both the nesting season and migration (Smallwood 1995, Smallwood et al. 1996). Alfalfa is also used as habitat by many other species, including multiple special-status species (Smallwood and Geng 1993). It is used by ferruginous hawk, golden eagle, northern harrier, short-eared owl, burrowing owl, and many other species. Converting this site to solar energy production would remove an important habitat element from the ranges of all of these species.

### **Burrowing owl**

An impacts assessment was directed at burrowing owls, and it met the standards in both the CDFG (1995) and CDFG (2012) guidelines. No burrowing owls were detected, so the conclusion of the consultants was that burrowing owls were absent. I have performed long term monitoring of burrowing owl populations across large areas (e.g., Smallwood et al. 2013a), so I know that burrowing owls shift their nesting areas from time to time, as is common among animal species (Taylor and Taylor 1979). Areas without burrowing owls can later support burrowing owls, and vice versa. This shifting mosaic pattern of abundance is probably necessary for the species, as it allows burrowing owls to escape parasite and predator loads, and to rest food resources. Therefore, I do not believe that the absence of burrowing owls during the surveys means that the project site never supports burrowing owls. Regardless of what I believe, however, the guidelines allow for conclusions of absence following surveys that meet the recommended protocol.

### **Desert tortoise**

A single desert tortoise was observed along the gen-tie improvement corridor. The surveys that were directed toward desert tortoise appeared to meet the standards in the current guidelines. I concur that desert tortoise is unlikely to reside on the project site, although I conclude that desert tortoise likely move across the site during travel between habitat areas.

### **Bats**

The Initial Study (San Bernardino County 2013) made no mention of bats. Multiple special-status species of bat likely use the project site. An EIR is needed to analyze the project's impacts on bats.

### **Collision risk**

According to San Bernardino County (2013:30-31), "*Solar panels to be used at the Alamo Solar Project would use silver frames and would be expected to keep the facility from looking like a water body; this design feature should avoid or minimize bird collisions at the site.*" Whereas I hope that this conclusion reflects reality, it appears to have been the product of speculation. To my knowledge there are no data available to support this conclusion. In fact, relying on the same level of speculation as San Bernardino County, one can also conclude that the silver frames might enhance the facility's appearance of a water body. The latter speculation would be more



appropriate when dealing with high uncertainty over the impacts of a project on rare or sensitive biological resources, consistent with the precautionary principle in risk assessment (National Research Council 1986, Shrader-Frechette and McCoy 1992, O'Brien 2000).

We know that birds will collide with the solar panels or their support structures. For example, a Yuma clapper rail (*Rallus longirostris yumanensis*), which was a member of a species listed as Endangered under the Federal Endangered Species Act, was recently killed at an industrial solar farm near Joshua Tree National Park (<http://www.kcet.org/news/rewire/solar/photovoltaic-pv/endangered-bird-dead-at-desert-solar-facility.html>). We also know that Solar One killed many birds, based on the only published study of fatality monitoring at a solar project (McCrary et al. 1986), as far as I am aware. It remains unknown to what degree collision rates at solar PV projects might differ from those measured at Solar One (McCrary et al. 1986), which was a concentrating thermal power plant. But again, in the face of high uncertainty when assessing impacts to rare environmental resources, the accepted standard is to err on the side of caution (National Research Council 1986, Shrader-Frechette and McCoy 1992, O'Brien 2000), so one should not assume that due to less reflectivity in PV panels, the collision rates will necessarily be different. In fact, the collision rate could be higher, for all that is known now. Given these uncertainties, a reasonable approach would be to extrapolate the fatality rate estimates at Solar One, but adjusted for reasonable guesses as to what might be the percentage differences in the rates.

McCrary et al. (1986) searched for dead birds amongst the heliostat mirrors and around the power tower at Solar One, and they estimated a bird fatality rate caused by bird collisions with heliostat mirrors and the power tower, and by heat encountered when birds flew through the concentrated sunlight reflected toward the power tower. However, McCrary et al. (1986) appeared to have under-appreciated the magnitude of the impacts caused by Solar One, likely because McCrary et al. (1986) did not know as much as scientists know today about scavenger removal rates and searcher detection error.

McCrary et al. (1986) searched for dead birds during 40 visits to the 10 MW Solar One project. Their search pattern was not fixed, so it was not as rigorous as modern searches at wind energy projects and other energy generation and transmission facilities. McCrary et al. (1986) placed 19 bird carcasses to estimate the proportion remaining over the average time span between their visits to the project site, though they provided few details about their scavenger removal trial. We know today that the results of removal trials can vary substantially for many reasons, including the species used, time since death, and the number of carcasses placed in one place at one time, and etc. (Smallwood 2007). McCrary et al. (1986) also performed no searcher detection trials, because they concluded that the ground was sufficiently exposed that all available bird carcasses would have been found. This conclusion would not be accepted today, based on modern fatality search protocols.

Because scientists have performed many more scavenger removal trials and searcher detection trials, as well as many more bird carcass searches since the study of McCrary et al. (1986), I recalculated the fatality rate estimate from that first study, but this time using national averages to represent scavenger removal rates and searcher detection rates (see Smallwood 2007, 2013). Based on the methods in Smallwood (2007), I have since reviewed more than 400 searcher

detection trials and more than 400 scavenger removal trials across North America (Smallwood 2013a). From these reviews, I estimated the average proportion of carcasses remaining after 9 days since the last carcass search. I used 9 days for the average search interval, because that was the average search interval in the McCrary et al. (1986) study.

The estimator I used was derived from the Horvitz and Thompson (1952):

$$F_A = \frac{F_U}{R_C \times p},$$

where  $F_U$  was the unadjusted number of fatalities/MW/year (the found carcasses), and  $F_A$  was the fatality rate adjusted for the proportion of carcasses found amongst those that were available to be found,  $p$ , and by the average proportion of carcasses remaining since the last fatality search,  $R_C$ . The adjustments for  $p$  and  $R_C$  were estimated from searcher detection trials and scavenger removal trials. I assumed carcasses were deposited at a steady rate from heliostat mirrors and power towers, so I took the average proportion of carcasses remaining each sequential day between searches:

$$R_C = \frac{\sum_{i=1}^I R_i}{I},$$

where  $R_i$  was proportion of carcasses remaining by the  $i$ th day following the initiation of a scavenger removal trial. Thus, the expected proportion of carcasses remaining by the next fatality search should be  $R_C$  corresponding with the fatality search interval,  $I$ , which was 9 days in the McCrary et al. (1986) study. Note that McCrary et al. (1986) used  $R_i$  instead of  $R_C$ , which means their fatality rate estimate would have been inflated for this factor alone (their estimate was biased low, however, by assuming they experienced no searcher detection error).

McCrary et al. (1986) reported the mean and standard deviation (SD) of bird carcasses found per visit, but estimating rates for the purpose of extrapolation should include a standard error (SE), which can be approximated as:

$$SE = \frac{SD}{\sqrt{n}},$$

which, in the case of McCrary et al. (1986) with a SD = 1.8 and  $n = 40$  visits, was 0.28 (the calculated mean was 1.75).

Using SE also facilitates carrying of the error terms through the calculation of the fatality rate estimate. For this purpose, I estimated standard error of the adjusted fatality rate,  $SE[F_A]$ , using the delta method (Goodman 1960):

$$SE[F_A] = \sqrt{\left(\frac{1}{p \times R_C} \times SE[F_U]\right)^2 + \left(\frac{F_U}{p} \times \frac{-1}{R_C^2} \times SE[R_C]\right)^2 + \left(\frac{F_U}{R_C} \times \frac{-1}{p^2} \times SE[p]\right)^2}.$$

Using data reported by McCrary et al. (1986), and adopting their assumptions, their estimated fatality rate was 1.75 fatalities/visit divided by 70% to 90% of placed trial carcasses remaining between visits, or  $1.75 \div 0.90 = 1.94$  and  $1.75 \div 0.70 = 2.5$ . Assuming a point estimate of 80% of placed carcasses remaining, then the estimated bird carcasses per visit would be  $1.75 \div 0.80 = 2.19$ . Given that there were 40 visits in the year, then  $2.19 \times 40 = 87.6$  bird fatalities per year, or on a per-MW basis, there were  $87.6/10 \text{ MW} = 8.76$  bird fatalities per MW per year. Because McCrary et al. (1986) did not report the SE of their proportion of placed trials carcasses remaining, and because they assumed  $p = 1$ , I could not carry the error terms, so the estimate from their study was 8.76 bird fatalities/MW/year with an 80% confidence interval (CI) of 6.96 to 10.55. The only real challenge remaining is to extrapolate this estimate to the 20 MW Alamo Solar Project consisting of PV panels instead of power towers and heliostat mirrors.

Assuming PV panels will result in only 10% of the fatalities compared to the rate observed at Solar One, then I would predict that Alamo Solar will kill 18 birds per year (80% CI: 14 to 21). Assuming PV panels will result in half the fatalities per MW as occurred at Solar One, and extrapolating this rate to the 20 MW Alamo Solar Project, I would predict 88 bird fatalities per year (80% CI: 70 to 106). However, these rates need to be adjusted for the proportion of fatalities not found by searchers.

The results of my adjustment trials yielded national averages of  $R_C = 0.48$  (SE = 0.12) for birds over a mean search interval of 9 days and  $p = 0.676$  (SE = 0.029) when ground visibility was characterized as high or very high. Using these values, my estimated fatality rate at McCrary et al.'s project site was 21.57 fatalities/MW/year (80% CI: 7.15 to 36.00). Relying on these adjustments and assuming PV panels will result in only 10% of the fatalities compared to the rate observed at Solar One, then I would predict that Alamo Solar will kill 43 birds per year (80% CI: 14 to 72). Assuming PV panels will result in half the fatalities per MW as occurred at Solar One, and extrapolating this rate to the 20 MW Alamo Solar Project, I would predict 216 bird fatalities per year (80% CI: 72 to 360). Clearly, the McCrary et al. (1986) fatality monitoring study resulted in a highly uncertain fatality rate estimate, which was revealed to be even more uncertain when considering national averages of the adjustment factors and when carrying the error terms through the calculations. The direct impact of the Alamo Solar Project can be said to be highly uncertain at this point. If the project goes forward, it would be very important to require sound fatality monitoring. It would be helpful to perform avian behavior surveys in advance of construction, in order to characterize avian flight paths and the types of behaviors of endemic species that could contribute to collision risk (Smallwood et al. 2009a,b).

### **Wildlife Movement and Habitat Fragmentation**

Habitat fragmentation is a process that is central to a project's impacts on wildlife movement. It is recognized as one of the most serious threats to the continued existence of terrestrial wildlife (Wilcox and Murphy 1985). The Initial Study's (San Bernardino County 2013) analysis of the project's contribution to habitat fragmentation was restricted to the flawed argument that the

perimeter fence will not impede wildlife movement because the site includes no natural habitat. As explained earlier, San Bernardino County’s understanding of the term *habitat* is incorrect. The perimeter fence will impede wildlife movement across the site, and so will contribute to habitat fragmentation. Furthermore, this fragmentation will happen along a key part of the landscape – a river corridor through the Mojave Desert. An EIR is needed to properly address the project’s impacts on wildlife movement and habitat fragmentation.

### **Cumulative Impacts**

According to San Bernardino County (2013:31), *“The Alamo Solar Project does not include any project-specific impacts to migratory bird habitat and therefore would not contribute to any direct, indirect or cumulative loss of migratory bird habitat.”* Unless no other projects are planned, underway, or ongoing in the Mojave Desert, then San Bernardino County’s claim of no cumulative loss of migratory bird habitat cannot be true. Just because the land owner fallowed the alfalfa that used to be grown there does not mean that the site is without value to migratory birds. I have never encountered a field that has been entirely abandoned by birds; this just doesn’t happen.

Increasing the common raven population is but one of many potentially significant cumulative impacts contributed by the Alamo Solar Project. However, San Bernardino County (2013) did not even list existing, proposed, or foreseeable future projects in the region, let alone attempt to analyze any cumulative impacts. How many acres of additional solar projects are proposed, under construction or installed in San Bernardino County, or even within 20 miles of the project site? An EIR should be prepared for the project, and it should include an appropriate analysis of cumulative impacts.

### **MITIGATION**

According to mitigation measure **BIO-9**, *“The Applicant shall work with the USFWS to make a mutually agreeable contribution to a fund designed to identify and reduce sources of mortality of migratory birds in the region. The contribution level shall reflect that project impacts to migratory bird populations are expected to be small and less than significant.”* There is no reason to believe that the project impacts to migratory birds will be small and less than significant. The funding contribution should be based on fatality monitoring, not an optimistic, speculated level of impact. Funding thresholds should be tied to fatality rates, and these thresholds should be provided in an EIR so that the public can provide meaningful comments on them. The way measure BIO-9 is presented in the Negative Declaration, it appears that the formulation of this important measure is being deferred to an unspecified, later date, when I and other members of the public will have no opportunity to comment.

**BIO-10** failed to address bird fatalities caused by collision with solar panels. Collision victims could bolster common raven populations. The level of avian collision impact needs to be estimated via scientific, post-construction monitoring, and a measure needs to be formulated to prevent ravens from accessing collision victims as a food source.

**BIO-11** consists of a scientifically indefensible avian fatality monitoring protocol. An Avian Protection Plan will be prepared at some unspecified, later date, and presented to the USFWS. Not only does BIO-11 defer the formulation of this critical mitigation measure, but it directs the measure to an agency (USFWS) that lacks expertise in avian fatality monitoring at energy projects. The expertise is in the private sector, which is why members of the USFWS often seek my input on avian fatality monitoring. An avian fatality monitoring plan should be presented in an EIR prepared for the project, just as I have done with renewable energy projects (Lamphier-Gregory et al. 2005, ICF International 2013).

Five fatality searches per year would be entirely inadequate, because scavenger removal rates will leave very few birds smaller than 200 grams (Smallwood 2013b, Brown et al. 2013). Searches should be every two weeks or shorter intervals, and they should last at least three years to address inter-annual variation.

Fatality monitoring has proven to be very challenging due to many complex sources of uncertainty and bias (Smallwood 2007, 2013a, Smallwood et al. 2010, 2013). Unless carefully planned and executed, the fatality monitoring will likely yield data of very limited scientific value. Given the high potential for large-magnitude impacts due to avian and bat collisions, and given the high uncertainties and large sources of bias associated with fatality monitoring, it is essential that monitoring studies be carefully designed.

Also needed are field trials designed to estimate the proportion of carcasses not detected by the fatality searchers. It is critical that frozen, fresh carcasses of appropriate species be placed periodically within the search areas during the course of routine fatality monitoring. All found carcasses, including those not placed, should be left in the field for the duration of the monitoring and recorded each time they are found. The status of all found carcasses should be tracked by the project analyst, who should receive all reports of fatality finds on a weekly basis.

Basic methods for fatality monitoring at a solar energy project can be found in McCrary et al. (1986), and updated methodology can be found in Smallwood (2007, 2009, 2013c), Smallwood and Karas (2009), and Smallwood et al. (2013b).

Compared to the challenges of formulating scientifically defensible fatality monitoring, the complexities around use and behavior surveys are much greater (Smallwood and Neher 2010, Smallwood et al. 2009a,b). Use surveys, as often used in wind energy projects, are of questionable value because use rates have proven ineffective at predicting fatality rates. This inability to predict fatality rate from use rates means that use rates are unrelated to fatality rates at the level of analysis typically performed. This lack of relationship could be due to behaviors being far more important than relative abundance, or it could be due to inappropriate survey methods. In support of the latter possibility, few results of use surveys at renewable energy projects have undergone any sort of scientific peer review.

Use surveys at renewable energy projects have until very recently been limited to diurnal surveys, which do not work for nocturnal species or for diurnal species that also travel at night. Use surveys have not represented the relative abundance of owls or goatsuckers, nor have they

represented nighttime migrants. The same shortfalls will limit the value in use surveys performed at solar projects.

Flight behavior surveys should be performed during one-hour sessions prior to construction to reveal flight paths and trends in behaviors. Most of the surveys should be performed during the early morning and late evening hours, but nocturnal surveys should also be done using a high-end thermal imaging camera. The nocturnal surveys should last two to three hours per session. The objectives of flight behavior surveys would be to: (1) establish whether specific portions of the project area should be avoided, and (2) explain fatality patterns so that mitigation measures can be formulated, if possible.

All fatality and utilization monitoring data should be made available to the public. Public access is a hallmark of science.

According to the section on adaptive management, *“This section of the plan will set forth a process through which changes to the monitoring schedule or methods may be implemented if warranted due to unforeseen circumstances or other factors.”* However, this is not what adaptive management was designed to accomplish (Holling 1978, Walters 1986). Monitoring as part of adaptive management is for the parties to the management plan to test pre-defined hypotheses and to decide whether alternative *management* plans are to be implemented. San Bernardino County directs its so-called adaptive management to that part of the process that is intended to inform adaptive management, rather than to actions that will actually rectify, reduce, or compensate for the project’s impacts.

### **Measure to Rectify Impacts**

I suggest that the project owner provides compensatory mitigation in the form of donations to local wildlife rehabilitators. The project will cause injuries to wildlife, so the owner should be responsible for contributing to the care and release to the wild of injured animals. Rehabilitation facilities typically operate on very small budgets, so struggle to maintain appropriate staff levels and facilities. More reliable funding is needed, and this funding should come from those causing the impacts.

### **Fencing**

Cyclone fencing can entangle and kill wildlife (Photo 1). Care should be taken when planning and installing fencing. More details about fence construction should be provided in the environmental review documentation.

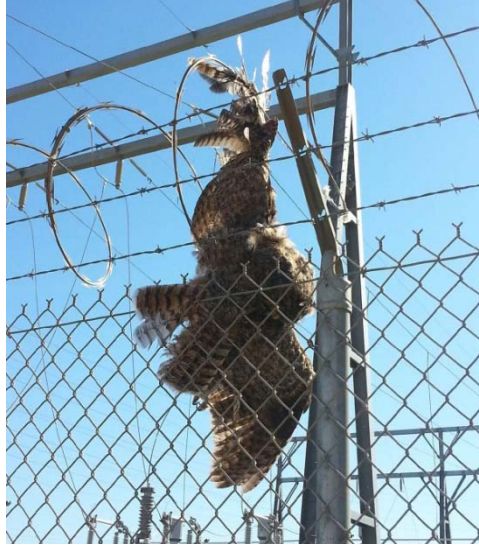


Photo 1. A great-horned owl died after becoming entangled on the razor wire placed on top of this cyclone fence. Photo by Joanne Mount.

## MITIGATION MONITORING

It has long been known that mitigation pursuant to CEQA has often either failed or has not been implemented, but with no consequences to the take-permit holder (Silva 1990). There should be consequences for not achieving mitigation objectives or performance standards. The project proponents should be required to provide a performance bond in an amount that is sufficient for an independent party to achieve the mitigation objectives originally promised, and in this case, the promises should be much more substantial. A fund is needed to support named individuals or an organization to track the implementation of mitigation measures. Report deadlines should be listed, and who will be the recipients of the reports. If the mitigation measures are not clearly laid out, then there will be no basis to determine that impacts will be less than significant once implemented. Furthermore, without adequate funding allocated in advance, there is no certainty that any proposed mitigation monitoring will actually take place.

*Shawn Smallwood*

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Shawn Smallwood, Ph.D.

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## **EXHIBIT E**

### **Response to CDFW comments**

**Alamo Solar IS/MND:  
General Responses to Comments of the California Department of Fish and Wildlife**

**Prepared by Christopher Julian, Lead Project Biologist  
URS Corporation  
December 18, 2013**

**(Responses follow the same organization used in the comment letter)**

**Introductory Remarks:** The comment introduces the CDFW, briefly summarizes the Project, and describes CDFW's roles as a resource trustee and responsible agency under CEQA. The information presented is factually correct, and does not address the content or adequacy of the IS/MND. No response is required. It should be noted that in the case of the Alamo Project, CDFW is not expected to assume the role of responsible agency because no discretionary approval (streambed agreement, Incidental Take Permit, etc.) from CDFW is anticipated.

**Important note:** The comment letter is signed by Heidi Sickler, and references Wendy Campbell as the CDFW contact regarding the comment letter. Neither of these individuals attended the Alamo Solar Site visit in January 2013. CDFW was represented at that site visit meeting by Becky Jones and Heather Weiche, who provided guidance to the Alamo project team that is not reflected in the comment letter signed by Ms. Sickler. The Alamo biological studies were conducted based on CDFW guidance provided by Ms. Jones and Ms. Weiche. If future discussions with CDFW occur about this project, it is recommended that either Ms. Jones or Ms. Weiche be asked to participate for consistency.

**General Comment:** The comment states that the Mojave desert tortoise (*Gopherus agassizii*) survey and burrowing owl (*Athene cunicularia*) surveys for the project were conducted by the same surveyors during the same time period (consolidation of surveys), and requests that these surveys be performed separately. To clarify: based on direction received during discussions with CDFW representatives Becky Jones and Heather Weiche during an agency site visit on January 15, 2013, Mojave desert tortoise surveys were not conducted with the Project site, with the exception of the area beyond the Mojave River side channel in the northwestern corner of the site (outside the proposed disturbance footprint). Burrowing owl surveys, however, were performed in accordance with CDFW protocol (four, full-coverage transect surveys). Thus, these surveys were not consolidated within the Project site.

Along the gen-tie improvement corridor, a team of two biologists performed a survey for Mojave desert tortoise and burrowing owl on the same day. However, because area within the gen-tie corridor to which the surveyors had legal access was limited to the utility easement (10-foot width) multiple transects were not required to complete the survey. This allowed one surveyor to

focus exclusively on the Mojave desert tortoise, while the other focused on the burrowing owl. Both surveyors have extensive experience performing protocol surveys for both of these species.

**Desert Kit Fox:** The comment states that the desert kit fox (*Vulpes macrotis arsipus*) is protected from take by CDFW regulations, points out that passive relocation is the only allowable means for excluding this species from a site, and stresses the importance of knowing how many desert kit fox are on a site well in advance of construction. As described in the Biological Resources Assessment Report (BRAR) for the Project, one active desert kit fox den was observed within the side channel of the Mojave River during surveys, but active burrows were not detected within the proposed site footprint. However, to account for the fact that the desert kit fox is a relatively mobile species, Mitigation Measure BIO-6 in the County's IS/MND requires pre-construction surveys and passive avoidance measures for this species to be implemented.

**Jurisdictional Drainages:** The comment states that the Project may require a Streambed Alteration Agreement from the CDFW, and describes the sorts of resources (rivers, streams, dry washes, etc.) that are protected by Sections 1600 *et seq.* of the California Fish and Game Code. As described in the County's IS/MND for the project, and presented in greater detail in the BRAR, the proposed Project would not impact jurisdictional waters or streambeds. While the Mojave River (including its side channel that traverses the corner of the Alamo site) is a jurisdictional streambed, this area was intentionally avoided during Project design and is beyond the limits of proposed disturbance. Along the gen-tie improvement corridor, any ephemeral washes would be avoided by SCE during final design and siting of utility poles. As required by law, and as acknowledged by Mitigation Measure BIO-7 in the County's IS/MND for the Project, if ephemeral washes cannot be avoided, a Streambed Alteration Agreement would be executed prior to any impacts occurring in these areas.

**Desert Tortoise:** The comment states that because a Mojave desert tortoise was encountered during surveys, an Incidental Take Permit may be required to ensure that unlawful take does not occur. As described County's MND and in the BRAR for the Project, a single Mojave desert tortoise was encountered along the gen-tie improvement corridor. Because the proposed impacts in this area would be localized at the proposed pole locations, and because Southern California Edison has substantial flexibility when selecting pole sites, avoidance of Mojave desert tortoise during construction will be feasible. The pre-construction surveys and full-time monitoring or fencing required by Mitigation Measures BIO-3 and BIO-4 would ensure that tortoises are not taken during construction of the gen-tie improvements. No Mojave desert tortoises were detected within the Project site, and as discussed with CDFW representatives during the agency site visit on January 15, 2013, the site does not contain suitable habitat for this species. The Project would not result in the take of Mojave desert tortoises, and the need for an Incidental Take Permit is therefore not anticipated. If tortoises are discovered in areas where avoidance is not feasible, construction would not proceed without take authorization from the CDFW and USFWS, as indicated in Mitigation Measure BIO-4.

**Burrowing Owl:** The comment states that the County should require the Applicant to conduct pre-construction burrowing owl surveys, and describes suggested survey methods and impact minimization procedures to be followed in the event that owls are detected. As described in the IS/MND and BRAR, protocol-level surveys for burrowing owls were conducted within the site and along the gen-tie improvement corridor in 2013, and results were negative. Based on this information, burrowing owls are not expected to occur on-site. However, the presence of a biological monitor during construction (Mitigation Measure BIO-2) and the requirement to perform pre-construction surveys for nesting birds (BIO-5) and Mojave desert tortoise (BIO-4) should ensure that burrowing owls are detected prior to construction, if present.

The comment also states that permanent loss of occupied burrows and habitat shall be mitigated for in coordination with the CDFW. As described above, impacts to the burrowing owl are not expected based on the information in the administrative record for the Project, and mitigation related to this species has therefore not been prescribed. In the event that burrowing owls are detected in an area where Project impacts would occur, the Applicant would be required to contact CDFW and maintain consistency with applicable laws and permit conditions. Compliance activities would include avoiding the take of burrowing owls, eggs, or nestlings as required by the Migratory Bird Treaty Act and applicable provisions of the California Fish and Game Code, as well as maintaining adequate buffer distances from nests as required by Mitigation Measure BIO-5. Passive exclusion would be used to ensure that owls are not injured or killed in burrows during the non-breeding season. Because burrowing owls are not currently believed to occupy the Project site, compensatory mitigation for impacts to this species has not been included in the IS/MND. However, as noted above, the Applicant would contact CDFW in the unlikely event that a burrowing owl is detected during construction.

# **EXHIBIT F**

## **Response to Lahontan RWQCB**



**Alamo Solar IS/MND**  
**Responses to Comments of the Lahontan Regional Water Quality Control Board**

*Prepared by Matt Moore, PE  
 Project Hydrology and Water Quality Lead  
 URS Corporation  
 December 18, 2013*

The California Regional Water Quality Control Board, Lahontan Region (Water Board) provided comments on the Notice of Completion of a Mitigated Negative Declaration, Alamo Solar, Conditional Use Permit P201300204, San Bernardino County, State Clearinghouse Number 2013111011. Below are general responses categorized by topic and reference to Water Board comment numbers.

**Floodplain/Hydrology**

Water Board letter reference: Introduction paragraph and comment Number 1.

Water Board comment summary: The Water Board asserted that the project site is located, in part, within the active floodplain of the Mojave River and has the potential to impede flood flows.

*Response: Although portions of the project site boundary are located within the FEMA designated 100-year floodplain, the proposed project footprint is located outside of the 100-year floodplain. Figure 1-3 in the draft Water Quality Management Plan reflects the 100-year floodplain in relation to the project site boundary and project footprint, and clearly shows that the project footprint is outside of the FEMA designated 100-year floodplain. Therefore, the project will not impede flood flows or significantly impact the hydrology of the project site or surrounding area.*

**Groundwater Quality**

Water Board letter reference: Introduction paragraph and comment Number 2.

Water Board comment summary: The Water Board indicated that shallow groundwater exists at the site and the potential to discharge chemical constituents to groundwater, both during construction and site operations, is a concern with respect to water quality.

*Response: URS understands that shallow groundwater may be present at the site. Construction and operation Best Management Practices (BMPs) will be utilized to prevent migration of potential surface pollutants to groundwater. URS prepared a draft Water Quality Management Plan (WQMP) to identify pollutants of concern for the project. Although a WQMP may not be required for this project, URS prepared a WQMP to document the pollutants of concern for the project and the site and source control BMPs that will be utilized on the project. Additionally, a construction SWPPP will be prepared that will identify appropriate construction related BMPs. The BMPs to be identified in the construction SWPPP and the source control BMPs identified in the draft WQMP will be sufficient to control discharge of chemical constituents to groundwater.*

**Water Quality Standards**

Water Board letter reference: Comment Number 3.

Water Board comment summary: The Water Board requested that an environmental review should identify the water quality standards (per the Basin Plan) that could potentially be violated by the Project and utilize these standards when evaluating thresholds of significance for Project impacts.

*Response: The environmental analysis of potential water quality impacts was based on the CEQA checklist, and the list of pollutants, conditions of concern, and project BMPs that were identified in the draft WQMP. Implementation, maintenance, and documentation of the construction and post-construction stormwater quality BMPs will comply with the water quality standards outlined in the Water Board Basin Plan.*

### **Dust Control**

Water Board letter reference: Comment 4.

Water Board comment summary: The Water Board requested information on the dust suppressants that may be used and their effect on the environment.

*Response: The primary environmental concern with dust palliatives is how they impact groundwater quality, freshwater aquatic environments, and plant communities. The project will not be built in the floodplain. Dust palliatives considered for use will not cause or contribute to surface or groundwater quality degradation. Two potential dust palliatives under consideration for the project include:*

*Durasoil by SoilWorks, LLC. Durasoil is a mixture of synthetic hydrocarbon compounds with little or no toxicity to humans or ecological receptors (USACE, 2007. Environmental Evaluation of Dust Stabilizer Products).*

*Earthbind™ 100 by EnviRoad. All components of Earthbind™ are considered by the manufacturer to be:*

- *Free of hazardous solvents*
- *Non-flammable*
- *Non-corrosive to metal*
- *Non-hazardous waste*
- *Not considered to be harmful to aquatic and mammal life*
- *Not considered to be carcinogenic*

### **Waters of the State/US**

Water Board letter reference: Comment 5.

Water Board comment summary: The comment presents some background and distinctions between Waters of the State regulated under the Porter-Cologne Water Quality Control Act and Waters of the United States regulated by the Clean Water Act, and requests that the limits of jurisdictional waters be delineated.

*Response: The boundaries of the Mojave River in the vicinity of the Project site were delineated in accordance with agency protocols, as indicated in the IS/MND and referenced technical materials. A relict channel of the Mojave River (at the outer edge of the 100-year floodplain) traverses the northwestern corner of the Alamo site. The Project's proposed footprint was deliberately sited to avoid this known constraint area by a minimum of 25 feet. Thus, while the Mojave River is a regional aquatic resource and is protected from destruction or degradation by federal and state laws, the proposed Project would not discharge any waste or fill material into this feature. The regulatory requirements referenced by the Water Board are therefore not applicable to this project.*

### **Construction and Post Construction BMPs**

Water Board letter reference: Comment Numbers 6-10.

Water Board comment No. 6 summary: The Water Board requested that post-construction storm water management must be considered a significant project component, and BMPs that effectively treat post-construction storm water runoff should be included in project.

*Response: Post-construction BMPs have been identified for the project and include site design BMPs compatible with Low Impact Development (LID). Note that this Project was determined to be a non-category project, because the biggest increase in impervious area will be attributed to the access roads, which will not be hardscaped, but will be constructed with an alternative material (gravel or other all-weather materials). Since such roads allow some level of infiltration, they will not be equal to 100,000 square feet or more of impervious surface. In addition, this is not a typical commercial or industrial facility. Since this is an unmanned facility with no significant pollutants of concern and since the runoff from this site does not discharge to an impaired waterbody, site design and source control BMPs can effectively eliminate potential pollutant discharges associated with this Project. Therefore, no treatment control BMPs are necessary and none have been selected.*

The Water Board comment No. 7 requested that vegetation clearing be kept to a minimum.

*Response: Existing vegetation will be preserved wherever possible as part of the post construction BMP implementation.*

The Water Board comment No. 8 requested that the Project as well as construction staging areas be sited in upland areas outside stream channels and other surface waters, and buffer areas be identified and exclusion fencing installed.

*Response: The project and construction staging areas will be sited in areas outside of stream channels and other surface waters, and exclusion fencing will be installed.*

The Water Board comment No. 9 requested that all temporary impacts be restored to match pre-Project conditions.

*Response: Temporary impacts will be restored to match pre-Project conditions.*

The Water Board comment No. 10 requested that the document specifically describe the BMPs and other measures used to mitigate Project impacts.

*Response: URS prepared a draft WQMP that provides the post construction site design and source control BMPs that will be used for the Project. The specific construction BMPs will be identified in the project construction SWPPP. Typically the site specific construction BMPs cannot be identified until the construction sequencing/schedule is identified.*

## **Permitting**

Water Board letter reference: Comments 11, 12, 13.

Water Board comment summary: A number of activities associated with the proposed Project appear to have the potential to impact waters of the State and, therefore, may require permits issued by either the State Water Resources Control Board (State Water Board) or Lahontan Water Board.

*Response:*

- *General Construction Permit. A construction SWPPP is identified as being required in the environmental analysis for Hydrology and Water Quality. The construction SWPPP will identify the construction related BMPs and post-construction BMPs that will be employed on the project. The construction SWPPP will be prepared by a Qualified SWPPP developer and implemented*

*by a Qualified SWPPP practitioner. The SWPPP will identify locations of BMPs and maintenance requirements through the duration of construction. Implementation of the construction SWPPP and the operational site design and source control BMPs will meet the compliance requirements of CEQA and the Water Board's water quality objectives and standards outlined in the Basin Plan*

- *Diversion and/or Dewatering. Diversion and dewatering are not anticipated. If these activities are anticipated the County and the Water Board will be consulted for compliance with Water Board permits.*
- *Section 401 Permit – A Section 401 Water Quality Certification is required when an applicant seeks a federal permit or license (a Section 404 Permit is the most common, although there are others) to discharge fill material into waters of the United States. Because the proposed footprint of the Alamo Solar Project would completely avoid the nearby Mojave River, and because no other waters are present on the site, the project would not entail a discharge of fill material into jurisdictional waters. Thus, a Section 404 Permit and accompanying Section 401 Water Quality Certification are not required for the project.*

## **EXHIBIT G**

### **Response to Lozeau Drury, Hagemann, and Smallwood comments**

## **Alamo Solar IS/MND: Responses to LIUNA Comments on Biological Resources**

*Prepared by Christopher Julian, Lead Project Biologist (URS Corporation)  
December 18, 2013*

### **Impacts to the western pond turtle and Mojave desert tortoise**

Comment B.3. The comment asserts that western pond turtles and Mojave desert tortoise may traverse the site, either during movements between habitat areas or for nesting, and that the IS/MND incorrectly discounted the possibility for these species to become impacted by the Project. However, the commenter's opinion appears to be based on general knowledge of the Mojave Desert, rather than on site-specific information, and is refuted by the observations of the survey biologists who performed extensive, repeated, full-coverage biological surveys of the Alamo site. While it is true that western pond turtles lay eggs in terrestrial areas adjacent to occupied aquatic habitat, it is inaccurate to presume that terrestrial areas are suitable for nesting by this species simply by virtue of occurring in proximity to aquatic habitat. Reliable sources, including the CDFW's species account for the western pond turtle, indicate that the species is almost exclusively aquatic, and that eggs are laid in areas along the margins of streams and lakes, and within 100 meters of aquatic habitat. Suitable nesting habitat must include features that provide cover, and individuals may desiccate quickly if exposed to hot, dry conditions. Because the limits of proposed disturbance are over 350 meters from aquatic habitat areas (the active channel of the Mojave River is on the opposite side of the floodplain from the Alamo site), the probability of a pond turtle entering the site is remote. Further, as described in the IS/MND and associated Biological Resources Assessment Report (BRAR) for the Project, the site is almost completely devoid of vegetation due to past agricultural practices and therefore lacks the cover typically sought by this species when selecting nest sites. Because the site is unsuitable and too remote from the Mojave River, it is not reasonable to conclude that this species would utilize the site.

Pursuant to direction received from CDFW representatives during the January 15, 2013 site visit, protocol surveys for the Mojave desert tortoise were limited to the western portion of APN 0470-021-09 outside the site boundary and the gen-tie improvement corridor. The CDFW's reasoning for this direction was that based on observations in the field, site conditions were not suitable for the species. Even in the unlikely scenario in which a wayward tortoise entered the site from suitable habitat to the east or west (which would involve traversing either a highway and two railroad tracks or the Mojave River), mitigation measures identified in the IS/MND would lessen the potential for such an individual to be impacted (areas to the north and south of the site are also comprised of current or former farmland, and are not suitable for the species). The presence of a biological monitor during site preparation and implementation of a Worker Environmental Awareness Program (mitigation measures BIO-2 and BIO-1, respectively) would facilitate identification and avoidance of any tortoise present, particularly considering the barren nature and excellent overall visibility of the Alamo site.

## **Impacts on Bats**

Comment B.4. The comment asserts that bats are present within the Project site, and that these species would be impacted by the proposed Project. As described in the BRAR for the Project, the Project site does not contain any habitat features that would be attractive to bats under existing conditions. The site is unvegetated, and therefore is not likely to provide a significant prey base compared to that available in nearby undeveloped areas. However, because bats are relatively mobile, avian predators and may occur in the Mojave River floodplain to the west of the site, potential exists for these species to utilize the airspace above the Alamo site for foraging. The proposed Project would not affect this potential use, and it is expected that bats would continue to forage above the Project site at existing levels during operation of the Project. Thus, while the commenter is correct in noting that bats may be present in the Project vicinity, these species are not expected to use the site (other than the airspace above it), and no impacts to these species would occur.

## **Impacts on the Southwestern willow flycatcher and least Bell's vireo**

Comment C.3. The comment asserts that by attracting insects to the Alamo site, the Project would impact two riparian birds, the southwestern willow flycatcher and the least Bell's vireo. Based on the information that is available, the type of insects that are likely affected by solar panels include "populations of aquatic insects that use polarized light as a behavioral cue" (Horvath et al 2010); Horvath and others (2010) worked specifically with mayflies (order Ephemeroptera), stoneflies (order Plecoptera), long-legged flies (family Dolichopodidae), and horse and deer flies (family Tabanidae), four insect groups that are known to occur in and near aquatic areas. In brief, insects are tricked into thinking that the solar panels are actually water because the reflected light is polarized. For this to affect least Bell's vireo and/or Southwestern willow flycatcher, one or the other species would have to be in the immediate project vicinity and their prey would have to be attracted to the solar panels.

Least Bell's vireos have a broader habitat requirement than do willow flycatchers, and are more likely to be found on the outer edges of riparian corridors. However, they are primarily gleaners, eating small insects off of leaves and stems, and do not normally take insects in flight. Their prey base is unlikely to be affected by the polarized light since the majority of their prey are laying eggs on leaves or branches. The presence of flying insects in an unvegetated solar facility will not attract least Bell's vireos to such a site.

Southwestern willow flycatchers are usually within more established willow thickets associated with water and/or moist areas. They are usually found deeper within the riparian area, where vegetation is densest, and are less likely to be found on the outer edges of a riparian corridor. Due to the width of the Mojave River floodplain and the distance (hundreds of meters) from dense willow habitat to the Alamo site, it is not expected that willow flycatchers would traverse

the floodplain to pursue insects on the solar site, even if abundance was high, due to the flycatcher's specific habitat tolerances.

Additionally, an examination of stomach contents of 135 willow flycatchers, Bent (1942) determined that Hymenoptera (mostly wasps and bees) made up 41% of the diet, Coleoptera were 18% of the diet, Diptera (such as crane, robber, house, and dung flies) were 14%, Hemiptera were 8%, Lepidoptera (moths and caterpillars) were 8%, and Orthoptera (mostly small grasshoppers) were 4%. Mayflies (Ephemeroptera), stoneflies (Plecoptera), dolichopodid dipterans, and tabanid flies (Tabanidae) were not identified in this sample of 135 flycatchers. Thus, the study by Horvath and others (2010), cited by the commenters, may not have used the correct focal species to yield information directly applicable to effects on the prey base of the southwestern willow flycatcher.

The comments state that the use of white grids along the edges of the solar panels, a technique proposed by the Project proponent to reduce the attraction of insects to the solar facility, has not been tested and is speculative. However, this technique was recommended by the U.S. Fish and Wildlife Service in comments on the Alamo project, and studies on this phenomenon have been performed. Bruce Robertson and his team discovered that "applying white grids or other methods to break up the polarized reflection of light, however, makes mayflies and other aquatic insects far less likely to deposit eggs on the panels thinking that they are water" (MSU News 2010). The proposed silver frames supporting the PV panels should decrease the level of attraction of the solar panels to aquatic insects because the light reflected from the frames should not be polarized.

### **Impacts to avian species caused by collisions with Project equipment**

Comment C. 4 and C.6. The comment asserts that the Project would impact birds by introducing elements that could result in avian collisions or electrocutions. The level of avian mortality was estimated by Dr. Smallwood to be between 43 and 216 birds per year depending on site specific variable with the proposed Alamo Solar Project. This level of annual mortality is the equivalent of that caused by one to three free-ranging domestic cats, which kill an estimated 1.3 to 4.0 billion birds and 6.3 to 22.3 billion mammals annually (Loss *et al.* 2013), and is not significant when compared to the regional populations of common avian species. Further, Mitigation Measure BIO-11 in the County's IS/MND for the Project requires monitoring, documentation, reporting, and adaptive management elements to reduce and minimize bird mortality.

Based on the avian mortality estimate by Dr. Smallwood of 43 to 216 birds per year, it is unlikely that the local common raven population will increase by much if any. One to four birds per week (Dr. Smallwood's estimated level of avian mortality that would result from the Project) would not be enough food for even one raven to survive on without other food sources. Further, Mitigation Measure BIO-10 would require raven management activities and a financial contribution to the Regional Raven Management Program to offset any cumulative increases in raven populations.



### **Impacts related to wildlife movement and habitat connectivity**

Comment C.5. The comment asserts that the Alamo site is near an important wildlife corridor (the Mojave River), and that the Project's fences would impact wildlife movement. The majority of wildlife movement will be north-south along the Mojave River. The current site conditions are not suitable for dispersal for the majority of wildlife species due to the lack of cover; additionally, the site does not connect the Mojave River with any other habitat features that wildlife would be attracted to such as fresh water or a reliable food source. Wildlife seeking to move east-west through the region could easily pass to the north or south of the proposed project site; the site would not create an impassible barrier.

### **Adequacy of Avian Mortality Monitoring Provisions**

Comment C.7. The comment asserts that the avian mortality monitoring provisions required by Mitigation Measure BIO-11 are not adequate, and references the recently approved Blythe Solar Power Project, a solar project in Riverside County which required much greater monitoring effort. However, due to inherent differences between the project referenced by the commenter and the Alamo Solar Project, a comparison between these two projects is not appropriate. The Blythe project was over 30 times larger than the Alamo Project, disturbing over 4,100 acres compared to the Alamo Project's 123 acres. Additionally, the Blythe project site included intact desert habitats, which the Alamo site does not. Further, the Blythe project was originally approved as a solar thermal generating facility, using a parabolic-trough technology that has a substantial and documented effect on birds during operation, and was converted to a photovoltaic technology after project approval. Considering this information, it is appropriate that the Blythe project was conditioned with more onerous monitoring requirements, as its impacts on the local avifauna were unquestionably greater. The commenter is not justified in comparing these two disparate projects with the intent that the degree of mitigation should be equivalent. The proposed level of mortality monitoring is adequate to contribute meaningful data to a growing body of knowledge surrounding the issue of avian mortality at photovoltaic generating facilities, and the proposed adaptive management measures will ensure that identified impacts are reduced.

### **References**

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## **Alamo Solar IS/MND: Responses to LIUNA Local Union 783 Comments on Pesticides, Other Phase I ESA Conditions, and Valley Fever**

*Prepared by Tricia Winterbauer, Project Lead, Phase I ESA and Hazardous Conditions  
(URS Corporation)  
December 16, 2013*

### **Residual Pesticides**

Comment B.1. Comment summary: The comment asserts that the IS/MND fails to address the potential for residual pesticides at the site.

*Response:* The property was historically used for agricultural purposes. During the historical review, no evidence of large scale pesticide storage or mixing was identified on the property. No Recognized Environmental Conditions were identified associated with pesticide use and no additional investigation was recommended. Mitigation Measure AQ-2 AQ/Dust Control Plan requires the developer to prepare, submit and obtain a Dust Control Plan (DCP) consistent with applicable guidelines and a letter agreeing to include in any construction contracts/subcontracts a requirement that project contractors adhere to the requirements of the DCP. In addition, the Proposed Project will comply with all applicable laws, ordinances and regulations which include health and safety of project workers during construction and identifying potential hazards associated with construction of the Proposed Project including residual pesticides in soil.

### **Other Conditions identified in the Phase I ESA**

Comment B.2. The comment asserts that an EIR is needed to address other concerns noted in the project's Phase I Environmental Site Assessment (ESA), including petroleum staining, drums and containers, debris piles and a leaking electrical transformer.

*Response:* These issues do not warrant additional evaluation in an EIR because they do not pose the potential for significant impacts. Minor staining was observed on the property during preparation of the Phase I Environmental Site Assessment. This staining was considered to be *de minimis* and did not constitute a Recognized Environmental Condition. Evidence of release of hazardous materials was not observed associated with the storage of drums and containers and debris on the Proposed Project Site. The drums and containers and debris observed on the property were not considered to be a Recognized Environmental Condition. Southern California Edison (SCE) removed a leaking transformer from the property on December 9, 2011. Based on inspection of the transformer, SCE reported that the transformer had weeped on the sides from the secondary bushing, but did not release any dielectric fluid (mineral oil) to the ground below. While on-site, SCE crews visually inspected the soil around the base of the pole and did not observe any signs of oil. Based on the information provided by SCE, the issue of the leaking transformer was reported to be closed and no additional investigation was warranted. Based on the findings of the proposed Project Site Phase I Environmental Site Assessment, no Recognized Environmental Conditions were identified at the site and no additional investigation was recommended.

**Valley Fever**

Comment C.2: The comment asserts that dusty conditions during construction pose a risk of an increase of valley fever that should be addressed in an EIR.

*Response:* Mitigation Measure AQ-2 AQ/Dust Control Plan and MDAQMD regulations require the developer to prepare, submit and obtain a Dust Control Plan (DCP) consistent with applicable guidelines and a letter agreeing to include in any construction contracts/subcontracts a requirement that project contractors adhere to the requirements of the DCP. Dust suppression is recommended by the County of San Bernardino Public Health Department as a means to reduce the risk of exposure to valley fever. In addition, the Proposed Project will comply with all applicable laws, ordinances and regulations which include health and safety of project workers during construction and identifying potential hazards associated with construction of the Proposed Project including Valley Fever.

## Alamo Solar IS/MND: Responses to LIUNA Local Union 783 Comments on Air Quality

*Prepared by Matt Dunn, Project Air Quality Lead*

*URS Corporation*

*December 19, 2013*

Comment C.1. The comment asserts that the Alamo project IS/MND applied an incorrect threshold of significance for NO<sub>x</sub> in reaching its conclusion of less than significant impacts on air quality. The comment asserts that the correct threshold is the daily construction emissions, not the annual emissions used in in the IS/MND.

Response. The comment is incorrect. An 11-7-12 email from URS (Matt Dunn) to MDAQMD (Alan De Salvio) asked for guidance on this issue to assess air quality impacts of two solar projects (Agincourt and Marathon) that are highly similar to the Alamo solar project:

We are helping a PV solar applicant and San Bernardino County with Initial Study for a couple [of] PV sites in the Lucerne Valley. The construction projects are less than a 1 year construction durations (9 and 10 months). Can we compare the predicted construction NO<sub>x</sub> emission to the annual CEQA thresholds or do we take the number of days times lb/day threshold from the MDAQMD CEQA guidance to develop the less than year emission CEQA threshold?

Mr. De Salvio's 11-13-12 email response stated the annual threshold of 25 tons is the correct threshold:

You can compare overall emissions to 25 tons and determine that the project is not significant. The daily is there as an additional tool, but it is not intended to capture large one day projects for example.

Therefore, the Alamo solar project IS/MND used the correct threshold in determining that construction-related air quality impacts would be less than significant.

Comment C.8. The comment asserts that the IS/MND fails to analyze or mitigate the Alamo project's potentially cumulatively considerable air quality impacts from construction emissions.

Response: The comment is incorrect. A 2-12-13 email from MDAQMD (Alan De Salvio) to URS (Matt Dunn) regarding two other similar solar projects addressed this issue. Mr. De Salvio indicates the AQMD focuses on operational not construction emissions when addressing cumulative impacts and would not disagree with limiting cumulative impact discussions to operations.